

OCT - 8 2004

LINDA LINGLE
GOVERNOR

ANTHONY J.H. CHING
EXECUTIVE OFFICER



STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

LAND USE COMMISSION

P.O. Box 2359
Honolulu, Hawaii 96804-2359
Telephone: 808-587-3822
Fax: 808-587-3827

September 28, 2004

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04 SEP 28 P 3:43
QUALITY CONTROL

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813-2437

Dear Ms. Salmonson:

Subject: LUC Docket No. A04-748/Consolidated Baseyards LLC
Finding of No Significant Impact (FONSI) for Consolidated Baseyards Light Industrial Subdivision
Waikapu, Maui, Hawaii
Tax Map Key: 3-8-07: 89, 143, and 144

On September 3, 2004, the Land Use Commission, after reviewing the comments received during the 30-day public comment period that began on May 23, 2004, determined that the subject project will not have significant environmental effects and issued a FONSI.

We respectfully request the publication of this notice in the next available issue of The Environmental Notice. ✓

We have enclosed a completed OEQC Publication Form and four copies of the Final Environmental Assessment.

A copy of the Commission's Order reflecting its action of September 3, 2004, will be provided to you under separate cover.

Please feel free to contact Bert Saruwatari of my office at 587-3822, should you require clarification or any further assistance.

Sincerely,

ANTHONY J. H. CHING
Executive Officer

c: Blaine J. Kobayashi, Esq. (w/o enclosures)
Karlynn Kawahara (w/o enclosures)

2004-10-08 FONSI
CONSOLIDATED BASEYARDS LIGHT INDUSTRY
SUBDIVISION PROJECT, WAIKAPU

OCT - 8 2004

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OFFICE OF THE
GOVERNOR

2004 SEP 10 A 10:15

LAND USE COMMISSION
STATE OF HAWAII

Final
Environmental Assessment

**CONSOLIDATED BASEYARDS
LIGHT INDUSTRIAL SUBDIVISION
AT TMKS 3-8-07:89, 3-8-07:143
and 3-8-07:144**

Prepared for:

September 2004

Consolidated Baseyards, LLC


MUNEKIYO & HIRAGA, INC.

Final
Environmental Assessment

**CONSOLIDATED BASEYARDS
LIGHT INDUSTRIAL SUBDIVISION
AT TMKS 3-8-07:89, 3-8-07:143
and 3-8-07:144**

Prepared for:

September 2004

Consolidated Baseyards, LLC


MUNEKIYO & HIRAGA, INC.

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 - B County of Maui Conditional Permit
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 - K Traffic Impact Analysis Report
 - K-1 Letter Dated August 6, 2004 from Austin, Tsutsumi & Associates, Inc.
 - L Groundwater Resource Report
 - M Consolidated Baseyards Existing Use Map
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cbaseyd/waikapu/finalea.rpt

Preface

Consolidated Baseyards, LLC is requesting necessary entitlements to facilitate the development of a light industrial subdivision at Waikapu, Maui, Hawaii (TMKs 3-8-07:89, 143 and 144). The 23.2-acre project site will be subdivided to create lots ranging between 10,375 square feet and 85,502 square feet. The proposed light industrial area is located on lands classified as "Agricultural" by the State Land Use Commission. The property is designated "Light Industrial" by the Wailuku-Kahului Community Plan. The County of Maui zones the property "Agricultural".

Currently, approximately 12 acres of the project site are being utilized for the storage of equipment and materials, as well as minor servicing through a State Special Use Permit (SUP) and a County Conditional Permit (CP). Condition No. 14 of the SUP permit requires that the applicant improve the adjoining section of Waiko Road (fronting the project site to Kuihelani Highway) to County standards.

Towards implementing the proposed subdivision, a State Land Use Commission District Boundary Amendment from the "Agricultural" district to "Urban" will be required. In addition, a County Change In Zoning will be needed to establish the "M-1, Light Industrial" zoning district.

Inasmuch as the proposed action involves work within the County right-of-way, this environmental assessment has been prepared pursuant to Chapter 343, Hawaii Revised Statutes. Accordingly, this report documents the proposed action and addresses potential impacts and mitigation measures anticipated in connection with project implementation. Due to recent litigation in Maui County involving the interpretation of HRS Chapter 343, there has been some uncertainty concerning which County or State agency is the "approving agency" for purposes of HRS Chapter 343 compliance. In a recent case involving an environmental impact statement, the Circuit Court of the Second Circuit ruled that the Land Use Commission was the appropriate "accepting authority" for purposes of HRS Chapter 343 and HAR §11-200 compliance. In another recent case, the Circuit Court of the First Circuit stated that HRS Chapter 343 compliance must be achieved prior to a government approval of a proposed action, and before an agency decision is rendered on the project.

HRS §343(c) states in relevant part, "*[w]henver an applicant proposes an action specified by subsection (a), which requires approval of an agency . . . the agency receiving the request for approval shall prepare an environmental assessment of such proposed action at the earliest practicable time to determine whether an environmental impact statement shall be required.*" (Emphasis added). The administrative rules ("HAR") for HRS Chapter 343, found in Title 11, Department of Health, Chapter 200, has similar language. Specifically, HAR §11-200-9(b) states, in pertinent part "*[f]or applicant actions . . . the approving agency shall: (1) Require the applicant, at the earliest practicable time, to seek the advice and input of the lead county agency responsible for implementing the county's general plan*" (Emphasis added). The

term "approving agency" is defined in HAR §11-200-2 as "*an agency that issues an approval prior to actual implementation of an action.*"

Based on the foregoing provisions, and in particular, the recent Circuit Court rulings, the applicant believes that the Commission can, and should be, the approving agency for the environmental assessment prepared for the project.

Executive Summary

- Applicant:** Consolidated Baseyards, LLC
- Approving Agency:** State Land Use Commission
- Agencies Consulted:** A total of three (3) Federal Government agencies, eight (8) State of Hawaii Government agencies, seven (7) County of Maui agencies, two (2) private companies and two (2) community groups were consulted in making the assessment. For further information, refer to Chapter XI of this Final Environmental Assessment.
- General Description:** The applicant is requesting necessary entitlements to facilitate the development of the Consolidated Baseyards' light industrial subdivision with approximately 35 lots in Waikapu, Maui, Hawaii (TMKs: 3-8-07:89, 143 and 144).
- A portion of the 23.2-acre site is currently being utilized for storage of equipment and materials and minor servicing through a State Special Use Permit and a County Conditional Permit. The remainder of the project site is vacant with various grasses and kiawe trees. The project site is bordered by lands in agricultural uses to the north, south and east, while other industrial uses border the site to the west. An analysis with regards to the action's technical, economic, social and environmental aspects is provided in the following Final Environmental Assessment.

Chapter 1

Project Overview

I. PROJECT OVERVIEW

A. PROPERTY LOCATION, EXISTING USE AND LAND OWNERSHIP

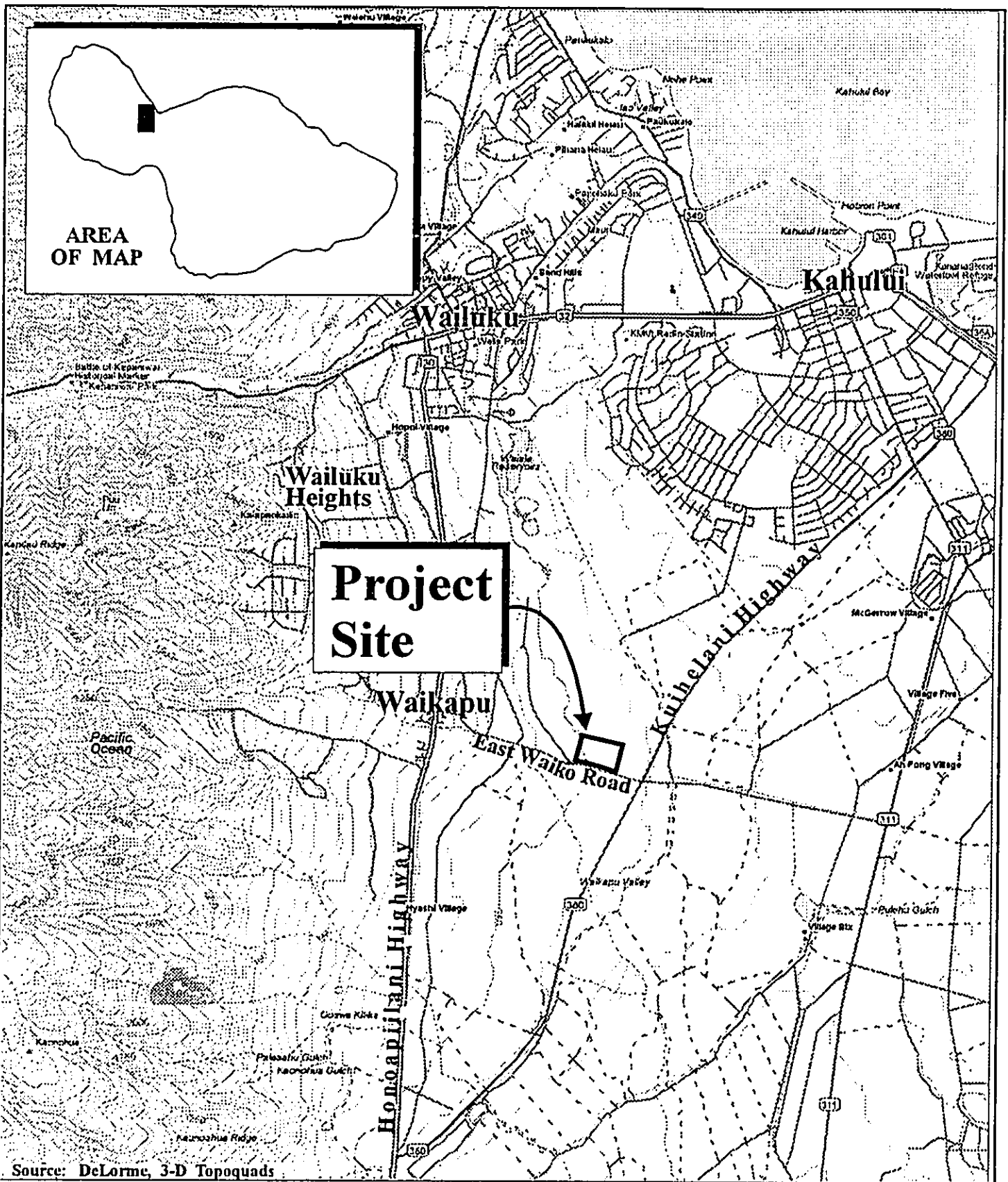
The applicant for the entitlement request is Consolidated Baseyards, LLC. The subject property is located in Waikapu, Maui, Hawaii (TMKs 3-8-07:89, 143 and 144). See Figure 1 and Figure 2.

The project site consists of 23.2 acres, previously subdivided into three (3) separate lots. The subject property was previously subdivided into three (3) lots because the previous owner had potential buyers who were interested in purchasing lots. However, because the subject site was covered under State Special Use and County Conditional permits that required discretionary renewal, the potential purchasers had difficulty securing financing for the land purchase. Thus, the sale of the lots was not completed. The County of Maui recently issued Tax Map Key numbers to the two (2) new parcels. Approximately 12 acres of the project site are currently utilized for storage of equipment and materials and minor servicing through a State Special Use Permit and a County Conditional Permit. See Appendix "A" and Appendix "B". The remainder of the project site is vacant with buffelgrass and kiawe trees.

The landowner for the property is Consolidated Baseyards, LLC.

B. PROPOSED ACTION

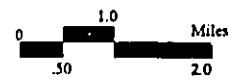
The applicant is requesting necessary entitlements to allow for the permanent use of the property for Light Industrial use. Upon approval of requested entitlements, the applicant proposes the development of approximately 35 improved lots. See Figure 3. The lot sizes are proposed to range in size from 10,375 square feet to approximately 85,502 square feet. Under the project's preliminary marketing concept, improved lots would either be leased or sold to interested purchasers in



Source: DeLorme, 3-D Topoquads

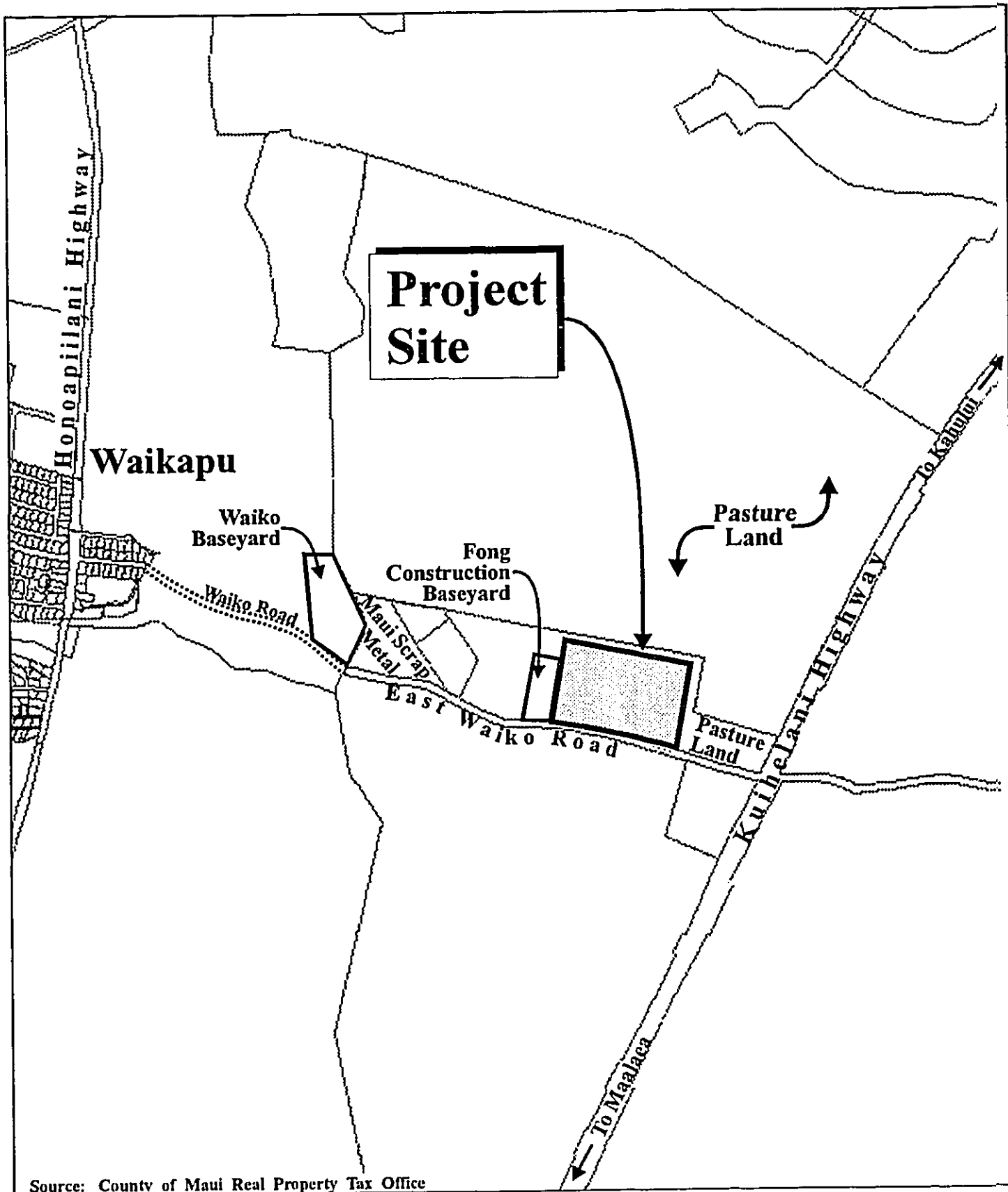
Figure 1

Consolidated Baseyards Light Industrial Subdivision at
 TMKs 3-8-07:089, 143 and 144
 Regional Location Map



Prepared for: Consolidated Baseyards, LLC

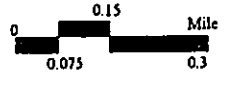
MUNEKIYO & HIRAGA, INC.



Source: County of Maui Real Property Tax Office

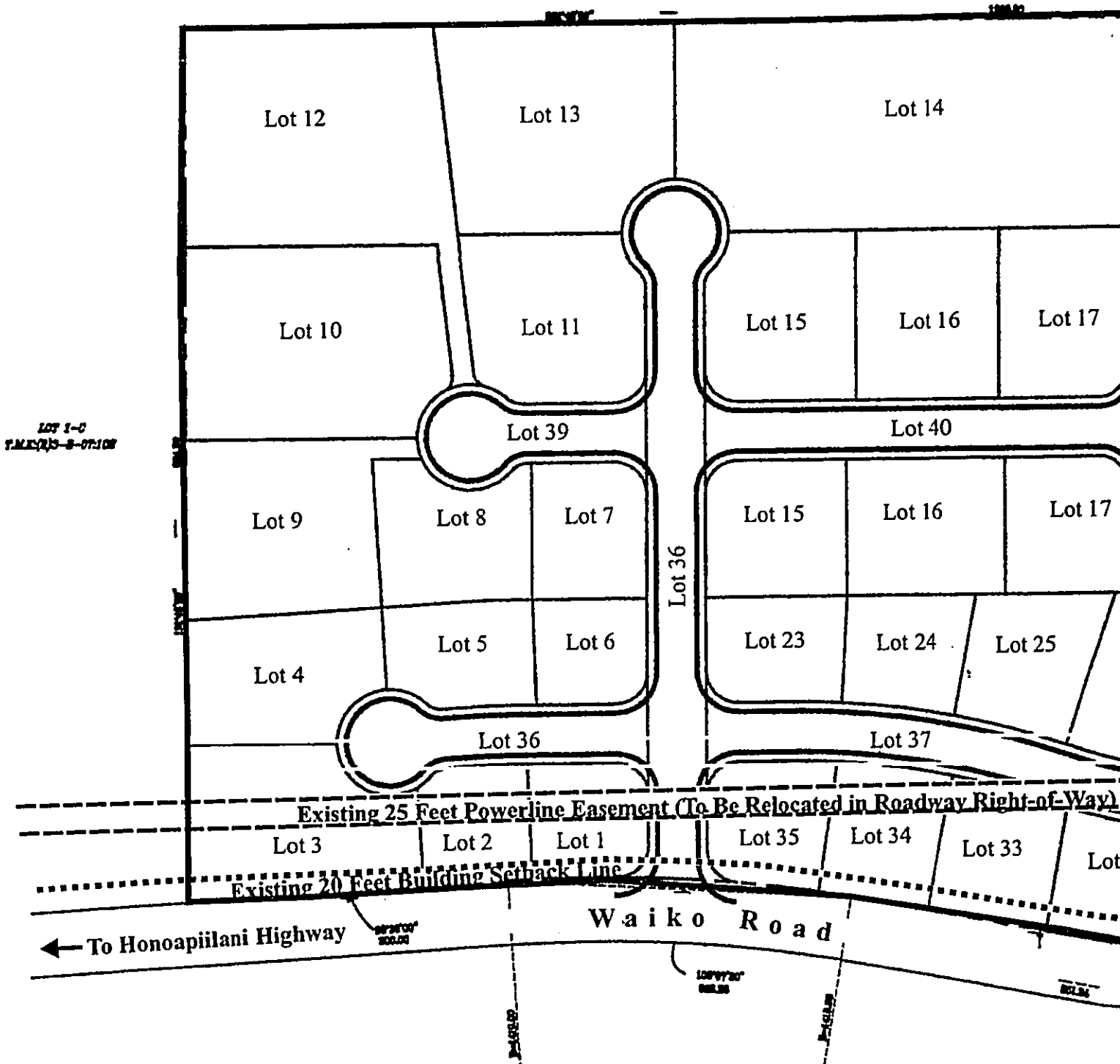
Figure 2

Consolidated Baseyards Light Industrial Subdivision at
 TMKs 3-8-07:089, 143 and 144
 Project Site Map



Prepared for: Consolidated Baseyards, LLC

MUNEKIYO & HIRAGA, INC.



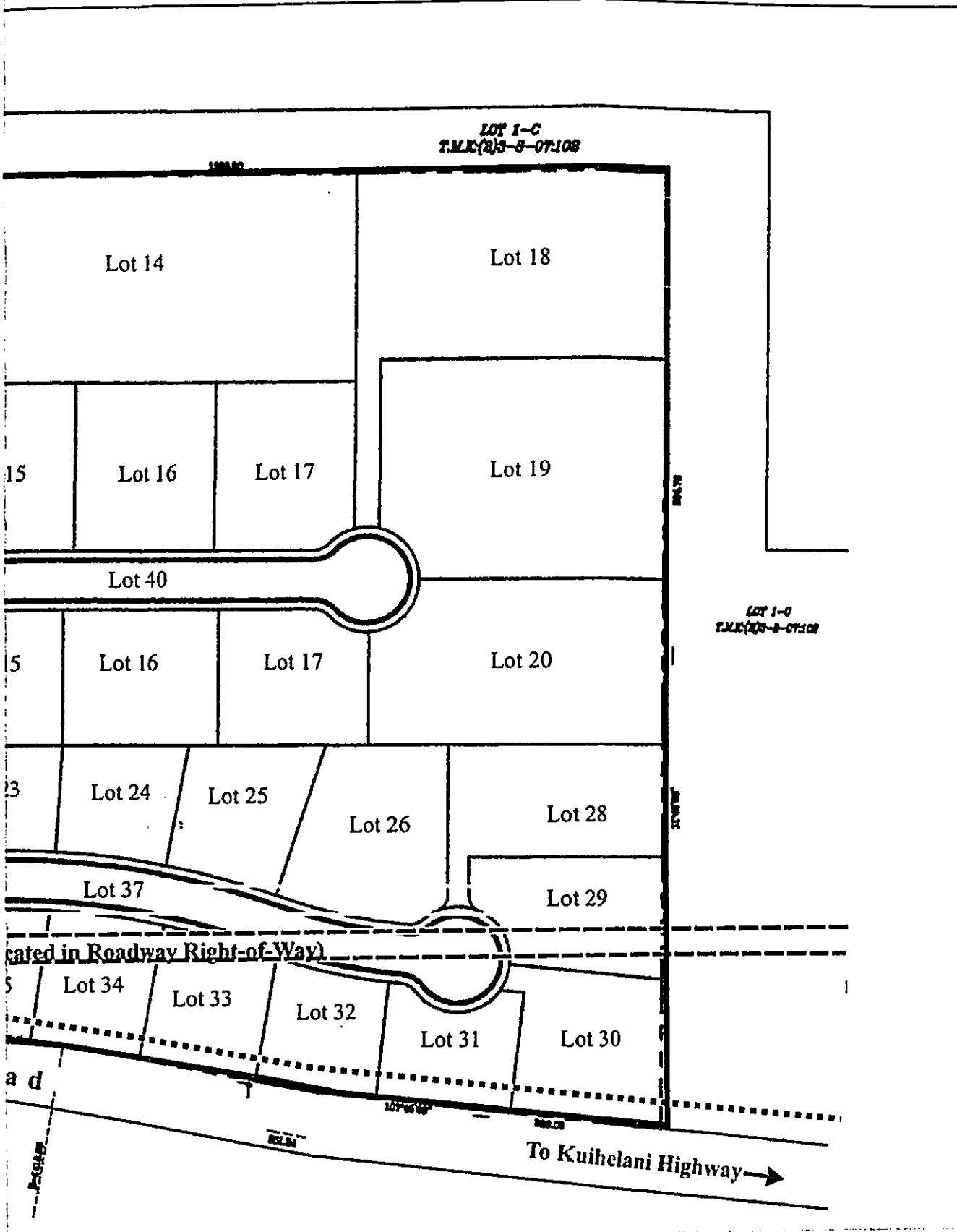
Source: Otomo Engineering, Inc.

Figure 3



Consolidated Baseyards Light Industrial
 Subdivision at TMKs 3-8-07:089, 143 and
 Conceptual Subdivision Layout

Prepared for: Consolidated Baseyards, LLC



ards Light Industrial
 8-07:089, 143 and 144
 Division Layout

NOT TO SCALE



fee simple interest.

The applicant researched the current sales prices for similar lands in the Central Maui area. The price range is approximately \$20.00 to \$35.00 per square foot, with most of the available lands having more "commercial/retail" element to them. Potentially, the price ranges for the project would be comparable at \$25.00 to \$30.00 per square foot for the smaller lots and \$20.00 to \$25.00 per square foot for larger lots. However, final sales and lease prices are contingent upon market conditions at the time the project is completed, as well as conditions associated with entitlement approvals which may be imposed by the State Land Use Commission or County of Maui.

Depending on market conditions, the project may be completed in two (2) phases, with Phase I being constructed by 2006 with 20 lots, utility improvements, and internal subdivision roads. Completion of Phase II is anticipated in 2009, with the remaining 15 lots.

Improvements proposed in connection with the subdivision include clearing and grubbing, grading, installation of underground water, drainage and utility systems; as well as paved roadways and landscaping.

The estimated cost for subdivision improvements is \$3.5 million. Subdivision improvements are anticipated to begin in August 2005 and will take approximately 12 months to complete.

Condition No. 14 of the SUP permit requires that the applicant improve the adjoining section of Waiko Road (fronting the project site to Kuihelani Highway) to County standards. Refer to Appendix "A". Specifically, the Condition states:

That a road widening lot be provided for the adjoining half of the project site along Waiko Road to Kuihelani Highway. Said lot shall be improved to County standards, as approved by the Department of Public Works and Waste Management, and dedicated to the County upon completion of improvements.

Fronting the project site and east towards Kuihelani Highway, Waiko Road has an existing 60-foot right-of-way. As such, adequate land is available for the required County right-of-way (60-feet). Nevertheless, the applicant is coordinating with the Department of Public Works and Environmental Management in order to complete plans for necessary roadway improvements to the northern (adjoining half) of Waiko Road to County standards.

C. REASONS JUSTIFYING THE REQUEST

The Waikapu residential area is surrounded by lands primarily used for agricultural production. The project site is located east of and away from the residential village area, within an area of existing industrial use.

According to the market study prepared for the project, the Central Maui region of Wailuku-Kahului has seen growth in its population, tourism and economy over the past decade, however, there has been only a slight increase in the new industrial inventory. As a result, the occupancy rates have steadily climbed, while the inventory has dwindled. Simultaneously, warehouse rents in the Central Maui area have been steadily rising. Vacancy rates for ground floor warehouse spaces in Central Maui are estimated to be around two percent (2%), based on current listing for only 18,563 square feet. This is considered to be well below the norm of about five percent (5%), and is a strong indicator that the demand for warehouse space is very high. See Appendix "C".

The market study noted that the last industrial projects to be developed in Central Maui were the Maui Business Park Phases IA and IB. All of the lots for that project have been sold, or are in escrow, with the exception of three (3) parcels in Phase IA. The market study cited interviews with owners, realtors and bank representatives and concluded that there will be an increasing number of new industrial projects in the Wailuku-Kahului region within the next one (1) to three (3) years, however, they are being developed primarily by owner-occupants. The study also noted that the market is in imminent need of additional industrial inventory to supplement today's extremely limited supply as well as to accommodate Maui's growing population and expanding economy. Although A&B's large project should satisfy the mid- to long-range demand, more industrial land of about 50 to 75 acres is needed to bridge the near-term market of approximately three (3) to five (5) years.

D. ENTITLEMENTS REQUIRED

The Wailuku-Kahului Community Plan designates the subject property for Light Industrial Use. However, the 23.2-acre parcel is currently classified "Agricultural" by the State Land Use Commission (LUC). As such, a petition for boundary amendment will be filed with the LUC to seek the needed "Urban" classification. Finally, the entire 23.2-acre site is County-zoned "Agricultural". In order to establish consistency with the Wailuku-Kahului Community Plan, the proposed subdivision requires a change in zoning to the "M-1", Light Industrial. Application for a change in zoning will be filed with the Maui Planning Department for consideration by the Maui Planning Commission and final action by the Maui County Council.

As previously noted, the applicant is currently utilizing approximately 12 acres of the project site for the storage of equipment and materials, as well as minor servicing through a State Special Use Permit (SUP) and a

County Conditional Permit (CP). One of the conditions of the SUP requires that the applicant provide a roadway widening lot on the adjoining half of Waiko Road, fronting the project site and that it be improved to meet County roadway standards.

Since roadway improvement work will be done in the County right-of-way, this environmental assessment has been prepared pursuant to Chapter 343, Hawaii Revised Statutes.

Chapter II

***Description of the
Existing Environment***

II. DESCRIPTION OF THE EXISTING ENVIRONMENT

A. PHYSICAL SETTING

1. Surrounding Land Uses

The village of Waikapu is located approximately 1.2 miles south of Wailuku Town. Originally developed as a sugar plantation town, Waikapu today is primarily a residential area with limited lands allocated for commercial use along Honoapiilani Highway, in the vicinity of the former Waikapu Stop. The Maui Tropical Plantation is located at the southern extent of Waikapu, approximately one mile from the subject property.

Waiko Road, connecting Honoapiilani Highway with Kuihelani Highway, is also sparsely bordered with commercial enterprises including Maui Scrap Metal and the Waiko Baseyard, which includes the Rojac Trucking Baseyard and Brewer Environmental Warehouse. Immediately west of the project site is the 4-acre Fong Construction baseyard, permitted by Special Use Permit 95006 and County Conditional Permit 98009. Additionally, there are agricultural uses on the lands to the north and east of the project site, mainly cattle operations which use the surrounding lands for a feed lot and for grazing. Waiko Road borders the subject property to the south. Lands surrounding Waikapu to the south are cultivated in sugar cane.

Kuihelani Highway, a State of Hawaii two-way, four-lane divided highway, is located to the east of the project site. Kuihelani Highway provides transportation access to West Maui by connecting Kahului with Honoapiilani Highway.

2. **Climate**

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. August is historically the warmest month, while January and February are the coolest. Rainfall at the project averages 20 to 30 inches per year. Winds in the region are predominantly out of the north-northeast and northeast.

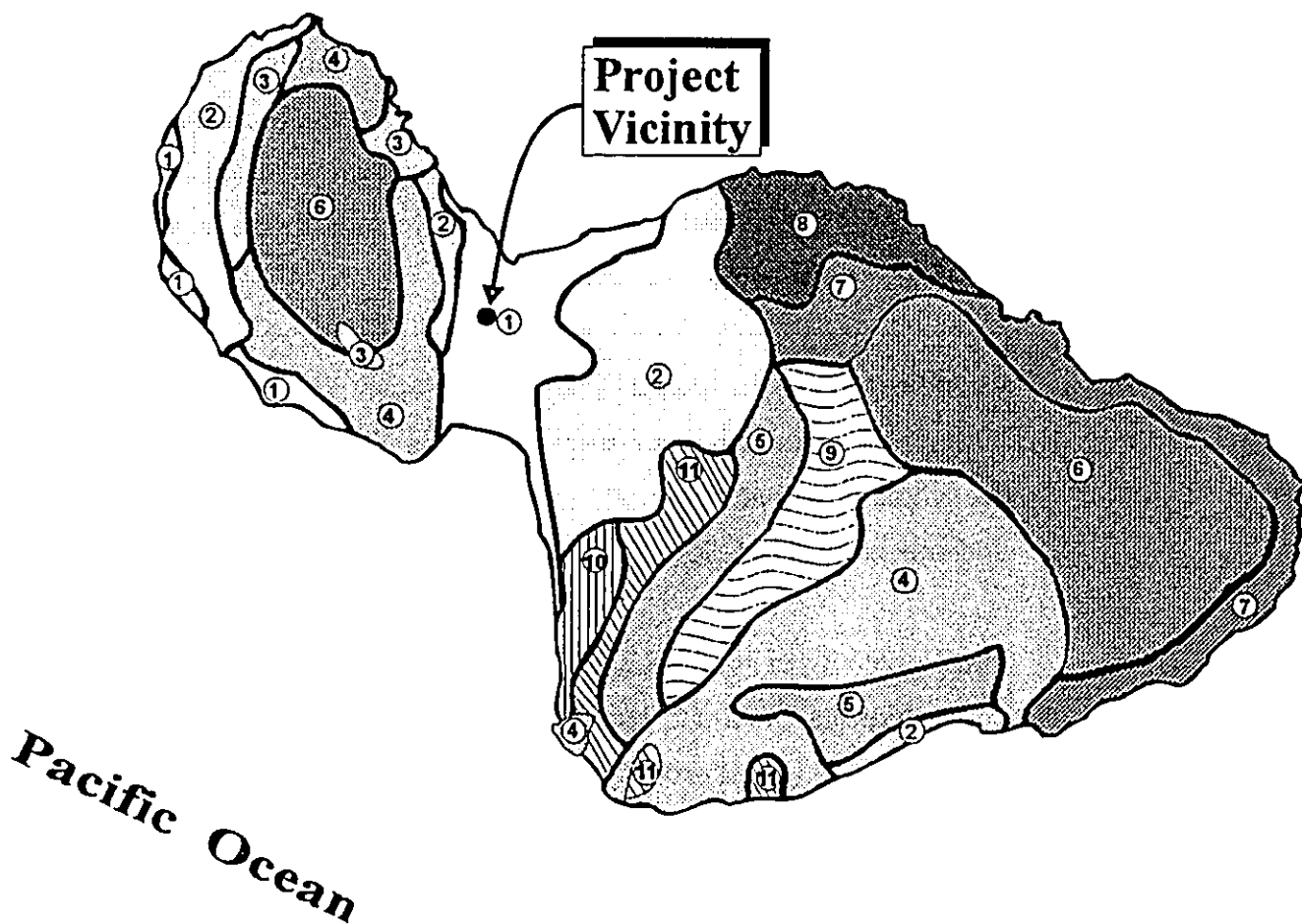
3. **Topography and Soils Characteristics**

Elevations at the project site range from approximately 208 feet to 246 feet above sea level. Average slope is approximately 3 percent.

The project site is located along Waiko Road and is defined by soils within the Pulehu-Ewa-Jaucas association, which is characterized as deep, nearly level to moderately sloping, with well drained soils that have a moderately fine to coarse textured soil. See Figure 4. Underlying the project site is Jaucas Sand, 0 to 15 percent slopes (JaC). In a representative profile, the soil is single grain, pale brown to very pale brown, sandy and more than 60 inches deep. In many places, the surface layer is dark brown as a result of accumulation of organic matter and alluvium. Permeability is rapid and runoff is very slow to slow. The hazard of water erosion is slight, but wind erosion is a severe hazard

LEGEND

- | | | | |
|---|--|---|-----------------------------------|
| ① | Pulehu-Ewa-Jaucas association | ⑦ | Hanu-Makaalac-Kuilua association |
| ② | Waiakon-Keahua-Molokai association | ⑧ | Pauwela-Haiku association |
| ③ | Honolua-Olelo association | ⑨ | Laumaiu-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 | | |



Map Source: USDA Soil Conservation Service

Figure 4

Consolidated Baseyards Light
Industrial Subdivision at
TMKs 3-8-07:089, 143 and 144
Soil Association Map

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Prepared for: Consolidated Baseyards, LLC

MUNEKIYO & HIRAGA, INC.

where vegetation has been removed. The project site also consists of Ewa silty clay loam, 0 to 3 percent slopes (EaA). Runoff is very slow and the erosion hazard is no more than slight. This soil is typically used for sugar cane and home sites. See Figure 5.

The State Department of Agriculture has established three (3) categories of Agricultural Lands of Importance to the State of Hawaii (ALISH). Utilizing modern farming methods, "prime" agricultural lands have the soil quality, growing season, and moisture supply needed to produce sustained crop yields economically, while "unique" agricultural lands possess a combination of soil quality, location, growing season, and moisture supply currently used to produce sustained high yields of a specific crop. "Other" important agricultural lands include those which have not been rated "prime" or "unique".

As indicated by the ALISH map, the project site falls within the "Other" agricultural lands categories. See Figure 6. The lands in the project area were formerly utilized to support ranching activities and are presently fallow and undeveloped.

The University of Hawaii Land Study Bureau classifies productivity characteristics on a scale of "A" to "E", with lands designated as "A" reflecting highest productivity and "E" representing lands ranked lowest. Productivity classifications are further classified by soil types conveying information such as texture, drainage, and stoniness. Land underlying the project site is classified as E3, which reflects soil that is over 30 inches deep, nonstony, and excessively drained. The soil texture is typically coarse in this area (Land Study Bureau).

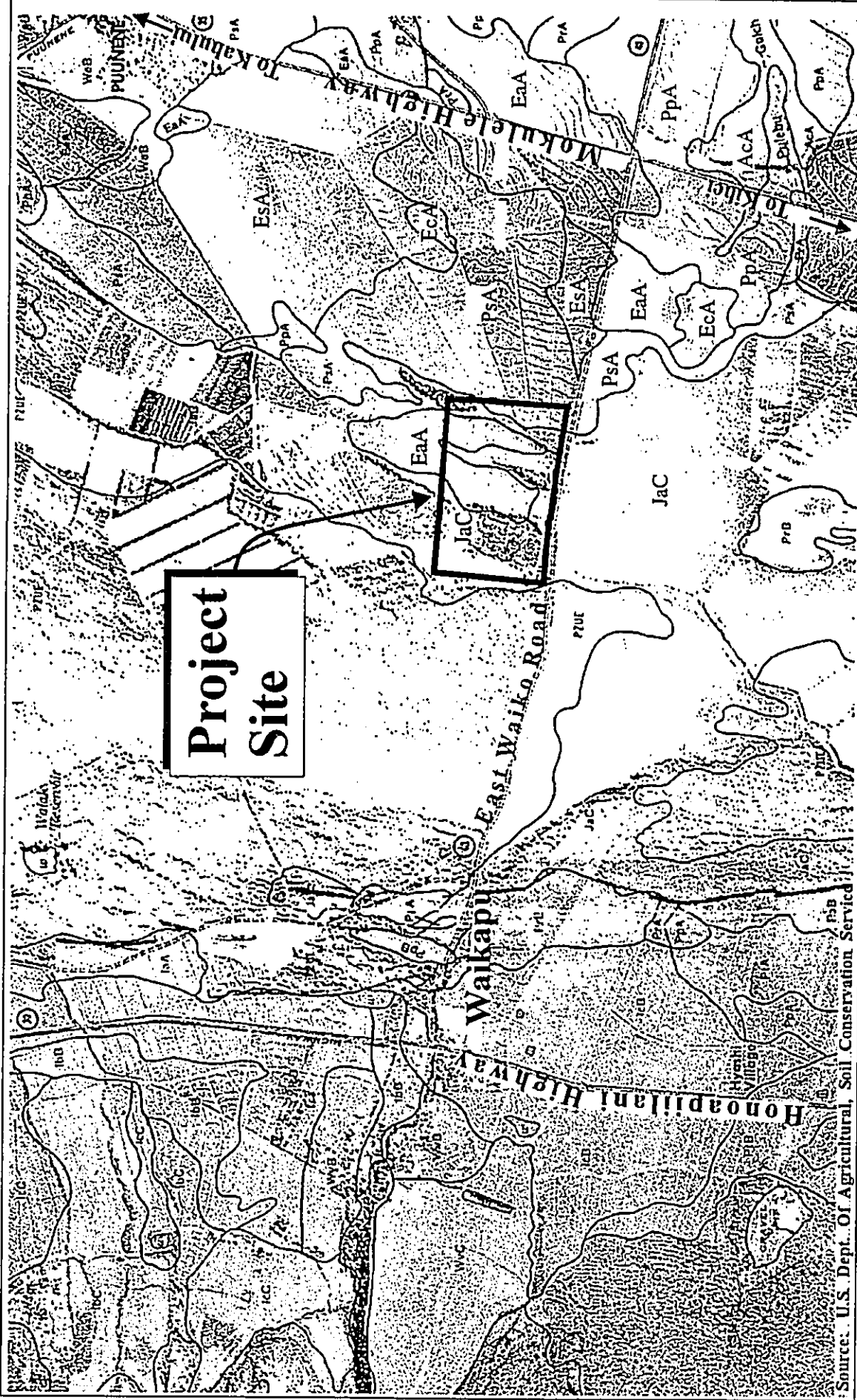


Figure 5

Consolidated Baseyards Light Industrial
Subdivision at TMKs 3-8-07:089, 143 and 144
Soil Classification Map



Prepared for: Consolidated Baseyards, LLC



MUNEKIYO & HIRAGA, INC.

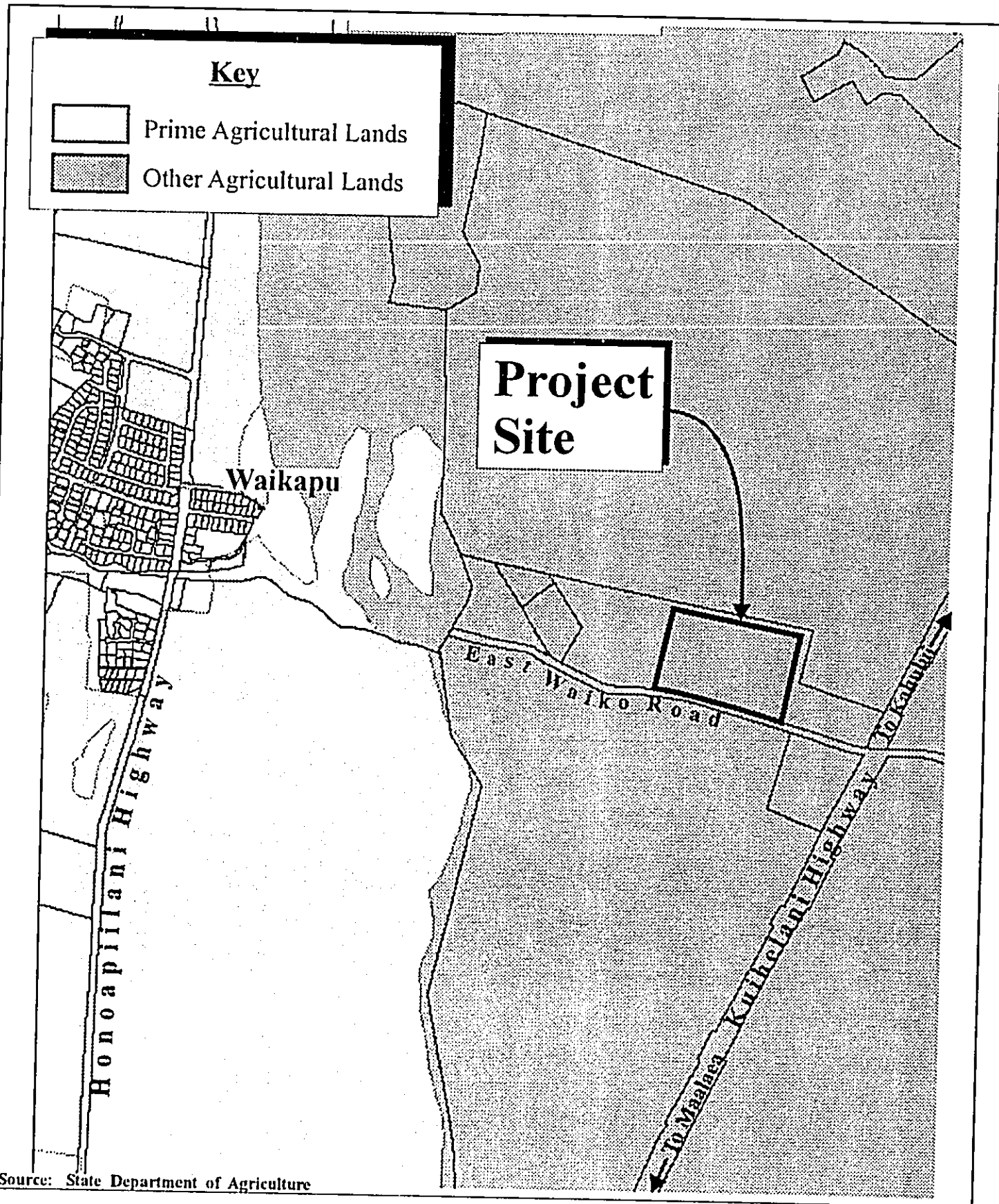
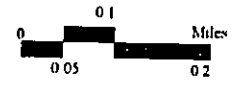


Figure 6 Consolidated Baseyards Light Industrial Subdivision at
 TMKs 3-8-07:089, 143 and 144
 ALISH Map



Prepared for: Consolidated Baseyards, LLC

MUNEKIYO & HIRAGA, INC.

4. **Flood and Tsunami Hazard**

The project site is located near the eastern base of the West Maui Mountains. As indicated by the Flood Insurance Rate Map for the County of Maui, the project site is located within Zone C, an area of minimal flooding (Federal Emergency Management Agency). See Figure 7.

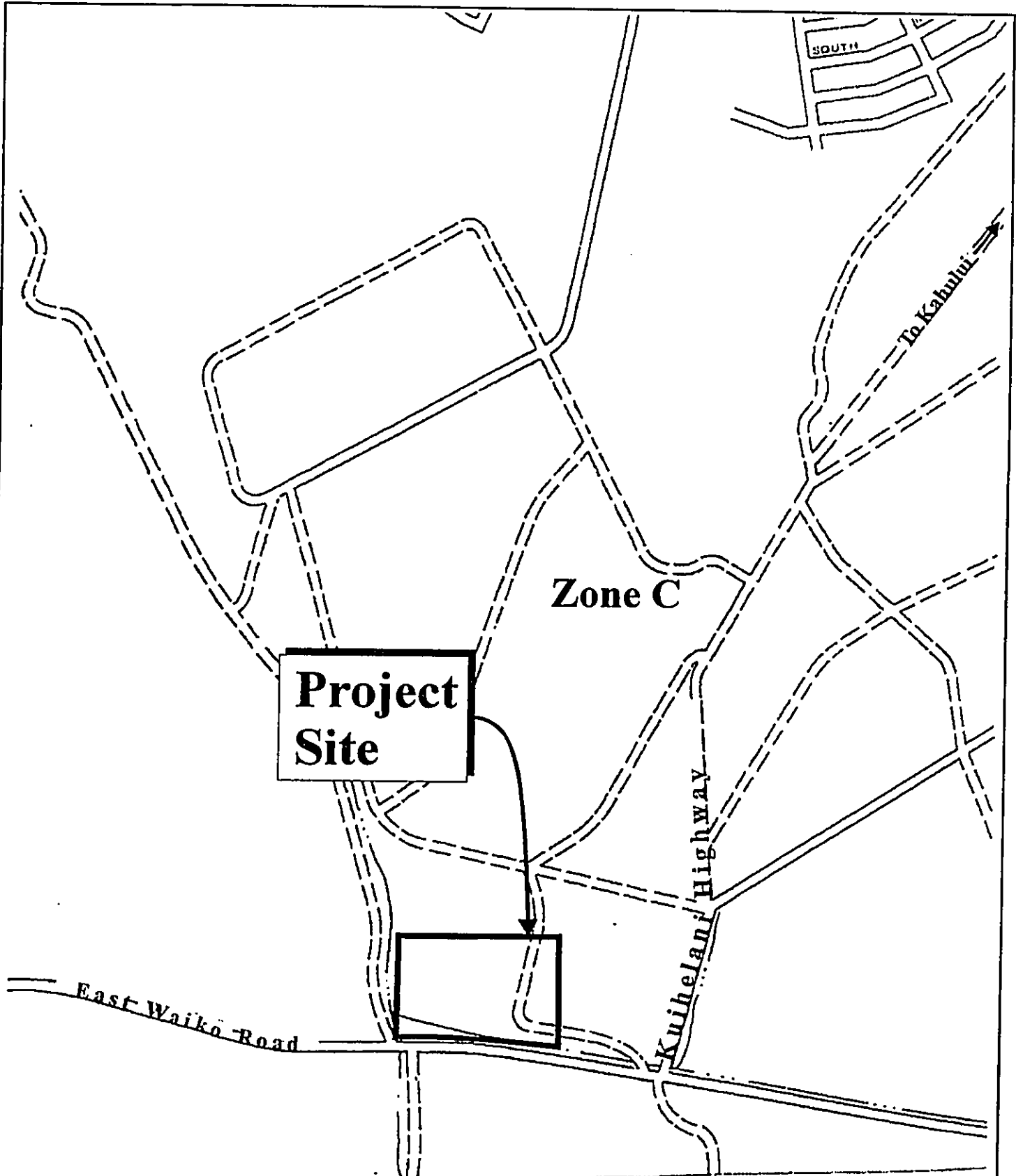
5. **Wetlands and Streams**

Waikapu Stream is located approximately 0.33 mile to the south of the project site. Waikapu Stream is a perennial stream which originates in the upper reaches of Waikapu Valley, ultimately discharging into Kealia Pond, in the Maalaea flats. According to the Hawaii Stream Assessment, the Waikapu Stream has no listed tributaries and flows to the sea year-round. The assessment noted that grading information exists and that dam or diversion weirs have been noted. Further, the assessment found that the Waikapu Stream was important for taro cultivation in the past and that Waikapu Valley may contain valuable cultural and historic sites (Hawaii Cooperative Park Service Unit, 1990).

A plantation reservoir is located to the west, approximately one (1) mile from the project site. This reservoir is maintained by Wailuku Agribusiness Company, Inc. and is actively used for agricultural irrigation. There are no identified wetlands in the vicinity of the subject property.

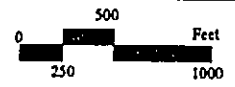
6. **Flora and Fauna**

The site has been formerly utilized for ranching activities. Approximately 12 acres are in use for Light Industrial storage, while the remaining 12 acres are currently fallow. Vegetation in the



Source: FIRM - Community Panel No. 150003 0190D

Figure 7 Consolidated Baseyards Light Industrial Subdivision at
 TMKs 3-8-07:089, 143 and 144
 Flood Insurance Rate Map



Prepared for: Consolidated Baseyards, LLC



region is generally characterized by buffelgrass and scattered kiawe trees. See Appendix "D". Some areas where the buffelgrass is less dense support a variety of other herbaceous species, many of which are ephemeral annuals.

Terrestrial fauna in the region include introduced species, such as axis deer, mice, rats, and mongoose. Some of the avifauna introduced to the area include the Spotted Dove, Barred Dove, Japanese white-eye, Cardinal and Gray Francolin.

There are no known rare, endangered, or threatened species of flora and fauna located within or in the vicinity of the project site. Refer to Appendix "D", Biological Resources Survey.

7. **Cultural Impact Considerations**

a. **Geopolitical Division**

Prior to Western contact in Hawaii, land was divided into units called *ahupua'a*. Ideally, each *ahupua'a* was self-sufficient, running from *mauka*, the mountain, to *makai*, the ocean (MacKenzie, page 3). These divisions served as both cultural and settlement systems as traditional Hawaiian life was tied intimately to the land. Hunting, gathering, cultivation, and habitation took place within three (3) zones which characterized the *ahupua'a*: the *Mauka* Zone, the Agricultural Zone, and the Coastal Zone. The *Mauka* Zone provided access to a variety of trees, plants, and herbs for various needs, customs and practices. Planting of yams, sweet potato, sugar cane, taro, and other foods took place in the Agricultural Zone where gradual slopes of land allowed terraces to be constructed for more efficient

irrigation. The Coastal Zone and low-lying areas was where most of the *kauhale*, group of houses, were found, as well as temples, fishing shrines, and fishponds (Matsuoka, page 77).

Western contact brought changes to the Hawaiian land system along with the introduction of private ownership of land, a concept foreign to the Native Hawaiians. A Board of Land Commissioners was established in 1845 to uphold or reject all private land claims of both foreigners and Hawaiians. The Commission adopted rules pertaining to the *proof of claims, right of tenants, and commutation to the government in attempts to achieve the goal of totally partitioning undivided lands.* All lands not claimed by February 1848 were to be forfeited to the government (MacKenzie, page 6).

Following the enactment of these rules, the *Mahele* division of 1848 divided all lands of Hawaii between the king and chiefs. Two (2) years later the *Kuleana* act completed the *Mahele* process by authorizing the Land Commission to award fee simple titles to native tenants for their land. These *kuleana* parcels, also known as Land Commission Awards (LCA), were generally among the richest and most fertile in the islands and came from the king, government, or chief's land. All claims and awards were numbered and recorded in the *Mahele* Book (MacKenzie, page 8). In addition, government lands were sold as "Royal Patent Grants" or "Grants" in order to meet the increasing costs of government. These grants differed from LCAs, as it was not

necessary for the recipients to obtain an award for their land from the Land Commission (*The Great Mahele*, pages 27-28).

Prior to the *Mahele*, the division called Na Wai Eha, meaning "The Four Streams," covered the four (4) great valleys of the West Maui Mountains which drained eastward into Central Maui. Waikapu, the southern most stream, was the last of "The Four Streams" (Speakman, pages 107-108).

During the *Mahele* period, the Land Commission awarded over 100 LCAs in the Waikapu *ahupua'a*.

b. Past Political Boundaries

Traditionally, the division of Maui's lands into districts (*moku*) and sub-districts was performed by a *kahuna* (priest, expert) named *Kalaiha'ohia*, during the time of the *ali'i* *Kaka'alaneo* (Beckwith 1940:383; Fornander places *Kaka'alaneo* at the end of the 15th century or the beginning of the 16th century [Fornander 1969, Vol. 6:248]). Land was considered the property of the king or *ali'i 'ai moku* (the *ali'i* who rules the island/district), which he held in trust for the gods. The title of *ali'i 'ai moku* ensured rights and responsibilities to the land, but did not confer absolute ownership. The king kept the parcels he wanted, his higher chiefs received large parcels from him and, in turn, distributed smaller parcels to lesser chiefs. The *maka'ainana* (commoners) worked the individual plots of land.

In general, several terms, such as *moku*, *ahupua'a*, *'ili* or

'ili'aina, were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua'a*) that customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua'a* were, therefore, able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua'a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *'ili'aina* or *'ili* were smaller land divisions next in importance to the *ahupua'a* and were administered by the chief who controlled the *ahupua'a* in which it was located (ibid:33; Lucas 1995:40). The *mo'o'aina* were narrow strips of land within an *'ili*. The land holding of a tenant or *hoa'aina* residing in an *ahupua'a* was called a *kuleana* (Lucas 1995:61). The project area is located in the *ahupua'a* of Waikapu, which translated means literally "water [of] the conch" and refers to a shell located in a cave that could be heard everywhere in the Hawaiian Islands until it was stolen by a supernatural dog named Puapualenalena (Pukui et al. 1974:223).

c. **Traditional and Customary Rights**

Hawaiian customs and practices are recognized as "Hawaiian usage" if it can be shown to have been exercised prior to November 25, 1892, which was when the Hawaiian Kingdom Legislature adopted British common law into the Hawaiian legal system (Minerbi, page 98). The traditional and customary rights of Native Hawaiians can be broken down into access rights, gathering rights, burial rights, and religious rights.

Access

Native Hawaiians generally share the same access rights as the general public. However, they have the unique access rights to *kuleana* parcels and between *ahupua'a*. Access to *kuleana* parcels may involve access along ancient trails or expanded access not limited to any route. Additionally, the *Kuleana* Act granted unobstructed access within the *ahupua'a* to obtain items necessary to make the *kuleana* parcel productive. Access rights between *ahupua'a* involve access along ancient or well established trails (MacKenzie, pages 214-220).

Gathering

In terms of gathering rights, the Hawaii Supreme Court has upheld gathering rights within an *ahupua'a* for firewood, house-timber, *aho* cord, thatch, and *ki*-leaf under three (3) conditions. The tenant must physically reside within the *ahupua'a*, the right to gather can only be exercised upon undeveloped lands within the *ahupua'a*, and the right must be exercised only for the purpose of practicing Native Hawaiian customs and traditions (MacKenzie, page 226).

Burial

According to traditional Hawaiian burial beliefs, following death, the *'uhane*, or spirit, must remain near the *na iwi*, or bones. Burial sites are chosen by Hawaiians for symbolic purposes in places for safekeeping. Often, bones were hidden in caves, cliffs, sand dunes, or deposited in the ocean. Today, federal and state laws protect both unmarked and marked burial sites. Island Burial Councils assist the State Historic Preservation Division with inventory and identification of unmarked Hawaiian burial sites and determine the preservation or relocation of native Hawaiian burial sites (MacKenzie, pages 248-254).

Religious

Hawaiian religion and beliefs were intimately tied to the land. While some practices and traditions were lost over the years, basic Hawaiian religious concepts remain. The terms "*aloha 'aina*," love the land and "*malama 'aina*," care for and protect the land, convey the unity of humans, nature, and

the gods in Hawaiian philosophy (Minerbi, page 129). Furthermore, Hawaiians honored and worshiped *aumakua*, deities, and *akua*, gods. There were numerous *akua* of farming, fishing, tapa making, dancing, sports, and any other activity of Hawaiian life. The concept of *mana* or sacred attachment to places, people, or things also remains as a significant aspect of Hawaiian religion (MacKenzie, page 232).

The First Amendment of the U.S. Constitution guarantees the freedom to practice religion. To the Native Hawaiians, freedom to practice religion includes a freedom to practice a way of life which acknowledges the sacredness of places, animals, and natural forces (MacKenzie, page 240). However, Hawaii case law has established stringent constitutional tests regarding the infringement on a religious practice. In 1982, the Hawaii Supreme Court ruled that in order to find an act an unconstitutional infringement on religious practice, the following factors must be considered: (1) the legitimacy and sincerity of the practice, (2) whether or not the practice is burdened, (3) the extent of the impact on religious practices, and (4) whether or not the state had a compelling interest that justified the burden (Minerbi, page 131).

A Cultural Impact Assessment was prepared for the proposed project and involved the evaluation of the probability of negative impact on cultural values and rights within the project area and its vicinity. According to the Guidelines for Assessing Cultural Impacts established by the Hawaii State Office of Environmental Quality Control (OEQC 1997):

The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religions and spiritual customs...The types of cultural resources subject to assessment may include traditional cultural properties or other

types of historic sites, both man made and natural which support such cultural beliefs.

Act 50, enacted by the Legislature of the State of Hawaii (2000) with House Bill 2895, relating to Environmental Impact Statements, proposes that:

...there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawaii's culture, and traditional and customary rights...[H.B. NO. 2895].

The purpose of Act 50 is to require that Environmental Impact reports include an assessment of any impact on the cultural practices of the community and state. Thus, Act 50 requires an assessment of cultural practices to be included in the environmental review process and to be taken into consideration during the planning process. The concept of geographical expansion is recognized by using, as an example, "the broad geographical area, e.g. district or ahupua'a" (OEQC 1997). It was decided that the process should identify 'anthropological' cultural practices, rather than 'social' cultural practices. For example, limu (edible seaweed) gathering would be considered an anthropological cultural practice, while a modern-day marathon would be considered a social cultural practice. The discussion resulted in the following workable definition for cultural practices:

- (1) A traditional cultural practice that is being conducted [at present]...and

-
- (2) Traditional, beliefs, practices, life ways, societal, history of a community and its traditions, arts, crafts, music, and related social institutions [Act 50, Cultural Impact Assessment 2001].

It was also concluded that a proposed action that may not physically alter gathering practices, but affect access to gathering areas would be included in the investigation (State of Hawaii 1997). For further review of methodologies and findings, refer to Appendix "E" of this report.

d. **Physical Features of the Land at Waikapu**

Waikapu Stream, the only completely landbound of "The Four Streams," traverses the vast Central Maui plain. An abundance of wet plantations and taro patches once extended from the base of Waikapu to below the valley. Sugar cane fields later replaced these plantations, leaving a few plantings preserved in plantation camps, homes, and garden sites (Handy, pages 496-497).

e. **Waikapu's Settlement and Historical Context**

It has been estimated that the lower coastal valleys of West Maui were settled early as an agriculturally oriented society, sustaining an expanding population into the late prehistoric period. Population growth led to the establishment of agricultural complexes in the upper valleys of West Maui. These population centers, located in either coastal or upland regions, were characterized by extensive terrace and pondfield agriculture and dispersed residential structures on the outskirts of the agricultural complexes. Religious structures and fishponds in coastal areas were significant

components of the population centers (Titchenal, pages 10-11).

As part of Na Wai Eha, Waikapu was a vast taro-producing valley requiring a large population to maintain its terraces and pond fields (lo'i). Handy and Handy describe the "Four Streams" system below:

The old 'okana (land division) named Na Wai Eha...comprised four great valleys which cut far back into the slopes of West Maui and drain the eastward watershed of Pu'u Kukui and the ridges radiating northeastward, eastward, and southeastward from it. Two of the great valleys, Waihe'e and Waiehu, open toward the ocean and their streams empty into it. Wailuku is partly land bound, but its stream flows into Kahului Bay, which has been eroded by the ocean out of what was formerly the stream mouth. Waikapu is land bound. The waters of its great stream, now utilized for irrigating a great acreage of sugar cane, formerly was diverted into lo'i and its overflow was dissipated on the dry plains of the broad isthmus between West and East Maui [1972:496].

Given the amount of intensive agricultural development within Waikapu, it seems probable that these coastal valleys were recognized for their production potential and were settled early. Waikapu and similar valleys lent support to the increasingly stratified and expanding Hawaiian population, whose centralized ruling class congregated in the coastal region near its religious complexes. Such a vast agricultural complex suggests habitation existed throughout and on the margins of these features.

Large tracks of land that became available for purchase after the Mahele were put into sugar cane. As early as 1828, James Louzada, a Spaniard, was making cane syrup in Waikapu. The project area is located on land that was once a part of Royal Patent Grant 3152 belonging to Mr. Cornwall and was under cultivation by the Waikapu Sugar Company. Kamehameha III (Kauikeaouli) obtained some of these lands for his own sugar venture, but by 1862, Waikapu, Waihe'e, and Wailuku cane lands combined to form Wailuku Sugar (Conte and Best 1973). In 1895, a railroad was installed to transport cane from Waikapu to the mill in Wailuku. Eventually, all these lands passed into the control of Alexander and Baldwin as did neighboring sugar lands originally awarded to Claus Spreckles by King Kalakaua for his Hawaiian Commercial and Sugar Company.

Parcel 89 (including parcels 143 and 144) is located in the sand hills, a location not conducive to traditional agriculture. The central portion of the project area was cleared and graded in the early 1970s for a proposed drive-in theater that never materialized leaving the area vacant. However, gravel paving still covers parts of the site. The eastern section of the project area previously supported a barbed-wire enclosure containing horses (Sinoto et al. 2000). Refer to Appendix "E".

f. Legends and Tales

According to legend, the name Waikapu was given because in ancient times there was a cave on the south side of the stream located about a mile inland, in which a great conch

shell (*pu*) was hidden. The sounds of the conch could be heard in the valley, thus giving the area the name Waikapu, "water of the conch". A dog named Puapua-lena-lena stole the conch, and since then it has never been heard (Handy, pages 497-498).

g. Informant Interviews

In order to obtain personal perspectives on cultural issues surrounding the subject property, interviews were conducted with individuals having intimate and long-standing knowledge of the area. These interviews are summarized in the Cultural Impact Assessment. Refer to Appendix "E".

8. Archaeological Resources

An archaeological inventory survey of the project site was conducted in August 2000. The initial surface survey of the project area revealed no significant surface cultural manifestations. Backhoe trenching was conducted at eight (8) selected localities to determine the presence or absence of buried cultural features or human remains. Further discussion on the results of the archaeological inventory can be found in Chapter III. A copy of the archaeological inventory survey can be found in Appendix "F".

9. Air Quality

A site visit was conducted and the following observations in relation to air quality were noted.

There are no point sources of airborne emissions within proximity of the project site. Air quality in the vicinity of the project site may be affected by a variety of sources, including dust from pineapple

cultivation operations to the south of the property, as well as smoke and dust from sugar cane harvesting and cultivation operations to the south and east. Although minimal, airborne pollutants are largely attributable to vehicular exhaust from traffic along the region's roadways and odors associated with surrounding agricultural operations. However, these sources are intermittent and prevailing winds quickly disperse the particulates generated by these temporary sources. Overall, air quality in the Waikapu region is considered good.

10. Noise

As previously noted above, a site visit was conducted. The following observations related to noise impacts were noted.

Traffic noise from East Waiko Road is the predominant source of noise in the vicinity of the property. Traffic on Honoapiilani Highway, Kuihelani Highway and other local roads in the vicinity are a secondary source of background noise. In addition, other background noise levels can be attributed to nearby industrial and agricultural operations on an intermittent basis, as well as natural conditions such as wind and rain.

11. Scenic and Open Space Resources

In addition to Mount Haleakala to the east, Waikapu Valley and the West Maui Mountains define the scenic resources to the west of the project site. Surrounding the project site on two (2) sides is vast open space, including lands that are being utilized as pasture lands for cattle operations. The project site is not part of a scenic corridor.

12. Hazardous Materials

A Phase I Environmental Site Assessment was conducted for the subject property by Vuich Environmental Consultants, Inc. (VEC) in June 2003. See Appendix "G". Both site reconnaissance and records review for the subject property, as well as the surrounding areas, were done. The study indicates that "Recognized environmental conditions", as defined by the American Society of Testing and Materials (ASTM) Standard E1527-00, are the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. "Recognized environmental conditions" are described with regard to (1) the nature and extent of the environmental condition, (2) potential or actual environmental threat, (3) potential for transport (migration) of any environmental conditions, and (4) consideration for further investigation. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

VEC performed the Phase I Environmental Site Assessment in conformance with the scope and limitations of the ASTM Practice E 1527-00 for the subject property located on East Waiko Road, Waikapu, Maui, Hawaii. The assessment revealed no evidence of recognized environmental conditions in connection with the property, except for the following:

Database Listings: The subject site is not listed. The listed nearby sites were reviewed for environmental concerns relative to the subject site. It is possible that the listed sites that are in close proximity to the subject site have had or could have an environmental impact on the subject property. Groundwater and surface soil quality on the subject site may have degraded over time due to the migration of pollutants from these sites, however, it is unlikely that the contaminant levels derived from these sources would be above regulated levels due to the distance from the subject site (approximately 0.5 miles).

Current and Historic Use or Storage of Hazardous and Regulated Substances: There is no evidence of any historic misuse or significant spills of hazardous or regulated substances on the subject property, except for surface soil staining noted in the next section. Some of the subject property's tenants store, generate and/or use hazardous or regulated substances and wastes. These items should be managed effectively to avoid any future releases onto the surface soils on the subject site.

Surface Soil Staining: Six (6) areas of surface soil staining (up to approximately 25 square feet of surface area for each location) were noted during the site inspection. The source of the petroleum contamination is from the improper management and handling of product or waste oil storage or from heavy equipment leakage. The areas of petroleum-impacted soil should be excavated and properly managed (disposed of).

Wastewater Management: All wastewater created on-site should be connected to the County's wastewater system or contained on-site and allowed to evaporate. Wastewater should not be allowed to migrate off-site or negatively impact the subject site's surface soil.

The following concerns listed below may not be considered recognized environmental conditions by ASTM definition, however, they may be considered regulated under other environmental laws and ordinances and may present a potential liability to the property owner.

Surface Waters and Area Aquifer Protection: The western portion of the subject site underwent extensive land grubbing and grading activity to allow for the on-site baseyard activity. The

developer and property owner should be aware of the potential for contaminants to run off-site and into nearby watercourses.

Building Materials Management: The age of one (1) on-site building structure is unknown, however, it appears to be at least twenty (20) years old. It is, therefore, possible that some of the building materials may contain asbestos or lead paint and pose a concern to the subject property owner for any future planned renovation/demolition activities.

Solid Waste Management: A limited amount of historical dumping and storage activity (construction and miscellaneous debris) and derelict vehicle storage is evident on the subject property. Some of the materials were regulated items (derelict automobiles and parts; automobile batteries and tires; asbestos piping) that require proper management and disposal procedures.

Groundwater Well: One (1) groundwater well is located on the property near the north-central portion of the subject site that was installed to supply water for the on-site reservoir (fire management requirement). Currently, the well water is used for limited dust control.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Population

The population of the island of Maui has exhibited relatively strong growth over the last two (2) decades. The 2000 population was estimated at 117,644, an increase from the 1990 population of 91,361. The year 2005 population is estimated at 127,950, while the population for the year 2020 is projected to be 160,090 (SMS, 2002).

The estimated year 2000 population for the Wailuku-Kahului Community Plan region was 41,503. The region's population shows an estimated increase to 44,883 in the year 2005. By the year 2020, population in the region is projected to increase to 55,424 (SMS, 2002).

2. **Economy**

The Wailuku region is the island's center of governmental activities, as well as a focal point for professional and business services. Combined with neighboring Kahului, the region's economic character encompasses a broad range of commercial, service and governmental activities. In addition, the region is surrounded by significant agricultural acreages which are currently planted in sugar cane and pineapple. The vast expanse of agricultural land, managed by Hawaiian Commercial & Sugar (HC&S) and Maui Land and Pineapple Company, is considered a key component of the local economy.

3. **Employment**

In the year 2000, the unemployment rates for Maui County and the island of Maui stood at 4.1 percent and 3.9 percent respectively. As of June 2004, Maui County and the island of Maui unemployment rates were 3.7 percent and 3.2 percent, respectively (Labor and Occupational Information Hawaii, State Department of Labor and Industrial Relations, 2004). In the year 2000, there were a total of 32,851 civilian jobs in the Wailuku-Kahului area, representing 48 percent of the island-wide civilian jobs. Of those jobs, 25,688 were wage and salary positions while 7,163 were self-employed (SMS, 2002). In terms of job employment distribution, the Wailuku-Kahului region generally follows the county-wide trends for the labor force characteristics shown in Table 1.

Table 1

EMPLOYMENT DISTRIBUTION		
Occupational Category	Maui County	Wailuku-Kahului
Agriculture	3 percent	4 percent
Manufacturing	2 percent	5 percent
Construction	4 percent	1 percent
Transportation, Communication and Utilities	6 percent	10 percent
Trade	21 percent	22 percent
Banking and Finance	4 percent	4 percent
Hotel	14 percent	1 percent
Other Services	16 percent	18 percent
Government	9 percent	14 percent
Self-Employed	21 percent	22 percent
Source: SMS, 2002.		

C. PUBLIC SERVICES

1. Police and Fire Protection

Police protection for the Wailuku-Kahului region is provided by the County Police Department headquartered at the Wailuku Station. The region is served by the Department's Central Maui patrol. The Police Department provides investigative services, uniform patrol services, technical support, and traffic services in an effort to fulfill its mission to enhance the quality of life for residents and the community (Budget Proposal, Fiscal Year 2004).

Fire prevention, suppression, protection, rescue, and emergency services for the Wailuku-Kahului region is provided by the County Department of Fire and Public Safety's Wailuku Station, located in

Wailuku Town on Kinipopo Street and the Kahului Station on Dairy Road (Budget Proposal, Fiscal Year 2004).

2. **Health Care**

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 196-bed facility. In addition, numerous privately operated medical/dental clinics and offices are located in the area to serve the region's residents.

3. **Solid Waste**

Single-family residential solid waste collection service is provided by the County of Maui on a once-a-week basis. Residential solid waste collected by County crews are disposed at the County's 55-acre 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.

4. **Recreational Resources**

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 Waikapu Community Center is located in the vicinity of the project site. This County owned facility includes a baseball field, basketball court, and community center building. The Wailuku Agribusiness' two (2) Brewer Little League fields are also located near the project site and are available for public use. A nearby park adjacent to the Hale Makana O Waiale Affordable Housing

complex contains a baseball field, basketball court, and playground equipment. Other recreational facilities in the Wailuku area include Iao Park, Wells Park, Wailuku Pool, Wailuku Gym, Wailuku Elementary School Park, the Wailuku Community Center, Papohaku Park, War Memorial Athletic Complex, Sakamoto Pool, and Keopuolani Park.

5. **Schools**

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 schools students. Department of Education facilities in the Wailuku area include Wailuku Elementary School (Grades K to 5), Iao Intermediate School (Grades 6 to 8), and Baldwin High School (Grades 9 to 12). Schools in the Kahului area include Lihikai and Kahului Schools (Grades K to 5), Maui Waena Intermediate School (Grades 6 to 8), and Maui High School (Grades 9 to 12). The enrollments in 2002 for the public schools serving this area can be found in Table 2. Maui Community College, a branch of the University of Hawaii, serves as the island's only community college (Hawaii Small Business Development Center Network, 2002). The community college is scheduled to become a four-year university in the next few years.

Table 2

<i>2002 ENROLLMENT IN PUBLIC SCHOOLS</i>		
<i>School</i>	<i>Enrollment</i>	<i>Grades</i>
Wailuku Elementary	959	K to 5
Iao Intermediate	825	6 to 8
Baldwin High	1,726	9 to 12
Lihikai Elementary	1,134	K to 5
Kahului Elementary	842	K to 5
Maui Waena Intermediate	1,007	6 to 8
Maui High	1,654	9 to 12
Source: Maui County Data Book, 2003.		

D. INFRASTRUCTURE

1. Roadways

Kuihelani Highway is a two-way, four-lane divided State arterial highway that is oriented in the north-south direction in the vicinity of Waiko Road. The posted speed limit on Kuihelani Highway varies between 30 and 55 miles per hour (mph) between its intersections with Honoapiilani Highway and Puunene Avenue. As of late December 2003, the highway narrows to one lane in the northbound direction just south of Waiko Road. Here, the eastbound left-turn movement from Waiko Road receives a dedicated acceleration lane onto Kuihelani Highway. Additionally, the west-most northeast-bound through lane becomes a dedicated left-turn lane. However, this is a temporary construction configuration. Traffic signals have been constructed at Kuihelani Highway's intersection with Waiko Road and the unnamed street located approximately 800 feet south of Waiko Road. Subsequent

to the activation of these signals, Kuihelani Highway will become a four-lane divided highway throughout its entire length.

Honoapiilani Highway is under the jurisdiction of the State of Hawaii Department of Transportation and is the main artery linking Waikapu to Central, South and West Maui. Honoapiilani Highway is generally a two-way, two-lane undivided highway oriented in the north-south direction. In the vicinity of Waikapu, the speed limit along Honoapiilani Highway ranges between 30 and 45 mph.

Waiko Road is a two-way, two-lane east-west County collector roadway that begins at Kuihelani Highway and extends westward beyond Honoapiilani Highway. Waiko Road has a posted speed limit of 20 mph in the vicinity of the proposed project. West of Honoapiilani Highway, Waiko Road provides access to a residential community. East of Honoapiilani Highway, Waiko Road provides access to industrial, livestock and residential uses. There is a portion of Waiko Road, located between the residential homes on the west and the old cane haul road to the east, that is privately owned by Wailuku Agribusiness. There is also a heavy vehicle restriction on Waiko Road near its intersection with Honoapiilani Highway that prohibits vehicles weighing over 10,000 pounds from entering/exiting Waiko Road via its intersection with Honoapiilani Highway

Waiale Road is a two-way, unstriped roadway, oriented in the north-south direction, roughly paved to the north of Waiko Road. While this road currently extends northward from Waiko Road to Lower Main Street, it is currently gated shut at Kuikahi Drive. The segment of Waiale Road from approximately 500 feet north of

Waiko Road to Kuikahi Drive is currently roughly paved and provides access to agricultural operations in the area. The segment of roadway north of Kuikahi Drive serves as a collector road and continues northward to Lower Main Street.

2. **Water**

A preliminary engineering report was prepared for the proposed project. Refer to Appendix "H". Domestic water and fire flow for the Waikapu area is serviced from the 300,000 gallon Waikapu Tank, which is at an elevation of 764 feet. A series of 8-inch and 12-inch lines traverse along the western segment of Waiko Road from the tank to Honoapiilani Highway. To the east of Honoapiilani Highway, approximately 4,200 feet from the project site, the waterline is reduced to a 4-inch line which presently services the makai Waikapu Village. The 4-inch waterline reduces to a 1½-inch waterline east of the village.

According to the Department of Water Supply, the Waikapu Tank is at or near capacity. It is inadequate to provide storage for fire flow and domestic water for this project.

3. **Wastewater**

There is an existing 8-inch sewerline crossing East Waiko Road, approximately 3,200 feet west of the project site. Said 8-inch line is located east of makai Waikapu Village and connects to the existing sewer system on Waiale Road. Wastewater collected from the Waikapu area is transported to the Wailuku-Kahului Wastewater Treatment Plant.

4. **Drainage**

A drainage report was prepared for the project. See Appendix "I". There are no drainage improvements within the project site. The majority of the onsite runoff sheet flows across the project and a small portion sheet flows onto Waiko Road. Said runoff eventually sheet flows onto Kuihelani Highway where it is intercepted by the highway drainage facilities into a designated outlet.

It is estimated that the present 50-year, 1-hour runoff from the project site is 19.1 cubic feet per second (cfs).

5. **Electricity and Telephone Systems**

There is an existing electrical transmission system traversing inside the southern boundary of the subject property. Said system is located within an easement granted to Maui Electric Company, Ltd. An existing electrical distribution system is located approximately 1,000 feet to the west of the property on land owned by A&B Properties, Inc.

Electricity and telephone services are provided on Maui by Maui Electric Company, Ltd. and Verizon Hawaii, respectively.

Chapter III

Potential Impacts and Mitigation Measures

III. POTENTIAL IMPACTS AND MITIGATION MEASURES

A. IMPACTS TO THE PHYSICAL ENVIRONMENT

1. Surrounding Land Uses

The project site is located near Waikapu Town and abuts the Fong Construction Baseyard to the west. The proposed action calls for a 35-lot light industrial subdivision. Waikapu contains primarily single-family residential uses, although there are neighborhood commercial uses along Honoapiilani Highway. Additionally, there are other industrial uses in close proximity to the subject property, such as the Waiko Baseyard (including the Rojac Trucking Baseyard and the Brewer Environmental Warehouse) and Maui Scrap Metal.

The proposed action will result in a light industrial subdivision compatible with surrounding commercial uses. The proposed action is designated for light industrial use by the Wailuku-Kahului Community Plan and is deemed to be a use consistent with the Community Plan's intent to contain light industrial growth to areas proximate to existing developed areas.

2. Topography and Landform

The 23.2-acre parcel slopes in a west to east direction at an approximate slope of 3 percent. Elevations at the southwesterly extent of the property are at approximately 246 feet, while elevations at the northeast extent of the property is at roughly 208 feet above mean sea level. Approximately half of the project site has been graded for existing use. Additional grading will be undertaken to provide the necessary grades for subdivision roadway and building pad construction. Grading plans will attempt to balance excavation and embankment quantities to the extent

possible. Drainage patterns will be maintained to ensure impacts to downstream properties are minimized. In general, adverse impacts to topography and landforms resulting from grading activities are not expected.

3. **Flood and Tsunami Hazard**

As previously noted, the subject properties are located in Zone "C", areas of minimal flooding by flood insurance rate maps. Best Management Practices (BMPs) will be implemented to mitigate any future flooding on the site. Additionally, the subject properties are not located within the tsunami inundation zone.

4. **Wetland and Streams**

There are no wetlands in the vicinity of the subject property. Waikapu Stream will not be affected by the proposed action. Drainage generated from the property will not be discharged directly into Waikapu Stream.

5. **Flora and Fauna**

There are no known significant habitats or rare, endangered, or threatened species of flora or fauna located on the project site. In addition, the proposed improvements are not anticipated to impact wetland areas and wildlife habitats. As such, the removal of vegetation from the project site is not considered an adverse impact to these components of the natural environment. See Appendix "D", Biological Resources Survey.

6. **Assessment of Cultural Impacts**

Individuals and organizations, including native rights division of Office of Hawaiian Affairs (OHA), the Community Resource

Coordinator of OHA on Maui, and the Central Maui Hawaiian Civic Club were contacted during the preparation of the cultural impact assessment in order to obtain information concerning cultural activities occurring at or within the vicinity of Parcel 89. None of the individuals and/or groups who responded had any cultural information pertaining to the project area. Additionally, the cultural impact assessment noted that until the advent of drip irrigation and the transport of soil, agriculture activities did not exist in the area. In the general vicinity, kiawe trees were harvested, and grasses provide seasonal pasture lands for cattle operations.

Based on the community response, archival research, and historic land alteration, it is reasonable to conclude that pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or customary activities will not be affected by construction on Parcel 89. Because there were no activities found, the cultural impact assessment concluded that there are no adverse effects. Refer to Appendix "E".

7. **Archaeological Resources**

As previously noted, an archaeological inventory survey was conducted for the project site. During the initial walk-through survey, no surface cultural remains were encountered. Localities with potential subsurface cultural sensitivity were identified for subsurface testing. These primarily consisted of areas with topographic characteristics that indicated the possible presence of remnant sand dunes. A total of eight (8) backhoe trenches were excavated. No cultural remains were identified in the project area during subsurface testing. Refer to Appendix "F".

The archaeology consultants noted that due to the results of the inventory survey, no further archaeological procedures are warranted prior to the commencement of development activities. However, based on the results of various earlier studies in the neighboring areas, the potential for isolated, undocumented human burials exists in portions of the project area. The archaeological consultant recommended archaeological monitoring during development-related, ground-altering activities as a prudent course of action. As such, an archaeological monitoring plan for the proposed project has been prepared and submitted to the State Historic Preservation Division (SHPD) for review and approval.

8. *Air Quality*

Based on the existing and surrounding light and heavy industrial uses, as well as agricultural operations, the following assessment was made with regards to potential impacts of air quality.

Emissions from construction equipment and other vehicles involved in construction activities may temporarily affect the ambient air quality within the immediate vicinity. However, these effects can be minimized through the proper use of appropriate Best Management Practices (BMPs), including routine maintenance of construction equipment and vehicles.

In addition, dust generated during construction, especially from earth-moving operations such as excavating, trenching, and filling, may also result in a temporary decrease in ambient air quality. However, these impacts will be mitigated through the use of BMPs, which may include utilizing dust barriers, waterwagons, and/or sprinklers to control dust, and watering graded areas upon the

completion of daily construction activities.

On a long-term basis, the proposed light industrial use in this location is not anticipated to generate significant adverse air quality impacts.

9. Noise

Ambient noise conditions may be temporarily affected by construction activities. Heavy construction machinery, such as backhoes, dump trucks, front-end loaders, paving equipment, and material transport vehicles, are anticipated to be the dominant noise-generating sources during the construction period.

Proper use of BMPs, including routine equipment and vehicle maintenance, are anticipated to reduce noise levels. Equipment mufflers or other noise attenuating equipment may also be employed as required. All construction activities will be limited to daylight working hours.

Once completed, the proposed project is not anticipated to generate significant adverse noise conditions. These conclusions were drawn based on the existing and surrounding light and heavy industrial uses in the area. There are no existing residential uses surrounding the project site.

10. Scenic and Open Space Resources

Haleakala is visible to the east of the project site with the West Maui Mountains to the west. The project is not part of a scenic corridor and will not affect views from inland vantage points. As such, the proposed project is not anticipated to have an adverse

impact upon the visual character of the surrounding area.

11. Hazardous Materials

As previously mentioned, the subject site was not listed on any database listings. There was no evidence of any historic misuse or significant spills of hazardous or regulated substances on the subject property, except for some soil staining. The applicant will work with a local contractor to clean up surface soil staining as noted in the Phase I ESA. Disposal will be done in accordance with applicable government standards. Storage of hazardous and regulated materials will be properly managed. Disposal of other hazardous materials will be in accordance with applicable government standards.

B. IMPACTS TO THE SOCIO-ECONOMIC ENVIRONMENT

1. Population and Local Economy

On a short-term basis, the proposed action will support construction and construction-related employment through the subdivision improvements. Other potential economic impacts of the project were reviewed and identified in an economic forecasting study for the project. Refer to Appendix "J". In addition to the revenues generated for the subdivision improvements, the study noted that construction of buildings for the individual lots would also support the construction industry, with an estimate of over \$50 million at build-out. Further, the project is anticipated to generate approximately \$900,000.00 in real estate commissions with the sale of individual lots.

In the long term, the proposed project will support local businesses and provide needed light industrial areas for commercial uses.

The economic forecast study also pointed out that the new light

industrial baseyard provides employment opportunities by future tenants. It estimated that employment for business operations would be one (1) employee per 1,000 square feet of light industrial floor space. This equates to a total of about 72 jobs per year based on a six (6) year build-out of the subdivision, which is a fraction of the estimated 1,187 new jobs created in Maui County annually, according to the Hawaii Workforce Informer website.

While it is acknowledged that the businesses occupying these buildings at the proposed Consolidated Baseyards project will not be entirely new companies with new workers, the project will provide employment opportunities. The project is being developed based on the expanding demand for additional industrial space on Maui; therefore, the spaces vacated by companies moving to Consolidated Baseyards will in turn, be filled by expanding or newly formed companies which will also offer new employment opportunities.

2. **Agriculture**

The approximately 23.2-acre project site is situated in a region of existing and ongoing urban development. As previously indicated, the subject property has a soils productivity rating of "E", the lowest rating possible. As indicated by the ALISH map, the project site falls within the "Other Important Agricultural Land" category. Use of the property for light industrial purposes is not anticipated to adversely impact agricultural productivity on the island.

3. **Police, Fire and Medical Services**

The proposed action is not anticipated to affect the service capabilities of police, fire and emergency medical operations. Internal roadways will be constructed in accordance with Maui Fire Department standards. The project will not extend the existing

service area limits for emergency services.

4. **Recreational and Educational Resources**

The proposed project is not expected to generate a need for recreational facilities or services. In addition, there are no anticipated impacts to existing educational facilities or resources.

5. **Housing**

The applicant has held preliminary discussions with the Maui County Planning Department to discuss conditions of rezoning the property. As previously noted, the petitioner will also seek a change in zoning from the County of Maui from "Agriculture" to "M-1" Light Industrial for the property. Although apartment and other residential-type uses are permitted within the light industrial zoning classification in Maui County, the Planning Department has stated that it will not permit those uses in the petition area. The petitioner consulted the surrounding agricultural and light industrial operators, and they also felt that residential uses would not be an appropriate use within the subject property.

It is noted that 15-15-50(c)(14), HAR requires that affordable housing provisions be made for residential developments. The proposed project is a light industrial development, however, the applicant realizes that the project will generate employment.

As noted in the economic forecasting study, it was estimated that the proposed project may generate 72 jobs per year over a six (6) year build-out period. This is a small fraction of the 1,187 new jobs created in Maui County annually. Refer to Appendix "J".

While the need for affordable housing is an important community issue, the provision of new housing inventory in connection with the subject request is not deemed feasible. The petitioner does not own other tracts of land which can be used for offsite housing development. The scale and size of the land use request, similarly, does not allow for allocation of resources for affordable housing development.

6. **Solid Waste Management**

A solid waste management plan will be developed for the disposal of materials resulting from the site and construction activities, as appropriate. Once completed, it is anticipated that any commercial collection will be contracted by private waste companies.

According to the County of Maui, Department of Public Works and Environmental Management, on average, the County's Central Maui Landfill accepts approximately 450 tons of solid waste per day, with approximately 125 tons attributed to the County's residential refuse collection service and the remaining 325 tons attributed to non-residential solid waste, including hotel, condominium, retail, commercial and industrial uses.

Currently, the County of Maui's Solid Waste Division is in the process of completing a landfill expansion project, estimated to provide the island with sufficient capacity for the next 20 years, a figure which takes into account future growth of residential and non-residential uses. In addition, lands adjacent to the existing landfill are currently utilized for rock quarrying and will likely be available for County expansion of the landfill, increasing the capacity by an additional 10 years.

Based on discussions with local commercial property managers,

preliminary estimates indicate that the subject project will generate a total of approximately 2.5 tons of solid waste per day for the entire project site. However, it is noted that the actual amount of solid waste generated will depend largely on project specific uses.

The applicant also intends to strongly encourage future owners/lessees to implement waste reduction techniques in their facilities, including implementation of a recycling program, to reduce the amount of waste stream to the County of Maui's Central Maui Landfill.

C. IMPACTS TO INFRASTRUCTURE

1. Roadways

A Traffic Impact Analysis Report (TIAR) was prepared for the proposed project. See Appendix "K". The following methodology was utilized for the study:

An analysis of existing traffic conditions was conducted by manual turning movement traffic counts and field observations at the following study intersections in early November 2003: Honoapiilani Highway and Waiko Road, Waiko Road and Waiale Road and Kuihelani Highway and Waiko Road.

During the traffic counts, it was observed that through traffic along Kuihelani Highway and Honoapiilani Highway operated at near free-flow conditions. Although Kuihelani Highway has posted speed limits of between 35 and 55 mph, vehicles were observed exceeding these limits during the AM and PM peak hours of traffic. Honoapiilani Highway has a posted speed limit of 30 mph in the vicinity of Waiko Road. As with Kuihelani Highway, it was observed that vehicles generally traveled in speeds exceeding these limits.

Although Waiko Road provides sole access to housing (20 units), industrial facilities, and agricultural operations, the majority of traffic traversing the road appeared to be cut-through traffic traveling between Honoapiilani Highway and Kuihelani Highway. The majority of cut-through traffic entering Waiko Road via Honoapiilani Highway originates from the north (downtown Wailuku) and exits Waiko Road at its intersection with Kuihelani Highway, where vehicles turn left to head in the northbound direction (Puunene/Kahului/Upcountry) direction. Conversely, the majority of cut-through traffic entering Waiko Road via Kuihelani Highway originates from the north (Puunene/Kahului/Upcountry) and exits Waiko Road at its intersection with Honoapiilani Highway, where vehicles make a right turn to head in the northbound direction (towards downtown Wailuku). Approximately 75 percent (75%) of westbound traffic traversing Waiko Road during the AM and PM peak hours of traffic appear to be cut-through traffic. Likewise, approximately 90 percent (90%) of eastbound traffic on Waiko Road during the AM and PM peak hours of traffic was estimated to be cut-through traffic.

Existing Level of Service

The Honoapiilani Highway northbound and southbound left-turn movements at the Waiko Road intersection operates at a Level of Service (LOS) "A" during the AM and PM peak hours. LOS is a qualitative measure used to describe the conditions of traffic flow ranging from free-flow conditions, LOS "A", to congested conditions, LOS "F". The Waiko Road eastbound shared through/left-turn traffic operates at a LOS "F" during the AM and PM peak hours. The westbound Waiko Road shared right-turn/through/left-turn movement operates at a LOS "E" during the AM and PM peak hours of traffic.

The Waiko Road and Waiale Road intersection operates at an overall LOS A during the AM and PM peak hours of traffic.

The Kuihelani Highway and Waiko Road intersection is a "Tee"-intersection with a traffic signal installed. However, the traffic signal was not operational at the time of the traffic study. Therefore, the intersection was analyzed as a two-way stop-controlled for existing conditions only. The northbound left-turn traffic operates at LOS A during the AM and PM peak hours. The eastbound shared right-turn/left-turn traffic operates at LOS "C" and LOS "F" during the AM and PM peak hours of traffic, respectively.

Trip Generation

It is estimated that the 35-lot light industrial baseyard will generate 208 trips during the AM peak hour, 173 inbound and 35 outbound. During the PM peak hour, the project is estimated to generate a total of 222 trips, 47 inbound and 175 outbound. As mentioned previously, project-generated traffic will access Waiko Road via its proposed access driveway, which is located west of Kuihelani Highway.

Traffic Impact Analysis

Traffic impacts were reviewed to include the project individually as well as the cumulative impacts of projects proposed in the surrounding area. A discussion of the cumulative traffic impacts can be found in the next section of this chapter.

The introduction of Consolidated Baseyards is anticipated to generate approximately 200 vehicle trips during both the AM and PM peak hours of traffic. Access will be provided via a proposed access road that would intersect Waiko Road approximately 1,300 feet west of its intersection with Kuihelani Highway. Based on

The Waiko Road and Waiale Road intersection operates at an overall LOS A during the AM and PM peak hours of traffic.

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Traffic Impact Analysis

Traffic impacts were reviewed to include the project individually as well as the cumulative impacts of projects proposed in the surrounding area. A discussion of the cumulative traffic impacts can be found in the next section of this chapter.

The introduction of Consolidated Baseyards is anticipated to generate approximately 200 vehicle trips during both the AM and PM peak hours of traffic. Access will be provided via a proposed access road that would intersect Waiko Road approximately 1,300 feet west of its intersection with Kuihelani Highway. Based on

analysis of the future "Tee"-intersection, all approaches to this intersection will operate at LOS "B" or better. It was assumed that this intersection operated with two-way stop-control and that all approaches provided shared single lanes.

The individual turning movements at all other study intersections will remain at LOS "C" or better with the project. Therefore, the project will not have a significant impact on traffic conditions at the study intersections.

The traffic engineer recommended that the intersection of Honoapiilani Highway and Waiko Road be signalized prior to Year 2006 as a Base Year mitigative measure, indicating that signalization of the intersection is warranted even without future traffic generated by the proposed project. The TIAR also concludes that the existing lane configurations do not need to be modified.

Finally, the TIAR recommends that the intersection of Waiko Road and the project access roadway be two-way stop controlled and contain an eastbound shared through/left-turn lane, a westbound shared through/right-turn lane and a shared southbound right-turn/left-turn lane.

The interior subdivision streets will have 56-foot rights-of-way and will be improved to County standards. The cul-de-sacs will have an edge of pavement radius of 40 feet and a right-of-way radius of 50 feet. The larger traffic lanes and cul-de-sacs pavement radius are to accommodate the larger fire trucks in the Central Maui district.

Waiko Road, fronting the project site, will be improved to County

standards as required by the Department of Public Works and Environmental Management. The applicant will work with the County to improve the northern (adjoining half) of Waiko Road from the project site to Kuihelani Highway. Refer to Appendix "H", Preliminary Engineering Report.

2. Water

Currently, water service to the subject property is provided by an existing 8-inch well, identified by State Number 5129-02. In October 2003, the State of Hawaii Commission on Water Resource Management (CWRM) acknowledged that all permitting requirements for the existing well were completed. The existing onsite water well will be used as the source for domestic water and fire flow for the project. An onsite storage tank will be constructed to meet the domestic water and fire protection requirements of the project.

The domestic water demand for the project is anticipated at approximately 60,000 gpd. The fire flow demand for the light industrial development is 2,000 gpm for a 2-hour duration. To accommodate project water demand, the applicant plans to construct a 326,000 gallon storage tank and ancillary booster pumps for the domestic water system and fire system. The applicant is in coordination with the CWRM in order to install a larger capacity pump for the project. Fire hydrants will be installed with a maximum spacing of 250 feet. The Preliminary Engineering Report (Appendix "H") was revised to reflect the new 35-lot subdivision configuration.

In order to ensure adequate supply of water resources, the applicant hired Tom Nance Water Resource Engineering to complete a groundwater assessment at the subject property. A

copy of this assessment is included as Appendix "L" of this document. According to the assessment, the proposed draw of 60,000 gpd will have no significant adverse impact on the integrity of the Kahului Aquifer or any of its existing uses.

3. Wastewater

The nearest County sewer system is located approximately 3,200 feet from the project site. Individual wastewater systems (IWS) will be used for the treatment of wastewater for each lot. Each IWS will adhere strictly to the requirements set forth by the State Department of Health (SDOH). As the project progresses and building permits are applied for, the building permit applicant will be required to submit the design of an IWS. The IWS to be used for the subdivision will be aerobic units which allow its installation in close proximity to the existing well. See Preliminary Engineering Report, Appendix "H".

4. Drainage

Post development runoff from the project will be limited to the roadway improvements and the existing vacant lot configuration. The drainage system will be designed to accommodate the runoff from the roadway improvements only. It is estimated that the post development runoff will be 25.1 cfs, with an increase of 6.0 cfs over existing conditions.

Onsite runoff will be collected by catch basins located at appropriate intervals along the subdivision roadways. Drainlines from the catch basins will convey the runoff to an onsite detention basin where it will percolate into the ground or evaporate.

As each individual lot is developed, the owners will be required to construct an onsite storm disposal system to accommodate the

increase in runoff from their development. The Preliminary Drainage Report was revised to reflect the new 35-lot subdivision configuration. Refer to Drainage Report, Appendix "I".

5. **Electric and Telephone Systems**

The proposed electrical and telephone distribution systems for the subject subdivision will be installed overhead from the existing overhead facilities located approximately 1,000 feet to the west of the project site. Street lights will be installed along the subdivision streets at intervals to be determined by the electrical engineer.

D. **CUMULATIVE IMPACTS**

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

This cumulative impact analysis examines present and reasonably foreseeable future projects in the area that have the potential to contribute to cumulative effects. The analysis uses the best available information at the present time to assess these projects and their potential impacts. Depending on the status of a particular project, each of the projects included in this cumulative impact analysis is supported by different levels of information. Public documents, conceptual plans and documents or applications prepared for environmental reviews or regulatory approvals were the primary sources of information. When adequate data on specific aspects of other projects was unavailable and could not be obtained through reasonable efforts, professional judgement was used to estimate impacts.

1. **Projects Included in the Cumulative Impacts Analysis**

The following criteria were considered in identifying past, present

and reasonable foreseeable future projects that could result in cumulative impacts to the region's resources.

- a. Projects that are of a similar nature could affect similar resources or are located in geographic proximity to the proposed project.
- b. Projects that have the potential to generate environmental impacts and when addressed collectively with the proposed project, could result in cumulative impacts to the environment.
- c. Projects that are proposed for development that have received or are pending environmental and/or regulatory reviews or approvals and are expected to be implemented.

To assess cumulative impacts, the Consolidated Baseyard project was grouped together with several other projects in the area having scope and scale of a comparable character. These projects include:

- a. **Spencer Homes Waikapu Affordable Housing Project:** This proposed affordable housing subdivision encompasses approximately 94 acres on the makai side of the Honoapiilani Highway in the Waikapu area. The project proposed the development of 400± single-family residences, as well as a linear park.
- b. **Waiko Baseyard Light Industrial Subdivision:** This proposed 14.891-acre light industrial subdivision will contain 19 lots, ranging in size from 13,342 square feet to 2.86 acres. The developer, however, plans to retain ownership of four (4) lots. The Waiko Baseyard is located approximately 0.5 mile west of the project site.
- c. **Waiolani Mauka Subdivision:** This proposed single-family housing subdivision encompasses approximately 28 acres on the mauka side of the Honoapiilani Highway in the Waikapu area. The project proposed the development of 108± residential lots, as well as a park.

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- d. **Central Maui Baseyard:** This existing 40-acre light industrial subdivision is located in Puunene, off of the Mokulele Highway. Improvements include perimeter fencing and gravel roadways. In speaking with the operator, 35 acres are currently leased, two and a half (2½) acres will be leased shortly, with the remaining two and a half (2½) acres available. It is noted that the market study for the proposed action also considered market demands from a cumulative standpoint by addressing other light industrial projects on the island, including the Central Maui Baseyard. The Central Maui Baseyard primarily provides yard space for contractors and household goods storage users. While the proposed Consolidated Baseyard subdivision may accommodate similar end users, the intended target market for the Consolidated Baseyard project extends to a broader segment of the light industrial market, to include manufacturing, warehousing and light industrial services. The conclusion of the market study, when considering all known proposed light industrial projects is that *"the market is in imminent need of additional industrial inventory to supplement today's extremely limited supply, and accommodate Maui's growing population and expanding economy."* Since the Central Maui Baseyard project is near capacity, it was not included in the overall cumulative analysis.

2. **Assessment of Cumulative Impacts**

In considering the impacts of Consolidated Baseyards, together with the Waikapu Affordable Housing project, Waiolani Mauka Subdivision and Waiko Baseyard Light Industrial Subdivision, the following resource parameters were examined: (1) topography, (2) plant and animal life; (3) noise and air quality; (4) visual resources; (5) cultural resources; (6) water quality; (7) housing and land use; (8) public services; and (9) infrastructure. In assessing cumulative impacts of Consolidated Baseyards, and the other area projects noted, a qualitative approach was taken. It is noted that cumulative impact considerations may change as new projects are introduced or proposed projects are modified in scope and scale over time. Accordingly, the assessment presented herein is intended to

identify potential issues, concerns and mitigative measures based on best available planning-level information. Cumulative impact issues relating to each of these resource parameters are described below.

a. **Topography**

Due to strict regulatory controls and cost considerations, projects, such as the Waikapu Affordable Housing project, Waiolani Mauka and the Waiko Baseyard project, seek to minimize cut and fill quantities, thereby minimizing alterations to topographic features. The need to respect existing landforms is required to ensure that visual impacts are minimized, drainage patterns are maintained and infrastructure design criteria are met. When taken collectively, therefore, the cumulative impacts of these projects upon regional topography are not anticipated to be adverse.

b. **Plant and Animal Life**

Each of the projects has reviewed the flora and fauna resources affected by their respective actions. For the most part, the proposed actions will affect lands formerly used for sugar and pineapple cultivation or ranching activities. Adverse impacts to flora and fauna parameters are not anticipated.

c. **Noise and Air Quality**

Construction-related noise is expected for each project. All projects shall comply with Department of Health noise regulations and are expected to employ BMPs to minimize

construction-related noise. In the long term, development of areas previously utilized for agricultural purposes will result in changes in noise characteristics in the vicinity of each project within the Waikapu area. Whereas agricultural equipment and cultivation activities were the primary source of noise, once projects are completed, noise generation will be primarily attributed to traffic utilizing project roadways and light industrial uses. There are no significant point sources of noise identified in any of the projects which may result in adverse impacts to surrounding communities.

As with noise, air quality will be temporarily affected during construction. BMPs are required to ensure compliance with Department of Health and County grading requirements. There are no new point sources of air emissions associated with any of the projects. In the long term, automobile traffic is expected to be the primary source of air emissions. As projects are implemented, air impacts associated with agricultural lands will be replaced by automobile-related emissions. From a cumulative standpoint, however, the projects cited are not anticipated to have an adverse impact upon regional conditions.

d. *Visual Resources*

The visual landscape of Waikapu Town will change as projects are implemented. At the Waikapu Affordable Housing and Waiolani Mauka Subdivision sites, former agricultural lands will be replaced by residential uses. Both the Consolidated Baseyards and Waiko Baseyard projects are situated in areas where light and heavy industrial uses

have previously operated.

At buildout, the projects will collectively reflect a visual character more urban in scale, replacing lands formerly used for agricultural purposes. All four (4) projects are planning landscaping buffers for their subdivisions to provide visual relief from surrounding properties.

e. **Cultural Resources**

Projects of the size and scale noted considered effects of their individual actions on cultural resources. Based on archaeological studies and cultural impact assessments conducted for each project, appropriate mitigative measures will be utilized to address archaeological resource issues. Collectively, it is anticipated that none of the projects will adversely affect cultural resources and practices in the Waikapu area.

f. **Water Quality**

Surface runoff and other non-point source pollutants can affect water quality if unmitigated. Construction activities for each project are subject to the NPDES permitting process and implementation of BMPs to control erosion and sediment loss. It is expected that all projects will comply with applicable regulatory requirements to minimize impacts to downstream water bodies. On a long-term basis, each project will be required to comply with County of Maui drainage regulations to provide required mitigation, including drainage storage areas to ensure that runoff velocities are controlled and water quality effects minimized. From a

regional water quality standpoint, compliance with State and local regulatory requirements will help to mitigate adverse impacts to water quality.

g. Housing and Land Use

The availability of affordable housing is an island-wide concern. The Waikapu Affordable Housing project will increase the number of single-family units available for housing on the island of Maui. The Waikapu Affordable Housing project plans to offer 400± home and lot packages to meet the demand for housing. Specific affordable housing requirements for the Waiolani Mauka project will likely be developed as the project advances through the entitlement process.

Similarly, there is a high demand for warehouse and light industrial land in the Central Maui area. The Consolidated Baseyards and Waiko Baseyard light industrial subdivisions will provide up to 59 lots for this purpose. A market study prepared for the Consolidated Baseyards project indicated that the current lands available for light industrial uses in Central Maui are limited and most are being developed by owner-occupants. Additionally, the price for light industrial land has steadily increased. It is further noted that the Consolidated Baseyards' land has been utilized for light industrial purposes for about 10 years through State Special Use Permits and County Conditional Permits, while the Waiko Baseyard received approval for its change in zoning and community plan amendment in 1999 from the County Council and Mayor.

h. Public Services

With regards to public services, the Waikapu Affordable Housing project and Waiolani Mauka will have an effect on parks and recreation and schools due to the residential nature of the project. Both the Waikapu Affordable Housing project and Waiolani Mauka are anticipated to meet those requirements as part of their own entitlements process.

In reviewing the cumulative impact on public services for the Consolidated Baseyards and Waiko Baseyard projects, it was concluded that their effects would be minimal. Other public services, such as police, fire and emergency medical services, are currently servicing the Waikapu area and would not extend the current limits of service.

i. Infrastructure

Infrastructure requirements of the projects will be met by respective applicants. The availability of water for the proposed projects has become a significant concern with the designation of the Iao Aquifer in July 2003 and the possible designation of the Waihee Aquifer by the State Department of Land and Natural Resources Commission on Water Resources. Three (3) of the projects will rely on the County water system. The Waikapu Affordable Housing project and Waiolani Mauka plan to partner with other area projects to develop and fund water improvements, including a new private storage tank and water lines to serve the subdivision. The Waiko Baseyard project proposes to install approximately 2,900 feet of 12-inch waterline to extend the existing 12-inch waterline that ends at Honoapiilani Highway. Once complete, these improvements will service the Waiko

Baseyard project for potable and fire flow needs. The Consolidated Baseyard project has an existing well on the property that it plans to utilize for potable water needs. Among the improvements planned by Consolidated Baseyards are a new storage tank, as well as treatment equipment.

Wastewater transmission and treatment services are provided by the County Department of Public Works and Environmental Management (DPWEM). Applicable wastewater assessment fees will be required of each applicant. As previously noted, the Consolidated Baseyards project will not be connecting to the County wastewater system because the nearest sewer system is located approximately 3,200 feet from the site. Consolidated Baseyards will instead require that individual owners install individual wastewater systems (IWS) that have been approved by the State Department of Health.

Each project is responsible for addressing and mitigating drainage impacts. Collectively, through these measures, it is anticipated that there will be no adverse impacts to downstream or adjacent properties.

The final infrastructure component which should be examined are roadway systems. Consolidated Baseyards, Waiko Baseyard, Waiolani Mauka and the Waikapu Affordable Housing project were each required to prepare a traffic impact analysis report. Traffic impacts attributed to each project would be mitigated by respective applicants. It

is noted that the Traffic Impact Analysis prepared for the Consolidated Baseyards project reviewed the cumulative conditions for the Waikapu area including the Waiko Baseyard Light Industrial Subdivision and Waikapu Affordable Housing project. See Appendix "K". The analysis made several assumptions including that the East Waiko Road and Honoapiilani Highway intersection was signalized.

3. **Secondary Impacts**

Secondary impacts are impacts that have the potential to occur later in time or are farther in distance but are still reasonably foreseeable. They can be viewed as actions of others that are taken because of the presence of the project.

Secondary impacts from highway projects can occur, for example, because they can induce development by removing one of the impediments to growth - transportation access.

Related to the Consolidated Baseyards project, secondary impacts include increased commercial operations in Waikapu which will provide long-term economic support for the island. There are no adverse impacts to population or public services anticipated as a result of the proposed action.

Chapter IV

***Relationship to Governmental
Plans, Policies and Controls***

IV. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS

A. STATE LAND USE DISTRICTS

Pursuant to Chapter 205, Hawaii Revised Statutes, all lands in the State have been placed into one (1) of four (4) land use districts by the State Land Use Commission. These land use districts have been designated "Urban", "Rural", "Agricultural", and "Conservation". The project site is classified "Agricultural". See Figure 8. The proposed action involves a request for classification from the "Agricultural" District to the "Urban" District.

B. LAND USE COMMISSION RULES, CHAPTER 15-15, HAWAII ADMINISTRATIVE RULES

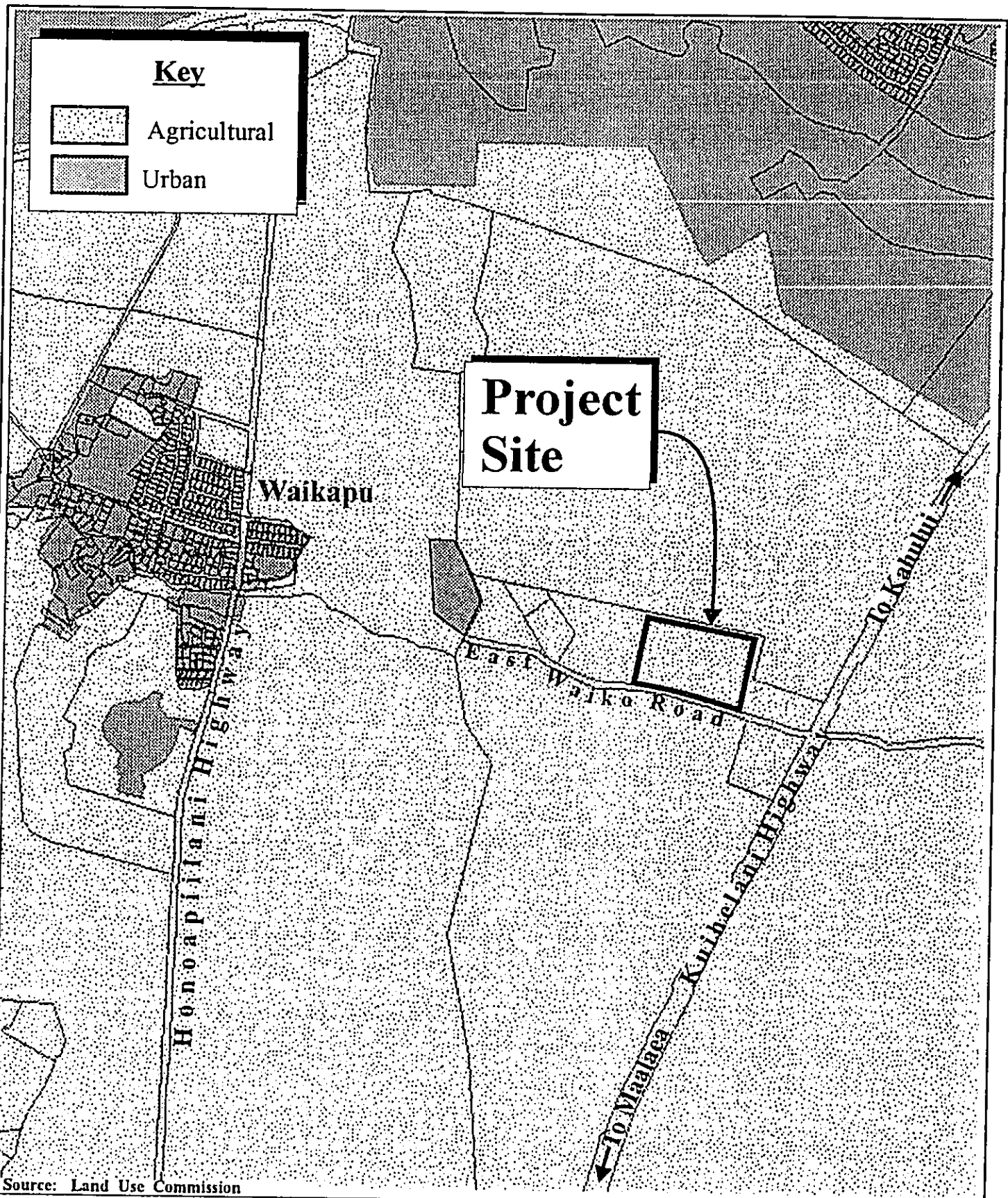
The proposed reclassification of the subject property is in conformance with the following standards of the Urban District set forth in Chapter 15-15-18, Hawaii Administrative Rules:

Chapter 15-15-18

- (1) It shall include lands characterized by "city-like" concentrations of people, structures, streets, urban level of services and other related land uses.

Comment: The proposed project is proximate to the Waiko Baseyard (including Rojac Trucking and the Brewer Environmental Warehouse) and other related industrial uses. It is also in close proximity to Waikapu Town which contains single-family residential, commercial and recreational uses.

- (2) It shall take into consideration the following specific factors:
 - A. Proximity to centers of trading and employment except where the development would generate new centers of trading and employment.



Source: Land Use Commission

Figure 8 Consolidated Baseyards Light Industrial Subdivision at
 TMKs 3-8-07:089, 143 and 144
 State Land Use Map

NOT TO SCALE



Prepared for: Consolidated Baseyards, LLC

MUNEKIYO & HIRAGA, INC.

Comment: There are other industrial uses that abut the project site and are located in close proximity to the subject parcel. Further, the subject parcel is located approximately 0.2 mile from the State of Hawaii Kuihelani Highway, which serves as a major transportation route. Additionally, there is a small node of commercial uses in Waikapu Town. Waikapu is located approximately 1.2 miles from Wailuku Town which is the County seat of government and a center of trading and employment.

- B. Availability of basic services such as schools, parks, wastewater systems, solid waste disposal, drainage, water, transportation systems, public utilities, and police and fire protection.

Comment: The proposed project will not result in increased demands on schools and parks. The applicant will provide private water service and public utilities to the project site. Wastewater and solid waste services will be handled on an individual lot basis.

Basic infrastructural services such as transportation systems are available in close proximity to the project. Drainage improvements will comply with County of Maui standards. Police and fire services also presently serve Waikapu Town.

- C. Sufficient reserve areas for foreseeable urban growth.

Comment: The area of the proposed reclassification utilizes approximately 23 acres for light industrial purposes. Development of the subject property should address a portion of the demand without significantly affecting reserve areas for urban growth. In particular, additional area for light industrial use (future urban growth) west of the subject property is provided by the Wailuku-Kahului Community Plan.

-
- (3) It shall include lands with satisfactory topography, drainage, and reasonably free from the danger of any flood, tsunami, unstable soil condition, and other adverse environmental effects.

Comment: The site is relatively flat. The project site is located in Zone C, an area of minimal flooding. The project site is not subject to tsunami inundation and unstable soil conditions.

- (4) Land contiguous with existing urban areas shall be given more consideration than non-contiguous land, and particularly when indicated for future urban use on state or county general plans.

Comment: Lands pertaining to the subject request are in close proximity to areas already in the Urban District, as well as other light and heavy industrial uses in the area. The Waiko Baseyard subdivision (including the Rojac Trucking baseyard and Brewer Environmental warehouse) is currently in the Urban district, while the adjacent Fong Construction baseyard is operating under a State Special Use permit and County Conditional permit. The Waiko Baseyard Subdivision is located approximately 0.5 mile west of the project site.

- (5) It shall include lands in appropriate locations for new urban concentrations and shall give consideration to areas of urban growth as shown on the state and county general plans.

Comment: The subject property is an appropriate location for an Urban District classification as reflected by the underlying light industrial designation set forth by the Wailuku-Kahului Community Plan.

- (6) It may include lands which do not conform to the standards in paragraphs (1) to (5):

A. When surrounded by or adjacent to existing urban

development; and

- B. Only when those lands represent a minor portion of this district

Comment: Although the subject property conforms with standards in paragraphs (1) to (5), it is noted that it abuts existing urban land uses and is in proximity to existing urban development. Moreover, the proposed project site represents approximately 0.009 percent of the 245,777 acres within the Agricultural District on the island of Maui.

- (7) It shall not include lands, the urbanization of which will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services.

Comment: The proposed reclassification does not contribute to scattered spot urban development. It is in proximity to existing industrial uses, such as the Waiko Baseyard, Maui Scrap Metal and the Fong Construction baseyard. It is further noted that the Wailuku-Kahului Community Plan designates the area as "Light Industrial". The proposed development will not necessitate unreasonable public investment in infrastructural facilities or public services. The applicant will comply with applicable provisions regarding provision of infrastructural facilities. It is noted that the subject property is currently permitted for baseyard use through a State Special Use Permit and County Conditional Permit.

- (8) It may include lands with a general slope of twenty percent or more if the commission finds that those lands are desirable and suitable for urban purposes and that the design and construction controls, as adopted by any federal, state or county agency, are adequate to protect the public health, welfare and safety, and the public's interest in the aesthetic quality of the landscape.

Comment: The subject property is characterized as lands having slopes of approximately 3 percent.

C. **CHAPTER 226, HRS, HAWAII STATE PLAN**

Chapter 226, HRS, also known as the Hawaii State Plan, is a long-range comprehensive plan which serves as a guide for the future long-range development of the State by identifying goals, objectives, policies, and priorities, as well as implementation mechanisms. The proposed action is in concert with the following goals of the Hawaii State Plan.

- A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations.
- A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.
- Physical, social, and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life.

1. **Objectives and Policies of the Hawaii State Plan**

The proposed reclassification is in conformance with the following objectives and policies of the Hawaii State Plan:

Chapter 226-5, HRS, Objectives and Policies for Population

226-5(a), HRS: It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter.

226-5(b)(2), HRS: Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and

desires.

226-5(b)(3), HRS: Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.

Chapter 226-6, HRS, Objective and Policies for the Economy - in General

226-6(a)(1), HRS: Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people.

226-6(a)(2), HRS: A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.

The proposed project conforms with the Objectives and Policies for Population (HRS 226-5) by increasing economic opportunities and employment opportunities on the neighbor islands. The light industrial baseyard will allow for the expansion and possible creation of new companies to employ island residents. This further supports the Objectives and Policies for the Economy-in General (HRS 226-6) by offering potential light industrial operations the opportunity to expand operations with newly available light industrial zoned lands.

2. Priority Guidelines of the Hawaii State Plan

The proposed action is in keeping with the following priority guidelines of the Hawaii State Plan.

Chapter 226-103, HRS, Economic Priority Guidelines:

226-103(1), HRS: Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.

a. **Encourage investments which:**

- (i) Reflect long term commitments to the State;
- (ii) Rely on economic linkages within the local economy;
- (iii) Diversify the economy;
- (iv) Reinvest in the local economy;
- (v) Are sensitive to community needs and priorities; and
- (vi) Demonstrate a commitment to management opportunities to Hawaii residents.

Chapter 226-104, HRS, Population Growth and Land Resources Priority Guidelines

226-104(a)(1), HRS: Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawaii's people.

226-104(b)(1), HRS: Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.

226-104(b)(2), HRS: Make available marginal or non-essential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.

226-104(b)(12), HRS: Utilize Hawaii's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline conservation lands, and other limited resources for future generations.

The proposed project is in keeping with the priority guidelines of the Hawaii State Plan's Economic Priority Guidelines (HRS 226-103) because the project will rely on economic linkages within the

local economy, through potential lessees and lot purchasers, who in turn, will serve other businesses; will diversify the economy by providing expansion for light industrial businesses; and provide a reinvestment in the local economy through the expansion or development of local businesses. Further, the project will meet the Population, Growth and Land Resources Priority Guidelines (HRS, 226-104) by encouraging urban growth in an existing area of urban area. As previously noted, there are other light and heavy industrial uses currently operating in close proximity to the proposed project. Further, the reclassification of the property from "Agriculture" to "Urban" will make available marginal lands for light industrial uses while maintaining neighboring lands for agricultural purposes.

D. STATE FUNCTIONAL PLANS

The State Functional Plans implement the Hawaii State Plan by identifying needs, problems and issues, and by recommending policies and priority actions which address the identified areas of concern. The proposed reclassification request is consistent with the following State Functional Plans:

1. State Agriculture Functional Plan

The proposed action will reclassify approximately 23.2 acres of land from the State Agricultural district to the State Urban district. While the subject property was formerly utilized for pasture use, it is now fallow. The proximity of the subject property to existing and planned urban land uses coupled with its underlying community plan (Light Industrial) designation provide a reasonable nexus and an appropriate foundation for the proposed reclassification request.

2. **State Transportation Functional Plan**

The applicant sought early consultation comments from the State Department of Transportation (SDOT). SDOT noted that they anticipated no significant impact to their facilities with the zoning change. Internal subdivision roads will be constructed to County of Maui standards.

3. **State Employment Functional Plan**

As previously noted, an economic forecast study estimated that the project would generate about 72 jobs per year based on a six (6) year build-out. While it is difficult to determine the specific nature of these jobs, it is likely that they will require some training for equipment or computer skills. Incremental employment demand generated by the proposed action is in keeping with the need for state training programs that will prepare potential employees for these positions.

E. **GENERAL PLAN OF THE COUNTY OF MAUI**

The 1990 update of the Maui County General Plan establishes broad objectives and policies to guide the long-range development of the County. 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 within the county; shall address the unique problems and needs of each island and region within the county; shall explain the 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."

The Maui County General Plan advances five (5) major themes that focus on the overall goals of the plan. The proposed project responds to the following General Plan themes:

* * *

Theme Number 2

Prepare a directed and managed growth plan.

- Amendments to the General Plan will preserve a desired quality of life where areas of urban settlement must be managed and directed within a framework that consistently and concurrently balances growth demands against human service needs and physical infrastructures supply.

Theme Number 4

Maintain a viable economy that offers diverse employment opportunities for residents.

- Amendments to the General Plan recognize the need to maintain a healthy economy and broaden our economic base so that we are not so dependent on tourism.

The proposed action is in keeping with the following General Plan objectives relating to land use and economic activity.

LAND USE

Objective

1. To preserve for present and future generations existing geographic, cultural and traditional community lifestyles by limiting and managing growth through environmentally sensitive and effective use of land in accordance with the individual character of the various communities and regions of the County.

Policy

- b. Provide and maintain a range of land use districts sufficient to meet the social, physical, environmental and economic needs of the community.

ECONOMIC ACTIVITY (GENERAL)

Objective

- 1. To provide an economic climate which will encourage controlled expansion and diversification of the County's economic base.

Policies

- a. Maintain a diversified economic environment compatible with acceptable and consistent employment.
- b. Support programs, services and institutions which provide economic diversification.

Objective

- 2. To provide a balance between visitor industry employment and non-visitor employment for a broader range of employment choices for the County's residents.

Policy

- a. Encourage industries that will utilize the human resources available from within Maui County rather than having to import workers.

The proposed project is in keeping with the objectives and policies of land use in Maui County by providing a range of land use districts to meet the economic needs of the community. As previous noted, there is a shortage of light industrial lands in Central Maui and the proposed reclassification will serve to reduce that shortage, thus supporting the economic needs of the community.

Additionally, the project meets the objectives and policies of the Economic Activity (General) for Maui County by encouraging a diversification of the

economic environment in industries other than tourism related fields.

F. WAILUKU-KAHULUI COMMUNITY PLAN

Nine (9) community plans have been established in Maui County. Each region's growth and development is guided by a Community Plan, which contains objectives and policies drafted in accordance with the County General Plan. The purpose of the Community Plan is to outline a relatively detailed agenda for carrying out these objectives. The subject property is designated "Light Industrial" by the Wailuku-Kahului Community Plan. See Figure 9.

The proposed action is in keeping with the following goals, objectives, and policies of the Wailuku-Kahului Community Plan.

ECONOMIC ACTIVITY

Goal

A stable and viable economy that provides opportunities for growth and diversification to meet long-term community and regional needs and in a manner that promotes agricultural activity and preserves agricultural lands and open space resources.

Objectives and Policies

* * *

4. Provide industrial growth opportunities through the expansion of existing industrial centers associated with the airport and harbor and in Wailuku and Kahului. Encourage fee simple ownership of lots provided by private developers.
5. Recognize the importance of small businesses to the region's economy.

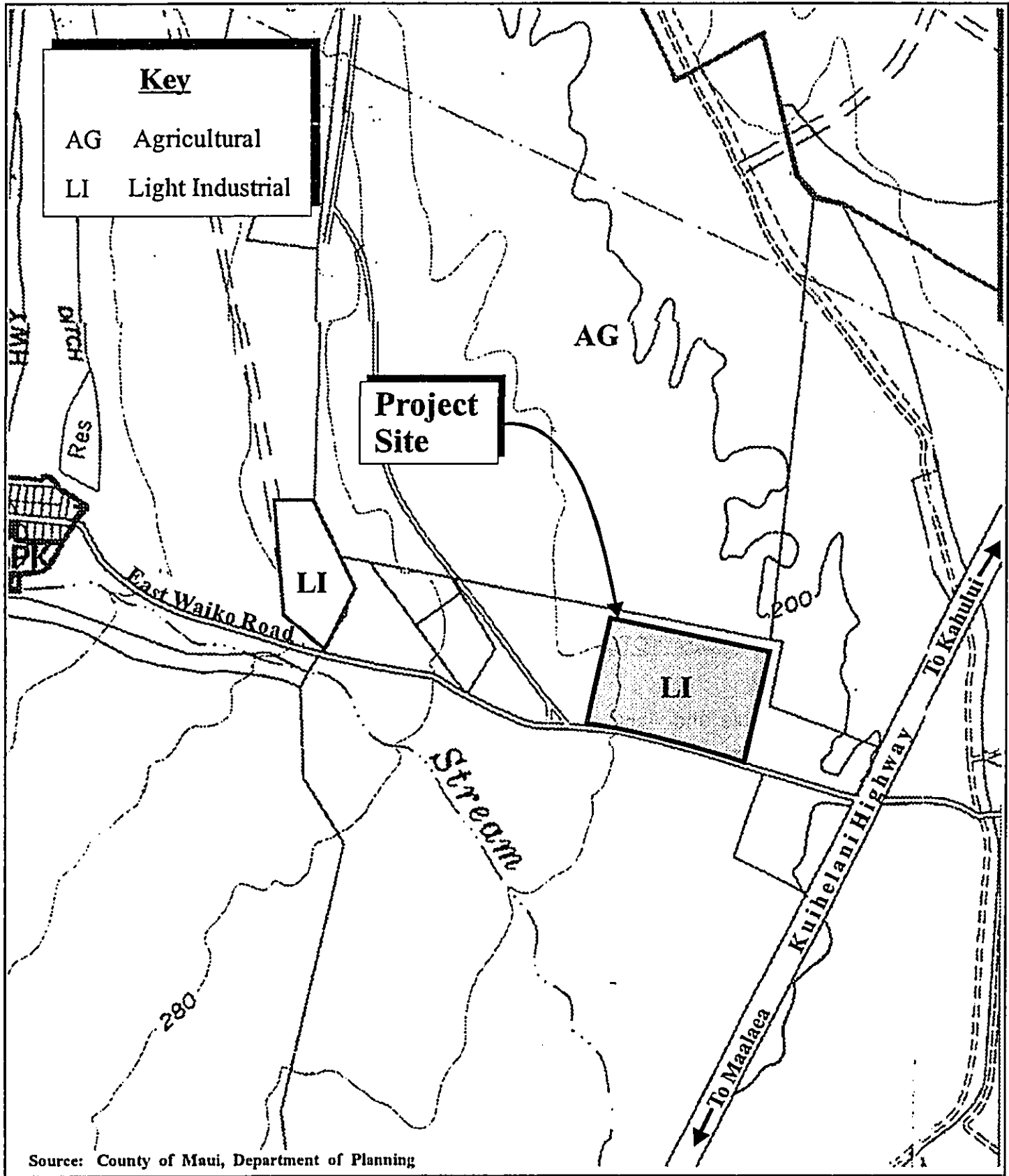


Figure 9 Consolidated Baseyards Light Industrial Subdivision at TMKs 3-8-07:089, 143 and 144 Wailuku-Kahului Community Plan Map



Prepared for: Consolidated Baseyards, LLC

MUNEKIYO & HIRAGA, INC

LAND USE

Goal

An attractive, well-planned community with a mixture of compatible land uses in appropriate areas to accommodate the future needs of residents and visitors in a manner that provides for the social and economic well-being of residents and the preservation and enhancement of the region's environmental resources and traditional towns and villages.

Objectives and Policies

* * *

10. All zoning applications and/or proposed land uses and developments shall conform with the planned use designations, as specified in the adopted Community Plan Land Use Map, and be consistent with the Community Plan policies.

Conformance with the goals, objectives and policies of Economic Activity for the Wailuku-Kahului region are achieved by the proposed project as it will provide industrial growth opportunities through the expansion of an existing industrial center which has existing transportation routes to the airport and harbor in Kahului. The proposed project may also provide the opportunity to encourage the creation of new small businesses for Maui.

The proposed project meets the goals, objectives and policies of land use for the Wailuku-Kahului region because the proposed reclassification will allow the petitioner to achieve conformance with the community plan designation of "Light Industrial" for the property.

G. COUNTY ZONING

The proposed project site is zoned "Agricultural" by Maui County zoning. Since the current zoning does not allow for the proposed light industrial baseyard, a separate Change in Zoning application is being filed with the

County Planning Department for review and action by the Maui Planning Commission and the County Council. The request is being made to change the zoning from "Agricultural" to "M-1, Light Industrial", which would allow for the utilization of the subject property for light industrial uses as the project proposes.

H. 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 will not affect coastal zone recreational opportunities. Accessibility to shoreline areas will not be impacted by the proposed action.

(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 previously noted, an archaeological inventory survey of the subject property was conducted. The results of the surface and subsurface testing yielded no significant findings and no further archaeological work was warranted. However, the archaeological consultants recommended archaeological monitoring during development-related, ground-altering work due to the results of various earlier studies in the neighboring areas. An archaeological monitoring plan was prepared and submitted to the State Historic Preservation Division (SHPD) for review and approval. SHPD approved the plan in September 2000. See Appendix "F". Should any human remains be inadvertently discovered during the course of this undertaking, all construction activities shall be halted in the immediate vicinity. SHPD shall be contacted and a decision shall be made in coordination with the Maui/Lanai Islands Burial Council (MLIBC) regarding in situ preservation or removal and reinterment.

(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 proposed project will not adversely impact scenic or open space resources. The proposed project will not involve significant alteration to the existing topographic character of the site and will not affect public views to and along the shoreline.

(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: Appropriate erosion control measures will be implemented during the construction of the project to prevent runoff. Runoff from the project will be routed to drainage improvements which will be sized to accommodate the subject project. The completion of the proposed project will not impact coastal ecosystems. Refer to Appendix "I", Drainage Report.

(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 is not a coastal dependent development. No adverse economic impacts will be generated as a result of the project.

(6) **Coastal Hazards**

Objective:

Reduce hazard to life and property from tsunami, 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: The project site is located within Zone C, which is an area of minimal flooding. Moreover, tsunami inundation parameters do not apply to the subject project.

(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: The district boundary amendment and Change in Zoning application processes involve review by governmental agencies, the State Land Use Commission, the Maui Planning Commission and the Maui County Council. Participation is afforded at public hearings for these processes. In addition, the applicant is working with adjoining landowners and neighborhood organizations to discuss the proposed action.

Applicable State and County requirements will be adhered to in the design and construction of the project.

(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: As previously noted, opportunities for agency and public review of the proposed action are provided through the notification review and comment processes of the State and County development process. Coordination with neighborhood organizations and adjoining landowners and lessees has been initiated by the applicant.

(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 does not involve any construction work proximate to the shoreline and will not have any effect on beaches in the region. Onsite runoff will be accommodated by drainage facilities in compliance with County standards.

(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 anticipated to have adverse effects upon marine and coastal resources. While the project site is located in an inland area, away from marine or

coastal resources, appropriate BMPs will be utilized to ensure that construction runoff is appropriately handled, minimizing any impacts to coastal waters.

Chapter V

***Adverse Environmental
Impacts Which Cannot
Be Avoided***

V. ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED

Potential construction-related impacts 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. These effects are temporary, and appropriate BMPs will be implemented to ensure that these construction-related impacts are mitigated to the maximum extent practicable.

The proposed project is not anticipated to create any significant, long-term, adverse environmental effects.

A. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The proposed project will involve the commitment of fuel, labor, and material resources, as well as private funds.

Development of the proposed project will also involve the commitment of land for improvements, which is consistent with existing land uses in the vicinity of the project site. In this context, the use of this land for light industrial purposes is not considered a negative impact relative to land resource commitment.

Chapter VI

***Alternatives to
the Proposed Action***

VI. ALTERNATIVES TO THE PROPOSED ACTION

A. NO ACTION ALTERNATIVE

The No-Action alternative would keep the subject property's land use designation as "Agricultural". This, however, is not desirable as it would require that the applicant continue to re-apply for a State Special Use Permit (SUP) and County Conditional Permit (CP) every five (5) years to continue the storage of equipment and materials and the minor servicing of equipment. Though the subject property was used for agricultural purposes in the past, it was previously subdivided and graded for a drive-in theater and has operated under the State SUP and County CP for the last 10 years. Additionally, as indicated by the market study prepared for the project, the demand for light industrial and warehouse space in Central Maui will continue to grow because there is limited inventory at this time.

B. DESIGN ALTERNATIVE

With regard to site development alternatives, the applicant considered a range of criteria to formulate the proposed subdivision layout. These criteria included density, infrastructure requirements, access and traffic considerations, and costs and marketability. The proposed subdivision layout is considered the most viable in terms of meeting the applicant's requirements while addressing regulatory and infrastructure requirements for the project.

Infrastructure alternatives were also considered for the light industrial subdivision. As previously noted, connection to the County of Maui's wastewater system was considered in the preliminary design of the subdivision. However, after review by the civil engineering consultant, it was determined that CBL would be required to install a pump station and force main, in addition to the sewer line from the project site to the

County's system, which is located 3,200 feet away.

A second infrastructure alternative that CBL considered was connection to the County of Maui water system. As previously noted, the water infrastructure in the area is not sufficient to serve the project site. Additionally, with the designation of the Iao Aquifer and possible designation of the Waihee Aquifer by the Commission on Water Resource Management (CWRM), the County of Maui has a limitation on the water meters it may issue. However, the County of Maui's Department of Water Supply (DWS) has stated that there are a number of new water sources that it is pursuing to alleviate the draw from the Iao Aquifer. Among the possible options are the use of surface water and at least two (2) new wells that are scheduled to be on-line by the end of 2005. Accordingly, CBL is continuing to review viable options with the Department of Water Supply to establish County water service to the subject properties. Should connection to the County water system become feasible, construction would likely include installation of new waterlines within Waiko Road, as well as construction of an off-site storage tank and/or pressure-break tank. All construction would be completed in accordance with County standards, subject to local, state, and federal guidelines. Further, all construction would be subject to previously outlined Best Management Practices (BMPs) included in this document.

C. PREFERRED ALTERNATIVE

The preferred alternative represents a proposed 35-lot improved light industrial baseyard to be developed as compatible with the surrounding industrial uses. There are no significant adverse impacts associated with the proposed subdivision plan relating to the environment or local infrastructure. Moreover, current market research indicates conditions warranting demand for additional light industrial properties.

As previously noted, a portion of the subject property is currently being utilized for storage of equipment and materials, as well as minor servicing under a State Special Use Permit and County Conditional Permit. This use is in conformance with other industrial uses in the surrounding area. While there are surrounding agricultural uses for pasture lands, it is noted that approximately 12 acres of the subject property has been in light industrial use for approximately 10 years.

Chapter VII

***Anticipated Determination
and Findings and Reasons
Supporting the Determination***

VII. ANTICIPATED DETERMINATION AND FINDINGS AND REASONS SUPPORTING THE DETERMINATION

Based on the following findings, it is anticipated that the proposed action will not result in any significant impacts. 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 analysis is provided:

1. **No Irrevocable Commitment to Loss or Destruction of any Natural or Cultural Resources Would Occur as a Result of the Proposed Project**

The project will not result in any significant adverse environmental impacts. There are no known, rare, endangered or threatened species of flora, fauna or avifauna located within the project site. Refer to Appendix "D".

From an archaeological standpoint, the ground surface has been disrupted through prior vegetation clearing and grading activities. The resulting ground disturbances make it unlikely that any intact cultural materials could be recovered in the subject area. The archaeological inventory provides further evidence to support this conclusion as no cultural remains were encountered on the surface or through sub-surface testing. The results of the survey indicate that roughly 75 percent (75%) of the surface area was previously disturbed through vegetation clearing, grubbing and rough grading. Should any artifacts or human remains be encountered during construction, work will stop in the immediate area of the find and the SHPD and/or the Maui/Lanai Island Burial Council will be immediately notified to establish an appropriate mitigation strategy.

2. **The Proposed Action Would Not Curtail the Range of Beneficial Uses of the Environment**

The use of the subject property for light industrial use is deemed appropriate as it provides for new commercial inventory adjacent to other light industrial areas. The proposed project and the commitment of land resources will not curtail the range of beneficial uses of the environment.

3. **The Proposed Action Does Not Conflict with the State's Long-Term Environmental Policies or Goals or Guidelines as Expressed in Chapter 344, Hawaii Revised Statutes**

The State's Environmental Policy and Guidelines are set forth in Chapter 344, Hawaii Revised Statutes. The proposed action is not contrary to these policies and guidelines.

4. **The Economic or Social Welfare of the Community or State Would Not Be Substantially Affected**

The proposed project would have a direct beneficial effect on the local economy during construction. In the long term, the proposed project will support the local economy through additional light industrial use inventory and in turn employment opportunities, that will benefit the community with increased opportunities for economic diversity. The economic and social welfare needs of the community will not be adversely impacted by the proposed subdivision. Refer to Appendix "J".

5. **The Proposed Action Does Not Affect Public Health**

No impacts to the public's health and welfare are anticipated as a result of the proposed project. As previously noted, the applicant will work with the contractor to insure that BMP's are implemented during construction to mitigate any air quality and noise impacts.

6. **No Substantial Secondary Impacts, Such as Population Changes or Effects on Public Facilities are Anticipated**

No significant population changes are anticipated as a result of the proposed project. The approximately 35 new light industrial lots will help to meet existing demand for industrial space in the Central Maui area.

The proposed subdivision improvements will include the construction of private water and wastewater systems. No adverse impacts to public water and wastewater capacities and facilities are anticipated. Onsite surface runoff is expected to be accommodated by drainage improvements. The project is not expected to significantly impact public services such as police, fire and medical services. Impacts upon recreational and solid waste collection and disposal facilities and resources are considered minimal.

7. **No Substantial Degradation of Environmental Quality is Anticipated**

During the construction phase of the project, there will be short-term air quality and noise impacts as a result of the project mitigated through proper use of BMPs. In the long term, effects upon air quality and ambient noise levels should not be significant. The project is not anticipated to significantly affect the open space and scenic character of the area. Moreover, no adverse effects to flora, fauna, streams and wetlands are anticipated.

No substantial degradation of environmental quality resulting from the project is anticipated.

8. **The Proposed Project Does Not Involve a Commitment to Larger Actions, Nor Would Cumulative Impacts Result in Considerable Effects on the Environment**

The proposed subdivision improvements will be completed in a single construction phase. The proposed action is not part of a larger action and does not result in cumulative impacts which result in considerable effects on the environment.

9. **No Rare, Threatened or Endangered Species or Their Habitats Would Be Adversely Affected by the Proposed Action**

There are no rare, threatened or endangered species of flora, fauna, avifauna or their habitats on the subject property. Refer to Appendix "D".

10. **Air Quality, Water Quality or Ambient Noise Levels Would Not Be Detrimentially Affected by the Proposed Project**

Construction activities will result in short-term air quality and noise impacts. Dust control measures, such as regular watering and sprinkling, will be implemented to minimize wind-blown emissions. Noise impacts will occur primarily from construction-related activities. It is anticipated that construction will be limited to daylight working hours. Water quality is not expected to be affected.

In the long term, the project is not anticipated to significantly affect the air quality in the area. Additionally, the project is not anticipated to have a significant impact on water quality or ambient noise levels.

11. **The Proposed Project Would Not Affect Environmentally Sensitive Areas, Such as Flood Plains, Tsunami Zones, Erosion-prone Areas, Geologically Hazardous Lands, Estuaries, Fresh Waters or Coastal Waters**

The project site is not located within and would not affect environmentally

sensitive areas. The project site is not subject to flooding or tsunami inundation. Soils of the project site are not subject to severe erosion. There are no geologically hazardous lands, estuaries, or coastal waters within or adjacent to the project site.

12. **The Proposed Action Would Not Substantially Affect Scenic Views and Viewplanes Identified in County Plans or Studies**

The project site is not identified as a scenic vista or viewplane. The proposed project will not affect public scenic corridors and coastal scenic and open space resources.

13. **The Proposed Action Would Not Require 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 may create an additional demand for electricity. However, this demand is not deemed substantial or excessive within the context of the region's overall energy consumption.

Based on the foregoing findings, it is anticipated that the proposed action will not result in any significant impacts.

Chapter 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. State Land Use Commission district boundary amendment
2. NPDES permit (for stormwater discharge associated with construction activities)

County of Maui

1. County change in zoning
2. Subdivision approval
3. Grading permit

Chapter IX

Neighborhood Information Meetings

IX. NEIGHBORHOOD INFORMATION MEETINGS

The applicant has been in contact with members of the Waikapu Community Association. As of January 2004, the Waikapu Community Association was in the process of organizing and setting up the group. A presentation before the general membership is scheduled for September 14, 2004.

In a letter dated November 4, 2003, the applicant received comments from Mr. David "Buddy" Nobriga, a neighboring landowner, indicating concerns with the proposed project. Refer to Chapter X. On December 15, 2003, Mr. Roderick Fong and Mr. Dean Frampton of Consolidated Baseyards, LLC met with Mr. Nobriga and Mr. Martin Luna to discuss said comments. As a follow up to the December meeting, the applicant responded to Mr. Nobriga via a letter dated January 29, 2004. Refer to Chapter X.

In addition to meeting with Mr. Nobriga, the applicant has also met separately with ranchers who currently lease lands immediately adjoining the subject property. These ranchers include Mr. Brendan Baltazar and Mr. Manuel Lopes. As development plans are formalized, the applicant will continue to consult with Mr. Baltazar, Mr. Lopes and Mr. Nobriga to address issues which may result from the proposed Light Industrial Subdivision.

Lastly, the applicant has also met with representatives from A&B Properties, Inc. to discuss project plans and the future light industrial subdivision.

Chapter X

***Agencies Consulted During
the Preparation of the Draft
Environmental Assessment;
Letters Received and Responses
to Substantive Comments***

X. AGENCIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

The following agencies were consulted during the preparation of the Draft Environmental Assessment. Agency comments and responses to substantive comments are also included in this section.

1. Neal Fujiwara, Soil Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
210 Imi Kala Street, Suite 209
Wailuku, Hawaii 96793-2100
2. George Young
Chief, Regulatory Branch
Department of the Army
U.S. Army Engineer District, Hnl.
Building 230
Fort Shafter, Hawaii 96858-5440
3. Robert P. Smith
Pacific Islands Manager
U. S. Fish and Wildlife Service
300 Ala Moana Blvd., Rm. 3-122,
Box 50088
Honolulu, Hawaii 96813
4. Ted Liu, Director
State of Hawaii
Office of Planning
Department of Business,
Economic
Development and Tourism
P.O. Box 2359
Honolulu, Hawaii 96804
5. Patricia Hamamoto, Superintendent
State of Hawaii
Department of Education
P.O. Box 2360
Honolulu, Hawaii 96804
6. Denis Lau, Chief
Clean Water Branch
State of Hawaii
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawaii 96814
7. Herbert Matsubayashi
District Environmental Health
Program Chief
State of Hawaii
Department of Health
54 High Street
Wailuku, Hawaii 96793
8. Peter Young
State of Hawaii
Department of Land and Natural
Resources
P. O. Box 621
Honolulu, Hawaii 96809
9. Holly McEldowney
State of Hawaii
Department of Land and Natural
Resources
State Historic Preservation
Division
601 Kamokila Blvd., Room 555
Kapolei, Hawaii 96707
10. Fred Cajigal, Maui District Engineer
State of Hawaii
Department of Transportation
Highways Division
650 Palapala Drive
Kahului, Hawaii 96732

-
- | | |
|--|--|
| 11. Colin Kippen, Deputy Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813 | 19. Maui Electric Company, Ltd.
P. O. Box 398
Kahului, Hawaii 96732 |
| 12. Carl Kaupalolo, Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawaii 96732 | 20. Avery Chumbley, President
Wailuku Agribusiness Co., Inc.
255 E. Waiko Road
Wailuku, Hawaii 96793 |
| 13. Alice Lee, Director
County of Maui
Department of Housing and
Human Concerns
200 S. High Street
Wailuku, Hawaii 96793 | 21. Tony Levoy, President
Waiolani Homeowners Association
P.O. Box 1376
Wailuku, Hawaii 96793 |
| 14. Michael W. Foley, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793 | 22. Waikapu Community Association
61 Ili Kapono Street
Wailuku, Hawaii 96793 |
| 15. Glenn Correa, Director
County of Maui
Department of Parks and Recreation
700 Hali'a Nakoia Street, Unit 2
Wailuku, Hawaii 96793 | |
| 16. Thomas Phillips, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawaii 96793 | |
| 17. Gilbert S. Coloma-Agaran, Director
County of Maui
Department of Public Works
and Waste Management
200 South High Street
Wailuku, Hawaii 96793 | |
| 18. George Tengan, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793 | |

OCT 22 2003



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

October 20, 2003

REPLY TO
ATTENTION OF
Regulatory Branch

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

Dear Ms. Kawahara:

This letter responds to your request for comments concerning Consolidated Baseyards' proposed State District Boundary Amendment, dated October 16, 2003. A Department of the Army (DA) permit is not required for this administrative action; however, based on the information you provided I am unable to determine if a DA permit will be required for the eventual construction on this parcel. If construction will require the discharge of dredged or fill material or grading, in or near streams, wetlands or gulches a DA permit may be required.

If you have any questions concerning this matter, please contact William Lennan of my staff at (808) 438-6986 or FAX (808) 438-4060, and reference File No. 200400018.

Sincerely,

A handwritten signature in cursive script, appearing to read "George P. Young".

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



January 16, 2004

Mr. George P. Young, P.E.
Chief, Regulatory Branch
U.S. Army Engineer District, Honolulu
Building 230
Fort Shafter, Hawaii 96858-5440

SUBJECT: Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot located at TMK (2) 3-8-007:089; File No. 200400018

Dear Mr. Young:

Thank you for your letter dated October 20, 2003, providing us with your comments on the proposed project.

Our client, Consolidated Baseyards, LLC (CBL), is in the process of finalizing their engineering plans. However, please note that there are no streams, wetlands or gulches located on the subject property, so no discharge of dredged or fill material or grading will be required in any of these areas.

Since the mailing of our early consultation letter, it has been determined that work in the County right-of-way (East Waiko Road) for the project will trigger an Environmental Assessment. As such, we will be sending a copy of the Draft Environmental Assessment for your review and comment when completed. Should you have any questions, please feel free to contact me at (808) 244-2015.

Very truly yours,


Karlynn Kawahara, Planner

KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Michael Foley, Department of Planning

cbaseyd/waikapu/army/tr.res



**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**

OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

NOV 13 2003

LINDA LINGLE
GOVERNOR
THEODORE E. LIU
DIRECTOR

MARY LOU KOBAYASHI
PLANNING PROGRAM ADMINISTRATOR
OFFICE OF PLANNING

Telephone: (808) 587-2846
Fax: (808) 587-2824

Ref. No. P-10274

November 7, 2003

Ms. Karlynn Kawahara, Planner
Munekiyo & Haraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Kawahara:

Subject: Early Consultation Request for Proposed District Boundary Amendment
Consolidated Baseyards, LLC Industrial Lot
TMK: 2-3-8-07: 089
Waikapu, Maui, Hawaii

Thank you for the opportunity for early consultation on the subject project.

The proposed request for a State District Boundary Amendment (DBA) could result in a 23.164-acre non-contiguous Urban District within the State Agricultural District. It is our understanding that approximately 12 acres of the 23.164-acre project site is currently utilized for storage of equipment and materials with minor servicing activities via a State Special Use Permit.

There are a number of storage/baseyard and other industrial types of uses along East Waikomo Road. An area-specific planning study conducted by the county would be desirable in order to consolidate uses and prevent proliferation of these uses along East Waikomo Road.

Should you have any questions, please call the Office of Planning's Land Use Division at 587-2842.

Sincerely,

Theodore E. Liu for
Director
Office of Planning

c: Peter Young, DLNR
Sandra Kunimoto, DOA
Anthony Ching, LUC
Michael Foley, Maui County



January 20, 2004

Ms. Mary Lou Kobayashi
Planning Program Administrator
State of Hawaii
Office of Planning
Department of Business, Economic
Development and Tourism
P.O. Box 2359
Honolulu, Hawaii 96804

SUBJECT: Proposed District Boundary Amendment for Consolidated Baseyards,
LLC Industrial Lot Located at TMK (2) 3-8-007:089

Dear Ms. Kobayashi:

Thank you for your letter dated November 7, 2003, providing us with your comments on the proposed project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to offer the following responses to your comments.

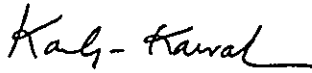
With regards to the non-contiguous Urban designation in the area, we would like to note that there are additional storage/baseyard facilities located approximately 0.25 mile west of the proposed project which are designated as a part of the Urban district. We also confirm that the existing industrial-type uses on the property are permitted by a State Land Use Commission Special Use Permit and a County Conditional Permit.

Based on a market study completed by ACM Consultants, the Client believes there is a shortage of light industrial properties in Central Maui. A copy of said study will be included in the Draft Environmental Assessment and provided to your office for review and comments.

Ms. Mary Lou Kobayashi
January 20, 2004
Page 2

Should you have any questions, please feel free to contact me at (808) 244-2015.

Very truly yours,


Karlynn Kawahara, Planner

KK:tn
cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Michael Foley, Department of Planning
cbaseyd/waikapu/dbodf.res

LINDA LINGLE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

NOV 03 2003

PATRICIA HAMAMOTO
SUPERINTENDENT

OFFICE OF THE SUPERINTENDENT

October 28, 2003

Ms. Karlynn Kawahara, Planner
Munekiyo & Hiraga, Inc.
305 South High Street, Suite 104
Wailuku, Hawai'i 96793

Dear Ms. Kawahara:

Subject: Consolidated Baseyards, LLC
District Boundary Amendment
Waikapu, Maui, TMK: 2-3-8-07:089

The Department of Education (DOE) has received your letter requesting pre-consultation on plans to change approximately 23.164 acres from the State "Agriculture" classification to "Urban." The DOE has no comment on the proposal and appreciates the opportunity to review the plans.

If you have any questions, please call Rae M. Loui, Assistant Superintendent of the Office of Business Services, at 586-3444 or Raynor M. Minami, Director of the Facilities and Support Services Branch, at 733-4860.

Very truly yours,

A handwritten signature in cursive script that reads "Patricia Hamamoto".

Patricia Hamamoto
Superintendent

PH:hy

cc: Rae M. Loui, OBS
Raynor M. Minami, FSSB
Donna Whitford, Complex Area Superintendent

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

LINDA LINGLE
GOVERNOR OF HAWAII



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

OCT 29 2003

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

In reply, please refer to:
EMD / CWB

10090PKP.03

October 27, 2003

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

Dear Ms. Kawahara:

**Subject: Early Consultation Request for Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot Waikapu, Maui, Hawaii
TMK: 2-3-8-07:089**

The Department of Health, Clean Water Branch (CWB), has reviewed the subject document and offers the following comments:

1. The Army Corps of Engineers should be contacted at (808) 438-9258 to identify whether a Federal license or permit (including a Department of Army permit) is required for this project. Pursuant to Section 401(a)(1) of the Federal Water Pollution Act (commonly known as the "Clean Water Act"), a Section 401 Water Quality Certification is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters...."
2. A National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for the following activities:
 - a. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi).
 - b. 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 commencement of the construction activities.
 - c. Discharges of treated effluent from leaking underground storage tank remedial activities.

Ms. Karlynn Kawahara
October 27, 2003
Page 2

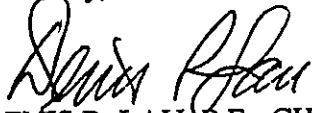
- d. Discharges of once through cooling water less than one (1) million gallons per day.
- e. Discharges of hydrotesting water.
- f. Discharges of construction dewatering effluent.
- g. Discharges of treated effluent from petroleum bulk stations and terminals.
- h. Discharges of treated effluent from well drilling activities.
- i. Discharges of treated effluent from recycled water distribution systems.
- j. Discharges of storm water from a small municipal separate storm sewer system.
- k. Discharges of circulation water from decorative ponds or tanks.

The CWB requires that a Notice of Intent (NOI) to be covered by a NPDES general permit for any of the above activities be submitted at least 30 days before the commencement of the respective activities. The NOI forms may be picked up at our office or downloaded from our website at <http://www.state.hi.us/doh/eh/cwb/forms/genl-index.html>.

- 3. The applicant may be required to apply for an individual NPDES permit if there is any type of activity in which wastewater is discharged from the project into State waters and/or coverage of the discharge(s) under the NPDES general permit(s) is not permissible. An application for the NPDES permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at <http://www.state.hi.us/doh/eh/cwb/forms/indiv-index.html>.
- 4. Hawaii Administrative Rules, Section 11-55-38, also requires the owner to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. Please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.

If you have any questions, please contact the CWB at (808) 586-4309.

Sincerely,



DENIS R. LAU, P.E., CHIEF
Clean Water Branch



January 16, 2004

Mr. Denis Lau, P.E., Chief
Clean Water Branch
Department of Health
P.O. Box 3378
Honolulu, HI 96801-3378

SUBJECT: Proposed District Boundary Amendment for Consolidated Baseyards,
LLC Industrial Lot Located at TMK (2) 3-8-007:089
EMD/CWB: 1090PKP.03

Dear Mr. Lau:

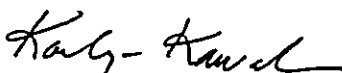
Thank you for your letter dated October 27, 2003, providing us with your comments on the proposed project. Our client, Consolidated Baseyards, LLC (CBL), has been in contact with the Army Corps of Engineers for early consultation on the project.

Secondly, CBL will work with the contractor to insure that requirements of applicable National Pollutant Discharge Elimination System (NPDES) permits are addressed before the commencement of any construction activities.

Third, an early consultation request was submitted to the Department of Land and Natural Resources, State Historic Preservation Division (SHPD). Our archaeological consultant is working with SHPD to make revisions to a previous archaeological inventory survey on the parcel, as well as the archaeological monitoring report. Please see attached SHPD response letter.

Should you have any questions, please feel free to contact me at (808) 244-2015.

Very truly yours,


Kariynn Kawahara, Planner

KK:tn

Attachment

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Michael Foley, Department of Planning

cbaseyd/waikapu/dohlr.res

305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

environment
planning
government

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

November 19, 2003

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

LOG NO: 2003.2380
DOC NO: 0311CD39

Dear Ms. Kawahara,

**SUBJECT: Chapter 6E-42 Historic Preservation Review – Early Consultation
Request for the Proposed District Boundary Amendment Consolidated
Baseyards, LLC Industrial Lot
Waikapu Ahupua`a, Wailuku District, Island of Maui
TMK: (2) 3-8-007:089**

Thank you for the opportunity to provide comments for the Early Consultation Request for the Proposed District Boundary Amendment Consolidated Baseyards, LLC Industrial Lot, which was received by our staff October 17, 2003.

Based on the submitted information request, we understand your client, Consolidated Baseyards, LLC (CBL), proposes a State District Boundary Amendment (DBA) to change approximately 23.1764 acres from the State "Agriculture" designation to "Urban". Approximately 12 acres are currently utilized for the storage of equipment and materials and minor servicing through a State Special Use Permit and a County Conditional Permit. The remaining land is currently vacant and is covered in Kiawe and scrub brush.

In 2000, Aki Sinoto Consulting (ASC) conducted an archaeological inventory survey of the subject property and a portion of the adjacent parcel 102. During the survey no historic sites were identified. We have reviewed the report documenting the negative survey findings (*Archaeological Inventory Survey of the Proposed Industrial Park Development Area, Waikapu, Wailuku, Maui Island TMK: 3-8-07:89 & por. 102...Sinoto et al.*). We have accepted this report with the understanding that the requested revisions to the background section be submitted to this office (SHPD DOC NO.: -0010MK01/LOG NO.: 26460). To date we have not received the requested revisions.

At the time of the inventory survey review we concurred with the recommendation made in the survey report for an archaeological monitor to be present during ground altering activities given the potential for isolated burials in the areas of the parcel exhibiting less previous disturbance. ASC has submitted a monitoring plan (*Archaeological Monitoring Plan for the Proposed*

Karlynn Kawahara
Page 2

Industrial Park Development, Waikapu, Wailuku, Maui Island, TMK: 3-8-07:89 & por. 102... Sinoto and Pantaleo 2000). We have reviewed and accepted this monitoring plan (SHPD DOC NO.: 0010MK02/LOG NO.: 26345).

Given the above information, we believe the proposed DBA will have not adversely effect historic sites provided the specified conditions of the accepted monitoring plan are followed. However, we do request the submittal of the above-mentioned revisions to the inventory survey report. In addition, we request the following language be added to the existing monitoring plan:

1) An acceptable report documenting the findings of the monitoring activities shall be submitted to the State Historic Preservation Division for review upon 180 days following the completion of the proposed undertaking.

2) The State Historic Preservation Division (Maui and O`ahu offices) shall be notified via facsimile upon the on-set and completion of the proposed undertaking.

If you have any questions, please call Cathleen A. Dagher at 692-8023.

Aloha,

P. Holly McEldowney

P. Holly McEldowney, Acting Administrator
State Historic Preservation Division

CD:jen

c: Michael Foley, Director, Dept of Planning, 250 South High Street, Wailuku, HI 96793
Cultural Resources Commission, Planning Dept, 250 S. High Street, Wailuku, HI 96793
Chair, Maui/Lana`i Islands Burial Council
Kana`i Kapeliela, Burial Sites Program



January 20, 2004

Ms. P. Holly McEldowney, Acting Administrator
State of Hawaii
Department Land and Natural Resources
State Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Blvd.
Kapolei, Hawaii 96707

**SUBJECT: Proposed District Boundary Amendment for Consolidated Baseyards,
LLC Industrial Lot Located at TMK (2) 3-8-007:089**

Dear Ms. McEldowney:

Thank you for your letter dated November 19, 2003, providing us with your comments on the proposed project. In response to the comments provided, we would like to note the following:

1. Pursuant to your request, Archaeological Services Hawaii, LLC (ASH) is working to complete necessary revisions to the background section of the archaeological inventory survey. Said revisions will be submitted to your office shortly for additional review and comment; and
2. The archaeological monitoring plan will be revised to include the following language:
 - a. An acceptable monitoring report documenting the findings of the monitoring activities shall be submitted to the State Historic Preservation Division for review upon 180 days following the completion of the proposed undertaking; and
 - b. The SHPD Maui and Oahu offices shall be notified via facsimile upon the on-set and completion of the proposed undertaking.

Ms. P. Holly McEldowney, Acting Administrator
January 20, 2004
Page 2

Should you have any questions, please feel free to contact me at (808) 244-2015.

Very truly yours,


Karlynn Kawahara, Planner

KK:tn

cc: Dean Frampton, Frampton & Ward, LLC
Roderick Fong, Consolidated Baseyards, LLC
Lisa Rotunno-Hazuka, Archaeological Services Hawaii, LLC
Michael Foley, Department of Planning

cbaseyd/walkapu/shpdltr.res

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 6, 2003

NOV 07 2003

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

LD-NAV
BASEYARDMUNEKIYOMAUI.COM

Munekiyo and Hiraga, Inc.
Karlynn Kawahara, Planner
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Kawahara:

SUBJECT: Early Consultation, for Proposed District Boundary Amendment
Consolidation Baseyards, LLC Industrial Lot, Waikapu, Maui
TMK: (2) 3-8-007: 089

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

The Department of Land and Natural Resources' (DLNR) Land Division distributed a copy of your letter (summary of the project) and site map to the following DLNR Divisions for their review and comment:

- Division of Forestry and Wildlife
- Division of State Parks
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land Division Maui District Land Office

Enclosed please find a copy of the Commission on Water Resource Management's comment.

Based on the attached responses, the Department of Land and Natural Resources has no other comment to offer.

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

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C: MDLO

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 27, 2003

TO: Ms. Dede Mamiya, Administrator
Land Division

FROM: Ernest Y.W. Lau, Deputy Director *eywl*
Commission on Water Resource Management (CWRM)

SUBJECT: Waikapu Consolidated Baseyards Expansion Early Consultation

FILE NO.: BASEYARDMUNEKIYOMAUI.COM

DEPARTMENT OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

OCT 30 A 9 36

RECEIVED
LAND DIVISION

PEI, A.T. YOUNG
CHAIRPERSON

MEREDITH J. CHING
CLAYTON W. DELA CRUZ
JAMES A. FRAZIER
CHIYOME L. FUKINO, M.D.
STEPHANIE A. WHALEN

ERNEST Y.W. LAU
DEPUTY DIRECTOR

Thank you for the opportunity to review the subject document. Our comments related to water resources are marked below.

In general, the CWRM strongly promotes the efficient use of our water resources through conservation measures and use of alternative non-potable water resources whenever available, feasible, and there are no harmful effects to the ecosystem. Also, the CWRM encourages the protection of water recharge areas, which are important for the maintenance of streams and the replenishment of aquifers.

- We recommend coordination with the county government to incorporate this project into the county's Water Use and Development Plan.
- We recommend coordination with the Land Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
- We are concerned about 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.
- A Well Construction Permit and/or a Pump Installation Permit from the Commission would be required before ground water is developed as a source of supply for the project.
- The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit from the Commission would be required prior to use of this source.
- Groundwater withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
- We are concerned about the potential for degradation of instream uses from development on highly erodible slopes adjacent to streams within or near the project. We recommend that approvals for this project be conditioned upon a review by the corresponding county's Building Department and the developer's acceptance of any resulting requirements related to erosion control.
- If the proposed project includes construction of a stream diversion, the project may require a stream diversion works permit and amend the instream flow standard for the affected stream(s).
- If the proposed project alters the bed and banks of a stream channel, the project may require a stream channel alteration permit.
- OTHER:

If there are any questions, please contact Charley Ice at 587-0251.

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

October 21, 2003

LD/NAV
BASEYARDMUNEKIYOMAU.COM

Suspense Date: 10/30/03

MEMORANDUM:

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

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Early Consultation District Boundary Amendment Industrial Lot, Maui, Hawaii,
TMK: 2-3-07: 089

Please review the attached document (summary) and maps pertaining to the subject matter and submit your comments if any on Division letterhead (signed and dated) by the suspense date.

Should you need more time to review the document, please contact Nick Vaccaro at ext.: 7-0384.

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

We have no comments.

Comments attached.

Division: MDLO

Signed: Jamie K. King

Title: DLA

Date: 10-24-03

RECEIVED
DIVISION OF
LAND MANAGEMENT
2003 OCT 23 PM 3: 51

LINDA LINGLE
GOVERNOR OF HAWAII



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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER



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2003 OCT 31 A 9:45

DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

October 21, 2003

LD/NAV
BASEYARDMUNEKIYOMAU.COM

Suspense Date: 10/30/03

03 OCT 22 PM 02:30 ENGINEERING

MEMORANDUM:

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

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Early Consultation District Boundary Amendment Industrial Lot, Maui, Hawaii,
TMK: 2-3-07: 089

Please review the attached document (summary) and maps pertaining to the subject matter and submit your comments if any on Division letterhead (signed and dated) by the suspense date.

Should you need more time to review the document, please contact Nick Vaccaro at ext.: 7-0384.

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

We have no comments.

Comments attached.

Division: Engineering

Signed: Eric T. Hirano

Title: ERIC T. HIRANO, CHIEF ENGINEER
ERIC T. HIRANO CHIEF ENGINEER

Date: 10/30/03



January 20, 2004

Ms. Dierdre S. Mamiya, Administrator
State of Hawaii
Department Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawaii 96809

SUBJECT: Proposed District Boundary Amendment for Consolidated Baseyards,
LLC Industrial Lot located at TMK (2) 3-8-007:089

Dear Ms. Mamiya:

Thank you for your letter dated November 6, 2003, providing us with your comments on the proposed project. Our client, Consolidated Baseyards, LLC (CBL), has had discussions with the County of Maui Department of Water Supply (DWS) regarding the potential for County water service for the proposed project. Since there are no DWS facilities within a reasonable proximity to the subject property, the applicant has decided to utilize an existing private water source on the property as a source for landscape irrigation, as well as fire protection purposes. Additionally, CBL plans to install a water storage tank and treatment plant to provide potable water for the future uses.

Should you have any questions, please feel free to contact me at (808) 244-2015.

Very truly yours,


Karlynn Kawahara, Planner

KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC

cbaseyd/waikapu/dlnr/lr.res

LINDA LINGLE
GOVERNOR



NOV 17 2003
RODNEY K. HARAGA
DIRECTOR

DEPUTY DIRECTOR
BRUCE Y. MATSUI

**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

MAUI DISTRICT
650 PALAPALA DRIVE
KAHULUI, HAWAII 96732-2321

IN REPLY REFER TO:
HWY-M 2.557-03

November 13, 2003

MEMORANDUM

TO: Karlynn Kawahara
Munekiyo & Hiraga, Inc.

FROM: Paul M. Chung 
State Highways

SUBJECT: Proposed Boundary Amendment for Consolidated Baseyards, LLC
TMK: 3-8-07: 089
Waikapu, Maui, Hawaii

Thank you for the opportunity to review and comment on the proposal for boundary amendment for the subject project. Based upon our review of the submittal, it appears that the zoning change should not have a significant impact to our facilities.

If there are any questions or concerns, please call me at 873-3535.

/pmc

LINDA LINGLE
GOVERNOR



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

MAY 28 2004

JUN 01 2004

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BRUCE Y. MATSUI
LINDEN H. JOESTING
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

HWY-PS
2.3314

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

Dear Ms. Kawahara:

Subject: Early Consultation, Proposed District Boundary Amendment, Consolidated
Baseyards, LLC Industrial Lot, Waikapu, Maui, TMK: 3-8-07: 89

We request that a traffic assessment be prepared to determine the impact of this amendment on our State highways.

If you have any questions, please contact Ronald Tsuzuki, Head Planning Engineer, at (808) 587-1831. Please reference file review number 03-319 in all future communications and correspondence regarding this matter.

Very truly yours,

A handwritten signature in black ink, appearing to read "Rodney K. Haraga".

RODNEY K. HARAGA
Director of Transportation



August 6, 2004

Rodney K. Haraga, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097


SUBJECT: Early Consultation for the Proposed Consolidated Baseyards, LLC,
Light Industrial Baseyard at TMK 3-8-007:089, 143 and 144,
Waikapu, Maui, Hawaii - HWY-PS 2.3314/File Review No. 03-319

Dear Mr. Haraga:

Thank you for your letter dated May 28, 2004, providing us with your comments on the proposed project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we note your comment with regards to the preparation of a Traffic Assessment. Please note that a Traffic Impact Assessment Report was prepared by Austin Tsutsumi & Associates, Inc. and included in the Draft Environmental Assessment document.

Should you have any questions, please feel free to contact me at 244-2015.

Very truly yours,


Karlynn Kawahara, Planner

KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Matt Nakamoto, Austin, Tsutsumi & Associates, Inc.
Blaine Kobayashi, Carlsmith Ball
Anthony Ching, Land Use Commission

cbaseyd/waikapu/dot.res

OCT 24 2003

United States Department of Agriculture



 NRCS Natural Resources
Conservation Service

Our People...Our Islands...In Harmony
210 Iml Kala Street, Suite #209, Wailuku, HI 96793-2100

Date: October 22, 2003

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

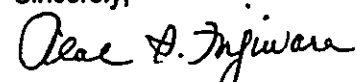
Dear Ms. Kawahara,

SUBJECT: Proposed District Boundary Amendment, Consolidated Baseyards, LLC
TMK: 3-8-007: 089

A major concern with this proposed reclassification from Agriculture to Urban is that the adjacent parcels are being utilized agriculturally. There exist a cattle feedlot and a cattle operation within the area. Animal operations bring dust, odor and insects to an area.

The sandy and loamy soils within the area as well as the strong trade winds through the site make it a dusty condition, especially when surrounded by agricultural land.

Sincerely,


Neal S. Fujiwara
District Conservationist



January 20, 2004

Mr. Neal Fujiwara, Soil Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
210 Imi Kala Street, Suite 209
Wailuku, Hawaii 96793

**SUBJECT: Proposed District Boundary Amendment for Consolidated Baseyards,
LLC Industrial Lot Located at TMK (2) 3-8-007:089**

Dear Mr. Fujiwara:

Thank you for your letter dated October 22, 2003, providing us with your comments on the proposed project. We would like to take this opportunity to note that existing agricultural operations surrounding the project site have not been adversely impacted by light industrial uses at the project site (as permitted by a State Special Use Permit and County Conditional Permit). Further, to the best of our knowledge, existing light industrial uses at the project site have not been adversely impacted by surrounding agriculture operations. Nevertheless, our client, Consolidated Baseyards, LLC (CBL), has met with the neighboring agricultural users to inform them of the proposed project and to address their concerns. Additionally, CBL is working with the neighboring agricultural uses to draft language which will be included in future lease or purchase agreements of the subdivision parcels which inform potential lessees/buyers of the surrounding agricultural uses. It is our understanding that this practice has been done with other residential and industrial subdivisions in Maui. Finally, CBL will continue to utilize appropriate best management practices in an effort to control on-site dust.

Should you have any questions, please feel free to contact me at 244-2015.

Very truly yours,

Karynn Kawahara
Karynn Kawahara, Planner

KK:tn
cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Michael Foley, Department of Planning

cbaseyd/waikapu/nrcsltr.res

305 High Street, Suite 104 • Wailuku, Hawaii 96793 • ph: (808)244-2015 • fax: (808)244-8729 • planning@mhinonline.com

environment
planning

DEC 01 2003

PHONE (808) 594-1888

FAX (808) 594-1885



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

HRD03/1175

November 25, 2003

Karlynn Kawahara
Planner
Munekiyo and Hiraga, Inc.
305 High Street, Ste 104
Wailuku, HI 96793

RE: Early Consultation Request for Proposed District Boundary Amendment Consolidated Baseyards, LLC Industrial Lot located at TMK 2-3-07:089, Waikapu, Maui, Hawaii

Dear Ms. Kawahara:

Thank you for the opportunity to comment on the above referenced project. OHA would be interested in any historic sites or uses of the property. We would also be interested in knowing zoning of other properties around the subject property.

We suggest that you contact members of local Hawaiian civic clubs and royal societies to gather information on cultural uses of the property. Members of the burial council, such as Charlie Maxwell may also be helpful. OHA's community resource coordinator, Thelma Shimaoka may also be helpful. She can be reached at:

140 Hoohana St., Ste 206
Kahului, HI 96732
808-243-5219

Thank you for this opportunity to comment. We look forward to receiving the DBA petition. Please contact Pua Aiu at 594-1931 or by e-mail at paiu@oha.org if you have further questions.

Sincerely,

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

Clyde W. Namu'o
Administrator



January 28, 2004

Mr. Clyde W. Namu'o, Administrator
State of Hawaii
Office of Hawaiian Affairs
Nationhood & Native Rights Division
711 Kapi'olani Boulevard, Suite #500
Honolulu, Hawaii 96813

SUBJECT: Proposed District Boundary Amendment for Consolidated Baseyards,
LLC Industrial Lot Located at TMK (2) 3-8-007:089

Dear Mr. Namu'o:

Thank you for your letter dated November 25, 2003, providing us with your comments on the proposed project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to offer the following responses.

1. **Historic Sites**

An archaeological inventory survey was completed for the subject property. During this survey, no historic sites were encountered.

2. **Zoning**

A copy of the Land Use Commission map and Wailuku-Kahului Community Plan are being attached for your reference.

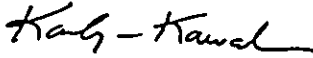
3. **Cultural Impacts**

CBL has hired Cultural Surveys of Hawaii to conduct a cultural impact assessment (CIA) for the project site and surrounding area. A copy of the CIA will be included in the Draft Environmental Assessment, which will be forwarded to your office for review and comment.

Mr. Clyde W. Namu`o, Administrator
January 28, 2004
Page 2

Should you have any questions regarding this matter, please call me at (808) 244-2015.

Very truly yours,

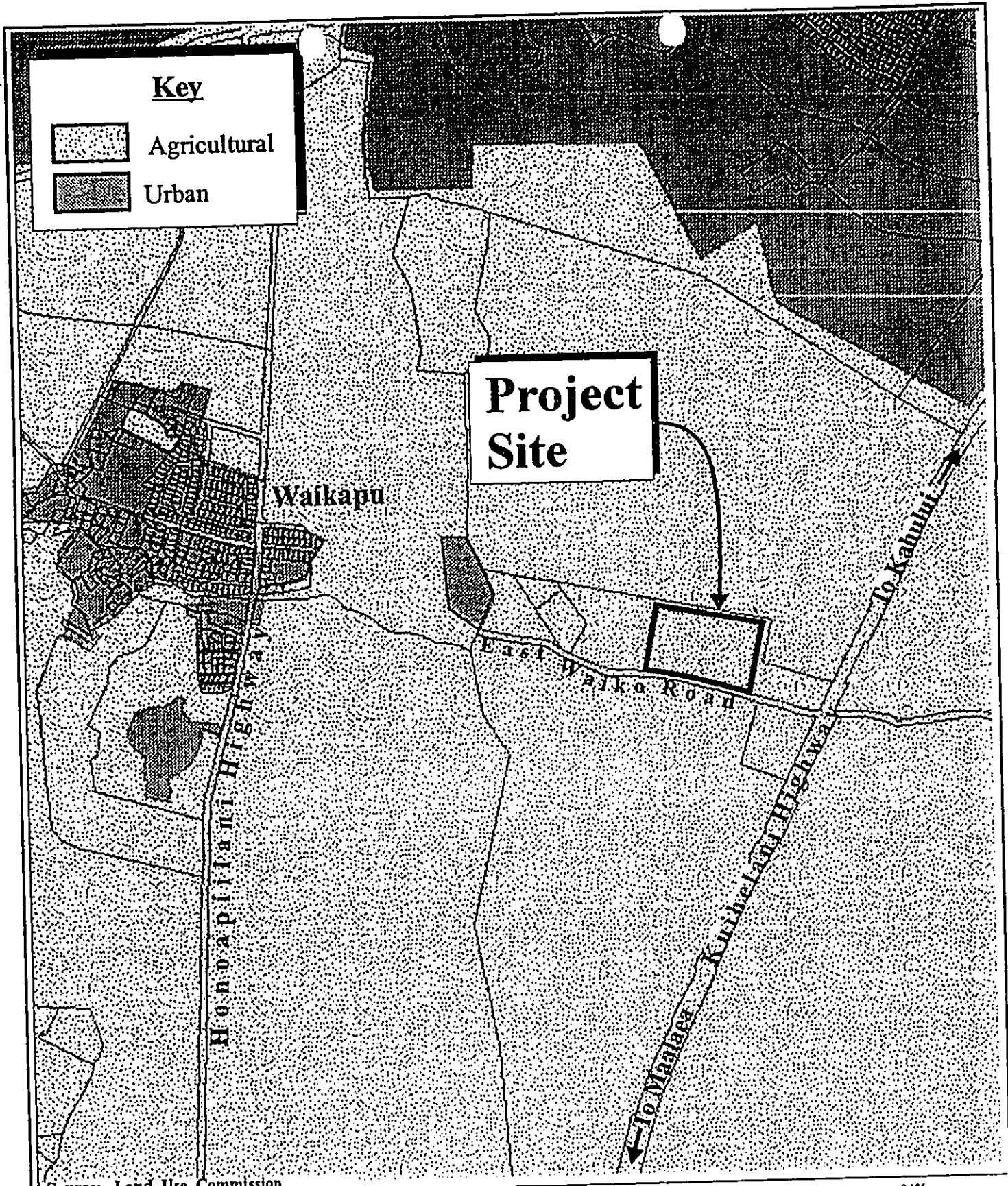

Karlynn Kawahara, Planner

KK:tn

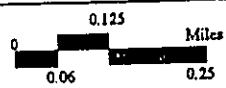
Attachments

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC

cbaseyd@walkapu/ohaltr.res



Source: Land Use Commission

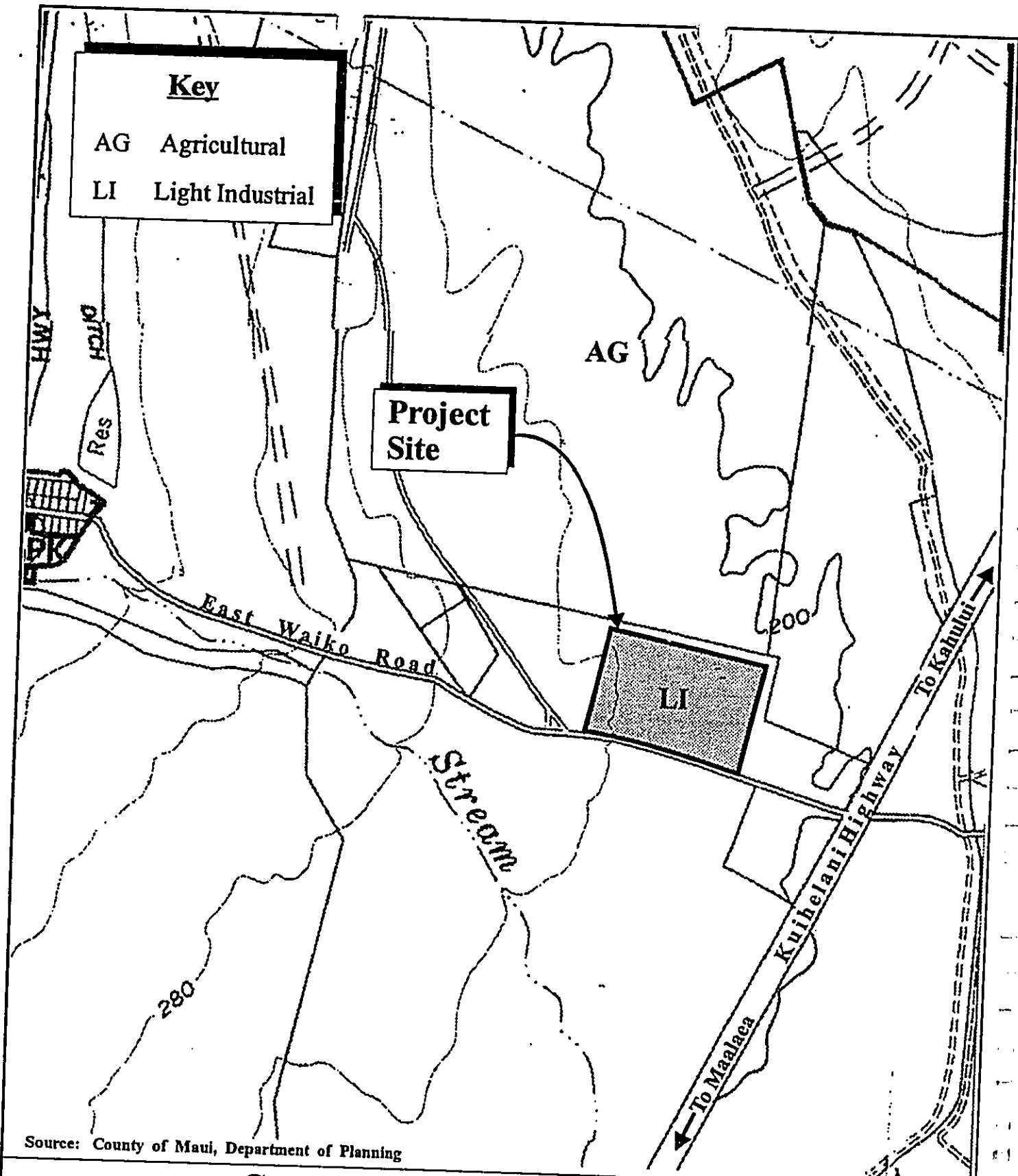


Consolidated Baseyards Light
 Industrial Subdivision at TMK 3-8-07:089
 State Land Use Map



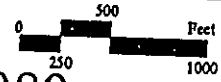
Prepared for: Consolidated Baseyards, LLC

MUNEKIYO & HIRAGA, INC.



Source: County of Maui, Department of Planning

**Consolidated Baseyards Light
 Industrial Subdivision at TMK 3-8-07:089
 Wailuku-Kahului Community Plan Map**



Prepared for: Consolidated Baseyards, LLC

MUNEKIYO & HIRAGA, INC.



DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

OCT 28 2003

ALAN M. ARAKAWA
Mayor

ALICE L. LEE
Director

HERMAN T. ANDAYA
Deputy Director

200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX (808) 270-7165

October 22, 2003

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

Dear Ms. Kawahara:

**SUBJECT: EARLY CONSULTATION REQUEST FOR PROPOSED
DISTRICT BOUNDARY AMENDMENT, CONSOLIDATED
BASEYARDS, LLC INDUSTRIAL LOT LOCATED AT
TMK: 2-3-8-07:089, WAIKAPU, MAUI, HAWAII**

We have reviewed your October 16, 2003 letter and
attachments and have no comments to offer.

Thank you for the opportunity to comment.

Very truly yours

ALICE L. LEE
Director

ETO:hs

c: Housing Administrator

ALAN M. ARAKAWA
Mayor
GILBERT S. COLOMA-AGARAN
Director
MILTON M. ARAKAWA, A.I.C.P.
Deputy Director
Telephone: (808) 270-7845
Fax: (808) 270-7955



COUNTY OF MAUI
**DEPARTMENT OF PUBLIC WORKS
AND ENVIRONMENTAL MANAGEMENT**
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

JAN 21 2004
RALPH NAGAMINE, L.S., P.E.
Development Services Administration
TRACY TAKAMINE, P.E.
Wastewater Reclamation Division
LLOYD P.C.W. LEE, P.E.
Engineering Division
BRIAN HASHIRO, P.E.
Highways Division
JOHN D. HARDER
Solid Waste Division

January 9, 2004

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

Dear Ms. Kawahara:

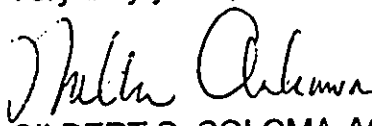
**SUBJECT: EARLY CONSULTATION REQUEST FOR PROPOSED
DISTRICT BOUNDARY AMENDMENT
CONSOLIDATED BASEYARDS, LLC INDUSTRIAL LOT
TMK: (2) 3-8-007:089**

We reviewed the subject application and have the following comment:

1. The developer shall be required to construct applicable frontage improvements to Waiko Road and to improve and resurface Waiko Road to provide a minimum 20 foot wide paved roadway from the subject property to Kuihelani Highway. Construction details shall be approved by the Department of Public Works and Environmental Management.

If you have any questions regarding this letter, please call Milton Arakawa at 270-7845.

Very truly yours,


for GILBERT S. COLOMA-AGARAN
Director

GSCA:MA:jlh
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February 10, 2004

Gilbert Coloma-Agaran, Director
Department of Public Works and
Environmental Management
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

**SUBJECT: Consolidated Baseyards, LLC Proposed Light Industrial Baseyard at
TMK (2) 3-8-007:089, Waikapu, Maui, Hawaii**

Dear Mr. Coloma-Agaran:

Thank you for your letter dated January 9, 2004 regarding the subject project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we acknowledge your comment with regards to improvements to Waiko Road. Construction details will be presented to the Department of Public Works and Environmental Management prior to implementation.

Should you have any questions, please feel free to contact me at (808) 244-2015.

Very truly yours,

A handwritten signature in black ink, appearing to read "Karlynn Kawahara". The signature is fluid and cursive.

Karlynn Kawahara, Planner

KK:lfm

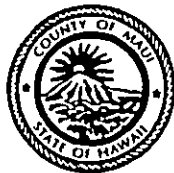
cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC

cbaseyd@waikapu.dpwm.hawaii.gov

305 High Street, Suite 104 • Wailuku, Hawaii 96793 • ph: (808)244-2015 • fax: (808)244-8729 • planning@mhinconline.com

environment
planning
government

ALAN M. ARAKAWA
Mayor



JAN 20 2004

GEORGE Y. TENGAN
Director

JEFFREY T. PEARSON, P...
Deputy Director

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

January 5, 2004

Ms. Karlynn Kawahara, Planner
Munekyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku HI 96793

Dear Ms. Kawahara:

SUBJECT: Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot - from State "agriculture" designation to "urban"
TMK: (2) 3-8-007:089

Thank you for the opportunity to comment on this project proposal.

Source Availability and Consumption

The project area is served by the Central Maui System. The main sources of water for this system are the Iao and Waihee aquifers, the Iao tunnel and the Iao-Waikapu Ditch. As of July 21, 2003, Iao aquifer has been designated by the Commission on Water Resource Management (CWRM) as Groundwater Management Area, and the Waihee aquifer will be designated if water levels at the Kanoa test hole drop below 6 feet above mean sea level on an annual moving average basis. As a result, DWS has stopped issuing advance water meter reservations until new sources are brought on-line. Although the Department continues to issue meters for those ready to receive service at this time, it may also become necessary to stop issuing new meters altogether. The department also asks Central Maui residents to voluntarily conserve water.

The department is taking steps to protect the long term viability and sustainability of these aquifers by developing new sources, groundwater protection, watershed protection as well as water conservation awareness through the distribution of low flow fixtures and requiring low flow fixtures for new developments, to name a few.

The EA should include the sources and expected potable and non-potable water usage. Absent detailed information, anticipated use for this project would be approximately 139,000 gpd.

System Infrastructure

The consultant indicated that the applicant intends to subdivide and utilize the property for storehouse/warehouse. The applicant will be required to comply with DWS Rules and Regulations for Subdivisions as well as provide domestic, fire and irrigation services in accordance with system standards. Thirty-six and eighteen inch transmission lines are situated on the east and west sides of the project site. Fire, domestic, and irrigation calculations will be required during the building permit process. Actual fire demand for structures is determined by fire flow calculations prepared, signed and stamped by a certified engineer or architect. The approved fire flow calculation methods for use include Guidance for Determination of Fire Flow- Insurance Service Office, 1974 and Fire Flow- Hawaii Insurance Bureau, 1991. The applicant should contact our Engineering Division at 270-7835 to discuss water system improvements.

"By Water All Things Find Life"

Printed on recycled paper



Conservation

In order to conserve the island's limited water resources, we encourage the applicant to consider the following water conservation measures and integrate them in the project design and construction:

Use brackish and /or reclaimed water sources for dust control during construction, if such alternative is available.

Eliminate Single-Pass Cooling: Single-pass, water-cooled systems should be eliminated per Maui County Code Subsection 14.21.20. Although prohibited by code, single-pass water cooling is still manufactured into some models of air conditioners, freezers, and commercial refrigerators.

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. Water conserving washing machines, ice-makers and other units are also available.

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. Refer to the attached handout, "The Costly Drip". The applicant should establish a regular maintenance program.

Use Climate -adapted Plants: The project is located in the Maui County Planting Plan - Plant Zone 3. We encourage the applicant to utilize appropriate native and non invasive species and avoid the use of potentially invasive plants. Native plants adapted to the area, conserve water and protect the watershed from degradation due to invasive alien species. Attached is a list of appropriate plants for the zone as well as potentially invasive plants to avoid.

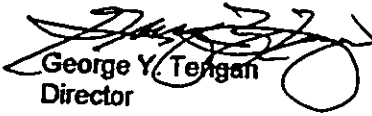
Look for Opportunities to Conserve Water: A few examples of these are as follows: When clearing driveways, etc. of debris, use a broom instead of a hose. When washing cars, use a hand-operated spray nozzle instead of an open hose. Additionally, check for leaks in faucets and toilet tanks.

Pollution Prevention

The project overlies the Kahului aquifer which has a sustainable yield of 1MGD. In order to protect surface and groundwater resources, we encourage the applicant to adopt Best Management Practices (BMPs) designed to minimize infiltration and runoff from construction and vehicle operations. We have attached sample BMPs for reference. Additional information can be obtained from the State Department of Health.

Should you have any questions regarding system infrastructure and requirements, please call our Engineering Division at 270-7835 and for questions on conservation and resource matters, please contact our Water Resources and Planning Division at 270-7199.

Sincerely,


George Y. Tengani
Director

eam

c: engineering division

applicant, with attachments

The Costly Drip

Maui County Planting Plan - Plant Zone 3 - Saving Water in the Yard - What and How to Plant in your Area

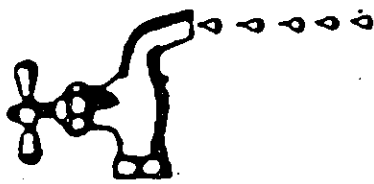
Ordinance No. 2108 - A Bill for an Ordinance Amending Chapter 16.20 of the Maui County Code, Pertaining to the Plumbing Code

Selected BMP's from "Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters"-EPA

"THE COSTLY DRIP"



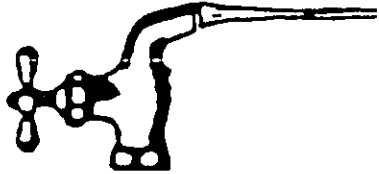
Slowly Dripping
Spigot Wastes
15 Gallons a day.



1/32" Leak Wastes
25 Gallons a day.



1/16" Stream Wastes
100 Gallons a Day.



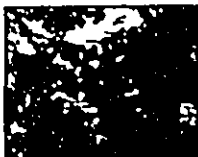
1/8" Stream Wastes
400 Gallons a day.



Save water by planting natives!

Did you know that Maui has been in a drought for the last four years? You can help save water by planting native trees and shrubs that are adapted to the climate in which you live. Take pride in your garden and make a difference on our island!

These plants adapt well to the hot and dry climates on Maui. For a complete list of native plants by climatic zone, contact the Department of Water Supply at 270-7199.



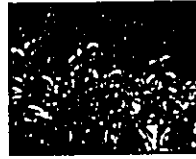
WILIWILI
A drought tolerant tree with a thick main trunk and large beautiful flowers.



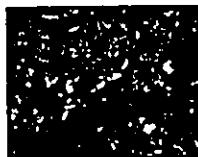
MA'O
Hawaiian cotton is its other name, a relative of the hibiscus. This shrub is 5'-8' tall.



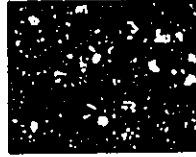
NAIO
Also called bastard sandalwood because it has a scent similar to true sandalwood.



ACHYRANTHES
A hardy shrub with silvery leaves that help with water retention.



'ILIMA
A great ground cover plant. Traditionally, 'ilima flowers were made into royal lei.



HINAHINA
A drought tolerant and hardy shrub with velvety silvery leaves.

Warm to Hot Low Elevations

These drier areas get less than 20 inches of rain a year. Temperatures are typically warm to hot. Plants adapted to this climate tend to be drought tolerant and stress resistant.



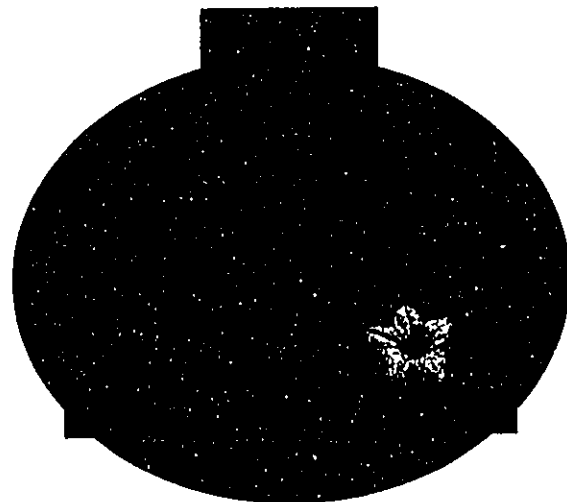
Bring this flyer to participating nurseries to get a discount on native plants. See the back side for details.

Don't plant...

IVY GOURD. This fast growing vine from Asia smothers native vegetation. It attacks shrubs, trees, fences, and telephone poles. It has five-petaled white flowers and oblong, red fruits. Ivy gourd is a State noxious weed.

MEXICAN CREEPER. This vine from Mexico escapes cultivation and smothers most things in its path. It has oval leaves and red to white flowers.

For a complete list of the worst horticultural plants in Hawaii, visit the Department of Land and Natural Resources website at <http://www.state.hi.us/dlnr/dofaw/hortweeds/specieslist.htm>.



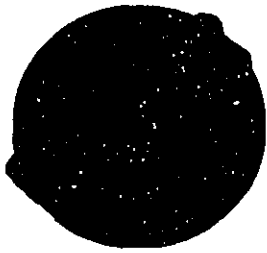
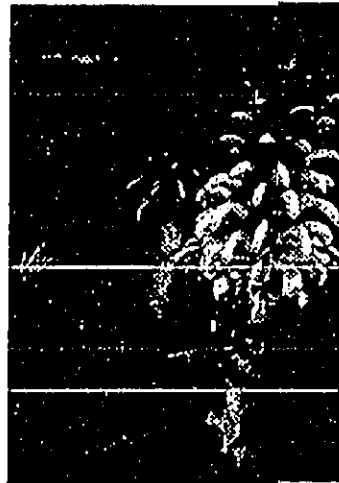
MISC
MAUI INVASIVE SPECIES COMMITTEE



Brought to you by the East Maui Watershed Partnership 573-6999, Maui Invasive Species Committee 573-MISC (6472) and the County Dept. of Water Supply 270-7199.

Turn your garden into a Native Plant Haven!

You can start by visiting some of these places to get ideas about how to landscape your home or business.



And remember kids...
make sure there are
no coqui frogs on the
plants you buy!

The following places sell and/or display native Hawaiian plants. Some of the nurseries propagate native Hawaiian plants from seeds and/or cuttings for the purpose of protecting and preserving these native plants. Please call them before going to view the sites. They can provide valuable information and referral to other sources!

- * Sells native plants
- * Offers discounts with this flyer

Aloha o ka Aina
2040 Pi'iholo Rd, Makawao
572-9440

Ho'olawa Farms
PO Box 731, Haiku 96708
575-5099

Kahanu Gardens
National Tropical Botanical Garden
Alau Place, Hana, 96713
248-8912
No plant sales, discount on admittance fee

Kahului Library Courtyard
20 School Street, Kahului
873-3097

Kihei Garden & Landscape
Waiko Rd, Wailuku
244-3804

Kula Botanical Gardens
RR 4, Box 228, Kula, 96790
878-1715

Kula Forest Reserve
Access road at the end of Waipoli Road
984-8100 Maui District Forester, they have
maps of Maui's recreation areas

Maui Nui Botanical Gardens
Kanaloa Ave. across from stadium
249-2798

Native Hawaiian Tree Source
Makawao
572-6180

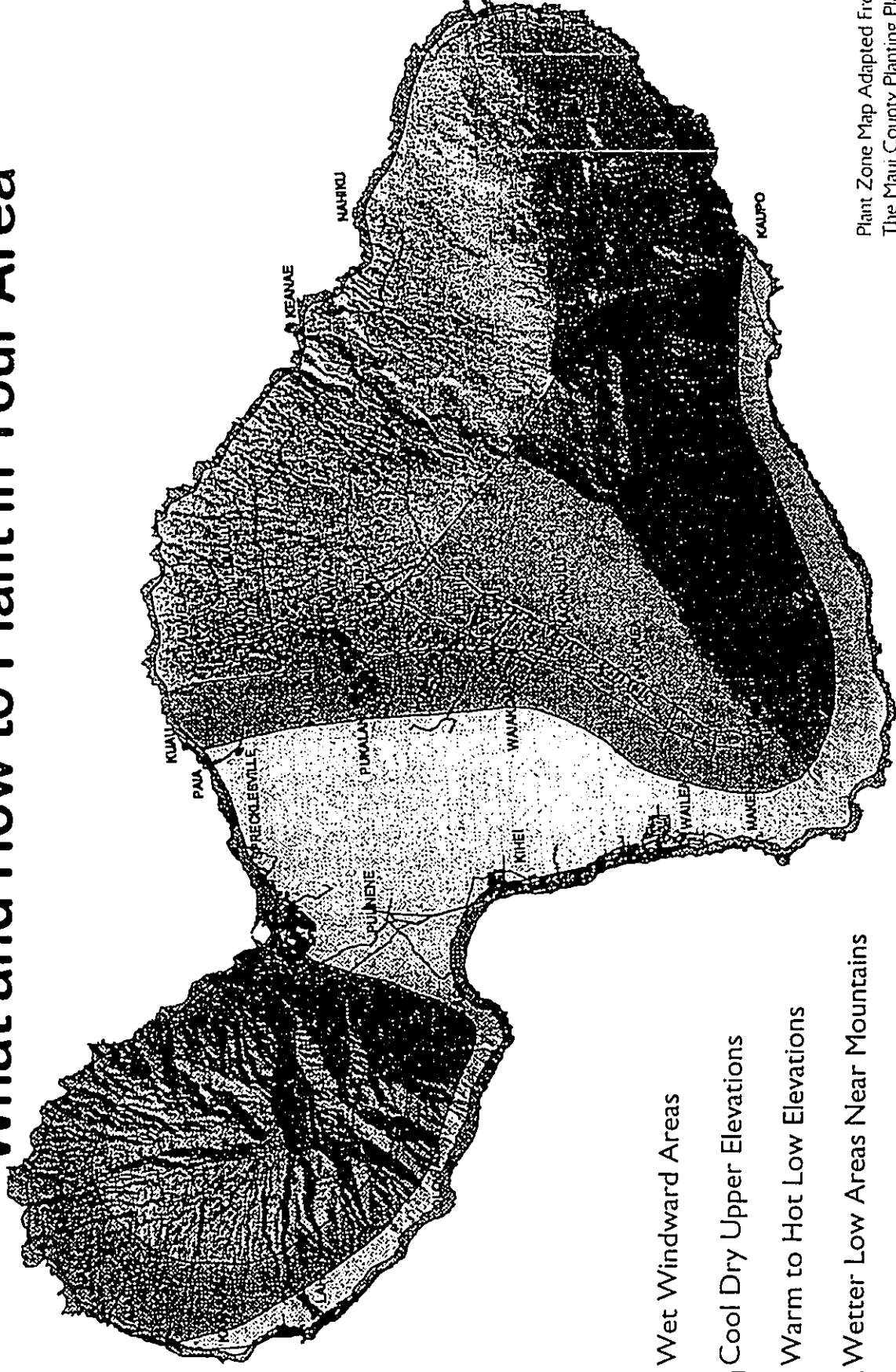
Wailea Point
Private condominium residence
4000 Wailea Alanui
Public access points at Four Seasons Resort
or Polo Beach
875-9557



Brought to you by the East Maui Watershed Partnership, Maui Invasive Species Committee and the County Dept. of Water Supply.

Saving Water in The Yard

What and How to Plant in Your Area



- 1 Wet Windward Areas
- 2 Cool Dry Upper Elevations
- 3 Warm to Hot Low Elevations
- 4 Wetter Low Areas Near Mountains
- 5 Windward Coastal Salt Spray Zones

Tips From The Maui County Department of Water Supply
By Water All Things Find Life

Plant Zone Map Adapted From
The Maui County Planting Plan

Zone-specific Native and Polynesian plants for Maui County

Zone 3

TYPE:	F	G	Gr	Gr	Sh	P	S	Tr	V
	Fern	Grass	Ground Cover	Shrub	Palm	Sedge	Tree	Vine	
Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.			
F	<i>Psilotum nudum</i>	moa, moa kula	1'	1'	sea to 3,000'	Dry to Wet			
G	<i>Colubrina asiatica</i>	'anapanapa	3'	10'	sea to 1,000'	Dry to Wet			
G	<i>Eragrostis monticola</i>	kalamalo	1'	2'	sea to 3,000'	Dry to Medium			
G	<i>Eragrostis variabilis</i>	'emo-loa	1'	2'	sea to 3,000'	Dry to Medium			
G	<i>Fimbristylis cymosa</i> ssp. <i>spathacea</i>	mau'u aki'aki fimbriatylis	0.5'	1'	sea to 1,000'	Dry to Medium			
Gr	<i>Boerhavia repens</i>	alena	0.5'	4'	sea to 1,000'	Dry to Medium			
Gr	<i>Chamaesyce celastroides</i> var. <i>laeniensis</i>	'akoko	2'	3'	sea to 1,000'	Dry to Medium			
Gr	<i>Cressa truxillensis</i>	cressa	0.5'	1'	sea to 1,000'	Dry to Medium			
Gr	<i>Heliotropium anomalum</i> var. <i>argenteum</i>	hinahina ku kahakai	1'	2'	sea to 1,000'	Dry to Medium			
Gr	<i>Ipomoea tuboides</i>	Hawaiian moon flower, 'uala	1'	10'	sea to 3,000'	Dry to Medium			
Gr	<i>Jacquemontia ovalifolia</i> ssp. <i>sandwicensis</i>	pa'u o hi'iaka	0.5'	8'	sea to 1,000'	Dry to Medium			
Gr	<i>Lipochaeta integrifolia</i>	nehe	1'	5'	sea to 1,00'	Dry to Medium			
Gr	<i>Peperomia leptostachya</i>	'ala'ala-wai-nu	1'	1'	sea to 3,000'	Dry to Medium			
Gr	<i>Plumbago zeylanica</i>	'ife'e	1'						
Gr	<i>Sesuvium portulacastrum</i>	'akulikuli, sea-purslane	0.5'	2'	sea to 1,000'	Dry to Wet			
Gr	<i>Sida fallax</i>	'ilima	0.5'	3'	sea to 1,000'	Dry to Medium			
Gr - Sh	<i>Tephrosia purpurea</i> var. <i>purpurea</i>	'auhuhu	2'	2'	sea to 1,000'	Dry to Medium			
Gr - Sh	<i>Hibiscus calyphyllus</i>	ma'o hau hele, Rock's hibiscus	3'	2'	sea to 3,000'	Dry to Medium			
Gr - Sh	<i>Lipochaeta rockii</i>	nehe	2'	2'	sea to 3,000'	Dry to Medium			
Gr - Sh	<i>Lipochaeta succulenta</i>	nehe	2'	5'	sea to 1,000'	Dry to Wet			
P	<i>Lycium sandwicense</i>	'ohelo-kai, 'ae'ae	2'	30'	sea to 1,000'	Dry to Medium			
P	<i>Cocos nucifera</i>	coconut, niu	100'	15'	sea to 1,000'	Dry to Wet			
S	<i>Pritchardia hillebrandii</i>	to'ulu, fan palm	25'	0.5'	sea to 1,000'	Dry to Medium			
S	<i>Mariscus javanicus</i>	marsh cypress, 'ahu'awa	0.5'	0.5'	sea to 1,000'	Dry to Medium			

Zone 3

Zone-specific Native and Polynesian plants for Maui County

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Sh	<i>Argemone glauca</i> var. <i>deciplena</i>	pua kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	<i>Bidens mauiensis</i>	ko'oko'olau	1'	3'	sea to 1,000'	Dry to Medium
Sh	<i>Bidens menziesii</i> ssp. <i>menziesii</i>	ko'oko'olau	1'	3'		
Sh	<i>Bidens micrantha</i> ssp. <i>micrantha</i>	ko'oko'olau	1'	3'		
Sh	<i>Chenopodium oahuense</i>	'ahaahaa, 'aweoweo	6'		sea to higher	Dry to Medium
Sh	<i>Dianella sandwicensis</i>	'uki	2'	2'	1,000' to higher	Dry to Medium
Sh	<i>Gossypium tomentosum</i>	mao, Hawaiian cotton	5'	8'	sea to 1,000'	Dry to Medium
Sh	<i>Hedyotis</i> spp.	au, pilo	3'	2'	1,000' to 3,000'	Dry to Wet
Sh	<i>Lipochaeta lavarum</i>	nehe	3'	3'	sea to 3,000'	Dry to Medium
Sh	<i>Osteomeles anthyllifolia</i>	'ulei, eluehe	4'	6'	sea to 3,000'	Dry to Medium
Sh	<i>Scaevola sericea</i>	naupaka, naupaka-kahakai	6'	8'	sea to 1,000'	Dry to Medium
Sh	<i>Senna gaudichaudii</i>	kolomana	5'	5'	sea to 3,000'	Dry to Medium
Sh	<i>Solanum nelsonii</i>	'akia, beach solanum	3'	3'	sea to 1,000'	Dry to Medium
Sh	<i>Styphelia tameiameia</i>	pukiawe	6'	6'	1,000' to higher	Dry to Medium
Sh	<i>Vitex rotundifolia</i>	pohinahina	3'	4'	sea to 1,000'	Dry to Medium
Sh	<i>Wikstroemia uva-ursi</i> <i>kauaiensis</i> <i>kauaiensis</i>	'akia, Molokai osmanthus				
Sh - Tr	<i>Broussonetia papyrifera</i>	wauke, paper mulberry	8'	6'	sea to 1,000'	Dry to Medium
Sh - Tr	<i>Myoporum sandwicense</i>	naio, false sandalwood	10'	10'	sea to higher	Dry to Medium
Sh - Tr	<i>Notofrichium sandwicense</i>	kulu'i	8'	8'	sea to 3,000'	Dry to Medium
Sh - Tr	<i>Dodonaea viscosa</i>	'a'ali'i	6'	8'	sea to higher	Dry to Medium
Tr	<i>Aleurites moluccana</i>	candlenut, kukui	50'	50'	sea to 3,000'	Medium to Wet
Tr	<i>Calophyllum inophyllum</i>	kamani, alexandrian laurel	60'	40'	sea to 3,000'	Medium to Wet
Tr	<i>Canthium odoratum</i>	Alahe'e, 'ohe'e, walahe'e	12'	8'	sea to 3,000'	Dry to Medium
Tr	<i>Cordia subcordata</i>	kou	30'	25'	sea to 1,000'	Dry to Wet
Tr	<i>Diospyros sandwicensis</i>	lama	12'	15'	sea to 3,000'	Dry to Medium
Tr	<i>Erythrina sandwicensis</i>	wilwili	20'	20'	sea to 1,000'	Dry
Tr	<i>Metrosideros polymorpha</i> var. <i>macrophylla</i>	ohi'a lehua	25'	25'	sea to 1,000'	Dry to Wet

Zone 3

Zone-specific Native and Polynesian plants for Maui County

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Tr	<i>Morinda citrifolia</i>	Indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet
Tr	<i>Nesoluma polynesianum</i>	keahi	15'	15'	sea to 3,00'	Dry
Tr	<i>Nestegis sandwicensis</i>	olopua	15'	15'	1,000' to 3,000'	Dry to Medium
Tr	<i>Pandanus tectorius</i>	hala, puhala (HALELIST)	35'	25'	sea to 1,000'	Dry to Wet
Tr	<i>Pisonia auwahiensis</i>	halapepe	20'			
Tr	<i>Rauvolfia sandwicensis</i>	haco	20'	15'	sea to 3,000'	Dry to Medium
Tr	<i>Reynoldsia sandwicensis</i>	'ohe makai	20'	20'	1,000' to 3,000'	Dry
Tr	<i>Santalum ellipticum</i>	coastal sandalwood, 'ili-ahi	8'	8'	sea to 3,000'	Dry to Medium
Tr	<i>Thespesia populnea</i>	milo	30'	30'	sea to 3,000'	Dry to Wet

DO NOT PLANT THESE PLANTS !!!

Common name	Scientific name	Plant family
black wattle	Acacia mearnsii	Mimosaceae
blackberry	Rubus argulus	Rosaceae
blue gum	Eucalyptus globulus	Myrtaceae
bocconia	Bocconia frutescens	Papaveraceae
broad-leaved cordia	Cordia alliodora	Boraginaceae
broomsedge, yellow bluestem	Andropogon virginicus	Poaceae
buffelgrass	Cenchrus ciliaris	Poaceae
butterfly bush, smoke bush	Buddleia madagascariensis	Buddleiaceae
cats claw, Mysore thorn, wait-a-bit	Caesalpinhia decapetala	Caesalpinjiaceae
common ironwood	Casuarina equisetifolia	Casuarinaceae
common velvet grass, Yorkshire fog	Holcus lanatus	Poaceae
tidlewood	Citharexylum spinosum	Verbenaceae
fire tree, faya tree	Myrica faya	Myricaceae
glorybower	Clerodendrum laponicum	Verbenaceae
hairy cat's ear, gosmore	Hypochoeris radicata	Asteraceae
haole koa	Leucaena leucocephala	Fabaceae
ivy gourd, scarlet-fruited gourd	Coccoloba grandis	Cucurbitaceae
juniper berry	Citharexylum caudatum	Verbenaceae
kahili flower	Grevillea banksii	Proteaceae
klu, popinac	Acacia farnesiana	Mimosaceae
logwood, bloodwood tree	Haematoxylon campechianum	Caesalpinjiaceae
loquat	Eriobotrya japonica	Rosaceae
meadow ricegrass	Ehrharta stipoides	Poaceae
melaleuca	Melaleuca quinquenervia	Myrtaceae
miconia velvet leaf	Miconia calvenscens	Melastomataceae
narrow-leaved carpetgrass	Axonopus fissifolius	Poaceae
oleaster	Elaeagnus umbellata	Elaeagnaceae
oriental mangrove	Bruguiera gymnorhiza	Rhizophoraceae
padang cassia	Cinnamomum burmannii	Lauraceae
palmgrass	Scleria palmifolia	Poaceae
pearl flower	Heterocentron subtripplinervium	Melastomataceae
quinine tree	Cinchona pubescens	Rubiaceae
sain leaf, calmitillo	Chrysophyllum oliviforme	Sapotaceae
silkwood, Queensland maple	Findleria brayleyana	Rubiaceae
silky oak, silver oak	Grevillea robusta	Proteaceae
strawberry guava	Psidium cattleianum	Myrtaceae
swamp oak, saltmarsh, longleaf ironwood	Casuarina glauca	Casuarinaceae
sweet vernalgrass	Anthoxanthum odoratum	Poaceae
tree of heaven	Allanthus altissima	Simarubaceae
trumpet tree, quarumo	Cecropia obtusifolia	Cecropiaceae
white ginger	Hedychium coronarium	Zingiberaceae
white moho	Heliconia popayanensis	Liliaceae
yellow ginger	Hedychium flavescens	Zingiberaceae

DO NOT PLANT THESE PLANTS !!!

Common name	Scientific name	Plant family
	<i>Jasminum fluminense</i>	Oleaceae
	<i>Arthrosteima cilialum</i>	Melastomataceae
	<i>Diosotis rotundifolia</i>	Melastomataceae
	<i>Erigeron karvinskianus</i>	Asteraceae
	<i>Eucalyptus robusta</i>	Myrtaceae
	<i>Hedychium gardnerianum</i>	Zingiberaceae
	<i>Juncus planifolius</i>	Juncaceae
	<i>Lophosiemon confertus</i>	Myrtaceae
	<i>Medinilla cumingii</i>	Melastomataceae
	<i>Medinilla magnifica</i>	Melastomataceae
	<i>Medinilla venosa</i>	Melastomataceae
	<i>Melastoma candidum</i>	Melastomataceae
	<i>Melinis minutiflora</i>	Poaceae
	<i>Olea europaea</i>	Melastomataceae
	<i>Oxyspora paniculata</i>	Poaceae
	<i>Panicum maximum</i>	Poaceae
	<i>Paspalum urvillei</i>	Poaceae
	<i>Passiflora edulis</i>	Passifloraceae
	<i>Phormium tenax</i>	Agavaceae
	<i>Pinus taeda</i>	Pinaceae
	<i>Prosopis pallida</i>	Fabaceae
	<i>Pterolepis glomerata</i>	Melastomataceae
	<i>Rhodomerytus tomentosus</i>	Myrtaceae
	<i>Schefflera actinophylla</i>	Araliaceae
	<i>Syzygium jambos</i>	Myrtaceae
Australian blackwood	<i>Acacia melanoxylon</i>	Mimosaceae
Australian tree fern	<i>Cyathea cooperi</i>	Cyatheaceae
Australian tree fern	<i>Sphaeropteris cooperi</i>	Cyatheaceae
Beggar's tick, Spanish needle	<i>Bidens pilosa</i>	Asteraceae
California grass	<i>Brachiaria mutica</i>	Poaceae
Chinese banyon, Maylayan banyon	<i>Ficus microcarpa</i>	Moraceae
Chinese violet	<i>Asystasia gangetica</i>	Anacardiaceae
Christmasberry, Brazilian pepper	<i>Schinus terebinthifolius</i>	Mimosaceae
Formosan koa	<i>Acacia confusa</i>	Asteraceae
German ivy	<i>Senecio mikanoides</i>	Caprifoliaceae
Japanese honeysuckle	<i>Lonicera japonica</i>	Melastomataceae
Koster's curse	<i>Cleidemia hirta</i>	Verbenaceae
Lantana	<i>Lantana camara</i>	Agavaceae
Mauntius hemp	<i>Furcraea foetida</i>	Oleaceae
Mexican ash, tropical ash	<i>Fraxinus uhdei</i>	Papaveraceae
Mexican tulip poppy	<i>Hunnemannia fumarifolia</i>	Marattiaceae
Mules fool, Madagascar tree fern	<i>Angiopteris evecta</i>	Corynocarpaceae
New Zealand laurel, karakaramut	<i>Corynocarpus laevigatus</i>	Myrtaceae
New Zealand tea	<i>Leptospermum scoparium</i>	Poaceae
Pampas grass	<i>Cortaderia jubata</i>	Moraceae
Panama rubber tree, Mexican rubber tree	<i>Castilleja elastica</i>	Myrtaceae
Shoebuifon ardisia	<i>Ardisia elliptica</i>	Myrtaceae
banana poka	<i>Passiflora mollissima</i>	Passifloraceae

Selection

As a general rule, it is best to select the largest and healthiest specimens. However, be sure to note that they are not pot-bound. Smaller, younger plants may result in a low rate of plant survival.¹ When selecting native species, consider the site they are to be planted in, and the space that you have to plant. For example: Mountain species such as koa and maile will not grow well in hot coastal areas exposed to strong ocean breezes. Lowland and coastal species such as wiliwili and Kou require abundant sunshine and porous soil. They will not grow well with frequent cloud cover, high rainfall and heavy soil.

Consider too, the size that the species will grow to be. It is not wise to plant trees that will grow too large.² Overplanting tends to be a big problem in the landscape due to the underestimation of a species' height, width or spread.

A large, dense canopied tree such as the kukui is a good shade tree for a lawn. However, its canopy size and density of shade will limit what can be planted in the surrounding area. Shade cast by a koa and ohia lehua is relatively light and will not inhibit growth beneath it.

Keep seasons in mind when you are selecting your plants. Not all plants look good year round, some plants such as ilima will look scraggly after they have flowered and formed seeds. Avoid planting large areas with only one native plant. Mixing plants which naturally grow together will ensure the garden will look good all year round.³ Looking at natural habitats helps to show how plants grow naturally in the landscape.

When planting an area with a mixed-ecosystem, keep in mind the size and ecological requirements of each plant. Start with the hardiest and most easily grown species, but allow space for fragile ones in subsequent plantings.

Acquiring natives

Plants in their wild habitat must be protected and maintained. It is best and easiest to get your plants from nurseries (see list), or friend's gardens. Obtain proper permits from landowners and make sure you follow a few common sense rules:

- ▶ collect sparingly from each plant or area.
- ▶ some plants are on the state or Federal Endangered Species list. Make sure you get permits (see app. A,B)

¹ K. Nagata, P.6

² K. Nagata, P.9

³ Nagata, P.9

Automatic sprinkler systems are expensive to install and must be checked and adjusted regularly. Above-ground systems allow you to monitor how much water is being put out, but you lose a lot due to malfunctioning of sprinkler heads and wind. The most efficient way to save water and make sure your plants get enough water, is to hand-water. This way you are getting our precious water to the right places in the right amounts.⁷

Fertilizer

An all-purpose fertilizer 10-10-10 is adequate for most species. They should be applied at planting time, 3 months later, and 6 months thereafter. Use half the dosage recommended for ornamentals and pay special attention to native ferns which are sensitive to strong fertilizers. Use of organic composts and aged animal manures is suggested instead of chemical fertilizers. In addition, use of cinders for providing trace minerals is strongly recommended.⁸

Natives are plants which were here hundreds of years before the polynesians inhabited the Hawaiian Islands. They were brought here by birds, or survived the harsh ocean conditions to float here. They are well-adapted to Hawaii's varying soil and environmental conditions. This is why they make prime specimens for a xeriscape garden. However, natives will not thrive on their own, especially under harsh conditions. On the other hand, like any other plant, if you over-water and over-fertilize them, they will die. Follow the instructions given to you by the nursery you buy the plant from, or from this booklet. Better yet, buy a book (suggested readings can be found in the bibliography in the back of this pamphlet), read it, and learn more about native plants. I guarantee that you will be pleased with the results.

⁷ Bornhorst, p. 19-20

⁸ Nagata, p. 6

coarse compost. Place some slow-release fertilizer at the bottom of the hole.

3. Carefully remove the plant from the container and place it in the hole.

The top of the soil should be at the same level as the top of the hole, if it is too high or too low, adjust the soil level so that the plant is at the right depth.

4. Water thoroughly after you transplant.

Mulch

Most natives cannot compete with weeds, and therefore must be weeded around constantly in order to thrive. Mulch is a practical alternative, which discourages and prevents weeds from growing.

Hawaii's hot, humid climate leads to the breaking down of organic mulches. Thick organic mulches such as wood chips and leaves, may also be hiding places for pests.

Stone mulches are attractive, permanent and can help to improve soil quality. Red or black cinder, blue rock chips, smooth river rocks and coral chips are some natural choices.¹⁰ Macadamia nut hulls are also easy to find and can make a nice mulch.¹¹

Never pile up mulch right next to the stem or trunk of a plant, keep it a few inches away.

¹⁰ Bornhorst, p. 24

¹¹ Nagata, p. 7

PLACES TO SEE NATIVES ON:

The following places propagate native Hawaiian plants from seeds and/or cuttings. Their purpose is to protect and preserve these native plants. Please contact them before going to view the sites, they can provide valuable information and referral to other sources.

Maui:

1. Hoolawa Farms, P.O. Box 731, Haiku, Hawaii, 96708 572-4835
2. The Hawaiian Collection, 1127 Manu St., Kula, Hawaii, 96790 878-1701
3. Kula Botanical Gardens, RR 4, Box 228, Kula, Hawaii, 96790 878-1715
4. Maui Botanical Gardens, Kanaloa Avenue across from stadium 243-7337
5. Kula Forest Reserve, access road at the end of Waipouli Rd.
Call the Maui District Forester 984-8100
6. Wailea Point, Private Condominium residence, 4000 Wailea Alanui,
public access points at Four Seasons Resort or Polo Beach 875-9557
7. Kahanu Gardens, National Tropical Botanical Garden,
Alau Pl, Hana, Hawaii, 96713 248-8912
9. Kahului Library Courtyard, 20 School Street, Kahului, Hawaii 873-3097

ORDINANCE NO. 2108

BILL NO. 6 (1992)

Draft 1

A BILL FOR AN ORDINANCE AMENDING
CHAPTER 16.20 OF THE MAUI COUNTY
CODE, PERTAINING TO THE PLUMBING CODE

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. Title 16 of the Maui County Code is amended by adding a new section to Chapter 10 of the Uniform Plumbing Code to be designated and to read as follows:

"16.20.675 Section 1050 added. Chapter 10 of the Uniform Plumbing Code is amended by adding a new section, pertaining to low-flow water fixtures and devices, to be designated and to read as follows:

Sec. 1050 Low-flow water fixtures and devices. (a) This section establishes maximum rates of water flow or discharge for plumbing fixtures and devices in order to promote water conservation.

(b) For the plumbing fixtures and devices covered in this section, manufacturers or their local distributors shall provide proof of compliance with the performance requirements established by the American National Standards Institute (ANSI) and such other proof as may be required by the director of public works. There shall be no charge for this registration process.

(c) Effective December 31, 1992, only plumbing fixtures and devices specified in this section shall be offered for sale or installed in the County of Maui, unless otherwise indicated in this section. All plumbing fixtures and devices which were installed before December 31, 1992, shall be allowed to be used, repaired or replaced after December 31, 1992.

(1) Faucets (kitchen): All kitchen and bar sink faucets shall be designed, manufactured, installed or equipped with a flow control device or aerator which will prevent a water flow rate in excess of two and two-tenths gallons per minute at sixty pounds per square inch of water pressure.

(2) Faucets (lavatory): All lavatory faucets shall be designed, manufactured, installed or equipped with a flow control device or aerator which will prevent a water flow rate in excess of two and two tenths gallons per minute at sixty pounds per square inch of water

pressure.

(3) Faucets (public rest rooms): In addition to the lavatory requirements set forth in paragraph (2), lavatory faucets located in rest rooms intended for use by the general public shall be of the metering or self-closing types.

(4) Hose bibbs: Water supply faucets or valves shall be provided with approved flow control devices which limit flow to a maximum three gallons per minute.

EXCEPTIONS: (A) Hose bibbs or valves not used for fixtures or equipment designated by the director of public works.

(B) Hose bibbs, faucets, or valves serving fixed demand, timing, or water level control appliances, and equipment or holding structures such as water closets, pools, automatic washers, and other similar equipment.

(5) Showerheads: Showerheads, except where provided for safety or emergency reasons, shall be designed, manufactured, or installed with a flow limitation device which will prevent a water flow rate in excess of two and one-half gallons per minute at eighty pounds per square inch of water pressure. The flow limitation device must be a permanent and integral part of the showerhead and must not be removable to allow flow rates in excess of two and one-half gallons per minute or must be mechanically retained requiring force in excess of eight pounds to remove.

(6) Urinals: Urinals shall be designed, manufactured, or installed so that the maximum flush will not exceed one gallon of water. Adjustable type flushometer valves may be used provided they are adjusted so the maximum flush will not exceed one and six tenths gallons of water.

(7) Water closets (toilets): Water closets shall be designed, manufactured, or installed so that the maximum flush will not exceed one and six tenths gallons of water.

(d) Beginning December 31st, 1992, it is unlawful to sell or install any plumbing fixtures or devices not specified in this section, except as permitted under this section.


(e) The director of public works may exempt the use of low-flow water fixtures and devices if there is a finding that the use of such fixtures and devices would not be consistent with accepted engineering practices and would be detrimental to the public health, safety and welfare.

(f) Any person violating this section shall be fined \$250 for each violation and shall correct all instances of non-compliance for which a citation is issued. Violation of this section shall constitute a violation as defined in section 701-107 Hawaii Revised Statutes and shall be enforceable by employees of the department of public works. The foregoing fine may also be imposed in a civil administrative proceeding pursuant to Rules and Regulations adopted by the department of public works in accordance with chapter 91 Hawaii Revised Statutes."

SECTION 2. New material is underscored. In printing this bill, the County Clerk need not include the underscoring.

SECTION 3. This ordinance shall take effect upon its approval.

APPROVED AS TO FORM
AND LEGALITY:



HOWARD M. FUKUSHIMA
Deputy Corporation Counsel
County of Maui
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WE HEREBY CERTIFY that the foregoing BILL NO. 6 (19 92), Draft 1

1. Passed FINAL READING at the meeting of the Council of the County of Maui, State of Hawaii, held on the 1st day of May, 1992, by the following votes:

Howard S. KIHUNE Chair	Patrick S. KAWANO Vice-Chair	Vince G. BAGOYO, Jr.	Goro HOKAMA	Alice L. LEE	Ricardo MEDINA	Wayne K. NISHIKI	Joe S. TANAKA	Lainala TERUYA DRUMMOND
Aye	Aye	Excused	Excused	Aye	Aye	Aye	Aye	Aye

2. Was transmitted to the Mayor of the County of Maui, State of Hawaii, on the 1st day of May, 1992.

DATED AT WAILUKU, MAUI, HAWAII, this 1st day of May, 1992.



HOWARD S. KIHUNE, CHAIR
Council of the County of Maui



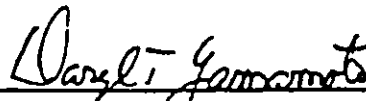
DARYL T. YAMAMOTO, COUNTY CLERK
County of Maui

THE FOREGOING BILL IS HEREBY APPROVED THIS 5th DAY OF MAY, 1992.



LINDA CROCKETT LINGLE, MAYOR
County of Maui

I HEREBY CERTIFY that upon approval of the foregoing BILL by the Mayor of the County of Maui, the said BILL was designated as ORDINANCE NO. 2108 of the County of Maui, State of Hawaii.



DARYL T. YAMAMOTO, COUNTY CLERK
County of Maui

Passed First Reading on January 17, 1992.

Effective date of Ordinance May 5, 1992.

I HEREBY CERTIFY that the foregoing is a true and correct copy of Ordinance No. 2108, the original of which is on file in the Office of the County Clerk, County of Maui, State of Hawaii.

Dated at Wailuku, Hawaii, on

County Clerk, County of Maui

United States
Environmental Protection
Agency

Office of Water
Washington, DC 20460

840-B-92-UJZ
January 1993



Guidance Specifying Management Measures For Sources Of Nonpoint Pollution In Coastal Waters

Issued Under the Authority of
Section 6217(g) of the Coastal Zone Act
Reauthorization Amendments of 1990

III. CONSTRUCTION ACTIVITIES

A. Construction Site Erosion and Sediment Control Management Measure

- (1) Reduce erosion and, to the extent practicable, retain sediment onsite during and after construction, and
- (2) Prior to land disturbance, prepare and implement an approved erosion and sediment control plan or similar administrative document that contains erosion and sediment control provisions.

1. Applicability

This management measure is intended to be applied by States to all construction activities on sites less than 5 acres in areas that do not have an NPDES permit³ in order to control erosion and sediment loss from those sites. This management measure does not apply to: (1) construction of a detached single family home on a site of 1/2 acre or more or (2) construction that does not disturb over 5,000 square feet of land on a site. (NOTE: All construction activities, including clearing, grading, and excavation, that result in the disturbance of areas greater than or equal to 5 acres or are a part of a larger development plan are covered by the NPDES regulations and are thus excluded from these requirements.) Under the Coastal Zone Act Reauthorization Amendments of 1990, States are subject to a number of requirements as they develop coastal NPS programs in conformity with this management measure and will have flexibility in doing so. The application of management measures by States is described more fully in *Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance*, published jointly by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce.

2. Description

The goal of this management measure is to reduce the sediment loadings from construction sites in coastal areas that enter surface waterbodies. This measure requires that coastal States establish new or enhance existing State erosion and sediment control (ESC) programs and/or require ESC programs at the local level. It is intended to be part of a comprehensive land use or watershed management program, as previously detailed in the Watershed and Site Development Management Measures. It is expected that State and local programs will establish criteria determined by local conditions (e.g., soil types, climate, meteorology) that reduce erosion and sediment transport from construction sites.

Runoff from construction sites is by far the largest source of sediment in urban areas under development (York County Soil and Water Conservation District, 1990). Soil erosion removes over 90 percent of sediment by tonnage in urbanizing areas where most construction activities occur (Canning, 1988). Table 4-14 illustrates some of the

³ On May 27, 1992, the United States Court of Appeals for the Ninth Circuit invalidated EPA's exemption of construction sites smaller than 5 acres from the storm water permit program in *Natural Resources Defense Council v. EPA*, 965 F.2d 759 (9th Cir. 1992). EPA is conducting further rulemaking proceedings on this issue and will not require permit applications for construction activities under 5 acres until further rulemaking has been completed.

measured sediment loading rates associated with construction activities found across the United States. As seen in Table 4-14, erosion rates from natural areas such as undisturbed forested lands are typically less than one ton/acre/year, while erosion from construction sites ranges from 7.2 to over 1,000 tons/acre/year.

Table 4-14. Erosion and Sediment Problems Associated With Construction

Location	Problem	Reference
United States	Sediment loading rates vary from 36.5 to 1,000 ton/ac/yr. These are 5 to 500 times greater than those from undeveloped land. Approximately 600 million tons of soil erodes from developed sites each year. Construction site sediment in runoff can be 10 to 20 times greater than that from agricultural lands.	York County Soil and Water Conservation District, 1990
Franklin County, FL	Sediment yield (ton/ac/yr): forest < 0.5 rangeland < 0.5 tilled 1.4 construction site 30 established urban < 0.5	Franklin County, FL
Wisconsin	Erosion rates range from 30 to 200 ton/ac/yr (10 to 20 times those of cropland).	Wisconsin Legislative Council, 1991
Washington, DC	Erosion rates range from 35 to 45 ton/ac/yr (10 to 100 times greater than agriculture and stabilized urban land uses).	MWCOG, 1987
Anacostia River Basin, VA, MD, DC	Sediment yields from portions of the Anacostia Basin have been estimated at 75,000 to 132,000 ton/yr.	U.S. Army Corps of Engineers, 1990
Washington	Erosion rates range from 50 to 500 ton/ac/yr. Natural erosion rates from forests or well-sodded prairies are 0.01 to 1.0 ton/ac/yr.	Washington Department of Ecology, 1989
Anacostia River Basin, VA, MD, DC	Erosion rates range from 7.2 to 100.8 ton/ac/yr.	USGS, 1978
Alabama North Carolina Louisiana Oklahoma Georgia Texas Tennessee Pennsylvania Ohio Kentucky	1.4 million tons eroded per year. 6.7 million tons eroded per year. 5.1 million tons eroded per year. 4.2 million tons eroded per year. 3.8 million tons eroded per year. 3.5 million tons eroded per year. 3.3 million tons eroded per year. 3.1 million tons eroded per year. 3.0 million tons eroded per year. 3.0 million tons eroded per year.	Woodward-Clyde, 1991

Eroded sediment from construction sites creates many problems in coastal areas including adverse impacts on water quality, critical habitats, submerged aquatic vegetation (SAV) beds, recreational activities, and navigation (APWA, 1991). For example, the Miami River in Florida has been severely affected by pollution associated with upland erosion. This watershed has undergone extensive urbanization, which has included the construction of many commercial and residential buildings over the past 50 years. Sediment deposited in the Miami River channel contributes to the severe water quality and navigation problems of this once-thriving waterway, as well as Biscayne Bay (SFWMD, 1988).

ESC plans are important for controlling the adverse impacts of construction and land development and have been required by many State and local governments, as shown in Table 4-13 (in the Site Development section of this chapter). An ESC plan is a document that explains and illustrates the measures to be taken to control erosion and sediment problems on construction sites (Connecticut Council on Soil and Water Conservation, 1988). It is intended that existing State and local erosion and sediment control plans may be used to fulfill the requirements of this management measure. Where existing ESC plans do not meet the management measure criteria, inadequate plans may be enhanced to meet the management measure guidelines.

Typically, an ESC plan is part of a larger site plan and includes the following elements:

- Description of predominant soil types;
- Details of site grading including existing and proposed contours;
- Design details and locations for structural controls;
- Provisions to preserve topsoil and limit disturbance;
- Details of temporary and permanent stabilization measures; and
- Description of the sequence of construction.

ESC plans ensure that provisions for control measures are incorporated into the site planning stage of development and provide for the reduction of erosion and sediment problems and accountability if a problem occurs (York County Soil and Water Conservation District, 1990). An effective plan for urban runoff management on construction sites will control erosion, retain sediments on site, to the extent practicable, and reduce the adverse effects of runoff. Climate, topography, soils, drainage patterns, and vegetation will affect how erosion and sediment should be controlled on a site (Washington State Department of Ecology, 1989). An effective ESC plan includes both structural and nonstructural controls. Nonstructural controls address erosion control by decreasing erosion potential, whereas structural controls are both preventive and mitigative because they control both erosion and sediment movement.

Typical nonstructural erosion controls include (APWA, 1991; York County Soil and Water Conservation District, 1990):

- Planning and designing the development within the natural constraints of the site;
- Minimizing the area of bare soil exposed at one time (phased grading);
- Providing for stream crossing areas for natural and man-made areas; and
- Stabilizing cut-and-fill slopes caused by construction activities.

Structural controls include:

- Perimeter controls;
- Mulching and seeding exposed areas;
- Sediment basins and traps; and
- Filter fabric, or silt fences.

Some erosion and soil loss are unavoidable during land-disturbing activities. While proper siting and design will help prevent areas prone to erosion from being developed, construction activities will invariably produce conditions where erosion may occur. To reduce the adverse impacts associated with construction, the construction management measure suggests a system of nonstructural and structural erosion and sediment controls for incorporation into an

ESC plan. Erosion controls have distinct advantages over sediment controls. Erosion controls reduce the amount of sediment transported off-site, thereby reducing the need for sediment controls. When erosion controls are used in conjunction with sediment controls, the size of the sediment control structures and associated maintenance may be reduced, decreasing the overall treatment costs (SWRPC, 1991).

3. Management Measure Selection

This management measure was selected to minimize sediment being transported outside the perimeter of a construction site through two broad performance goals: (1) reduce erosion and (2) retain sediment onsite, to the extent practicable. These performance goals were chosen to allow States and local governments flexibility in specifying practices appropriate for local conditions.

While several commentors responding to the draft (May 1991) guidance expressed the need to define "more measurable, enforceable ways" to control sediment loadings, other commentors stressed the need to draft management measures that do not conflict with existing State programs and allow States and local governments to determine appropriate practices and design standards for their communities. These management measures were selected because virtually all coastal States control construction activities to prevent erosion and sediment loss.

The measures were specifically written for the following reasons:

- (1) Predevelopment loadings may vary greatly, and some sediment loss is usually inevitable;
- (2) Current practice is built on the use of systems of practices selected based on site-specific conditions; and
- (3) The combined effectiveness of erosion and sediment controls in systems is not easily quantified.

4. Erosion Control Practices

As discussed more fully at the beginning of this chapter and in Chapter 1, the following practices are described for illustrative purposes only. State programs need not require implementation of these practices. However, as a practical matter, EPA anticipates that the management measure set forth above generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices set forth below have been found by EPA to be representative of the types of practices that can be applied successfully to achieve the management measure described above.

Erosion controls are used to reduce the amount of sediment that is detached during construction and to prevent sediment from entering runoff. Erosion control is based on two main concepts: (1) disturb the smallest area of land possible for the shortest period of time, and (2) stabilize disturbed soils to prevent erosion from occurring.

a. *Schedule projects so clearing and grading are done during the time of minimum erosion potential.*

Often a project can be scheduled during the time of year that the erosion potential of the site is relatively low. In many parts of the country, there is a certain period of the year when erosion potential is relatively low and construction scheduling could be very effective. For example, in the Pacific region if construction can be completed during the 6-month dry season (May 1 - October 31), temporary erosion and sediment controls may not be needed. In addition, in some parts of the country erosion potential is very high during certain parts of the year such as the spring thaw in northern areas. During this time of year, melting snowfall generates a constant runoff that can erode soil. In addition, construction vehicles can easily turn the soft, wet ground into mud, which is more easily washed offsite. Therefore, in the north, limitations should be placed on grading during the spring thaw (Goldman et al., 1986).

■ b. Stage construction.

Avoid areawide clearance of construction sites. Plan and stage land disturbance activities so that only the area currently under construction is exposed. As soon as the grading and construction in an area are complete, the area should be stabilized.

By clearing only those areas immediately essential for completing site construction, buffer zones are preserved and soil remains undisturbed until construction begins. Physical markers, such as tape, signs, or barriers, indicating the limits of land disturbance, can ensure that equipment operators know the proposed limits of clearing. The area of the watershed that is exposed to construction is important for determining the net amount of erosion. Reducing the extent of the disturbed area will ultimately reduce sediment loads to surface waters. Existing or newly planted vegetation that has been planted to stabilize disturbed areas should be protected by routing construction traffic around and protecting natural vegetation with fencing, tree armoring, retaining walls, or tree wells.

■ c. Clear only areas essential for construction.

Often areas of a construction site are unnecessarily cleared. Only those areas essential for completing construction activities should be cleared, and other areas should remain undisturbed. Additionally, the proposed limits of land disturbance should be physically marked off to ensure that only the required land area is cleared. Avoid disturbing vegetation on steep slopes or other critical areas.

■ d. Locate potential nonpoint pollutant sources away from steep slopes, waterbodies, and critical areas.

Material stockpiles, borrow areas, access roads, and other land-disturbing activities can often be located away from critical areas such as steep slopes, highly erodible soils, and areas that drain directly into sensitive waterbodies.

■ e. Route construction traffic to avoid existing or newly planted vegetation.

Where possible, construction traffic should travel over areas that must be disturbed for other construction activity. This practice will reduce the area that is cleared and susceptible to erosion.

■ f. Protect natural vegetation with fencing, tree armoring, and retaining walls or tree wells.

Tree armoring protects tree trunks from being damaged by construction equipment. Fencing can also protect tree trunks, but should be placed at the tree's drip line so that construction equipment is kept away from the tree. The tree drip line is the minimum area around a tree in which the tree's root system should not be disturbed by cut, fill, or soil compaction caused by heavy equipment. When cutting or filling must be done near a tree, a retaining wall or tree well should be used to minimize the cutting of the tree's roots or the quantity of fill placed over the tree's roots.

■ g. Stockpile topsoil and reapply to revegetate site.

Because of the high organic content of topsoil, it cannot be used as fill material or under pavement. After a site is cleared, the topsoil is typically removed. Since topsoil is essential to establish new vegetation, it should be stockpiled and then reapplied to the site for revegetation, if appropriate. Although topsoil salvaged from the existing site can often be used, it must meet certain standards and topsoil may need to be imported onto the site if the existing topsoil is not adequate for establishing new vegetation.

■ h. *Cover or stabilize topsoil stockpiles.*

Unprotected stockpiles are very prone to erosion and therefore stockpiles must be protected. Small stockpiles can be covered with a tarp to prevent erosion. Large stockpiles should be stabilized by erosion blankets, seeding, and/or mulching.

■ i. *Use wind erosion controls.*

Wind erosion controls limit the movement of dust from disturbed soil surfaces and include many different practices. Wind barriers block air currents and are effective in controlling soil blowing. Many different materials can be used as wind barriers, including solid board fence, snow fences, and bales of hay. Sprinkling moistens the soil surface with water and must be repeated as needed to be effective for preventing wind erosion (Delaware DNREC, 1989); however, applications must be monitored to prevent excessive runoff and erosion.

■ j. *Intercept runoff above disturbed slopes and convey it to a permanent channel or storm drain.*

Earth dikes, perimeter dikes or swales, or diversions can be used to intercept and convey runoff above disturbed areas. An earth dike is a temporary berm or ridge of compacted soil that channels water to a desired location. A perimeter dike/swale or diversion is a swale with a supporting ridge on the lower side that is constructed from the soil excavated from the adjoining swale (Delaware DNREC, 1989). These practices should be used to intercept flow from denuded areas or newly seeded areas to keep the disturbed areas from being eroded from the uphill runoff. The structures should be stabilized within 14 days of installation. A pipe slope drain, also known as a pipe drop structure, is a temporary pipe placed from the top of a slope to the bottom of the slope to convey concentrated runoff down the slope without causing erosion (Delaware DNREC, 1989).

■ k. *On long or steep, disturbed, or man-made slopes, construct benches, terraces, or ditches at regular intervals to intercept runoff.*

Benches, terraces, or ditches break up a slope by providing areas of low slope in the reverse direction. This keeps water from proceeding down the slope at increasing volume and velocity. Instead, the flow is directed to a suitable outlet, such as a sediment basin or trap. The frequency of benches, terraces, or ditches will depend on the erodibility of the soils, steepness and length of the slope, and rock outcrops. This practice should be used if there is a potential for erosion along the slope.

■ l. *Use retaining walls.*

Often retaining walls can be used to decrease the steepness of a slope. If the steepness of a slope is reduced, the runoff velocity is decreased and, therefore, the erosion potential is decreased.

■ m. *Provide linings for urban runoff conveyance channels.*

Often construction increases the velocity and volume of runoff, which causes erosion in newly constructed or existing urban runoff conveyance channels. If the runoff during or after construction will cause erosion in a channel, the channel should be lined or flow control BMPs installed. The first choice of lining should be grass or sod since this reduces runoff velocities and provides water quality benefits through filtration and infiltration. If the velocity in the channel would erode the grass or sod, then riprap, concrete, or gabions can be used.

■ n. *Use check dams.*

Check dams are small, temporary dams constructed across a swale or channel. They can be constructed using gravel or straw bales. They are used to reduce the velocity of concentrated flow and, therefore, to reduce the erosion in

swale or channel. Check dams should be used when a swale or channel will be used for a short time and therefore it is not feasible or practical to line the channel or implement flow control BMPs (Delaware DNREC, 1989).

o. *Seed and fertilize.*

Seeding establishes a vegetative cover on disturbed areas. Seeding is very effective in controlling soil erosion once a dense vegetative cover has been established. However, often seeding and fertilizing do not produce as thick a vegetative cover as do seed and mulch or netting. Newly established vegetation does not have as extensive a root system as existing vegetation and therefore is more prone to erosion, especially on steep slopes. Care should be taken when fertilizing to avoid untimely or excessive application. Since the practice of seeding and fertilizing does not provide any protection during the time of vegetative establishment, it should be used only on favorable soils in very flat areas and not in sensitive areas.

p. *Use seeding and mulch/mats.*

Seeding establishes a vegetative cover on disturbed areas. Seeding is very effective in controlling soil erosion once the vegetative cover has been established. The mulching/mats protect the disturbed area while the vegetation becomes established.

The management of land by using ground cover reduces erosion by reducing the flow rate of runoff and the raindrop impact. Bare soils should be seeded or otherwise stabilized within 15 calendar days after final grading. Denuded areas that are inactive and will be exposed to rain for 30 days or more should also be temporarily stabilized, usually by planting seeds and establishing vegetation during favorable seasons in areas where vegetation can be established. In very flat, non-sensitive areas with favorable soils, stabilization may involve simply seeding and fertilizing. Mulching and/or sodding may be necessary as slopes become moderate to steep, as soils become more erosive, and as areas become more sensitive.

q. *Use mulch/mats.*

Mulching involves applying plant residues or other suitable materials on disturbed soil surfaces. Mulchs/mats used include tacked straw, wood chips, and jute netting and are often covered by blankets or netting. Mulching alone should be used only for temporary protection of the soil surface or when permanent seeding is not feasible. The useful life of mulch varies with the material used and the amount of precipitation, but is approximately 2 to 6 months. Figure 4-5 shows water velocity reductions that could be expected using various mulching techniques. Similarly, Figure 4-6 shows reductions in soil loss achievable using various mulching techniques. During times of year when vegetation cannot be established, soil mulching should be applied to moderate slopes and soils that are not highly erodible. On steep slopes or highly erodible soils, multiple mulching treatments should be used. On a high-elevation or desert site where grasses cannot survive the harsh environment, native shrubs may be planted. Interlocking ceramic materials, filter fabric, and netting are available for this purpose. Before stabilizing an area, it is important to have installed all sediment controls and diverted runoff away from the area to be planted. Runoff may be diverted away from denuded areas or newly planted areas using dikes, swales, or pipe slope drains to intercept runoff and convey it to a permanent channel or storm drain. Reserved topsoil may be used to revegetate a site if the stockpile has been covered and stabilized.

Consideration should be given to maintenance when designing mulching and matting schemes. Plastic nets are often used to cover the mulch or mats; however, they can foul lawn mower blades if the area requires mowing.

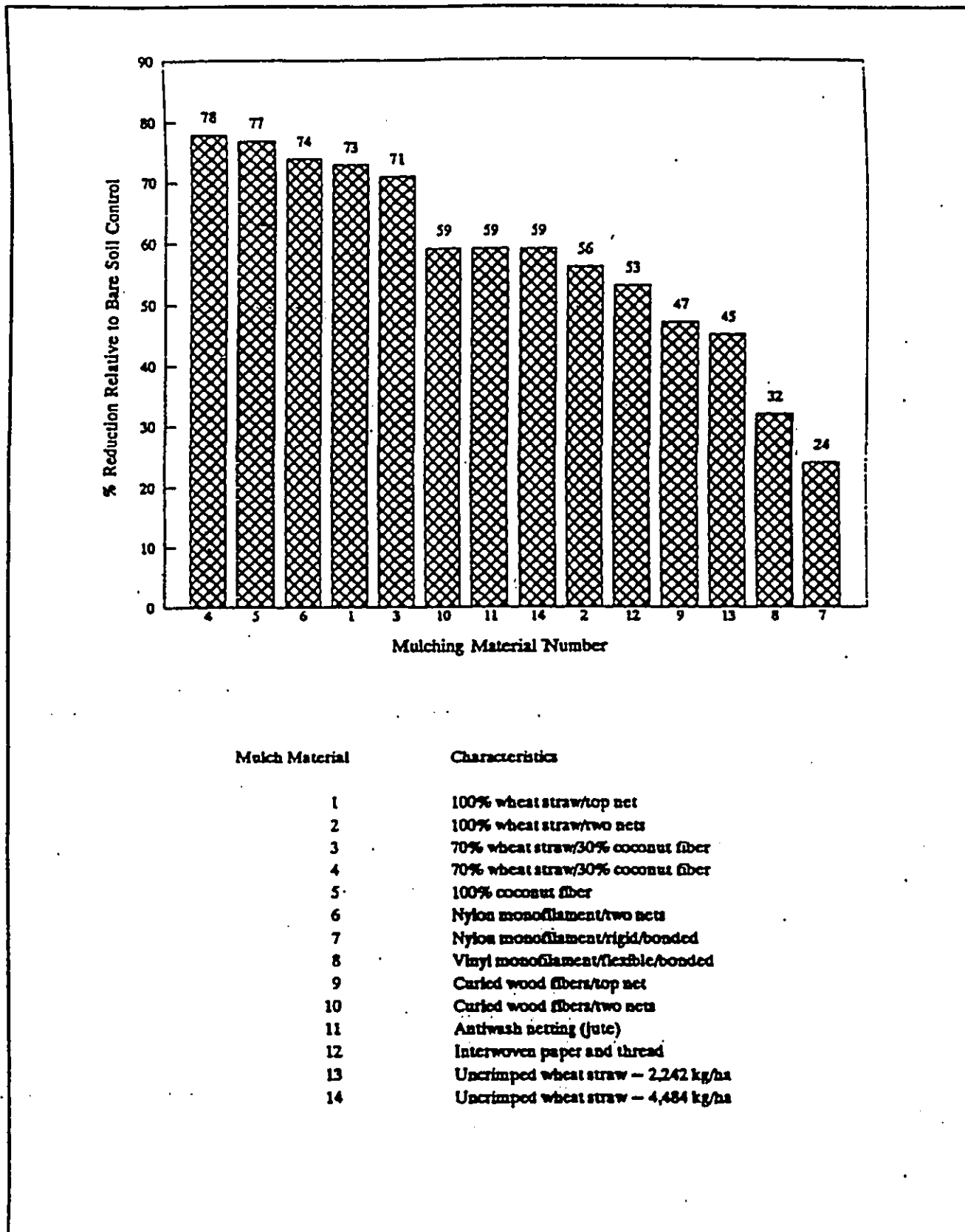


Figure 4-5. Water velocity reductions for different mulch treatments (adapted from Harding, 1990).

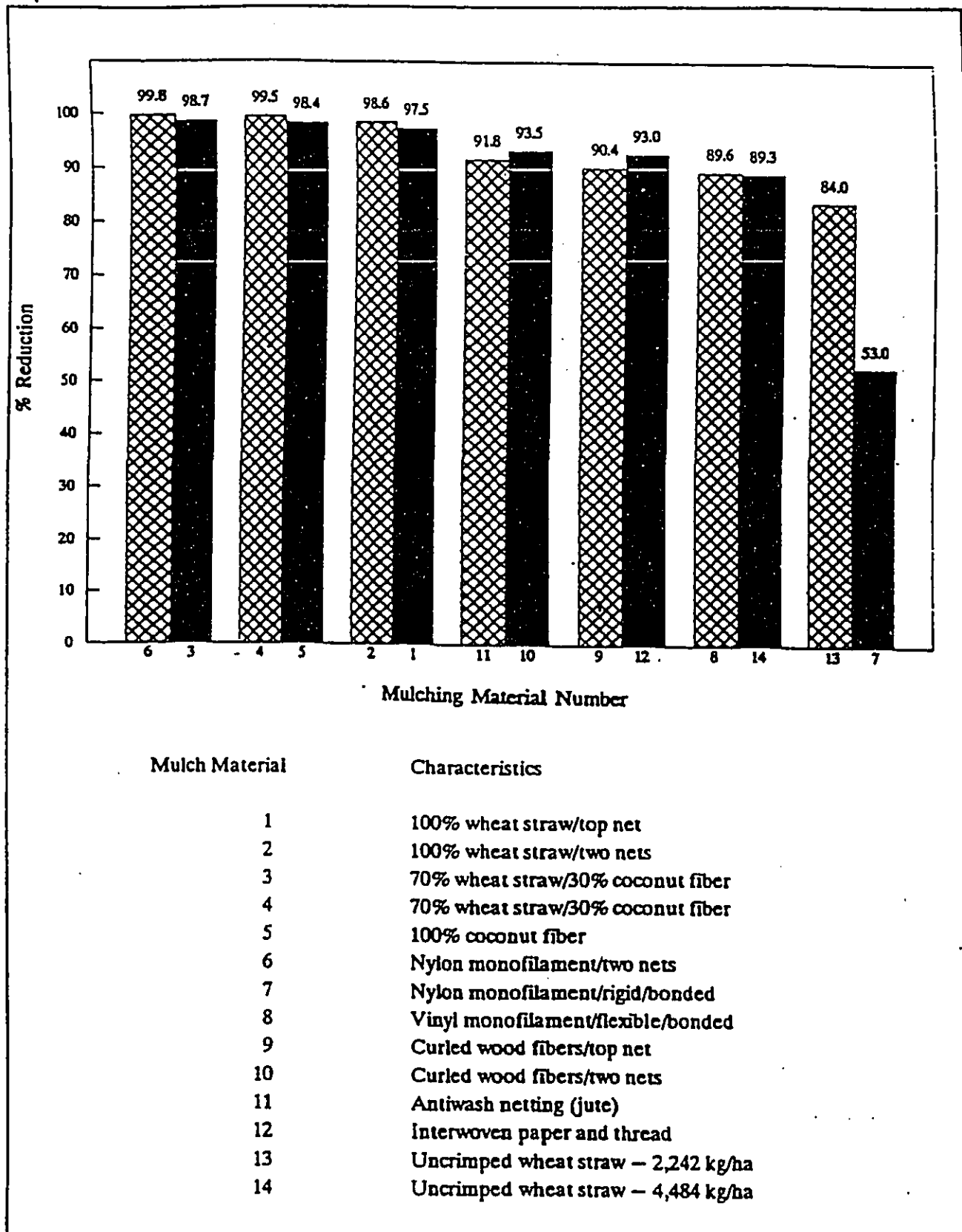


Figure 4-6. Actual soil loss reductions for different mulch treatments (adapted from Harding, 1990).

r. Use sodding.

Sodding permanently stabilizes an area. Sodding provides immediate stabilization of an area and should be used in critical areas or where establishment of permanent vegetation by seeding and mulching would be difficult. Sodding is also a preferred option when there is a high erosion potential during the period of vegetative establishment from seeding.

s. Use wildflower cover.

Because of the hardy drought-resistant nature of wildflowers, they may be more beneficial as an erosion control practice than turf grass. While not as dense as turfgrass, wildflower thatches and associated grasses are expected to be as effective in erosion control and contaminant absorption. Because thatches of wildflowers do not need fertilizers, pesticides, or herbicides, and watering is minimal, implementation of this practice may result in a cost savings (Brash et al., undated). In 1987, Howard County, Maryland, spent \$690.00 per acre to maintain turfgrass areas, compared to only \$31.00 per acre for wildflower meadows (Wilson, 1990).

A wildflower stand requires several years to become established; maintenance requirements are minimal once the area is established (Brash et al., undated).

5. Sediment Control Practices⁴

As discussed more fully at the beginning of this chapter and in Chapter 1, the following practices are described for illustrative purposes only. State programs need not require implementation of these practices. However, as a practical matter, EPA anticipates that the management measure set forth above generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices set forth below have been found by EPA to be representative of the types of practices that can be applied successfully to achieve the management measure described above.

Sediment controls capture sediment that is transported in runoff. Filtration and detention (gravitational settling) are the main processes used to remove sediment from urban runoff.

a. Sediment Basins

Sediment basins, also known as silt basins, are engineered impoundment structures that allow sediment to settle out of the urban runoff. They are installed prior to full-scale grading and remain in place until the disturbed portions of the drainage area are fully stabilized. They are generally located at the low point of sites, away from construction traffic, where they will be able to trap sediment-laden runoff.

Sediment basins are typically used for drainage areas between 5 and 100 acres. They can be classified as either temporary or permanent structures, depending on the length of service of the structure. If they are designed to function for less than 36 months, they are classified as "temporary"; otherwise, they are considered permanent structures. Temporary sediment basins can also be converted into permanent urban runoff management ponds. When sediment basins are designed as permanent structures, they must meet all standards for wet ponds.

b. Sediment Trap

Sediment traps are small impoundments that allow sediment to settle out of runoff water. Sediment traps are typically installed in a drainageway or other point of discharge from a disturbed area. Temporary diversions can be

⁴Adapted from Goldman (1986).

used to direct runoff to the sediment trap. Sediment traps should not be used for drainage areas greater than 5 acres and typically have a useful life of approximately 18 to 24 months.

■ c. Filter Fabric Fence

Filter fabric fence is available from many manufacturers and in several mesh sizes. Sediment is filtered out as urban runoff flows through the fabric. Such fences should be used only where there is sheet flow (i.e., no concentrated flow), and the maximum drainage area to the fence should be 0.5 acre or less per 100 feet of fence. Filter fabric fences have a useful life of approximately 6 to 12 months.

■ d. Straw Bale Barrier

A straw bale barrier is a row of anchored straw bales that detain and filter urban runoff. Straw bales are less effective than filter fabric, which can usually be used in place of straw bales. However, straw bales have been effectively used as temporary check dams in channels. As with filter fabric fences, straw bale barriers should be used only where there is sheet flow. The maximum drainage area to the barrier should be 0.25 acre or less per 100 feet of barrier. The useful life of straw bales is approximately 3 months.

■ e. Inlet Protection

Inlet protection consists of a barrier placed around a storm drain drop inlet, which traps sediment before it enters the storm sewer system. Filter fabric, straw bales, gravel, or sand bags are often used for inlet protection.

■ f. Construction Entrance

A construction entrance is a pad of gravel over filter cloth located where traffic leaves a construction site. As vehicles drive over the gravel, mud, and sediment are collected from the vehicles' wheels and offsite transport of sediment is reduced.

■ g. Vegetated Filter Strips

Vegetated filter strips are low-gradient vegetated areas that filter overland sheet flow. Runoff must be evenly distributed across the filter strip. Channelized flows decrease the effectiveness of filter strips. Level spreading devices are often used to distribute the runoff evenly across the strip (Dillaha et al., 1989).

Vegetated filter strips should have relatively low slopes and adequate length and should be planted with erosion-resistant plant species. The main factors that influence the removal efficiency are the vegetation type, soil infiltration rate, and flow depth and travel time. These factors are dependent on the contributing drainage area, slope of strip, degree and type of vegetative cover, and strip length. Maintenance requirements for vegetated filter strips include sediment removal and inspections to ensure that dense, vigorous vegetation is established and concentrated flows do not occur. Maintenance of these structures is discussed in Section II.A of this chapter.

6. Effectiveness and Cost Information

■ a. Erosion Control Practices

The effectiveness of erosion control practices can vary based on land slope, the size of the disturbed area, rainfall frequency and intensity, wind conditions, soil type, use of heavy machinery, length of time soils are exposed and unprotected, and other factors. In general, a system of erosion and sediment control practices can more effectively reduce offsite sediment transport than can a single system. Numerous nonstructural measures such as protecting natural or newly planted vegetation, minimizing the disturbance of vegetation on steep slopes and other highly

erodible areas, maximizing the distance eroded material must travel before reaching the drainage system, and locating roads away from sensitive areas may be used to reduce erosion.

Table 4-15 contains the available cost and effectiveness data for some of the erosion controls listed above. Information on the effectiveness of individual nonstructural controls was not available. All reported effectiveness data assume that controls are properly designed, constructed, and maintained. Costs have been broken down into annual capital costs, annual maintenance costs, and total annual costs (including annualization of the capital costs).

b. Sediment Control Practices

Regular inspection and maintenance are needed for most erosion control practices to remain effective. The effectiveness of sediment controls will depend on the size of the construction site and the nature of the runoff flows. Sediment basins are most appropriate for drainage areas of 5 acres or greater. In smaller areas with concentrated flows, silt traps may suffice. Where concentrated flow leaves the site and the drainage area is less than 0.5 ac/100 ft of flow, filter fabric fences may be effective. In areas where sheet flow leaves the site and the drainage area is greater than 0.5 acre/100 ft of flow, perimeter dikes may be used to divert the flow to a sediment trap or sediment basin. Urban runoff inlets may be protected using straw bales or diversions to filter or route runoff away from the inlets.

Table 4-16 describes the general cost and effectiveness of some common sediment control practices.

c. Comparisons

Figure 4-7 illustrates the estimated TSS loading reductions from Maryland construction sites possible using a combination of erosion and sediment controls in contrast to using only sediment controls. Figure 4-8 shows a comparison of the cost and effectiveness of various erosion control practices. As can be seen in Figure 4-8, seeding or seeding and mulching provide the highest levels of control at the lowest cost.

Table 4-15. ESC Quantitative Effectiveness and Cost Summary

Practice	Design Constraints, or Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Sod	Immediate erosion protection where there is high erosion potential during vegetative establishment.	Average: 99% Observed range: 98% - 99% References: Minnesota Pollution Control Agency, 1989; Pennsylvania, 1983 cited in USEPA, 1991	2	Average: \$0.2 per ft ² (\$11,300 per acre) Range: \$0.1 - \$1.1 References: SWRPC, 1991; Schueler, 1987; Virginia, 1980	Average: 5% Range: 5% Reference: SWRPC, 1991	\$0.20 per ft ² \$7,500 per acre
Seed	Establish vegetation on disturbed area.	Alter vegetation established. Average: 90% Observed range: 50% - 100% References: SCS, 1985 cited in EPA, 1991; Minnesota Pollution Control Agency, 1989; Oberle, 1984 cited in City of Austin, 1988; Delaware Department of Natural Resources, 1989	2	Average: \$400 per acre Range: \$200 - \$1000 per acre References: Wisconsin DOT cited in SWRPC, 1991; SWRPC, 1991; Goldman, 1986; Virginia, 1980	Average: 20% Range: 15% - 25% References: Wisconsin DOT cited in SWRPC, 1991; SWRPC, 1991	\$300 per acre
Seed and Mulch	Establish vegetation on disturbed area.	After vegetation established. Average: 90% Observed range: 50% - 100% References: SCS, 1985 cited in EPA, 1991; Minnesota Pollution Control Agency, 1989; Oberle, 1984 cited in City of Austin, 1988; Delaware Department of Natural Resources, 1989	2	Average: \$1,500 per acre Range: \$800 - \$3,500 per acre References: Goldman, 1986; Washington DOT, 1990; NC State, 1990; Schueler, 1987; Virginia, 1980; SWRPC, 1991	Average: NA ^b Range: NA References: None	\$1,100 per acre

Table 4-15. (Continued)

Design Constraints or Practice Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Mulch Temporary stabilization of disturbed area.	Observed range: sand:	Straw mulch: 0.25	Straw mulch: Average: \$1,700 per acre Range: \$500 - \$5,000 per acre References: Wisconsin DOT cited in SWRPC, 1991; Washington DOT, 1980; Virginia, 1980	Average: NA ^b Range: NA References: None	Straw mulch: \$7,500 per acre
	wood fiber @ 1500 lb/ac	50% slope			
	wood fiber @ 3000 lb/ac	0-20%			
	wood fiber @ 3000 lb/ac	50-85%			
	straw @ 3000 lb/ac	85%			
	Silt-loam:	Wood fiber mulch: Average: \$1,000 per acre Range: \$100 - \$2,300 per acre References: Washington DOT, 1980; Virginia, 1980			Wood fiber mulch: \$3,500 per acre
	wood fiber @ 1500 lb/ac	50% slope			
	wood fiber @ 3000 lb/ac	40-80%			
	straw @ 3000 lb/ac	60-70%			
		70-90%			
	Silt-clay-loam:	Jute netting: Average: \$3,700 per acre Range: \$3,500-\$4,100 per acre References: Washington DOT, 1980; Virginia, 1980			Jute netting: \$12,500 per acre
	wood fiber @ 1500 lb/ac	30-50%			
	wood fiber @ 3000 lb/ac	5%			
	jute netting	30%			
	straw @ 3000 lb/ac	40-70%			
	wood chips	60-80%			
	@ 10,000 lb/ac	30%			
	mulch blanket	20-40%			
	excelsior blanket	50-60%			
	multiple treatment (straw and jute).	50-60% and 90%			Straw and jute: \$18,000 per acre
		90%			

References: Minnesota Pollution Control Agency, 1988; Kay, 1983 cited in Goldman, 1986

Table 4-15. (Continued)

Design Constraint or Practice	Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Terraces	Break up long slopes.	Observed range: Land Slope 1-12% 12-18% 18-24%	2	Average: \$5 per lin ft Range: \$1 - \$12 References: SWRPC, 1991; Goldman, 1988; Virginia, 1991	Average: 20% Range: 20% Reference: SWRPC, 1991	\$4 per lin ft
At Erosion Controls	Reduce amount of sediment entering runoff.	Reduction in Erosion 70% 60% 55% Additionally, if the slope steepness is halved, while other factors are held constant, the soil loss potential decreases 2-1/2 times. If both the slope and length are halved, the soil loss potential is decreased 4 times. References: Goldman, 1988; Beasley, 1972	--	Varies but typically low	Varies but typically low	Varies but typically low

NA - Not available.
^a Useful life estimated as length of construction project (assumed to be 2 years).
^b For Total Annual Cost, assume Annual Maintenance Cost = 2% of construction cost.

Table 4-16. ESC Quantitative Effectiveness and Cost Summary for Sediment Control Practices

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Sediment basin	Minimum drainage area = 5 acres, maximum drainage area = 100 acres	Average: 70% Observed range: 55% - 100% References: Schueler, 1990; Engle, BW and Jarrett, AR, 1990; Baumann, 1990	2	Less than 50,000 ft ³ storage Average: \$0.60 per ft ³ storage (\$1,100 per drainage acre ^c) Range: \$0.20 - \$1.30 per ft ³ Greater than 50,000 ft ³ storage Average: \$0.3 per ft ³ storage (\$550 per drainage acre ^c) Range: \$0.10 - \$0.40 per ft ³ References: SWRPC, 1991	Average: 25% Range: 25% References: Denver COG cited in SWRPC, 1991; SWRPC, 1991	Less than 50,000 ft ³ storage \$0.40 per ft ³ storage \$700 per drainage acre ^b Greater than 50,000 ft ³ storage \$0.20 per ft ³ storage \$900 per drainage acre ^c
Sediment trap	Maximum drainage area = 5 acres	Average: 60% Observed range: (-7%) - 100% References: Schueler, et al., 1990; Tahoe Regional Planning Agency, 1989; Baumann, 1990	1.5	Average: \$0.60 per ft ³ storage (\$1,100 per drainage acre ^c) Range: \$0.20 - \$2.00 per ft ³ References: Denver COG cited in SWRPC, 1991; SWRPC, 1991; Goldman, 1986	Average: 20% Range: 20% References: Denver COG cited in SWRPC, 1991; SWRPC, 1991	\$0.70 per ft ³ storage \$1,300 per drainage acre ^c
Filter Fabric Fence	Maximum drainage area = 0.5 acre per 100 feet of fence. Not to be used in concentrated flow areas.	Average: 70% Observed range: 0% - 100% sand: 80% - 99% silt-foam: 50% - 80% silt-clay-foam: 0% - 20% References: Munson, 1991; Fisher et al., 1984; Minnesota Pollution Control Agency, 1989	0.5	Average: \$3 per lin ft (\$700 per drainage acre ^c) Range: \$1 - \$8 per lin ft References: Wisconsin DOT cited in SWRPC, 1991; SWRPC, 1991; Goldman, 1986; Virginia, 1991; NC State, 1980	Average: 100% Range: 100% References: SWRPC, 1991	\$7 per lin ft \$850 per drainage acre ^c

Table 4-16. (Continued)

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Straw Bale Barrier	Maximum drainage area = 0.25 acre per 100 feet of barrier. Not to be used in concentrated flow areas.	Average: 70% Observed Range: 70% References: Virginia, 1980 cited in EPA, 1991	0.25	Average: \$4 per lin ft (\$1,600 per drainage acre) ^d Range: \$2 - \$6 per lin ft References: Goldman, 1986; Virginia, 1991	Average: 100% Range: 100% References: SWRPC, 1991	\$17 per lin ft \$6,800 per drainage acre ^d
Inlet Protection	Protect storm drain inlet.	Average: NA Observed Range: NA References: None	1	Average: \$100 per inlet Range: \$50 - \$150 References: SWRPC, 1991; Denver COG cited in SWRPC, 1991; Virginia, 1991; EPA cited in SWRPC, 1991	Average: 60% Range: 20% - 100% References: SWRPC, 1991; Denver COG cited in SWRPC, 1991	\$150 per inlet
Construction Entrance	Removes sediment from vehicles wheels.	Average: NA Observed Range: NA References: None	2	Average: \$2,000 each Range: \$1,000 - \$4,000 References: Goldman, 1988; NC State, 1990 With washrack: Average: \$3,000 each Range: \$1,000 - \$5,000 References: Virginia, 1991	Average: NA ^e Range: NA References: None	\$1,500 each \$2,200 each

Table 4-16. (Continued)

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Vegetative Filter Strip	Must have sheet flow.	Average: 70% Observed Range: 20% - 80% References: Hayes and Hairston, 1983 cited in Casman, 1990; Dillaha et al., 1989, cited in Glick et al., 1991; Virginia Department of Conservation, 1987; Nonpoint Source Control Task Force, 1983 cited in Minnesota PCA, 1989; Schueler, 1987	2	Established from existing vegetation- Average: \$0 Range: \$0 References: Schueler, 1987	Average: NA ¹ Range: NA References: None	NA
				Established from sod- Average: \$11,300 per acre Range: \$4,500 - \$48,000 per acre References: Schueler, 1987; SWRPC, 1991		

NA - Not available.
^a Useful life estimated as length of construction project (assumed to be 2 years)
¹ For Total Annual Cost, assume Annual Maintenance Cost=20% of construction cost.
^b Assumes trap volume = 1800 c/acre (0.5 inches runoff per acre).
^c Assumes drainage area of 0.5 acre per 100 feet of fence (maximum allowed).
^d Assumes drainage area of 0.25 acre per 100 feet of barrier (maximum allowed).

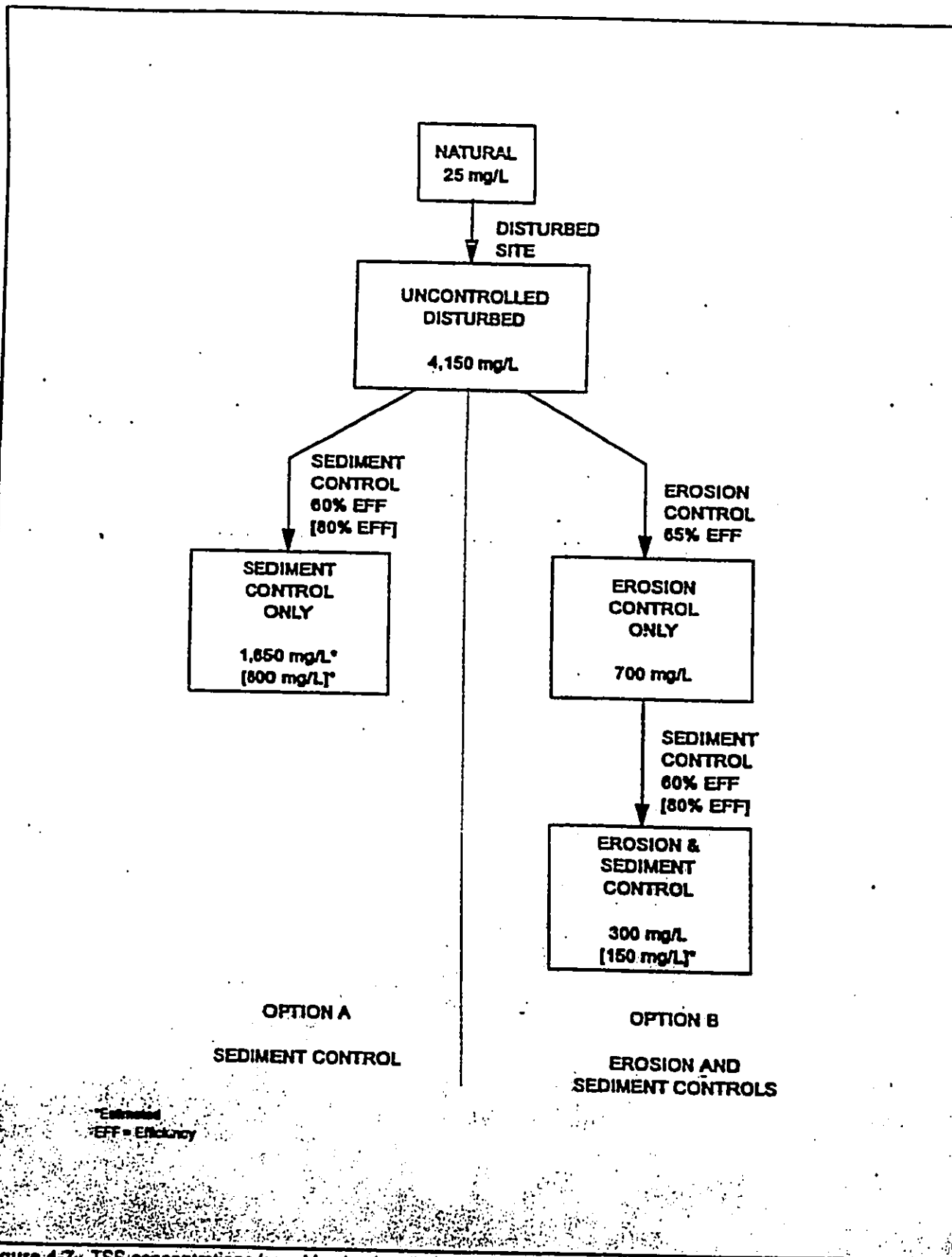


Figure 4-7. TSS concentrations from Maryland construction sites (Schueler, 1987).

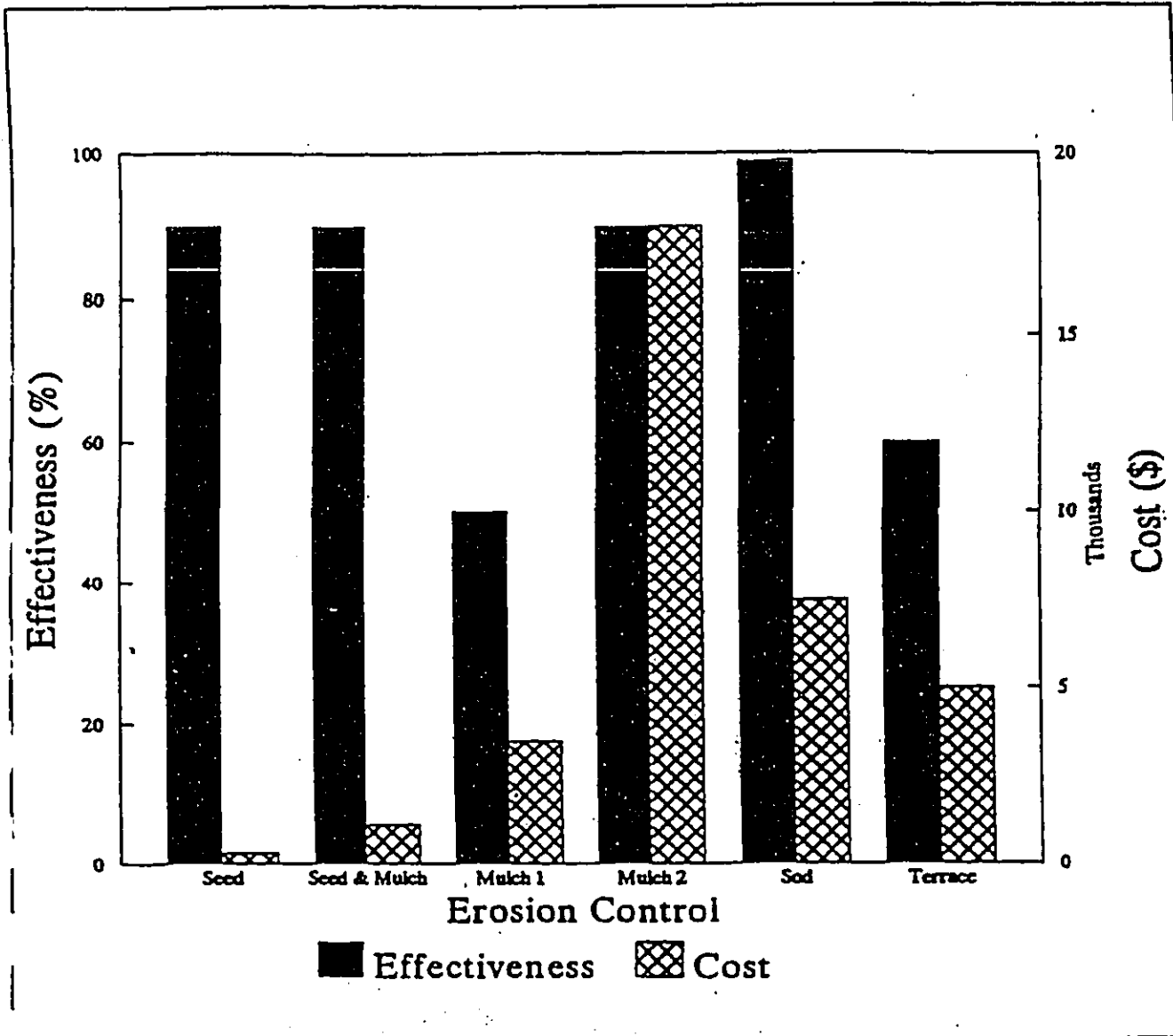


Figure 4-8. Comparison of cost and effectiveness for erosion control practices (based on information in Tables 4-15 and 4-16).

B. Construction Site Chemical Control Management Measure

- (1) Limit application, generation, and migration of toxic substances;
- (2) Ensure the proper storage and disposal of toxic materials; and
- (3) Apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface waters.

1. Applicability

This management measure is intended to be applied by States to all construction sites less than 5 acres in area and to new, resurfaced, restored, and reconstructed road, highway, and bridge construction projects. This management measure does not apply to: (1) construction of a detached single family home on a site of 1/2 acre or more or (2) construction that does not disturb over 5,000 square feet of land on a site. (NOTE: All construction activities, including clearing, grading, and excavation, that result in the disturbance of areas greater than or equal to 5 acres or are a part of a larger development plan are covered by the NPDES regulations and are thus excluded from these requirements.) Under the Coastal Zone Act Reauthorization Amendments of 1990, States are subject to a number of requirements as they develop coastal NPS programs in conformance with this management measure and will have flexibility in doing so. The application of management measures by States is described more fully in *Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance*, published jointly by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce.

2. Description

The purpose of this management measure is to prevent the generation of nonpoint source pollution from construction sites due to improper handling and usage of nutrients and toxic substances, and to prevent the movement of toxic substances from the construction site.

Many potential pollutants other than sediment are associated with construction activities. These pollutants include pesticides (insecticides, fungicides, herbicides, and rodenticides); fertilizers used for vegetative stabilization; petrochemicals (oils, gasoline, and asphalt degreasers); construction chemicals such as concrete products, sealers, and paints; wash water associated with these products; paper; wood; garbage; and sanitary wastes (Washington State Department of Ecology, 1991).

The variety of pollutants present and the severity of their effects are dependent on a number of factors:

- (1) The nature of the construction activity. For example, potential pollution associated with fertilizer usage may be greater along a highway or at a housing development than it would be at a shopping center development because highways and housing developments usually have greater landscaping requirements.
- (2) The physical characteristics of the construction site. The majority of all pollutants generated at construction sites are carried to surface waters via runoff. Therefore, the factors affecting runoff volume,

such as the amount, intensity, and frequency of rainfall; soil infiltration rates; surface roughness; slope length and steepness; and area denuded, all contribute to pollutant loadings.

- (3) The proximity of surface waters to the nonpoint pollutant source. As the distance separating pollutant-generating activities from surface waters decreases, the likelihood of water quality impacts increases.

a. Pesticides

Insecticides, rodenticides, and herbicides are used on construction sites to provide safe and healthy conditions, reduce maintenance and fire hazards, and curb weeds and woody plants. Rodenticides are also used to control rodents attracted to construction sites. Common insecticides employed include synthetic, relatively water-insoluble chlorinated hydrocarbons, organophosphates, carbamates, and pyrethrins.

b. Petroleum Products

Petroleum products used during construction include fuels and lubricants for vehicles; for power tools, and for general equipment maintenance. Specific petroleum pollutants include gasoline, diesel oil, kerosene, lubricating oils, and grease. Asphalt paving also can be particularly harmful since it releases various oils for a considerable time period after application. Asphalt overloads might be dumped and covered without inspection. However, many of these pollutants adhere to soil particles and other surfaces and can therefore be more easily controlled.

c. Nutrients

Fertilizers are used on construction sites when revegetating graded or disturbed areas. Fertilizers contain nitrogen and phosphorus, which in large doses can adversely affect surface waters, causing eutrophication.

d. Solid Wastes

Solid wastes on construction sites are generated from trees and shrubs removed during land clearing and structure installation. Other wastes include wood and paper from packaging and building materials, scrap metals, sanitary wastes, rubber, plastic and glass, and masonry and asphalt products. Food containers, cigarette packages, leftover food, and aluminum foil also contribute solid wastes to the construction site.

e. Construction Chemicals

Chemical pollutants, such as paints, acids for cleaning masonry surfaces, cleaning solvents, asphalt products, soil additives used for stabilization, and concrete-curing compounds, may also be used on construction sites and carried a runoff.

f. Other Pollutants

Other pollutants, such as wash water from concrete mixers, acid and alkaline solutions from exposed soil or rock, and alkaline-forming natural elements, may also be present and contribute to nonpoint source pollution.

Revegetation of disturbed areas may require the use of fertilizers and pesticides, which, if not applied properly, may become nonpoint source pollutants. Many pesticides are restricted by Federal and/or State regulations.

Hydroseeding operations, in which seed, fertilizers, and lime are applied to the ground surface in a one-step operation, are more conducive to nutrient pollution than are the conventional seedbed-preparation operations, in which fertilizers and lime are tilled into the soil. Use of fertilizers containing little or no phosphorus may be required by

local authorities if the development is near sensitive waterbodies. The addition of lime can also affect the pH of sensitive waters, making them more alkaline.

Improper fueling and servicing of vehicles can lead to significant quantities of petroleum products being dumped onto the ground. These pollutants can then be washed off site in urban runoff, even when proper erosion and sediment controls are in place. Pollutants carried in solution in runoff water, or fixed with sediment crystalline structures, may not be adequately controlled by erosion and sediment control practices (Washington Department of Ecology, 1991). Oils, waxes, and water-insoluble pesticides can form surface films on water and solid particles. Oil films can also concentrate water-soluble insecticides. These pollutants can be nearly impossible to control once present in runoff other than by the use of very costly water-treatment facilities (Washington Department of Ecology, 1991).

After spill prevention, one of the best methods to control petroleum pollutants is to retain sediments containing oil on the construction site through use of erosion and sediment control practices. Improved maintenance and safe storage facilities will reduce the chance of contaminating a construction site. One of the greatest concerns related to use of petroleum products is the method for waste disposal. The dumping of petroleum product wastes into sewers and other drainage channels is illegal and could result in fines or job shutdown.

The primary control method for solid wastes is to provide adequate disposal facilities. Erosion and sediment control structures usually capture much of the solid waste from construction sites. Periodic removal of litter from these structures will reduce solid waste accumulations. Collected solid waste should be removed and disposed of at authorized disposal areas.

Improperly stored construction materials, such as pressure-treated lumber or solvents, may lead to leaching of toxics to surface water and ground water. Disposal of construction chemicals should follow all applicable State and local laws that may require disposal by a licensed waste management firm.

3. Management Measure Selection

This management measure was selected based on the potential for many construction activities to contribute to nutrient and toxic NPS pollution.

This management measure was selected because (1) construction activities have the potential to contribute to increased loadings of toxic substances and nutrients to waterbodies; (2) various States and local governments regulate the control of chemicals on construction sites through spill prevention plans, erosion and sediment control plans, or other administrative devices; (3) the practices described are commonly used and presented in a number of best management practice handbooks and guidance manuals for construction sites; and (4) the practices selected are the most economical and effective.

4. Practices

As discussed more fully at the beginning of this chapter and in Chapter 1, the following practices are described for illustrative purposes only. State programs need not require implementation of these practices. However, as a practical matter, EPA anticipates that the management measure set forth above generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices set forth below have been found by EPA to be representative of the types of practices that can be applied successfully to achieve the management measure described above.

a. Properly store, handle, apply, and dispose of pesticides.

Pesticide storage areas on construction sites should be protected from the elements. Warning signs should be placed in areas recently sprayed or treated. Persons mixing and applying these chemicals should wear suitable protective clothing, in accordance with the law.

Application rates should conform to registered label directions. Disposal of excess pesticides and pesticide-related wastes should conform to registered label directions for the disposal and storage of pesticides and pesticide containers set forth in applicable Federal, State, and local regulations that govern their usage, handling, storage, and disposal. Pesticides and herbicides should be used only in conjunction with Integrated Pest Management (IPM) (see Chapter 2). Pesticides should be the tool of last resort; methods that are the least disruptive to the environment and human health should be used first.

Pesticides should be disposed of through either a licensed waste management firm or a treatment, storage, and disposal (TSD) facility. Containers should be triple-rinsed before disposal, and rinse waters should be reused as product.

Other practices include setting aside a locked storage area, tightly closing lids, storing in a cool, dry place, checking containers periodically for leaks or deterioration, maintaining a list of products in storage, using plastic sheeting to line the storage area, and notifying neighboring property owners prior to spraying.

b. Property store, handle, use, and dispose of petroleum products.

When storing petroleum products, follow these guidelines:

- Create a shelter around the area with cover and wind protection;
- Line the storage area with a double layer of plastic sheeting or similar material;
- Create an impervious berm around the perimeter with a capacity 110 percent greater than that of the largest container;
- Clearly label all products;
- Keep tanks off the ground; and
- Keep lids securely fastened.

Oil and oily wastes such as crankcase oil, cans, rags, and paper dropped into oils and lubricants should be disposed of in proper receptacles or recycled. Waste oil for recycling should not be mixed with degreasers, solvents, antifreeze, or brake fluid.

c. Establish fuel and vehicle maintenance staging areas located away from all drainage courses, and design these areas to control runoff.

Proper maintenance of equipment and installation of proper stream crossings will further reduce pollution of water by these sources. Stream crossings should be minimized through proper planning of access roads. Refer to Chapter 3 for additional information on stream crossings.

d. Provide sanitary facilities for construction workers.

e. Store, cover, and isolate construction materials, including topsoil and chemicals, to prevent runoff of pollutants and contamination of ground water.

f. Develop and implement a spill prevention and control plan. Agencies, contractors, and other commercial entities that store, handle, or transport fuel, oil, or hazardous materials should develop a spill response plan.

Post spill procedure information and have persons trained in spill handling on site or on call at all times. Materials for cleaning up spills should be kept on site and easily available. Spills should be cleaned up immediately and the contaminated material properly disposed of. Spill control plan components should include:

- Stop the source of the spill.
- Contain any liquid.
- Cover the spill with absorbent material such as kitty litter or sawdust, but do not use straw. Dispose of the used absorbent properly.

g. Maintain and wash equipment and machinery in confined areas specifically designed to control runoff.

Thinners or solvents should not be discharged into sanitary or storm sewer systems when cleaning machinery. Use alternative methods for cleaning larger equipment parts, such as high-pressure, high-temperature water washes, or steam cleaning. Equipment-washing detergents can be used, and wash water may be discharged into sanitary sewers if solids are removed from the solution first. (This practice should be verified with the local sewer authority.) Small parts can be cleaned with degreasing solvents, which can then be reused or recycled. Do not discharge any solvents into sewers.

Washout from concrete trucks should be disposed of into:

- A designated area that will later be backfilled;
- An area where the concrete wash can harden, can be broken up, and then can be placed in a dumpster; or
- A location not subject to urban runoff and more than 50 feet away from a storm drain, open ditch, or surface water.

Never dump washout into a sanitary sewer or storm drain, or onto soil or pavement that carries urban runoff.

h. Develop and implement nutrient management plans.

Properly time applications, and work fertilizers and liming materials into the soil to depths of 4 to 6 inches. Using soil tests to determine specific nutrient needs at the site can greatly decrease the amount of nutrients applied.

i. Provide adequate disposal facilities for solid waste, including excess asphalt, produced during construction.

j. Educate construction workers about proper materials handling and spill response procedures. Distribute or post informational material regarding chemical control.



February 11, 2004

George Tengan, Director
Department of Water Supply
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

SUBJECT: Proposed Consolidated Baseyards, LLC Light Industrial Baseyard at
TMK (2) 3-8-007:089, Waikapu, Maui, Hawaii

Dear Mr. Tengan:

Thank you for your letter dated January 5, 2004, providing us with your comments on the proposed project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to inform you that there is an existing onsite water well which will be used as the source for domestic water and fire flow for the project. An onsite storage tank will be constructed to meet the domestic water and fire protection requirements of the project.

The domestic water demand for the project is anticipated to be approximately 60,000 gallons per day. In accordance with Department of Water Supply standards, the fire flow demand for a light industrial development is 2,000 gallons per minute for a 2-hour duration. A storage tank with a capacity of 326,000 gallons will be constructed onsite with separate booster pumps for the domestic water system and fire system. Fire hydrants will be installed with a maximum spacing of 250 feet.

Should you have any questions, please feel free to contact me at (808) 244-2015.

Very truly yours,


Karlynn Kawahara, Planner

KK:lfm

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Stacy Otomo, Otomo Engineering, Inc.

cbaseyd@waikapu.dws.res

305 High Street, Suite 104 • Wailuku, Hawaii 96793 • ph: (808)244-2015 • fax: (808)244-8729 • planning@mhinconline.com

environment
planning
government

Nobriga's Ranch, Inc
P.O. Box 1170
Wailuku, HI 96793

NOV 05 2003

November 4, 2003

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

Dear Mr. Munekiyo,

I heard that the Fong's property, adjacent to our feedlot operation is subject to rezone from ag to urban with a single family subdivision planned.

Nobriga's Ranch, Inc. has been located in this area since 1968 in the area between Maui Scrap Yard and Fong Construction Baseyard not shown on map since it's agriculture. The large parcel in back of the proposed site is also Ag leased to Brendan Balthazar.

It was mentioned that 12 acres are currently utilized by a State Special Use Permit and County Conditional Permit. It is my belief that Scrap Metal and Fong's Baseyard also hold a special use and county conditional permit.

Fact: Fong's Baseyard was land removed from our lease.

Why? To come into Ag, we were notified by the County if we objected to the Special Permit. Our answer was No, since Apana and Fongs are Friends.

How! Wailuku Sugar Ag office and Real Estate-Now Rojac and Brewer Environmental got Urban? That would be Tavares Administration. We were never notified being too busy taking care of our farm and serving as a volunteer on Boards and Commissions.

Maui Scrap Metal still should be on Special Use Permit. If not, why?

I also disagree with comments made regarding the land being covered with scrub brush and Kiawe Trees. It's good agriculture land that can be utilized by livestock with proper care. The Kiawe tree, not native, provides high quality beans this time of year when things are dry. Seems like provided by Nature.

Munekiyo & Hiraga, Inc
November 3, 2003
Page Two

Every elected official that we know have stated past and present famous words, "We must protect Agriculture". We are Agriculture and intend to be there as long as A&B provides us space. The cost of moving would be prohibitive as to site and construction, etc., as well as environmental laws which we now meet.

My children, grandchildren, nephews and grand nephews are all in Agriculture and love the hard work and training it brings.

We oppose to any Land changes in the area. Agriculture has been abused for too long.

Sincerely,



DAVID "BUDDY" NOBRIGA

JAN 30 2004

Consolidated Baseyards, LLC

33 Lono Ave., Suite 450A

Kahului, HI 96732

(808) 893-2300

(808) 893-0043 (fax)

January 28, 2004

Mr. David "Buddy" Nobriga
Nobriga Ranch
PO Box 1170
Wailuku Hi 96793

SUBJECT: Proposed District Boundary Amendment for Consolidated Baseyards, LLC Light Industrial Project – Waikapu, Maui TMK (2) 3-8-007:089

Dear Mr. Nobriga:

Thank you very much for your comment letter dated November 4, 2003 regarding plans by Consolidated Baseyards, LLC (CB) for a Light Industrial Subdivision in Waikapu, Maui. I would also like to thank you for meeting with myself, Roderick Fong and Martin Luna on December 15, 2003 to discuss the proposed project. In response to your comment letter and as a follow up to our meeting, we would like to take this opportunity to note the following:

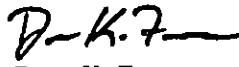
1. The proposed project will not include single-family, multi-family, apartment or residential housing. In addition, CB has provided the Maui Planning Department with a proposed list of conditional uses for the future Light Industrial subdivision (See Exhibit "A");
2. CB acknowledges that: a) the lands surrounding the project site are utilized for ranching purposes; and b) existing kiawe trees and grasses surrounding the project site are a source of feed supply for said ranching activities. Please note that this point of clarification will be included in the forthcoming District Boundary Amendment (DBA) petition and Change in Zoning (CIZ) application;
3. As per your recommendation, CB will contract with a local landscape architect to develop a planting plan that will include a landscape buffer between the subject property and the neighboring agricultural properties. As previously discussed, CB will submit said planting plan to you (as well as other neighboring ranchers) for review and comment; and
4. CB is working with an attorney to draft language to be recorded on title for the property which will run with the land, notifying future users and / or owners of existing agricultural uses surrounding the subject property. Attached for your reference is a copy of the draft language (See Exhibit "B").

Mr. David "Buddy" Nobriga
Page 2 of 2
1/28/04

Please note that a copy of the forthcoming DBA/CIZ application will be provided to you for your review and comment. In addition, I will be in contact with you and the neighboring ranchers shortly to arrange a meeting to further discuss our project plans. In the meantime, should you have any questions or require additional information, please do not hesitate to contact me at 893-2300.

Thank you very much for your time and interest in this project.

Sincerely,



Dean K. Frampton

c: Martin Luna, Esq. Carlsmith Ball (w/attachments)
Karlynn Kawahara, Munekiyo & Hiraga, Inc. (w/attachments)

EXHIBIT "A"

**Consolidated Baseyards, LLC
Proposed List of Uses**

M-1 Light Industrial District

- A. Within the M-1 district, no building, structure or premises shall be used and no building or structure hereafter erected, structurally altered, replaced, or enlarged except for one or more of the following uses:
1. Any use permitted in a B-1, B-2, or B-3 district; provided, however, that no building, structure or portion thereof shall be hereafter erected, converted, or moved onto any lot in an M-1 district for dwelling purposes, including hotels and motels, except living quarters used by watchmen or custodians of industrially used property;
 2. Animal kennels;
 3. Carpet cleaning plants;
 4. Cold storage plants;
 5. Commercial laundries;
 6. Craft, cabinet and furniture manufacturing;
 7. Assembly of electrical appliances, radios and phonographs including the manufacture of small parts such as coils, condensers, crystal holders and the like;
 8. Farm implement sales and service;
 9. General food, fruit and vegetable processing and manufacturing plants;
 10. Ice cream and milk producing, manufacturing and storage;
 11. Laboratories--experimental, photo or motion picture, film or testing;
 12. Light and heavy equipment and product display rooms, storage and service;
 13. Machine shop or other metal working shop;
 14. The manufacture, compounding or treatment of articles or merchandise from the following previously prepared materials: aluminum, bone, cellophane, canvas, cloth, cork, feathers, felt, fibre, fur, glass, hair, horn, leather, plastics, precious or semi-precious metals or stones, shell, tobacco and wood;
 15. The manufacture, compounding, processing, packing or treatment of such products as candy, cosmetics, drugs, perfumes, pharmaceutical, toiletries, and food products except the rendering or refining of fats and oils;
 16. The manufacture, dyeing and printing of cloth fabrics and wearing apparel;

17. The manufacture of musical instruments, toys, novelties and rubber and metal stamps;
 18. Manufacture of pottery and figurines or other similar ceramic products;
 19. Milk bottling or central distribution stations;
 20. Plumbing shops having more than five employees;
 21. Poultry or rabbit slaughter incidental to a retail business on the same premises;
 22. Radio transmitting and television stations; provided, that towers are of the self-sustaining type without guys;
 23. Replating shop;
 24. Retail lumber yard including mill and sash work, except that mill and sash work shall be conducted within a completely enclosed building;
 25. Small boat building;
 26. Soda water and soft drink bottling and distribution plants;
 27. Tire repair operation including recapping and retreading;
 28. Vocational and trade schools giving general instruction as prescribed by the State Department of Education;
 29. Warehouse, storage and loft buildings;
 30. Wearing apparel manufacturing;
 31. Wholesale business, storage buildings, nonexplosive goods and warehouses;
- B. The above uses are to be conducted wholly within a completely enclosed building, or within an area enclosed on all sides except the front of the lot, by a solid fence or wall or cyclone fence at least six feet in height. (Prior code § 8-1.12(b))

B-1 Neighborhood Business District

Within the B-1 district, the following uses shall be permitted:

- B. Baker goods stores;
- C. Book, stationery or gift stores;
- D. Candy stores;
- G. Delicatessen stores;

- H. Drugstores;
- I. Florist shops;
- J. Grocery stores and meat markets;
- K. Ice cream or snack counters;
- L. Laundromats;
- N. Gasoline retailing, provided it is owned and operated as an adjunct to a neighborhood store; and provided further, that no servicing, repairing, storing, washing, or maintenance of vehicles will be permitted on the premises;
- O. Other similar retail businesses or service establishments which supply commodities or perform services primarily for residents of the surrounding neighborhood; provided, however, such uses shall be approved by the commission as conforming to the intent of this title;

B-2 Community Business District

Within the B-2 district, the following uses shall be permitted:

- 1. Any use permitted in a B-1 neighborhood business district; however, no living or sleeping quarters shall be permitted in any detached accessory building or structure on the same lot;
- 3. Antique shops;
- 6. Auctioneer establishments;
- 8. Automobile parking lots and/or buildings;
- 9. Automobile parts stores;
- 10. Automobile service stations, with or without auto repairing; provided all auto repairing operations are conducted in enclosed buildings; and provided further, that tire rebuilding or battery manufacturing shall not be permitted within this district;
- 11. Automobile upholstery shops;
- 12. Awning or canvas shops;
- 13. Banks;
- 17. Block-printing establishments;
- 19. Business offices and agencies;
- 20. Catering establishments employing not more than five persons;

21. Charity relief organizations;
23. Custom dressmaking or millinery shops;
25. Dancing and hula studios;
26. Dressmaking shops;
28. Equipment rental and sales yards;
29. Feed stores;
31. Haberdasheries and women's apparel shops;
32. Hardware and garden supply stores;
33. Ice cream and milk manufacturing plants employing not more than twenty-five persons;
34. Jewelry stores or fine art shops, including interior decorating;
40. News and magazine stands;
41. Nurseries (flower or plants); provided, that all incidental equipment and supplies, including fertilizers and empty cans, are kept within enclosed buildings;
43. Parcel delivery stations;
44. Pet shops, not involving the treatment or boarding of animals;
45. Photo studios;
47. Plumbing shops within wholly enclosed buildings and employing not more than five persons;
48. Printing, lithography or publishing shops;
52. Public parking areas;
53. Radio and television stations;
55. Restaurants, cafes or bars, including drive-ins;
57. Shoe stores;
58. Sign-painting shops within wholly enclosed buildings and employing not more than five persons;
59. Skating shops;
60. Tailor shops;

- 61. Trade schools;
- 62. Used car lots; provided all repair and maintenance is conducted within a wholly enclosed building;
- 64. Warehouses and yards which are adjunct to, and part of, the operation of the permitted uses listed above may be permitted by the commission, provided such uses are determined to conform to the intent of this article, and subject to such terms and conditions as may be warranted. Such uses shall be conducted wholly within a completely enclosed building or within an area enclosed on all sides by a solid fence or wall at least six feet in height; and provided, that no goods, materials, or objects shall be stacked higher than the fence or walls so erected;
- 66. Any other retail businesses or commercial enterprises which are similar in character of rendering sales of commodities or performance of services to the community and not detrimental to the welfare of the surrounding area; provided, however, that such uses shall be approved by the commission as conforming to the intent of this article. (Ord. 2609 § 6, 1997; Ord. 1960 § 1, 1990; prior code § 8-1.9(b))

B-3 Central Business District

Within the B-3 district, there shall be permitted any use permitted in a B-1 district and B-2 community business district, with the following exceptions:

- B. Automobile repair shops and garages;
- C. Automobile painting or steam cleaning;
- D. Automobile upholstery shops;
- E. Awning or canvas stores;
- F. Equipment rental and sales yards;
- H. Lumber yards;
- I. Machine shops;
- J. Plumbing shops;
- K. Storage buildings and warehouses (separate from main building);
- L. Storage yards;
- M. Trucking and truck storage;
- N. Used car lots. (Prior code § 8-1.10(b))

cbaseyd/walkapu/zoninguses

DRAFT

EXHIBIT "B"

Please note that the language will be included in documents established on the title record and shall "run with the land".

NUISANCES FROM OPERATIONS

Operations. All owners and occupants of Properties are hereby notified that certain lands nearby or abutting Consolidated Baseyards are zoned to permit agriculture development and agricultural operations and that in the future the Owners and occupants may be subject to noise, dust, emissions, traffic and other nuisances in connection with such activities. The developer of said facilities and Declarant (and their respective officers, directors, employees and agents of each) shall not have any liability or responsibility for any such noise, dust, emissions and nuisances. Each Owner of a Property, by taking title to said property, thereby waives all such rights and claims against the developer, Declarant and owners and lessees of the surrounding agricultural classified or zoned lands, and the operators of the agricultural activities conducted thereon, as well as their agents and employees.

Chapter XI

***Letters Received During the Draft
Environmental Assessment Public
Comment Period and Responses
to Substantive Comments***

XI. LETTERS RECEIVED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT PUBLIC COMMENT PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

A Draft Environmental Assessment for the subject project was filed and published in the Office of Environmental Quality Control's The Environmental Notice on May 23, 2004. During the 30-day public comment period, agencies were provided the opportunity to comment on the proposed action. This section incorporates the comments received during the 30-day comment period between May 23, 2004 and June 22, 2004. Responses to the substantive comments are also incorporated herein.

MAY 25 2004

United States Department of Agriculture



 NRCS Natural Resources
Conservation Service

Our People...Our Islands...In Harmony

210 Imi Kala Street, Suite #209, Wailuku, HI 96793-2100

May 24, 2004

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

Dear Ms Kawahara,

SUBJECT: Proposed Consolidated Baseyards Light Industrial Subdivision
TMK (2) 3-8-007:089 142 and 144

Reclassification from agriculture to urban is a major concern for the agricultural activities in this area. Agricultural commodities for food and fiber are produced in this area and may be in jeopardy due to rezoning. Animal operations in this area produce odors, dust and insects therefore the proposed light industrial subdivision may not appreciate the agricultural activities that have been in existence for many years.

Thank you for the opportunity to comment.

Sincerely,

Ranae Ganske - Cerizo
Acting District Conservationist



August 6, 2004

Ranae Ganske-Cerizo, Acting District Conservationist
United States Department of Agriculture
Natural Resources Conservation Service
210 Imi Kala Street, Suite #209
Wailuku, Hawaii 96793

SUBJECT: Draft Environmental Assessment for the Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot Located at TMK (2) 3-8-007:089, 143 and 144

Dear Ms. Ganske-Cerizo:

Thank you for your letter dated May 24, 2004, providing us with your comments on the proposed project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to offer the following responses to address your concerns.

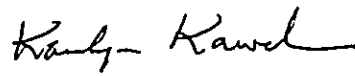
CBL has held and will continue to hold meetings with the neighboring agricultural operators to discuss their plans for the proposed light-industrial subdivision. Additionally, CBL has requested a presentation before the Waikapu Community Association.

While we are aware that there are agricultural operations in the area, we are not familiar with any fiber produced in the area. Additionally, we note that there are other existing light and heavy industrial operations in close proximity to the CBL project in Waikapu. Further, based on those discussions with neighboring agricultural operators, the applicant intends to include in any sale or lease agreement, language in the document that informs the potential owner/lessee of the existing agricultural operations in the area. Finally, the applicant is currently working with a landscape architect to design a landscape buffer around the perimeter of the property to shield the light-industrial subdivision from neighboring agricultural operations. When a draft landscape plan is complete, it will be presented to the neighboring owners for review and comment.

Ranae Ganske-Cerizo, Acting District Conservationist
August 6, 2004
Page 2

Should you have any questions, please feel free to contact me at (808) 244-2015.

Very truly yours,



Karlynn Kawahara, Planner

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Blaine Kobayashi, Carlsmith Ball
Anthony Ching, State Land Use Commission

cbaseyd/waikapu/hrcs.res



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

REPLY TO
ATTENTION OF

May 24, 2004

Regulatory Branch

Mr. Rodney Fong
Consolidated Baseyards, LLC
33 Lono Avenue, Suite 450A
Kahului, Hawaii 96732

Dear Mr. Fong:

This letter responds to the request by Munekiyo & Hiraga, Inc. for comments on the draft Environmental Assessment (DEA) for the Consolidated Baseyards Light Industrial Subdivision at TMKS 3-8-07:89, 3-8-07:143 and 3-8-07:144, dated May 19, 2004. Based on the information provided in the DEA I have determined there are no waters of the U.S., including wetlands at the site and therefore a Department of the Army (DA) permit will not be required for this project. This does not relieve the applicant from obtaining other authorizations from the State of Hawaii or the County of Maui.

If you have any questions concerning this determination, please contact William Lennan of my staff at 438-6986 or FAX 438-4060, and reference File No. 200400018. Copies of this letter are being sent to Karlynn Kawahara, Planner, Munekiyo & Hiraga, Inc., 305 High Street, Suite 104 Wailuku, Hawaii 96793; State Land Use Commission, P.O. Box 2359, Honolulu, Hawaii 96804-2359; and the Office of Environmental Quality Control, 235 S. Beretania Street, Suite 702, Honolulu, Hawaii 96813.

Sincerely,

A handwritten signature in cursive script, appearing to read "George P. Young".

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

LINDA LINGLE
GOVERNOR



JUN 22 2004

ANTHONY J.H. CHING
EXECUTIVE OFFICER

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
P.O. Box 2359
Honolulu, Hawaii 96804-2359
Telephone: 808-587-3822
Fax: 808-587-3827

June 21, 2004

Mr. Roderick Fong
Consolidated Baseyards, LLC
33 Lono Avenue, Suite 450A
Kahului, Hawaii 96732

Dear Mr. Fong:

Subject: LUC Docket No. A04-748/Consolidated Baseyards, LLC: Draft
Environmental Assessment (DEA) for Proposed Consolidated Baseyards
Light Industrial Subdivision
Waikapu, Maui, Hawaii
TMK: 3-8-07: 89, 143, and 144

We have reviewed the subject DEA and have the following comments:

- 1) The discussion in the cumulative and secondary impacts analysis should be broadened to include Maui Scrap Metal and the Fong Construction Baseyard in light of their proximity to the project site. The Central Maui Baseyard, whose continued operation and expansion were approved pursuant to LUC Docket No. A96-717/C. Earl Stoner, Jr. on behalf of S&F Land Company, Inc., should also be included in the analysis given its location in the Waikapu region.
- 2) Information should be provided on the specific amount of solid waste that will be generated by the subject project.
- 3) Clarification should be provided as to the main source of water for the petition area. According to the comments of the County Department of Water Supply (letter dated January 5, 2004), "[t]he project area is served by the Central Maui System. The main sources of water for this system are the Iao and Waihee aquifers, the Iao tunnel and

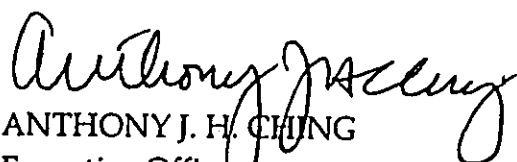
Mr. Roderick Fong
June 21, 2004
Page 2

the Iao-Waikapu Ditch." However, the Groundwater Resource Report (Appendix J) notes that the well from which the subject project will obtain its water is drilled into groundwater within the Kahului Aquifer.

- 4) Although we acknowledge that the specific sales prices of the lots are dependent on lot size and market demand, information should be provided on a projected selling range for the various lot sizes.
- 5) We note that the Market Study (Appendix B), Forecasted Economic Impact Report (Appendix H), and the Traffic Impact Analysis Report (Appendix I) refer to a 38-lot light industrial subdivision, while the Preliminary Engineering Report (Appendix E) and Preliminary Drainage Report (Appendix F) refer to a 39-lot subdivision. The latter figure is consistent with the description of the subject project as identified in the Petition for District Boundary Amendment from Agricultural to Urban. In the interest of uniformity, all of the documents should refer to the same number of lots.

We have no further comments to offer at this time. Please feel free to contact Bert Saruwatari of my office at 587-3822, should you require clarification or any further assistance.

Sincerely,


ANTHONY J. H. CHING
Executive Officer

c: Office of Environmental Quality Control
✓ Michael T. Munekiyo, Munekiyo & Hiraga, Inc.



August 9, 2004

Anthony J.H. Ching
Executive Officer
State Land Use Commission
P.O. Box 2359
Honolulu, Hawaii 96804-2359

SUBJECT: Draft Environmental Assessment for the Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot located at TMK (2) 3-8-007:089, 143 and 144 - LUC Docket No. A04-748

Dear Mr. Ching:

Thank you for your letter dated June 21, 2004 regarding the Draft Environmental Assessment for Consolidated Baseyards, LLC in Waikapu, Maui, Hawaii. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to offer the following responses to your comments.

1. We note your comment with regards to the inclusion of the Maui Scrap Metal and Fong Construction Baseyard in the cumulative and secondary impacts in the Final Environmental Assessment (FEA). Please note that it would be difficult to make any assessment on the Maui Scrap Metal site due to lack of information. Also, we note that the Central Maui Baseyard is located in Puunene, off of the Mokulele Highway, near the HC&S sugar mill and as such, did not include it in the cumulative and secondary impact analysis.
2. We note your comment with regards to the specific amount of solid waste that the project will generate. It is difficult for CBL to approximate the amount of solid waste that the project will generate without knowing what operations/businesses will purchase or lease space at the proposed light industrial baseyard. During the subdivision process, CBL will work with the contractor, once selected, to develop a solid waste management plan as required by the County of Maui Department of Public Works and Environmental Management.
3. We note your comment with regards to the water source for the project. We concur with the Department of Water Supply's (DWS) letter of January 5, 2004, that their source is the Iao and Waihee Aquifers for the area. However, the project does not plan to tie-in to the County's water system. As noted in Appendix J of the Draft

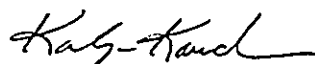
Anthony J.H. Ching
Executive Officer
August 9, 2004
Page 2

Environmental Assessment (DEA), CBL's water resource engineer has noted that the source for the project's well is the Kahului aquifer.

4. We note your comment with regards to the projected sales prices and lot sizes for the proposed light industrial subdivision. Please note that the lot prices will be influenced by the requirements placed on the subdivision by the Land Use Commission and the County of Maui during the change in zoning process. Prices would be further determined by market conditions at the time of the lot sales/leases. CBL feels that their lot prices and lease rates will likely be in the low to mid-range for other commercial/light-industrial properties available in Central Maui at the time the lots are sold or leased. Currently, the existing range of purchase prices for similar land is \$20.00 to \$35.00 per square foot, with most of the available lands having a more "commercial/retail" element to them.
5. We note your comment with regards to the varying number of lots cited in the Market Study, Traffic Impact Analysis Report (TIAR), Preliminary Engineering Report and Preliminary Drainage Report. At the time the Market Study and the TIAR were prepared, the subdivision was planned for 38 lots. However, the subdivision was later reconfigured which resulted in 39 lots. Since the filing of the Draft Environmental Assessment, the subdivision has been reconfigured to 35 lots. The consultants will be asked to review their reports and determine if the new lot count will change their findings. Their conclusions will be included in the Final Environmental Assessment.

Should you have any questions, please do not hesitate to call me at (808) 244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton and David Ward, Frampton & Ward, LLC
Stacy Otomo, Otomo Engineering, Inc.
Tom Nance, Tom Nance Water Resource Engineering
Blaine Kobayashi, Carlsmith Ball

cbaseyrd/waikapu/stucdea.res



**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**

LINDA LINGLE
GOVERNOR
THEODORE E. LU
DIRECTOR
STEVE BRETSCHEIDER
DEPUTY DIRECTOR
MARY LOU KODAYASHI
ADMINISTRATOR
OFFICE OF PLANNING

OFFICE OF PLANNING

236 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2648
Fax: (808) 587-2624

Ref. No. P-10498

June 24, 2004

Mr. Roderick Fong
Consolidated Baseyards, LLC
33 Lono Avenue, Suite 450A
Kahului, Hawaii 96732

Dear Mr. Fong:

Subject: Proposed Consolidated Baseyards, Light Industrial Subdivision
TMK: 3-8-07: 89, 143, and 144

The Office of Planning has reviewed the Draft Environment Assessment relating to Consolidated Baseyards' (applicant) request for a State Land Use District Boundary Amendment from the Agricultural District to the Urban District, and a County Change in Zoning from Agricultural to the "M-1", Light Industrial in conformance with the "Industrial" designation in the Wailuku-Kahului Community Plan.

Based on the applicant's review and evaluation of the project with the Hawaii Administrative Rules (HAR) Title 11, Chapter 200, Section 12, Significance Criteria, the Applicant concluded that proposed development of the site would not result in any significant impacts to the environment. Under Subsection B 11 of the HAR, an action shall be determined to have a significant effect on the environment if it *"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 site is located approximately 3/8 miles east of a bridge that allows a cane haul road to traverse Waikapu Stream. Waikapu Stream is a perennial stream that flows in a southeasterly direction approximately 1/4 mile west of the project site's southwestern boundary. Although lands surrounding the stream and the project site are within Zone C and outside of the designated flood Zone A, the site's proximity to the flood zone makes it a potential risk for flooding. Earlier this year, rocks and debris washed down from upstream during heavy rains, blocked the flow of water under the bridge, and Waikapu Stream overflowed its banks. Waiko Road and properties fronting Waiko Road were flooded towards Kuihelani Highway.

Mr. Roderick Fong
Page 2
June 24, 2004

The Final Environmental Assessment (FEA) should address the feasibility of including structural improvements within the site, the proposed improvements for a 60-foot right-of-way fronting the site, and/or Best Management Practices (BMPs) to mitigate future occurrences of flooding. Waiko Road should also be improved to accommodate the existing baseyards and other activities which are existing and/or proposed.

Permitted uses within the County "M-1 Light Industrial District" are very broad as this zoning district also permits uses allowed under B-1, B-2, or B-3 (Neighborhood, Community, and Central) Business District.

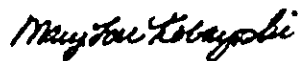
The FEA should identify and evaluate potential soil and groundwater contamination problems. The FEA should further include a description of the BMPs that would be implemented to mitigate, prevent, control or capture toxicants, nutrients, illegal discharges and other pollutants that could result from industrial and other uses permitted under the "M-1 Light Industrial District".

We understand that there are existing industrial operations utilizing approximately 12 acres within the project area and that these acreages in use are not contiguous. The FEA should include a graphic that describes the nature, location and acreage used for these operations.

The project site consists of three parcels. The FEA should include a figure showing the existing subdivision. Further, we would appreciate a history of the parcel, including the purpose of the original subdivision. Other existing activities along Waiko Road between Honoapiilani Highway and Kuihelani Highway should be described in more detail.

Thank you for the opportunity to provide these comments. Should you have any questions, please call Judith Henry at 587-2803.

Sincerely,



Mary Lou Kobayashi
Administrator
Office of Planning

c: Anthony Ching, LUC
Genevieve Salmonson, OEQC



August 5, 2004

Mary Lou Kobayashi, Administrator
State of Hawaii
Office of Planning
P.O. Box 2359
Honolulu, Hawaii 96804

SUBJECT: Draft Environmental Assessment for the Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot located at TMK (2) 3-8-007:089, 143 and 144

Dear Ms. Kobayashi:

Thank you for your letter dated June 24, 2004, providing us with your comments on the Draft Environmental Assessment prepared for the proposed project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to offer the following responses to your concerns.

1. We note your comment with regards to the recent flooding of Waiko Road, which fronts the subject properties. Please note that the CBL lots did not suffer any flooding during the storm that washed out a portion of Waiko Road. As you stated, the parcels are located in Flood Zone C. It is our understanding that the flooding occurred because upstream waters were diverted by debris in Waikapu Stream. Further, we understand that the County of Maui is working to ensure removal and maintenance of debris in Waikapu Stream.
2. We acknowledge your comment with regards to the inclusion of information on any structural improvements, the 60 foot right-of-way, and the inclusion of Best Management Practices (BMPs) to mitigate any future flooding of the site. Appropriate BMP's will be utilized during project construction to avoid possible effects of flooding at the project site. Further, site specific BMP's, relative to the site's flood zone designation, will be submitted with construction plans in conjunction with forthcoming subdivision review and building permit processing:

With regards to Waiko Road improvements, we understand that the Department of Public Works and Environmental Management is seeking Federal funding to improve Waiko Road to Rural Collector standards. As part of the subdivision

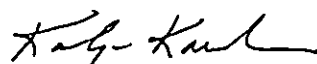
Mary Lou Kobayashi, Administrator
August 5, 2004
Page 2

process, CBL will coordinate with the County of Maui to improve the roadway fronting the project site to these standards.

3. We note your comment with regards to the broad range of uses allowed in M-1 Light Industrial zoning. CBL has had preliminary discussions with the County of Maui Planning Department relative to the definition of allowable uses for the proposed subdivision. The Planning Department has indicated their desire to limit uses to those fitting the land use context of the surrounding lands. Criteria for defining appropriate uses will be further discussed and developed in coordination with the Planning Department during the change-in-zoning process.
4. We note your comment with regards to identifying and evaluating potential soil and groundwater contamination problems. CBL has had a Phase I environmental study done for the parcel which indicated no history of violations for hazardous materials on the property. Applicable recommendations contained in the Phase I study will be addressed in the Final EA.
5. We note your comment with regards to the current utilization of the property for equipment and material storage, as well as minor servicing. As noted in the Draft Environment Assessment, 12 acres of the approximately 23.2 acres have been graded and are currently being utilized. We will include a graphic that indicates the approximate locations of current uses in the FEA.
6. We note your comment with regards to the subdivision of the property. A history of the subdivision, including a subdivision graphic will be included in the Final EA.

Should you have any questions, please feel free to contact me at (808)244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Stacy Otomo, Otomo Engineering, Inc.
Blaine Kobayashi, Carlsmith Ball
Anthony Ching, State Land Use Commission

cbaseyd/waikapu/osp.res

LINDA LINGLE
GOVERNOR OF HAWAII



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

JUN 14 2004

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

In reply, please refer to:
EMD/SDWB

June 8, 2004

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

Dear Ms. Kawahara:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
CONSOLIDATED BASEYARDS LIGHT INDUSTRIAL SUBDIVISION
TAX MAP KEY: (2) 3-8-007: 89, 143, AND 144

Thank you for the opportunity to review and comment on the subject document which was provided through Mr. Herbert Matsubayashi, District Environmental Health Program Chief. We have examined the Draft Environmental Assessment (DEA) and have the following comments to offer:

1. The proposed, privately owned water system will be classified as a "public water system." Federal and state regulations define a public water system as a system that serves 25 or more individuals at least 60 days per year or has at least 15 service connections. All public water system owners and operators are required to comply with Hawaii Administrative Rules, Title 11, Chapter 20, Rules Relating to Potable Water Systems.
2. The DEA indicates that the project will utilize an onsite well as its source of potable water. Section 11-20-29 of Chapter 20 requires that all new sources of potable water serving a public water system be approved by the Director of Health prior to its use. Such an approval is based primarily upon the submission of a satisfactory engineering report which addresses the requirements set in Section 11-20-29.
3. The engineering report must identify all potential sources of contamination and evaluate alternative control measures which could be implemented to reduce or eliminate the potential for contamination, including treatment of the water source. While the exact location of the existing well is not indicated in the DEA, it is clear that there are many existing and potential sources of contamination in the area. The numerous industrial (Waiko Baseyard, Rojac Trucking Baseyard, Brewer Environmental, Waikapu Landfill, etc.) and agricultural (cattle feedlot grazing, sugar cane cultivation) activities, and the sandy, highly

Ms. Karlynn Kawahara
June 8, 2004
Page 2

permeable soils are very serious concerns. The proposed project will introduce additional sources of contamination with onsite storm runoff detention basins for each individual lot and another for the roadway improvements, and individual wastewater systems for each lot.

4. Water quality analyses, performed by a laboratory certified in the State of Hawaii, must be submitted as part of the report to demonstrate compliance with all drinking water standards. Additional tests may be required by the Director upon his review of the information submitted.
5. Section 11-20-30 requires that new or substantially modified distribution systems for public water systems be approved by the Director.
6. Since the water system will be servicing an industrial subdivision, each service connection will need to be protected by an approved reduced pressure principle backflow prevention device. The water system owner and operator will need to submit a water system management plan detailing who will be responsible for testing and maintaining the backflow prevention devices.
7. Section 11-20-29.5 of Chapter 20 requires that all new community (probable classification of this water system) public water systems demonstrate adequate technical, managerial, and financial capacity to reliably and consistently produce and deliver drinking water in compliance with all state and federal drinking water regulations, in effect or likely to be in effect when operations begin.
 - Technical capacity refers to the physical infrastructure of the water system, including but not limited to the adequacy of the water source(s), treatment, storage, and distribution systems, and the ability of system personnel to adequately operate and maintain the system and to otherwise implement technical knowledge.
 - Managerial capacity refers to the ability of the water system to manage itself, including clear ownership, organization, communications, accountability, adequate management, staffing, policies, training, and information management; and effective relationships with customers and regulatory agencies.
 - Financial capacity refers to the financial resources of the water system, including an adequate budget, adequate fiscal controls, and credit worthiness.

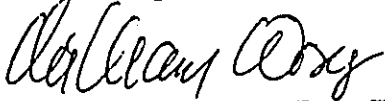
Ms. Karlynn Kawahara
June 8, 2004
Page 3

We are enclosing a copy of the document, "New Community and New Nontransient Noncommunity Water System Start-Up Requirements (September 10, 1999)" to help explain capacity, how and when it must be demonstrated, and the approval process.

8. Hawaii Administrative Rules, Title 11, Chapter 25, Rules Relating to Certification of Public Water System Operators, requires all community public water systems to be operated by certified water distribution system operators.

If you have any questions concerning drinking water, please contact Stuart Yamada of the Safe Drinking Water Branch, Engineering Section at 586-4258, or Gordon Muraoka, Maui Safe Drinking Water Branch Sanitarian, at 984-8234.

Sincerely,



WILLIAM WONG, P.E., CHIEF
Safe Drinking Water Branch
Environmental Management Division

SY:slm

- c:
1. Gordon Muraoka, Maui SDWB Sanitarian
 2. Herbert Matsubayashi
Maui District Environmental Health Program Chief



August 6, 2004

William Wong, P.E., Chief
State of Hawaii
Department of Health
Safe Drinking Water Branch
P.O. Box 3378
Honolulu, Hawaii 96801-3378

SUBJECT: Draft Environmental Assessment for the Proposed Consolidated Baseyards, LLC, Light Industrial Baseyard at TMK 3-8-007:089, 143 and 144, Waikapu, Maui, Hawaii

Dear Mr. Wong:

Thank you for your letter dated June 8, 2004 regarding the subject project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to respond to your comments.

1. We acknowledge your comment and will comply with Hawaii Administrative Rules, Title 11, Chapter 20, as appropriate.
2. We acknowledge your comment and will submit the required information to the Department of Health for review and approval.
3. We acknowledge your comment with regards to the engineering report and will forward a copy of your letter to the engineer to insure that the required information is submitted as applicable.
4. The applicant will comply with the requirement to submit water quality analyses.
5. The applicant will comply with the requirement of Section 11-20-30, Hawaii Administrative Rules.
6. We acknowledge your comment and will submit a water system management plan for your review and comment.

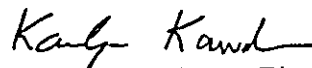
William Wong, P.E., Chief
August 6, 2004
Page 2

7. Applicable sections of Section 11-20-29.5 of Chapter 20 will be addressed to ensure compliance with requirements for technical, managerial and financial reliability.
8. We acknowledge your comment and will insure that the water system is operated by a certified water distribution system operator.

Thank you for your thorough review of the requirements and process to obtain the department's certification of the well for drinking water use. We acknowledge that the complete set of required water analyses and assessments of potential sources of groundwater contamination will need to be done and incorporated in an engineering report, which will be submitted to your department for review and ultimate approval.

Should you have any further questions, please do not hesitate to call me at (808)244-2015.

Very truly yours,


Karlynn Kawahara, Planner

KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Tom Nance, Tom Nance Water Resource Engineering
Blaine Kobayashi, Carlsmith Ball
Anthony Ching, Land Use Commission

cbaseyd/waikapu/dohsdwb.res

LINDA LINGLE
GOVERNOR OF HAWAII



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

JUN 02 2004

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

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

June 1, 2004

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

Dear Ms. Kawahara:

Subject: **Draft Environmental Assessment
Consolidated Baseyards Light Industrial Subdivision
TMK: (2) 3-8-007:089, 143 and 144**

Thank you for the opportunity to comment on the proposed Consolidated Baseyards Light Industrial Subdivision. The following comments are offered:

1. The proposed project is located in close proximity to the County Sewer System. All of the wastewater generated shall be disposed of through the County Sewer System.
2. A private water system will be developed for this subdivision. This system will be considered a "Public Water System" as defined in Hawaii Administrative Rules (HAR), Chapter 11-20. A "Public Water System" is a system that provides water for human consumption through pipe or other constructed conveyance and has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year. All public water systems are regulated by the Department of Health and shall be in compliance with HAR, Chapter 11-20. Approval of the water system by the Safe Drinking Water Branch is required.
3. National Pollutant Discharge Elimination System (NPDES) permit coverage is required for this project.

Ms. Karlynn Kawahara
June 1, 2004
Page 2

Should you have any questions, please call me at 984-8230.

Sincerely,



Herbert S. Matsubayashi
District Environmental Health Program Chief

dy:HM

c: Roderick Fong
Anthony J. H. Ching
Michael T. Munekiyo



August 9, 2004

Herbert Matsubayashi, District
Environmental Health Program Chief
Department of Health
54 High Street
Wailuku, Hawaii 96793-2102

SUBJECT: Draft Environmental Assessment for the Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot located at TMK (2) 3-8-007:089, 143 and 144

Dear Mr. Matsubayashi:

Thank you for your letter dated June 1, 2004, providing us with your comments on the Draft Environmental Assessment prepared for the proposed project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to offer the following responses to your concerns.

The project site is located approximately 3,200 feet away from the closest County of Maui sewer line connection as stated in the Preliminary Engineering Report (Appendix "E"). In developing the light industrial subdivision, the applicant reviewed the possibility of connecting to the County's wastewater system. The civil engineering consultant concluded that based on the current wastewater infrastructure in the area, the applicant would be required to put in a pump station and force main. In discussions with the County of Maui Wastewater Reclamation Division, the County stated that they will not accept a private pump station. Maintenance of the pump station would also be an issue. Finally, CBL would be required to process multiple easements with private landowners for the sewer improvements which would likely be an onerous process. Thus, based on the distance to the County's sewer connection as well as the additional costs associated with the possible connection (i.e. pump station and force main), CBL decided to pursue individual wastewater systems (IWS) for future owners/lessees. In the future, however, if the County's wastewater infrastructure is improved in the area, CBL would consider connection to the County's system.

Mr. Herbert Matsubayashi,
August 9, 2004
Page 2

We note your comments with regards to the private water system to be developed for the project. Plans will be submitted to the Department of Health, Safe Drinking Water Branch for review and approval.

Finally, CBL will work with the contractor to insure that all applicable permits are approved before the commencement of any construction activities.

Should you have any questions, please feel free to contact me at (808)244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:yp

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Stacy Otomo, Otomo Engineering, Inc.
Blaine Kobayashi, Carlsmith Ball
Anthony Ching, State Land Use Commission

cgaseydwakapudoh.deares

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 21, 2004

JUN 23 2004

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
DEPUTY DIRECTOR - WATER

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

LD-NAV
BASEYARDMAUI.RCM2

Munekiyo and Hiraga, Inc.
Karlynn Kawahara, Planner.
305 High Street, Suite 104
Waihuku, Hawaii 96793

Dear Ms. Kawahara:

**SUBJECT: Draft Environmental Assessment Consolidated Baseyard Industrial
Subdivision, Maui, Hawaii
TMK: (2) 3-8-07: 089, 3-8-07: 143 and 3-8-07: 144**

This is a follow-up to our letter to you dated June 16, 2004 (BASEYARDMAUI.RCM)
pertaining to the subject matter.

Enclosed please find a copy of the Commission on Water Resource Management
comment.

The Department of Land and Natural Resources has no other comment to offer. If you
have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support
Services Branch at 1-808-587-0384.

Very truly yours,

A handwritten signature in black ink, appearing to read "Dierdre S. Mamiya".

DIERDRE S. MAMIYA
Administrator

C: MDLO

LINDA LINGLE
GOVERNOR OF HAWAII

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LAND DIVISION



2004 JUN 16 A 9 25

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

PETER T. YOUNG
CHAIRPERSON

MEREDITH J. CHING
CLAYTON W. DELA CRUZ
JAMES A. FRAZIER
CHIYOME L. FUKINO, M.D.
STEPHANIE A. WHALEN

YVONNE Y. IZU
DEPUTY DIRECTOR

June 15, 2004

TO: Ms. Dede Mamiya, Administrator
Land Division

FROM: Yvonne Y. Izu, Deputy Director ^{YI}
Commission on Water Resource Management (CWRM)

SUBJECT: Waikapu Consolidated Baseyard (Maui) Draft EA

FILE NO.: BASEYARDMUNEKIYOMAU.COM2

Thank you for the opportunity to review the subject document. Our comments related to water resources are marked below.

In general, the CWRM strongly promotes the efficient use of our water resources through conservation measures and use of alternative non-potable water resources whenever available, feasible, and there are no harmful effects to the ecosystem. Also, the CWRM encourages the protection of water recharge areas, which are important for the maintenance of streams and the replenishment of aquifers.

- We recommend coordination with the county government to incorporate this project into the county's Water Use and Development Plan.
- 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.
- We are concerned about 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.
- A Well Construction Permit and/or a Pump Installation Permit from the Commission would be required before ground water is developed as a source of supply for the project.
- The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit from the Commission would be required prior to use of this source.
- Groundwater withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
- We are concerned about the potential for degradation of instream uses from development on highly erodible slopes adjacent to streams within or near the project. We recommend that approvals for this project be conditioned upon a review by the corresponding county's Building Department and the developer's acceptance of any resulting requirements related to erosion control.
- If the proposed project includes construction of a stream diversion, the project may require a stream diversion works permit and amend the instream flow standard for the affected stream(s).
- If the proposed project alters the bed and banks of a stream channel, the project may require a stream channel alteration permit.
- OTHER:

As the document points out in Appendix J, the water source for the supply well on this property is currently dependent upon large amounts of irrigation return flow. If and when this irrigation return flow is diminished or ceases, the natural sustainable yield of this aquifer may not support this use.

If there are any questions, please contact Charley Ice at 587-0251.



August 5, 2004

Yvonne Izu, Deputy Director
State of Hawaii
Department Land and Natural Resources
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

SUBJECT: Draft Environmental Assessment for the Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot located at TMK (2) 3-8-007:089, 143 and 144

Dear Ms. Izu:

Thank you for your letter dated June 15, 2003, providing us with your comments on the proposed project.


We understand that if and when HC&S plantation ceases operations, its return flow, which is a significant portion of the Kahului Aquifer system's recharge, would also come to an end. At the same time, its present pumpage of about 26 million gallons per day (MGD) from the aquifer would also be terminated. Maui Land & Pineapple has also indicated that it will be shutting down its cannery operation in Kahului, eliminating its two (2) MGD use of the aquifer. This would leave a total use of the aquifer in the range of just two (2) to three (3) MGD.

As explained in Appendix J of the DEA, there are several sources of recharge to the aquifer: (1) rainfall-recharge on the 9.54-square mile area of the aquifer, for which the Commission on Water Resource Management (CWRM) has established a sustainable yield of 1.0 MGD; (2) irrigation return flow (which may come to an end if the plantation ceases operations); (3) leakage from Waiale Reservoir which is fed by the Spreckles and Waihee Ditches, neither of which is guaranteed in perpetuity; (4) underflow from the West Maui Mountains; and (5) underflow from Mount Haleakala. Items (1), (4) and (5) are sources of recharge that can be relied upon in perpetuity, but only item (1) was considered in setting the aquifer's present sustainable yield. Since the project will only require 0.06 MGD, the well for the project is not near other existing or planned wells and since the aquifer's stragigraphy provides significant protection from seawater intrusion, we feel the modest required supply will be sustainable if and when irrigation return flow is diminished or ceases.

Yvonne Izu, Deputy Director
August 5, 2004
Page 2

Should you have any questions, please feel free to contact me at (808)244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Tom Nance, Tom Nance Water Resource Engineering
Blaine Kobayashi, Carlsmith Ball
Anthony Ching, State Land Use Commission

cbaseyd/waikapu/cwrm.res

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 16, 2004

JUN 17 2004
PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
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AQUATIC RESOURCES
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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

LD-NAV
BASEYARDMAUI.RCM

Munekiyo and Hiraga, Inc.
Karilynn Kawahara, Planner.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Kawahara:

SUBJECT: Draft Environmental Assessment Consolidated Baseyard Industrial
Subdivision, Maui, Hawaii
TMK: (2) 3-8-07: 089, 3-8-07: 143 and 3-8-07: 144

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 the subject Draft Environmental Assessment to the following DLNR Divisions for their review and comment:

- Division of Forestry and Wildlife
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land-Maui District Land Office

Based on the attached responses, the Department of Land and Natural Resources has no comment to offer. If you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

A handwritten signature in black ink, appearing to read "Dierdre S. Mamiya".

DIERDRE S. MAMIYA
Administrator

C: MDLO

LINDA LINGLE
GOVERNOR OF HAWAII



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LAND DIVISION



2004 JUN 10 A 10: 28

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

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
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AQUATIC RESOURCES
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BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

June 2, 2003

LD/NAV
BASEYARDMUNEKIYOMAU.COM2

Suspense Date: 6/12/04

MEMORANDUM:

TO:

- XXX Division of Forestry & Wildlife
- XXX Commission on Water Resource Management
- XXX Office of Conservation and Coastal Lands
- XXX Engineering Division
- XXX Maui District Land Office (DD)

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Draft Environmental Assessment Consolidated Baseyard Industrial
Subdivision, Maui, Hawaii,
TMK: (2) 3-8-07: 089, 3-8-07: 143 and 3-8-07: 144

Please review the DEA pertaining to the subject matter and submit your
comments if any on Division letterhead (signed and dated) by the suspense date.

Note: One copy of the DEA is available for review in the Land Division Office,
Room 220.

Should you need more time to review the document, please contact Nick Vaccaro
at 587-0384.

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

We have no comments.

Division: _____

Title: _____

Comments attached

Signed:

MICHAEL G. BUCK, ADMINISTRATOR
DIVISION OF FORESTRY AND WILDLIFE

JUN - 7 2004

LINDA LINGLE
GOVERNOR OF HAWAII



RECEIVED
LAND DIVISION

JUN 14 A 9 34

DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
HONOLULU, HAWAII 96809

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

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
DEPUTY DIRECTOR - WATER

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

June 2, 2003

LD/NAV
BASEYARDMUNEKIYOMAUI.COM2

Suspense Date: 6/12/04

MEMORANDUM:

TO:

- XXX Division of Forestry & Wildlife
- XXX Commission on Water Resource Management
- XXX Office of Conservation and Coastal Lands
- XXX Engineering Division
- XXX Maui District Land Office (DD)

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Draft Environmental Assessment Consolidated Baseyard Industrial
Subdivision, Maui, Hawaii,
TMK: (2) 3-8-07: 089, 3-8-07: 143 and 3-8-07: 144

Please review the DEA pertaining to the subject matter and submit your
comments if any on Division letterhead (signed and dated) by the suspense date.

Note: One copy of the DEA is available for review in the Land Division Office,
Room 220.

Should you need more time to review the document, please contact Nick Vaccaro
at 587-0384.

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

We have no comments.

Comments attached.

Division: MDLO

Signed: Jean K. Kyo

Title: District Land Agent

Date: 6-9-04

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

JUN 30 2004

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
DEPUTY DIRECTOR - WATER

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

June 22, 2004

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

LOG NO: 2004.1878
DOC NO: 0406CD50

Dear Ms. Kawahara,

**SUBJECT: Chapter 6E-42 Historic Preservation Review – Draft Environmental Assessment for the Proposed Consolidated Baseyards Light Industrial Subdivision Waikapu Ahupua`a, Wailuku District, Island of Maui
TMK: (2) 3-8-007:089, 143, & 144 (previously TMK: 3-8-007:089 & 102)**

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (Draft EA) for the proposed Consolidated Baseyards Light Industrial Subdivision, which was received by our staff May 20, 2004. Based on the submitted Draft EA, we understand the applicant is requesting the necessary entitlements to allow for the permanent use of the property for Light Industrial use.

In 2000, Aki Sinoto Consulting (ASC) conducted an archaeological inventory survey of the subject properties. Although no historic sites were identified during the survey, archaeological monitoring was recommended as a precautionary mitigation measure due to the possibility of human burials in the remnant sand dune deposit. We have reviewed and accepted the report documenting the negative survey findings and concurred that monitoring is warranted during all ground altering activities (SHPD DOC NO.: 0405MK23/LOG NO.: 2004.1630). An acceptable archaeological monitoring plan has been reviewed and accepted (SHPD DOC NO.: 0010MK01/LOG NO.: 26345) and is currently in place.

Given the above information, we believe there will be "no historic properties affected" by the proposed undertaking provided the specified conditions of the accepted monitoring plan are implemented.

If you have any questions, please call Cathleen A. Dagher at 692-8023.

Aloha,

P. Holly McEldowney, Administrator
Historic Preservation Division

CD: sky

LINDA LINGLE
GOVERNOR OF HAWAII



JUN 23 2004

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: ooqc@health.state.hi.us

June 21, 2004

Mr. Anthony Ching, Executive Officer
State Land Use Commission
235 South Beretania Street, 4th Floor
Honolulu, Hawai'i 96813

Dear Mr. Ching:

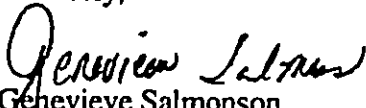
Subject: Draft EA for Consolidated Baseyards, Maui

Thank you for the opportunity to review the subject document. We have the following comment.

1. The petitioner is proposing to implement Best Management Practices to avoid or minimize various impacts associated with this project. Please specify in more detail the actions that will be taken to implement and enforce these BMPs.

Should you have any questions, please call Jeyan Thirugnanam at 586-4185.

Sincerely,


Genevieve Salmonson
Director

c: Consolidated Baseyards
Munekiyo & Hiraga, Inc.



August 5, 2004

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

SUBJECT: Draft Environmental Assessment for the Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot Located at TMK (2) 3-8-007:089, 143 and 144

Dear Ms. Salmonson:

Thank you for your letter dated June 21, 2004, providing us with your comments on the Draft Environmental Assessment prepared for the proposed project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to offer the following response.

We note your comment with regards to the incorporation of Best Management Practices (BMPs) for the project. Please note that CBL will work with its civil engineering consultant to develop a BMP plan for the project. Said BMP plan will be submitted with construction plans in conjunction with the forthcoming subdivision review and building permit processing. In general, BMPs to be included in the plan will seek to control fugitive dust, implement noise control measures and prevent inadvertent spills or discharges. At a minimum, BMPs will include watering of the disturbed areas, installation of dust control fences and insuring that any construction equipment is properly maintained to minimize any air or noise pollution to the surrounding area.

Should you have any questions, please feel free to contact me at (808) 244-2015.

Very truly yours,

A handwritten signature in black ink, appearing to read "Karlynn Kawahara", written in a cursive style.

Karlynn Kawahara, Planner

KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Stacy Otomo, Otomo Engineering, Inc.
Blaine Kobayashi, Carlsmith Ball
Anthony Ching, State Land Use Commission

cbaseyd/walkapu/oeqc.res

MAY 28 2004

PHONE (808) 594-1888

FAX (808) 594-1865



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

HRD04-1175B

May 26, 2004

Karlynn Kawahara, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Subject: Draft Environmental Assessment (DEA) for the Proposed Consolidated Baseyards Light Industrial Subdivision, TMK: (2) 3-8-07: Parcels 89, 143 and 144

Dear Ms. Kawahara:

Thank for your letter dated May 19, 2004 regarding the Draft Environmental Assessment (DEA) for the proposed Consolidated Baseyards Light Industrial Subdivision, TMK: (2) 3-8-07: Parcels 89, 143 and 144. Your letter requests that the Office of Hawaiian Affairs (OHA) review and comment on the proposed project.

The DEA notes, "the applicant is requesting necessary entitlements to allow for the permanent use of the property for Light Industrial use. Upon approval of requested entitlements, the applicant proposes the development of approximately 39 improved lots." The project is proposed to be completed in two phases, Phase I being constructed by 2006 with 20 lots, utility improvements and internal subdivision roads. Phase II is anticipated in 2009, with the remaining 19 lots. Improvements to the site include clearing and grubbing; grading; installation of underground water, drainage and utility systems, and paved roadways and landscaping.

Water Supply

The DEA notes water supply to the subject property is provided by an existing 8-inch well, identified by State Number 5129-02. On October 23, 2003, the State of Hawaii Commission on Water Resource Management (CWRM) acknowledged that all permitting requirements for the existing well were completed. An onsite storage tank will be constructed to meet the domestic water and fire-protection requirements of

the project. Domestic water demand for the project is anticipated at approximately 60,000 GPD. The project developers plan to construct a 326,000 gallon storage tank and ancillary booster pumps to meet the proposed project water needs. Appendix J, Groundwater Resource Report, DEA indicates, "the proposed draft of an average of 0.060 MGD from Well 5129-02 to supply the project will have no impact on the integrity of the aquifer or any its existing uses." However, OHA would still like clarification on the following statement: "Past and present pumpage from the Kahului Aquifer has substantially exceeded the 1.0 MGD amount that was set by the CWRW as its sustainable yield." It is unclear if the continued usage of the groundwater resource in the proposed project area can be sustained in the long-term.

Cultural Impacts

The Final EA must include a substantive cultural impact statement (CIS) based on consultation with the Native Hawaiian community, as required by Act 50, Session Laws of Hawaii 2000.

The CIS must identify and describe the cultural practices located within the potentially affected area; assess the impact on these practices; examine alternatives to the proposed action; and propose mitigation measures if needed.

Appendix G, Cultural Impact Assessment, DEA: "A Cultural Impact Assessment on a Piece of Property Located in Waikapū Ahupua'a, Wailuku District, Maui Island, Hawai'i, TMK: 3-8-07:89" indicates,

"Individuals and organizations, including the Native rights division of OHA, The Community Resource coordinator of OHA on Maui, and the Central Maui Hawaiian Civic Club were contacted by SCS in order to obtain information concerning cultural activities occurring at, or within the vicinity of Parcel 89. None of the individuals and/or groups who responded had any cultural information pertaining to the project area. To informants, Brendan Balthazar and Manny Lopes who, along with family members have leased pasturelands adjacent to the project area for over 25 years, reported no knowledge of any cultural activities occurring within the area of the project (Appendix A)."

Additionally, as the project proceeds, if additional practitioners or native Hawaiians come forward, their interest in the subject parcel should be accommodated.

Historic and Archaeological Resources

Appendix D, Archaeological Inventory Survey, DEA: "Archaeological Inventory Survey of the Proposed Industrial Park Development Area, Waikapu, Wailuku, Maui Island, TMK: 3-8-07: 89 and portion of 102" indicates, "although the results of the current study were negative and no-further pre-construction work is warranted, based on the discovery of a number of human burials in the neighboring areas during previous investigations, archaeological monitoring during construction is recommended."

Given the extensive grading and grubbing that has already occurred on the site, without revealing any significant burials or archaeological remains, it doesn't appear necessary to trigger the protections of Hawaii Revised Statutes, §6E-43.6 and Hawaii Administrative Rules (HAR), Title 13, Subtitle 13, Chapter 300, Rules of Practice and Procedure Relating to Burial Sites and Human Remains. However, as the DEA notes, if any significant cultural deposits or human burials are encountered on the site¹, work will cease in this area and the State Historic Preservation Division will be contacted.

If you have questions or concerns please contact Matthew Myers, Policy Advocate at 594-1945 or matthewm@oha.org.

'O wau iho nō,



Clyde W. Nāmu'o
Administrator

¹Appendix D, Archaeological Inventory Survey, Previous Archaeology, includes the following information: "An archeological inventory survey was recently completed within the proposed project area (Sinoto et. al. 2000). While no cultural remains were encountered during the surface survey as well as the ensuing subsurface testing procedure, based on the recorded occurrence of human burials in the surrounding areas, archaeological monitoring during construction has been recommended." As a consequence, the project developers should be aware that they may encounter burials as the project proceeds.



August 5, 2004

Mr. Clyde W. Namu'o, Administrator
State of Hawaii
Office of Hawaiian Affairs
Nationhood & Native Rights Division
711 Kapi'olani Boulevard, Suite 500
Honolulu, Hawaii 96813

SUBJECT: Draft Environmental Assessment for the Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot located at TMK (2) 3-8-007:089, 143 and 144

Dear Mr. Namu'o:

Thank you for your letter dated May 26, 2004, providing us with your comments on the Draft Environmental Assessment prepared for the subject project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to offer the following responses.

As indicated in Appendix J of the Draft Environmental Assessment, the 1.0 million gallon per day (MGD) sustainable yield set by the Commission on Water Resource Management (CWRM) for the Kahului Aquifer system is based exclusively on rainfall-recharge directly on the 9.54-square mile area of the aquifer itself. However, water levels (which indicate directions of water flow) and water chemistry (which help distinguish sources of recharge) both indicate that the aquifer's other sources of recharge, none of which are incorporated into the CWRM's sustainable yield, are of significantly greater magnitude. Two (2) of these sources, leakage of Waihee Ditch and Spreckels Ditch water from Waiale Reservoir and irrigation return flow, are dependent on continued operation of the plantation and the ditch systems. As such, their recharge cannot be counted on in perpetuity. Two (2) other sources not considered by the CWRM are also significant contributors which can be counted on in perpetuity. They are underflow from the West Maui Mountains and underflow from Mount Haleakala.

If and when plantation operations cease, the aquifer's present 28 to 29 MGD of pumpage would be reduced to two (2) to three (3) MGD. With the three (3) remaining sources of natural recharge, the well's relatively distant location from the then-remaining operating wells, and the natural protection from seawater intrusion provided by the aquifer's stratigraphy, being able to sustain a draft of just 0.06 MGD from the well is highly probable.

305 High Street, Suite 104 • Wailuku, Hawaii 96793 • ph: (808)244-2015 • fax: (808)244-8729 • planning@mhinc.com

environment
planning
government

Mr. Clyde W. Namu'o, Administrator
August 5, 2004
Page 2

Secondly, we note your comments with regards to the cultural impact statement (CIS). Should additional practitioners or Native Hawaiians having knowledge of the area be identified, CBL will have its consultant, Scientific Consultant Services, Inc., document appropriate informant information in the cultural impact assessment.

Finally, we concur with your comments with regards to archaeological resources. An archaeological monitoring plan has been reviewed and approved by the State Historic Preservation Division (SHPD) and was implemented during the initial grading of the project site. Said monitoring plan will continue to be utilized throughout project construction. Please see enclosed approval letter from SHPD.

Should you have any questions regarding this matter, please call me at (808)244-2015

Very truly yours,



Karlynn Kawahara, Planner

KK:yp

Enclosure

cc: Roderick Fong, Consolidated Baseyards, LLC (w/out enclosure)
Dean Frampton, Frampton & Ward, LLC (w/out enclosure)
Tom Nance, Tom Nance Water Resource Engineering (w/out enclosure)
Blaine Kobayashi, Carlsmith Ball (w/enclosure)
Anthony Ching, State Land Use Commission (w/enclosure)

cbaseyd\waka\kapuloa.deares

LINDA LINDLE
GOVERNOR



PATRICIA HAMAMOTO
SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2300
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

June 2, 2004

Mr. Roderick Fong
Consolidated Baseyards, LLC
33 Lono Avenue, Suite 450A
Kahului, Hawai'i 96732

Dear Mr. Fong:

Subject: Draft Environmental Assessment (DEA) for Consolidated Baseyards
Waikapu, Maui TMK: 3-8-7:89 143 and 144

The Department of Education (DOE) has no comment or concern about the development plans for a 23.2-acre light industrial subdivision in Waikapu. We appreciate the opportunity to review the Draft Environmental Assessment.

If you have any questions, please call Rae M. Loui, Assistant Superintendent of the Office of Business Services, at 586-3444 or Heidi Mecker of the Facilities and Support Services Branch at 733-4862.

Very truly yours,

A handwritten signature in cursive script that reads "Patricia Hamamoto".

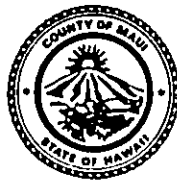
Patricia Hamamoto
Superintendent

PH:mp

c: Rae M. Loui, OBS
R. Minami, FSSB
Ken Nomura, CAS/Baldwin, Kekauike, Maui Complex Area

JUN 04 2004

ALAN M. ARAKAWA
MAYOR



CARL M. KAUPALOLO
CHIEF

NEAL A. BAL
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE AND PUBLIC SAFETY

200 DAIRY ROAD
KAHULUI, MAUI, HAWAII 96732
(808) 270-7561
FAX (808) 270-7919

June 2, 2004

Roderick Fong
Consolidated Baseyards, LLC
33 Lono Avenue, Suite 450A
Kahului, Hawaii 96732

Subject: Proposed Consolidated Baseyards Light Industrial Subdivision TMK (2)3-8-007:089,143,144

Dear Roderick Fong,

I have had the opportunity to review the proposed light industrial subdivision in general. At this time, our office has no specific comment but we will be looking at the following when the detailed plans and permits are submitted to us in the future.

1. Fire access roads and turnarounds
2. Fire protection requirements and hydrant spacings

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

Sincerely,

A handwritten signature in black ink, appearing to read "Valeriano F. Martin".

Valeriano F. Martin
Captain
Fire Prevention Bureau

cc: Anthony Ching, State Land Use Commission
Michael T. Munekiyo, Munekiyo & Hiraga, Inc.



August 6, 2004

Chief Carl Kaupalolo
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawaii 96732

SUBJECT: Draft Environmental Assessment for the Proposed Consolidated Baseyards, LLC, Light Industrial Baseyard at TMK 3-8-007:089, 143 and 144, Waikapu, Maui, Hawaii

Dear Chief Kaupalolo:

Thank you for your letter dated June 2, 2004, providing us with your comments on the proposed project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we note your comments with regards to the fire access roads and turnarounds in the proposed light industrial subdivision, as well as the fire protection requirements and hydrant spacing. We have forwarded your comments to the project's civil engineer for review and reference.

Should you have any questions, please feel free to contact me at 244-2015.

Very truly yours,

Karlynn Kawahara, Planner

KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Stacy Otomo, Otomo Engineering, Inc.
Blaine Kobayashi, Carlsmith Ball
Anthony Ching, Land Use Commission

cbaseyd/waikapu/mfd.res



DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

ALAN M. ARAKAWA
Mayor

ALICE L. LEE
Director

HERMANT T. ANDAYA
Deputy Director

200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX (808) 270-7165

June 9, 2004

Mr. Roderick Fong
Consolidated Baseyards, LLC
33 Lono Avenue, Suite 450A
Kahului, Hawaii 96732

Dear Mr. Fong:

**SUBJECT: PROPOSED CONSOLIDATED BASEYARDS
LIGHT INDUSTRIAL SUBDIVISION
TMK (2) 3-8-007:089, 143 & 144**

We have reviewed the draft Environmental Assessment (EA) for the subject project and have no comment to offer.

Thank you for the opportunity to comment. We are returning the draft EA for your use.

Very truly yours,

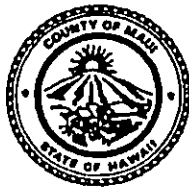
ALICE L. LEE
Director

ETO:hs

Enclosure

c: Ms. Genevieve Salmonson
Mr. Anthony J. H. Ching
Mr. Michael Munekiyo
Mr. Edwin Okubo

ALAN M. ARAKAWA
Mayor



MAY 26 2004

GLENN T. CORREA
Director

JOHN L. BUCK III
Deputy Director

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

DEPARTMENT OF PARKS & RECREATION

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

May 24, 2004

Mr. Roderick Fong
Consolidated Baseyards, LLC
33 Lono Avenue, Suite 450A
Kahului, Hawaii 96732

Dear Mr. Fong:

**SUBJECT: PROPOSED CONSOLIDATED BASEYARDS LIGHT INDUSTRIAL
SUBDIVISION, TMK (2) 3-8-007:089, 143 AND 144**

We have reviewed the Draft Environmental Assessment for the subject project and have no comments to submit.

Thank you for the opportunity to review and comment. Should there be any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

A handwritten signature in black ink, appearing to read "Glenn T. Correa", is written over a horizontal line.

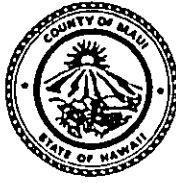
GLENN T. CORREA
Director

c: Patrick Matsui, Chief of Parks Planning and Development
Office of Environmental Quality Control
Anthony J.H. Ching, State Land Use Commission
Michael T. Munekiyo, Munekiyo & Hiraga, Inc.

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director



JUL 06 2004

COUNTY OF MAUI
DEPARTMENT OF PLANNING

June 30, 2004

Mr. Roderick Fong
Consolidated Baseyards, LLC
33 Lono Avenue, Suite 450A
Kahului, Hawaii 96732

Dear Mr. Fong:

RE: Draft Environmental Assessment for the Proposed Consolidated Baseyards Light Industrial Subdivision located at TMK: 3-8-007: 089, 143, and 144 (LTR 2004/1798)

The Maui Planning Department (Department) is in receipt of the Draft Environmental Assessment (DEA) for the above referenced project. Although the 30-day public comment period expired June 22, 2004, the Department requests the following items be addressed in the Final EA:

1. The State Special Use Permit allows a baseyard facility and accessory uses for businesses within the construction and heavy equipment industry. Construction and heavy equipment operations typically use regulated and hazardous substances. Provide a description of the existing business operations, and a list of regulated and hazardous substances, if any. If applicable, provide the following:
 - a. Discuss management practices and compliance with federal, state, and county regulations regarding regulated/hazardous substances.
 - b. Provide an analysis as to whether the properties are listed in any federal, state, and county environmental databases.
 - c. Provide an analysis to determine whether the property may be contaminated with hazardous/toxic substances resulting from current or past site activities, unauthorized dumping or disposal, or migration of contaminants.

2. Discuss where the existing uses will be relocated with the implementation of the proposed project.
3. Provide a discussion of energy conservation measures proposed for the project.
4. The Cumulative Impacts Analysis should include the Wailolani Mauka 108-lot Subdivision located mauka of Honoapiilani Highway across from the Spencer Homes Waikapu Affordable Housing Project.
5. Waiko Road was closed from damage from recent winter storm events. To date, the road remains closed to through traffic. What is the status of repairs? What are the potential impacts and proposed mitigative measures should the project complete construction prior to reopening Waiko Road?
6. As noted in a letter dated February 4, 2004, the Department recommends the following limited uses with the Change in Zoning request; and further notes that ongoing discussions are currently underway with the Applicant to finalize the proposed uses.
 - a. M-1, Light Industrial, Section 19.24.020, Maui County Code (MCC)
 - i. Animal kennels;
 - ii. Carpet cleaning plants;
 - iii. Cold storage plants;
 - iv. Commercial laundries;
 - v. Craft, cabinet and furniture manufacturing;
 - vi. Assembly of electrical appliances, radios and phonographs including the manufacture of small parts such as coils, condensers, crystal holders and the like;
 - vii. Farm implement sales and service;
 - viii. General food, fruit and vegetable processing and manufacturing plants;
 - ix. Ice cream and milk producing, manufacturing and storage;
 - x. Laboratories – experimental, photo or motion picture, film or testing;
 - xi. Light and heavy equipment and product display rooms, storage and service;
 - xii. Machine shop or other metal working shop;

- xiii. The manufacture, compounding or treatment of articles or merchandise from the following previously prepared materials; aluminum, bone, cellophane, canvas, cloth, cork, feathers, felt, fibre, fur, glass, hair, horn, leather, plastics, precious or semi-precious metals or stones, shell, tobacco and wood;
 - xiv. The manufacture, compounding, processing, packing or treatment of such products as candy, cosmetics, drugs, perfumes, pharmaceutical, toiletries, and food products except the rendering or refining of fats and oils;
 - xv. The manufacture, dyeing and printing of cloth fabrics and wearing apparel;
 - xvi. The manufacture of musical instruments, toys, novelties and rubber and metal stamps;
 - xvii. Manufacture of pottery and figurines or other similar ceramic products;
 - xviii. Milk bottling or central distribution stations;
 - xix. Plumbing shops having more than five employees;
 - xx. Poultry or rabbit slaughter incidental to a retail business on the same premises;
 - xxi. Radio transmitting and television stations; provided, that towers are of the self-sustaining type without guys;
 - xxii. Replating shop;
 - xxiii. Retail lumber yard including mill and sash work, except that mill and sash work shall be conducted within a completely enclosed building;
 - xxiv. Small boat building;
 - xxv. Soda water and soft drink bottling and distribution plants;
 - xxvi. Tire repair operation including recapping and retreading;
 - xxvii. Vocational and trade schools giving general instruction as prescribed by the State Department of Education;
 - xxviii. Warehouse, storage and loft buildings;
 - xxix. Wearing apparel manufacturing;
 - xxx. Wholesale business, storage buildings, nonexplosive goods and warehouses;
- b. B-1, Neighborhood Business District, Section 19.16.020, MCC
- i. Churches

- c. B-2, Community Business District, Section 19.18.020, MCC
- i. Automobile parking lots and/or buildings;
 - ii. Automobile parts stores;
 - iii. Automobile service stations, with or without auto repairing; provided all auto repairing operations are conducted in enclosed buildings; and provided further, that tire rebuilding or battery manufacturing shall not be permitted within this district;
 - iv. Automobile upholstery shops;
 - v. Awning or canvas shops;
 - vi. Dressmaking shops;
 - vii. Equipment rental and sales yards;
 - viii. Feed stores;
 - ix. Hardware and garden supply stores;
 - x. Ice cream and milk manufacturing plants employing not more than twenty-five persons;
 - xi. Nurseries (flower or plants); provided, that all incidental equipment and supplies, including fertilizers and empty cans, are kept within enclosed buildings;
 - xii. Parcel delivery stations;
 - xiii. Pet shops, involving the treatment or boarding of animals;
 - xiv. Plumbing shops;
 - xv. Public parking areas;
 - xvi. Radio and television stations;
 - xvii. Sign-painting shops;
 - xviii. Used car lots; provided all repair and maintenance is conducted within a wholly enclosed building;
 - xix. Warehouses and yards which are adjunct to, and part of, the operation of the permitted uses listed above may be permitted by the commission, provided such uses are determined to conform to the intent of this article, and subject to such terms and conditions as may be warranted. Such uses shall be conducted wholly within a completely enclosed building or within an area enclosed on all sides by a solid fence or wall at least six feet in height; and provided, that no goods, materials, or objects shall be stacked higher than the fence or walls so erected;
 - xx. Any other retail businesses or commercial enterprises which are similar in character of rendering sales of

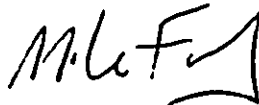
Mr. Roderick Fong
June 30, 2004
Page 5

commodities or performance of services to the community and not detrimental to the welfare of the surrounding area; provided, however, that such uses shall be approved by the commission as conforming to the intent of this article.

- d. B-3, Central Business District, Section 19.20.020, MCC
- i. Automobile repair shops and garages;
 - ii. Automobile painting or steam cleaning;
 - iii. Automobile upholstery shops;
 - iv. Awning or canvas stores;
 - v. Equipment rental and sales yards;
 - vi. Lumber yards;
 - vii. Machine shops;
 - viii. Plumbing shops;
 - ix. Storage buildings and warehouses (separate from main building);
 - x. Storage yards;
 - xi. Trucking and truck storage;
 - xii. Used car lots.

Thank you for the opportunity to comment. Should you require additional clarification, please contact Ms. Kivette A. Caigoy, Environmental Planner, at 270-7735.

Sincerely,



Michael W. Foley
Planning Director

MWF:KAC:do

c: Wayne Boteilho, Deputy Planning Director
Clayton I. Yoshida, AICP, Planning Program Administrator
Kivette A. Caigoy, Environmental Planner
Joseph W. Alueta, Staff Planner
State Land Use Commission
OEQC
Munekiyo & Hiraga
General File
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August 5, 2004

Michael W. Foley, Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793

SUBJECT: Draft Environmental Assessment for the Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot Located at TMK (2) 3-8-007:089, 143 and 144

Dear Mr. Foley:

Thank you for your letter dated June 30, 2004 regarding the subject project. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to offer the following responses to your comments.

1. A Phase I Environmental Site Assessment was conducted for the CBL site. Pertinent issues relating to hazardous substances will be addressed in the Final EA.
2. At the time of project marketing, individual lots and/or leases will be made available to current tenants, as well as members of the general public.
3. We note your comment with regards to energy conservation measures for the subdivision. Each individual owner/lessee will be encouraged to implement energy conservation measures in their facility. Measures could include use of solar water heating and energy efficient lighting.
4. We note your comment with regards to the inclusion of the proposed Waiolani Mauka project and the Spencer Homes Affordable Housing Subdivision in the cumulative impacts analysis. Please note that the Spencer Homes project was included in the cumulative analysis. We will include the Waiolani Mauka subdivision in the Final Environmental Assessment (FEA).
5. Waiko Road was reopened on July 16, 2004. To this effect, CBL, along with additional landowners and occupants of Waiko Road, contributed half of the necessary improvements required to repair Waiko Road (including labor, materials and capital), while the County of Maui contributed the remaining half.

Michael W. Foley, Director
August 5, 2004
Page 2

As for long term improvements, we understand that the Department of Public Works and Environmental Management is seeking Federal funding to improve Waiko Road to Rural Collector standards. As part of the subdivision process, CBL will coordinate with the County of Maui to improve the roadway fronting the project site to these standards.

6. We note your comment with regards to the limited uses for the proposed Change In Zoning. In general, CBL is agreeable to the limited uses outlined in your letter. As we understand, said limitations would expire seven (7) years from the time of subdivision approval. Nevertheless, the applicant is willing to have further discussions with the Planning Department on limited uses in the proposed light industrial subdivision.

Should you have any further questions, please do not hesitate to call me at 244-2015.

Very truly yours,



Karlynn Kawahara, Planner

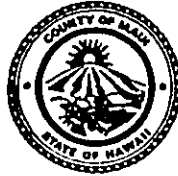
KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Blaine Kobayashi, Carlsmith Ball
Anthony Ching, Land Use Commission

cbaseyd/waikapu/planning.res

JUN 17 2004

ALAN M. ARAKAWA
Mayor



GEORGE Y. TENGAN
Director

JEFFREY T. PEARSON, P.E.
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 South High Street
WAILUKU, MAUI, HAWAII 96793-2155
Telephone (808) 270-7816 • Fax (808) 270-7833
www.mauewater.org

June 14, 2004

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

Subject: Proposed Consolidated Baseyards Light Industrial Subdivision
TMK: 3-8-07:089, 143 and 144

Dear Ms. Kawahara:

Thank you for the opportunity to provide comments on this Environmental Assessment (EA). In addition to our comments of January 5, 2004 to the District Boundary Amendment for this project included in the EA material, we provide the following information:

Should a private domestic water and fire protection system be developed, using an on-site well, we encourage the applicant to develop the water system to Department standards and to identify a contingency or back up source. The applicant should contact our engineering division with regards to system improvements at: 270-7835.

Absent details of demand estimate in the EA, water use would be about 139,000 gallons per day based on system per acre standards.

Should you have any questions, please contact our Water Resources and Planning Division at 270-7199.

Sincerely,


George Y. Tengan
Director
emb

c: engineering division

C:\WPdocs\EAs EISs\Consolidated baseyards .wpd

By Water All Things Find Life



August 9, 2004

George Tengan, Director
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793

SUBJECT: Draft Environmental Assessment for the Proposed District Boundary Amendment for Consolidated Baseyards, LLC Industrial Lot Located at TMK (2) 3-8-007:089, 143 and 144

Dear Mr. Tengan:

Thank you for your letter dated June 14, 2004, providing us with your additional comments on the proposed project. On behalf of our client, Consolidated Baseyards, LLC, (CBL), we note your comments with regards to the development of the on-site well for domestic water and fire protection purposes. We have forwarded your comments to the civil engineering consultant and will have him contact your engineering division to further discuss system improvements. Further, we note your comment with regards to the Department of Water Supply's (DWS) estimated water usage for the project of 139,000 gallons per day. Finally, we would like to note that should water infrastructure become available in the area in the future, the applicant would consider connection for DWS service.

Should you have any questions, please feel free to contact me at 244-2015.

Very truly yours,

A handwritten signature in black ink, appearing to read "Karlynn Kawahara", written in a cursive style.

Karlynn Kawahara, Planner

KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Stacy Otomo, Otomo Engineering, Inc.
Blaine Kobayashi, Carlsmith Ball
Anthony Ching, Land Use Commission

cbaseyd/waikapu/dws2.res

305 High Street, Suite 104 • Wailuku, Hawaii 96793 • ph: (808)244-2015 • fax: (808)244-8729 • planning@mhincollinc.com

environment
planning
government



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



THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAPIO R. AKANA
DEPUTY CHIEF OF POLICE

August 10, 2004

Mr. Roderick Fong
Consolidated Baseyards, LLC
33 Lono Avenue, Suite 450A
Kahului, HI 96732

Dear Mr. Fong:

**SUBJECT: Proposed Consolidated Baseyards Light Industrial Subdivision TMK
(2) 3-8-007:089, 143 and 144**

Thank you for your letter of May 19, 2004, requesting comments on the above subject.

We have reviewed the proposed assessment and have enclosed our comments. Thank you for giving us the opportunity to comment on this project.

Very truly yours,

Assistant Chief Sydney Kikuchi
for: Thomas M. Phillips
Chief of Police

c: Anthony Ching, State Land Use Commission
Michael T. Munekiyo, Munekiyo & Hiraga, Inc.
Michael Foley, Planning Department

Enclosure

Forward to Dept of Planning by [signature] 8/10/04

TO : CHIEF THOMAS PHILLIPS, MAUI POLICE DEPT CHIEF OF POLICE
VIA : CHANNELS
FROM : CRAIG S. BAJADALI, WAILUKU COMMUNITY POLICE OFFICER
SUBJECT : CONSOLIDATED BASE YARDS (T.M.K. 3-8-07:89/143/144)

Sir, this TO/FROM is being submitted regarding the above mentioned subject matter.

Upon review of the Environmental Assessment for the consolidated BASE YARDS will be used as an industrial subdivision working out of the Waiko Road, Wailuku area.

The entrance to the subdivision will be set back 20' from Waiko Rd., Wailuku thus larger semi truck vehicles should not be a traffic hazard. However due to several new subdivisions, Spencer Homes developing approximately 700 new units also being developed across Honoapiilani Highway at Waiko Rd along with the Waiolani Mauka Subdivision of Munekiyo and Hiraga, Inc.

Upon reviewing a draft for the Waiolani Mauka Subdivision. Traffic impact is the key concern. It is also noted within the Draft that a Traffic Impact Study was conducted and its conclusion is that of installing a traffic signal at Honoapiilani Hwy and Pilikana Street.

Upon contact with Karlynn KAWAHARA of Munekiyo and Hiraga, Inc on 03/17/04 she confirmed the implementation of a traffic signal at said intersection.

All commercial vehicles shall be re routed south on Waiko Rd to Kuihelani Highway for usage. NO COMMERCIAL vehicles will be allowed to travel on Waiko Rd heading towards Honoapiilani Hwy.

Respectfully submitted for your perusal.

[Signature]
Craig S. BAJADALI #E 8914

Date: 08/04/04

Time: 1505 hrs

Concur with Officer BAJADALI in that no Commercial vehicles regardless of weight should be allowed to access Honoapiilani Hwy. through Waikapu Town using Waiko Road. Commercial should utilize Kuihelani Highway as its main artery for accessing locations on the island.

Sgt. [Signature] 8/4/04

*CONCUR.
THUCKS FOR A GOOD
MIX IN A RESIDENTIAL
COMMUNITY.
[Signature] 8/5/04*



August 12, 2004

Chief Thomas Phillips
Maui Police Department
55 Mahalani Street
Wailuku, HI 96793

SUBJECT: Draft Environmental Assessment for the Proposed Consolidated Baseyards, LLC, Light Industrial Baseyard at TMK 3-8-007:089, 143 and 144, Waikapu, Maui, Hawaii

Dear Chief Phillips:

Thank you for your comments dated August 10, 2004, regarding the proposed Consolidated Baseyards Light Industrial Subdivision Draft Environmental Assessment. On behalf of our client, Consolidated Baseyards, LLC (CBL), we would like to offer the following responses to your concerns.

It is our understanding that the proposed Waiolani Mauka project plans to install a traffic signal at the Pilikana Street and Honoapiilani Highway intersection should the proposed subdivision be approved.

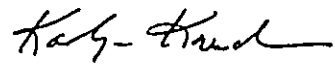
As we understand, heavy vehicles are currently restricted from utilizing the northern portion of Waiko Road, due to structural limitations of the existing bridge. CBL will continue to notify future subdivision buyers and/or tenants of the load restriction until such time that the bridge be repaired or reconstructed to accommodate heavier loads.

Please note that the traffic engineer, in preparation of the Traffic Impact Assessment Report (TIAR), considered the existing capacity of Waiko Road and its intersection with Honoapiilani Highway. Results of the TIAR incorporated project generated vehicles accessing the northern portion of Waiko Road. As such, standard size commercial vehicles were accounted for in the study.

Chief Thomas Phillips
August 12, 2004
Page 2

Should you have any further comments or questions, please feel free to contact me at 244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:tn

cc: Roderick Fong, Consolidated Baseyards, LLC
Dean Frampton, Frampton & Ward, LLC
Anthony Ching, State Land Use Commission
Michael W. Foley, Department of Planning

cbasyed/waikapu/mpd.res

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Appendices

Appendix A

***State Land Use Commission
Findings of Fact, Conclusions
of Law and Decision and Order,
Dated September 19, 1995; and
Order Granting a Time Extension
Request Dated July 21, 1997 and
October 26, 1999***

COPY

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)
FONG CONSTRUCTION)
To Establish a Construction)
Baseyard and Accessory Uses on)
Approximately 31.164 Acres of Land)
within the State Land Use)
Agricultural District at Waikapu,)
Maui, Hawaii, THK 3-8-07: 89 and)
por. 102)

DOCKET NO. SP94-387
FINDINGS OF FACT,
CONCLUSIONS OF LAW, AND
DECISION AND ORDER

This is to certify that this is a true and correct
copy of the Decision and Order on file in the office
of the State Land Use Commission, Honolulu, Hawaii.

SEP 19 1995 by [Signature]
Executive Officer

FINDINGS OF FACT, CONCLUSIONS OF LAW,
AND DECISION AND ORDER

SEP 19 1995
LAND USE COMMISSION
HONOLULU, HAWAII

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)
FONG CONSTRUCTION)
To Establish a Construction)
Baseyard and Accessory Uses on)
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Agricultural District at Waikapu,)
Maui, Hawaii, THK 3-8-07: 89 and)
por. 102)

DOCKET NO. SP94-387
FINDINGS OF FACT,
CONCLUSIONS OF LAW, AND
DECISION AND ORDER

FINDINGS OF FACT, CONCLUSIONS OF LAW,
AND DECISION AND ORDER

Fong Construction ("Applicant") initiated this proceeding, pursuant to section 205-6, Hawaii Revised Statutes ("HRS"), and sections 15-15-95 and 15-15-96, Hawaii Administrative Rules. The Land Use Commission ("LUC"), having considered the entire record on this matter, hereby makes the following findings fact, conclusions of law, and decision and order:

FINDINGS OF FACT

PROCEDURAL MATTERS

1. On November 24, 1993, a Special Permit application ("Permit") to establish a construction baseyard and accessory uses to service the construction and heavy equipment industry on approximately 23.164 acres at Waikapu, Maui, Hawaii, was filed by the Applicant with the County of Maui Planning Department ("Planning Department").

2. On December 2, 1993, the Department of Public Works certified the Permit as complete and ready for processing.
3. By letter dated July 11, 1994, the Applicant amended the Permit to include an additional 8 acres for a total area of approximately 31.164 acres under the Permit.
4. On October 25, 1994, the County of Maui Planning Commission ("Planning Commission") conducted a public hearing on the Permit pursuant to a public notice published in the Maui News on September 27, 1994.
5. On October 25, 1994, the Planning Commission recommended approval of the Permit to the LUC, subject to 22 conditions.
6. On November 18, 1994, a portion of the Planning Commission's record on the Permit was received and accepted for consideration by the LUC.
7. On December 12, 1994, additional supporting documents to the record were received and accepted for consideration by the LUC.
8. On December 15, 1994, the LUC held a meeting on the Permit in Lanai City, Lanai, at which time it admitted into evidence, without objection, a letter dated December 9, 1994, from David Nobriga transmitting his letter to the Planning Commission dated October 24, 1994. The LUC also admitted into evidence, without objection, a letter from Hideo Kawahara to the Planning Department dated December 6, 1994.
9. On December 15, 1994, and by a written Order Remanding Special Use Permit, the LUC remanded the Permit to the Planning Commission for further proceedings to supplement the record and address the Permit's conformance to the Special Use Permit criteria for an "unusual and reasonable" use within the State Land Use Agricultural District pursuant to section 15-15-95(b), HAR.
10. On February 28, 1995, the Planning Commission deferred action on the remand until its meeting on March 13, 1995, at which time after due deliberation the Planning Commission voted to forward the record of its remand proceedings to the LUC.
11. On July 25, 1995, the record of the Planning Commission's remand proceedings was received and accepted for consideration by the LUC.
12. On August 25, 1995, the LUC held a meeting on the Permit in Honolulu, Hawaii. The Applicant was represented by Roderick Fong, and the County of Maui was represented by Gary Zakian, Esq., deputy Corporation Counsel, County of Maui, and Ann Cua of the Planning Department.
- DESCRIPTION OF THE PROPERTY AND SURROUNDING AREA
13. The Permit area, as amended, is approximately 31.164 acres and is comprised of TMK 3-8-07: 89 and 102 (por.) ("Property"). The Property is located in Waikapu, Maui, Hawaii.
14. TMK 3-8-07: 89 is owned in fee by A & B Properties, Inc., and TMK 3-8-07: 102 is owned in fee by A & B Hawaii, Inc. Both entities are subsidiaries of Alexander & Baldwin, Inc. The Applicant intends to lease the Property from the landowners.

15. The Property is covered with pasture grasses, immature kiawe, and koa haole trees, with a few scattered mature trees present. A portion of the Property has previously been graded. To the north and east of the Property are vacant agricultural lands, while sugarcane fields and an orchid farm are located to the south.

16. Access to the Property is from Waiko Road, which is located to the immediate south of the Property and runs in a general east to west direction, intersecting Honoapiʻilani Highway to the west and Kūihelani Highway to the east. Waiko Road has a 60-foot right-of-way with an approximately 20-foot paved travel way. Waiko Road's pavement structure is currently inadequate to handle heavy truck traffic. Honoapiʻilani Highway runs generally in a north to south direction and is a two-lane travel way with left turn storage lanes at its intersection with Waiko Road. Kūihelani Highway also runs generally in a north to south direction and is a two-lane travel way with improved shoulders. Waiʻale cane haul road, which runs parallel with the two highways, intersects Waiko Road at its middle.

17. The Property generally slopes in a diagonal direction from the southwest corner to the northeast corner at approximately 2 percent. The elevations on the Property range from 238 feet above mean sea level ("MSL") to approximately 197 feet above MSL.

18. The Property is not currently under agricultural cultivation and has a Land Study Bureau Overall Master

Productivity Rating of "E" or very poor for agricultural productivity.

19. An existing 18-inch water transmission line to Maalaea and Kīhei from Wailuku is located west of the Property. There is no county or private water system or sewer system currently servicing the Property.

20. Drainage on the Property sheet flows in a southwest to northeast direction. Runoff then flows into a natural drainage way located on the adjacent lands.

21. Maui Electric Company ("MECO") has a 69 KV and a 23 KV transmission line in the vicinity of the Property. There are no MECO distribution lines servicing the Property. The Property currently does not have telephone service.

22. The nearest landfill site to the Property is located at the Maui Central Landfill in Puunene approximately four miles away.

23. The Kahului Fire Station on Dairy Road located approximately three miles north of the Property. Police and medical facilities are situated on Mahalani Road in Wailuku approximately four miles away.

SUMMARY OF PROPOSED USE

24. The Applicant proposes to establish a baseyard facility and accessory uses for businesses within the construction and heavy equipment industry ("Project"). In addition to storing and servicing its own equipment within the Property, the Applicant proposes to lease areas to other individual businesses within the industry.

construction period, there is a need for greater storage space of construction equipment. The current industrial district zoning allows retail businesses in industrial zoned areas, which have escalated the rents for industrial lands and limited the number of affordable areas for storing heavy equipment. The on-site central servicing area will service the equipment stored on the Property.

STATE AND COUNTY PLANS AND PROGRAMS

29. The Property is located within the State Land Use Agricultural District, as reflected on the LUC's official map, M-5 (Waialuku).

30. The Property is designated Agriculture in the Waialuku-Kahului Community Plan.

31. The Property is zoned Agriculture.

SUMMARY OF COUNTY, STATE, AND FEDERAL AGENCY COMMENTS

County Agencies

32. The County of Maui, Department of Public Works and Waste Management, Engineering Division ("DPWM-ED"), commented that improvements to Waiko Road, including road widening and a 10-foot radius at the intersection of the proposed access road and Waiko Road, be undertaken to meet County standards. The DPWM-ED also commented that a final detailed drainage and erosion control plan be submitted to the DPWM-ED for its review and approval. The DPWM-ED further stated that all existing features such as structures, driveways, drainageways, edge of pavement, and the 100-year flood inundation limits, if applicable, be shown on a project site plan to be submitted for

25. The Applicant proposes the following on-site improvements: a 9,000-square-foot warehouse; a 1,440-square-foot service building comprised of a lubrication and oil changing facility; an above ground waste oil tank and dispensing system to minimize spillage; a 300-square-foot fire pump building; a 250,000-gallon open reservoir; a booster pump system and piping with hydrants; a wash area with oil/water separator; individual wastewater systems composed of a septic tank discharging into an absorption bed; and paved and unpaved vehicular areas for ingress/egress and parking.

26. Off-site improvements include driveways connecting to Waiko Road for ingress/egress to the Property; a 1 1/2-inch domestic water line from an off-site meter; and a 6-inch pipe to convey fire protection water from Hawaiian Commercial & Sugar Co.'s ("HC&S") irrigation ditch to the proposed on-site open reservoir.

27. On November 7, 1989, the Planning Commission granted a Special Use Permit (89/SUP-015) to the Applicant to operate an equipment baseyard for material and equipment storage only on a portion of the Property, TRK 3-8-07: 102 (por.). The baseyard served as a pickup and return area for needed equipment, with only minor repairs allowed to maintain the equipment.

NEED FOR THE PROPOSED USE

28. The Project will provide "dead storage," which involves the storage of odd materials or equipment that was used for a specific construction job but may not be used again in the near future and is too valuable to be disposed. Due to the slow

its review and approval. A "sight distance" report was also requested to be submitted.

33. The Department of Public Works and Waste Management, Solid Waste Division, commented that solid waste reduction, re-use, and recycling programs be implemented to reduce the amount of solid waste to be disposed of at the County landfills. Refuse collection should be done by a private collector.

34. The Department of Public Works and Waste Management, Land Use and Codes Administration, commented that Parcel 102 be subdivided and/or consolidated with parcel 89, and that all areas used for parking, loading, or storage of vehicles or equipment be paved and landscaped.

35. The Department of Public Works and Waste Management, Wastewater Reclamation Division, had no comments on the Permit.

36. The County of Maui, Board of Water Supply, stated that the Project lies in a de facto well-head protection area. The Applicant should be advised that water for the construction and domestic purposes of the Project may not be available until such time as new sources have been developed to service the Central Maui area. No guarantee of water for the Project is granted or implied as a result of these comments or the approval of the subject discretionary permit. The Applicant would be required to enter into a private water system agreement at the time of the building permit application.

The Applicant would be required to provide fire protection in accordance with the rules and standards. The private water system agreement will be required to have a registered engineer's certification of the system's design and construction. The department would determine if water is available at such time as an application for water service is approved and the subject fee is paid.

State Agencies

37. The Department of Accounting and General Services, Survey Division, had no objections to the Project.

38. The Department of Health ("DOH") noted that the Property is located in the critical wastewater disposal areas as determined by the Maui County Wastewater Advisory Committee. No new cesspools will be allowed on the Property. The DOH concurs with the Applicant's proposal of the treatment individual wastewater system to be constructed on-site. The treated effluent should be reused for irrigation wherever possible. All wastewater plans must conform to applicable provisions of the DOH's Administrative Rules, Chapter 11-62, "Wastewater System," and the DOH will review these wastewater plans for conformance to the applicable rules.

39. The DOH also commented that the developer, owner, or operator of the Property should be aware of the hazardous waste rules and regulations promulgated under the Resource Conservation and Recovery Act of 1976, as amended ("RCRA"). Hazardous waste regulations are codified in Title 40 of the Code of Federal Regulations ("CFR") Parts 260 through 270. The

hazardous waste regulations incorporate the management of hazardous waste from the point of the generation to its final disposal, storage, or treatment. If the developer of the Property generates solid waste as defined in 40 CFR 261.2, the developer must determine if that waste is a hazardous waste as defined in 40 CFR 261.3. The developer, owner, or operator of the Property who intends to treat, store, or dispose of hazardous waste is subject to RCRA section 3005, USC 6925, and 40 CFR Parts 264 and 270.

40. The DOH further commented that should the proposed construction involve the installation and/or removal of underground storage tanks ("USTS"), these USTS may be regulated in accordance with the technical standards and financial responsibility regulations of 40 CFR Part 280. At this time, the oil/water separator appears only to be regulated under 40 CFR 280, Subparts A and F (corrosion protection and release response).

Owners of newly installed USTS must notify the UST Section of the existence of such USTS within 30 days of installation. The installation of UST systems containing flammable and combustible liquids is also subject to regulation by the County Fire Departments.

41. The Department of Land and Natural Resources, Historic Preservation Division ("DLNR-HPD"), originally commented that the then 23.164-acre Property is located within the Sand Hills area of Mailuku, which consists of pleistocene age sand dune formations. No historic sites are presently recorded for

this Property. Recent archaeological testing in an area of the Sand Hills to the north identified a concentration of burials in an undisturbed dune remnant. Burials were also disturbed during construction in a second location to the north of this Property. A field inspection of the original 23.164-acre Property was conducted by the DLNR-HPD staff on April 8, 1994.

42. There are two relatively prominent hills in the south-central portion of the Property that appear to be undisturbed dune features. Due to the relatively close location of the Property to Waikapu Village and the presence of prominent sand hills, there is a possibility that burials could be present.

43. The DLNR-HPD subsequently reviewed the Permit, as amended, and recommended that conditions relating to historic preservation be attached to the Permit.

44. The Commission on Water Resource Management commented that should the proposed impoundment cause more water to be diverted from Waikapu Stream via the HCS diversion than the amount diverted when the interim instream flow standard was implemented (effective December 10, 1988), a stream diversion works permit and an amendment to the interim instream flow standard will be required before the Applicant can proceed with the Project. In addition, if modification of the intake structure on Waikapu Stream is proposed as part of this Project, a stream channel alteration permit may be required.

45. The Department of Transportation ("DOT") commented that they are concerned about piecemeal development occurring in the Waikapu area. The cumulative impacts of piecemeal

developments on the transportation facilities can be significant. The landowner should be encouraged to master plan the area to determine the local and regional infrastructure needs to accommodate the proposed uses.

46. The DOT further commented that their analysis indicated that the projected traffic generated from the Project significantly exceeds those presented in the Applicant's traffic assessment. The impact of this additional traffic will require improvements to the Kuhelani Highway/Waiko Road intersection at no cost to the State.

Federal Agencies

47. The U.S. Department of Agriculture, Soil Conservation Service, had no comments on the Permit.

48. The Department of the Army ("DA") stated that based on the Applicant's plans there will be no discharge of fill material; therefore, a DA permit will not be required.

MAUI ELECTRIC COMPANY COMMENTS

49. MECO commented that its 69 KV and 23 KV transmission lines run in the vicinity of the Property. Layout of the Project should be done so that access to these lines by MECO personnel is not inhibited. Safety clearances must also be maintained between these lines and structures and operating equipment. MECO does not have distribution lines in the area. Customers are normally served from distribution lines.

SOCIO-ECONOMIC IMPACTS

50. The construction industry is a vital component of Maui's economy. Currently, there is a shortage of essential

baseyard facilities to service local construction, trucking, and industrial-based operations. The Project will provide a large baseyard to service these construction and industrial businesses.

IMPACTS UPON THE RESOURCES OF THE AREA

51. The Project is not expected to adversely impact agricultural or flora resources. The Project will generate noise and some air pollution from increased traffic; however, the Property is not located near any residential areas.

ADEQUACY OF PUBLIC FACILITIES AND UTILITIES

Water

52. There is no county or private water system currently servicing the Property. The Applicant proposes to connect into an existing 1 1/2-inch domestic water meter located 1/4 mile west of the Property. This water will service the domestic water needs of the Project. A 250,000-gallon open reservoir will be constructed along with a 6-inch water line from HC&S's ditch to the new on-site reservoir. A booster pump system housed within a building will be constructed along with an 8-inch water line and fire hydrants.

53. Fire protection water will come from existing water being diverted from Waikapu Stream by HC&S. The proposed fire system will not create a demand for more water to be diverted from Waikapu Stream nor is any stream alteration proposed as part of the Project.

Drainage

54. Stormwater from the Property will be released downstream at the pre-development rate. Grading and drainage

schemes will be used to create detention and retention areas and to promote percolation of stormwater into the ground.

Roadways

55. Access to the Property will be from Waiko Road via a single driveway to service the Project. Waiko Road is presently inadequate to handle heavy truck traffic and will need to be upgraded to accommodate the Project.

Wastewater

56. The Applicant proposes to construct an individual wastewater system in accordance with the DOH's requirements. A separate absorption bed will be used to dispose of wash-down water from the on-site steam cleaning operation. Water from the wash-down area is proposed to be processed through an oil/water separator and water recycler.

Electrical and Telephone Service

57. The Applicant proposes to connect into the existing overhead utility lines within the area. No adverse impact on these services are expected.

CONFORMANCE WITH THE SPECIAL USE PERMIT CRITERIA

58. The Planning Department provided the following in response to the Permit's conformance with the Special Use Permit guidelines for an "unusual and reasonable" use within the State Land Use Agricultural District pursuant to section 15-15-95(b), HAR:

1. The use shall not be contrary to the objectives sought to be accomplished by chapters 205 and 205A, HRS, and the rules of the Land Use Commission.

The general intent of the State Land Use Law is "to preserve, protect, and encourage the development of land in the State for those uses to which they are best suited in the interest of public health and welfare of the State of Hawaii".

The availability in Central Maui of parcels in the State "Urban" district large enough to accommodate baseyard operations for construction, trucking, and industrial based operations is limited. This limitation is evidenced, in part, by requests for similar permits for the surrounding area. (Fong Construction, 89/SUP-015), (Maui Scrap Metal, 89/SUP-07), (Diversified Machinery, 90/SUP-06), and (Mailuku Agribusiness Company, 90/SUP-04). It should be noted that those operations characterized as commercial in nature such as offices and servicing of equipment have either been deemed subordinate to agricultural operations or restricted to the "urban core" of Central Maui. Operations have generally been limited to overflow parking of equipment and materials. Inasmuch as the construction industry is a vital component of the islands (sic) economy, the utilization of alternate land areas to accommodate essential baseyard operations is considered a logical solution for local construction companies.

2. The desired use would not adversely affect surrounding property.

Surrounding properties would not be affected by the proposed construction baseyard. The property is surrounded by vacant and active agricultural lands north, south, east, and other industrial type baseyards to the west.

3. The use would not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage and school improvements, and police and fire protection.

Through the construction of on-site domestic water and fire protection improvements, individual wastewater treatment systems, and off-site road improvements to mitigate traffic, the proposed project is not expected to adversely impact public facilities and would not unreasonably (sic) burden public agencies to provide roads, sewers, water drainage, and school improvements. The proposed project would require police and fire service. Due to its location outside of the urban center, police and fire service routes would need to be expanded.

4. Unusual conditions, trends and needs have arisen since the district boundaries and rules were established.

Unusual conditions, trends and needs have arisen since the district boundaries and rules were established. Industrial and other heavy type businesses such as construction, trucking, and excavation require large amounts of storage area for equipment. The current industrial district zoning allows retail and service type business in industrial zoned areas. The retail uses in the area has (sic) resulted in escalating rents for industrial lands making it financially difficult for certain industrial uses such as storage yards for the construction industry.

5. The land upon which the proposed use is sought is unsuited for the uses permitted within the district.

The project area has an over all (sic) agricultural productivity rating of "E," and (therefore it) would not be economically (sic) feasible to cultivate the project area.

PLANNING COMMISSION RECOMMENDATION

59. At its meeting on October 25, 1994, the Planning Commission voted to recommend approval of the Permit to the LUC, subject to the following conditions:

1. That the Land Use Commission Special Use Permit shall be valid for one (1) year, subject to further extensions upon a timely request for extension filed at least ninety (90) days prior to its expiration with the Maui Planning Commission. The Maui Planning Commission may require a public hearing on the time extension.
2. That the conditions of this Land Use Commission Special Use Permit shall be self enforcing and, accordingly, upon due notice by the Land Use Commission to the permit holder that there is a prima facie evidence that a breach has occurred the permit shall be automatically suspended pending a hearing on the continuity of such Land Use Commission Special Use Permit, provided that written request for such a hearing is filed with the Land Use Commission within ten (10) days of the date of receipt of such notice of alleged breach. If no request for hearing is filed within said ten (10) day period, the Land Use Commission may revoke said Land Use Commission Special Use Permit.

3. That the subject Land Use Commission Special Use Permit shall not be transferred without the prior written approval of the Land Use Commission. However, in the event that a contested case hearing preceded issuance of said Land Use Commission Special Use Permit, a public hearing shall be held upon due published notice, including actual written notice to the last known addresses of parties to said contested case and their counsel.
4. That the applicant, its successors and permitted assigns shall exercise reasonable due care as to third parties with respect to all areas and uses affected by subject Land Use Commission Special Use Permit and shall defend, indemnify, hold harmless the County of Maui and the Land Use Commission from and against any loss, liability, claim or demand arising out of this permit.
5. That full compliance with all applicable governmental requirements shall be rendered.
6. That the applicant shall comply with all standards of the Department of Water Supply. Should any waivers from said standards be granted by the Board of Water Supply, copies of said waivers shall be kept on file with the Planning Department.
7. That construction shall be in accordance with preliminary plans dated September 1994 as depicted by exhibit 2 in the Maui Planning Commissions report.
8. That the site shall be used primarily for storage of equipment and material only. No retailing or other sales activities shall be permitted on site. Minor security structures may be allowed as appropriate to protect material and equipment.
9. That alternative means of disposal of grubbed material and rock shall be utilized other than disposed of at the County landfills.
10. That non-potable water shall be used in grading and construction work.
11. That landscaping shall be designed to survive on the site's natural rainfall and/or use low amounts of irrigation water.
12. That a landscaping and planting plan shall be submitted to the Planning Department for review and approval.

13. That fire protection shall be provided in accordance with the rules and standards of the Board of Water Supply.
14. That the following road way improvements to Waiko Road shall be provided:
 - a) That a road widening lot be provided for the adjoining half of the project site along Waiko Road to Kuihelani Highway. Said lot shall be improved to County standards, as approved by the Department of Public Works and Waste Management, and dedicated to the County upon completion of improvements.
 - b) All structures, such as walls, trees, etc., shall be removed or relocated from the road widening strip. The rear boundaries of the road widening strip shall be clearly marked to determine if said structures have been properly removed and relocated.
 - c) That 30' radius be provided at the intersection of proposed access road and Waiko Road.
 - d) That a site plan and a "sight distance" report to determine required sight distance and available sight distance at existing and proposed street intersections shall be provided to the Department of Public Works and Waste Management for review and approval.
15. That the following road way and intersection improvements to Kuihelani Highway shall be provided:
 - a) That a left turn storage lane on Kuihelani Highway shall be provided.
 - b) That acceleration/deceleration lanes shall be provided.
 - c) That sufficient pavement turning radii for large trucks shall be provided.
 - d) That the intersection of Waiko road and Kuihelani Highway shall be widened to allow for left and right turn lanes on Waiko Road.
 - e) That details of the intersection geometries shall be coordinated with and approved by the Department of Transportation, Highways Division.
16. That a final detailed drainage and erosion control plan including, but not limited to, hydrologic and hydraulic calculations, scheme for controlling erosion and disposal of runoff water, and an analysis of the soil loss using the HESL erosion formula, be submitted to the Department of Public Works and Waste Management, Engineering Division for review and approval. Said plan shall provide verification that the grading and runoff water generated by the project will not have an adverse effect on the adjacent and downstream properties.
17. That the owners and their contractors shall implement solid waste reduction, re-use and recycling programs to reduce the amount of solid waste to be disposed of at the County landfills.
18. That the TMK 3-8-07 portion of parcel 102 affected by the project shall be subdivided and /or consolidated with TMK 3-8-07:89.
19. Refuse collection shall be by a private collector.
20. That all wastewater system plans shall conform to all applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems," and shall be reviewed and approved by the Department of Health.
21. That the following conditions relating to historic preservation shall be adhered to:
 - a) That archaeological subsurface survey work shall be conducted on the prominent dune features within the project area. A report of the findings shall be submitted to the Department of Land and Natural Resources, Historic Preservation Division (DLNR, HPD), and reviewed prior to the initiation of any earthmoving or vegetation grubbing on the property.
 - b) That a qualified archaeologist shall be on site to monitor vegetation clearing, grubbing, grading, and excavation. A report of the monitoring activities and findings shall be submitted to DLNR, Historic Preservation Division for review.
 - c) That if remains of historic sites are encountered during construction, all work in the vicinity of the find shall stop and the archaeologist shall be given sufficient time to collect information and assess the significance of the find. If human burials are encountered, procedures as outlined in

Hawai'i Revised Statutes 6E-43.6 shall be followed.

22. That the Petitioner shall submit an annual progress report to the Planning Director and State Land Use Commission prior to the anniversary date of the approval of the permit. The report shall include, but not be limited to, the status of the development and to what extent the conditions of approval are being complied with. This conditions shall remain in effect until all of the conditions of approval have been complied with and the Planning Director acknowledges that further reports are not required.

60. Any findings of fact that may be a conclusion of law shall be deemed a conclusion of law.

CONCLUSIONS OF LAW

The Special Permit application to establish a construction baseyard and accessory uses constitutes an "unusual and reasonable" use as provided in section 205-6, HRS, and as established in section 15-15-95(b), HAR, and the proposed use is not contrary to the objectives sought to be accomplished by the State Land Use Law to preserve, protect, and encourage development of lands in the State for those uses to which they are best suited in the interest of the public health and welfare. The proposed use is also not contrary to the objectives and policies under chapter 205A, HRS.

ORDER

IT IS HEREBY ORDERED that the Special Permit application filed in this docket requesting the establishment of a construction baseyard and accessory uses on approximately 31.164 acres of land within the State Land Use Agricultural District, and identified as Tax Map Key 3-8-07: 89 and por. 102, situated at Waikapu, Maui, Hawai'i, and approximately identified

on Exhibit "A," attached hereto and incorporated by reference herein, is hereby approved and subject to the following conditions:

1. That the Land Use Commission Special Use Permit shall be valid for one (1) year, subject to further extensions upon a timely request for extension filed at least ninety (90) days prior to its expiration with the Maui Planning Commission. The Maui Planning Commission may require a public hearing on the time extension.

2. That the conditions of this Land Use Commission Special Use Permit shall be self enforcing and, accordingly, upon due notice by the Maui County Planning Commission to the Permit holder that there is prima facie evidence that a breach has occurred, the Permit shall be temporarily suspended pending a prompt hearing on the continuity of such Land Use Commission Special Use Permit, provided that written request for such a hearing is filed with the Maui County Planning Commission no later than ten (10) days of the date of receipt of such notice of alleged breach. If no request for hearing is filed within the ten (10) day period, the Planning Commission may recommend the revocation of said Land Use Commission Special Use Permit. The Planning Commission's recommendation shall be promptly transmitted to the State Land Use Commission for appropriate action.

3. That the subject Land Use Commission Special Use Permit shall not be transferred without the prior written approval of the Land Use Commission. However, in the event that

a contested case hearing preceded issuance of said Land Use Commission Special Use Permit, a public hearing shall be held upon due published notice, including actual written notice to the last known addresses of parties to said contested case and their counsel.

4. That the Applicant, its successors and permitted assigns shall exercise reasonable due care as to third parties with respect to all areas and uses affected by subject Land Use Commission Special Use Permit and shall defend, indemnify, hold harmless the County of Maui and the Land Use Commission from and against any loss, liability, claim or demand arising out of this Permit.

5. That full compliance with all applicable governmental requirements shall be rendered.

6. That the Applicant shall comply with all standards of the Department of Water Supply. Should any waivers from said standards be granted by the Board of Water Supply, copies of said waivers shall be kept on file with the Planning Department.

7. That construction shall be in accordance with preliminary plans dated September 1994 as depicted by Exhibit 2 in the Maui Planning Commission's report.

8. That the site shall be used primarily for storage of equipment and material only. No retailing or other sales activities shall be permitted on-site. Minor security structures may be allowed as appropriate to protect materials and equipment.

9. That alternative means of disposal of grubbed material and rock shall be utilized other than disposed of at the County landfills.

10. That non-potable water shall be used in grading and construction work.

11. That landscaping shall be designed to survive on the site's natural rainfall and/or use low amounts of irrigation water.

12. That a landscaping and planting plan shall be submitted to the Planning Department for review and approval.

13. That fire protection shall be provided in accordance with the rules and standards of the Board of Water Supply.

14. That the following roadway improvements to Waiko Road shall be provided:

a) That a road widening lot be provided for the adjoining half of the Project site along Waiko Road to Kūhala Highway. Said lot shall be improved to County standards, as approved by the Department of Public Works and Waste Management, and dedicated to the County upon completion of improvements.

b) All structures, such as walls, trees, etc., shall be removed or relocated from the road widening strip. The rear boundaries of the road widening strip shall be clearly marked to determine if said structures have been properly removed and relocated.

c) That a 30' radius be provided at the intersection of the proposed access road and Waiko Road.

d) That a site plan and a "sight distance" report to determine required sight distance and available sight distance at existing and proposed street intersections shall be provided to the Department of Public Works and Waste Management for review and approval.

15. That the following roadway and intersection improvements to Kuihelani Highway shall be provided:

- a) That a left turn storage lane on Kuihelani Highway shall be provided.
- b) That acceleration/deceleration lanes shall be provided.
- c) That sufficient pavement turning radii for large trucks shall be provided.
- d) That the intersection of Waiko Road and Kuihelani Highway shall be widened to allow for left and right turn lanes on Waiko Road.
- e) That details of the intersection geometries shall be coordinated with and approved by the Department of Transportation, Highways Division.

16. That a final detailed drainage and erosion control plan including, but not limited to, hydrologic and hydraulic calculations, scheme for controlling erosion and disposal of runoff water, and an analysis of the soil loss using the HESL erosion formula, be submitted to the Department of Public Works and Waste Management, Engineering Division, for review and approval. Said plan shall provide verification that the grading

and runoff water generated by the Project will not have an adverse effect on the adjacent and downstream properties.

17. That the owners and their contractors shall implement solid waste reduction, re-use, and recycling programs to reduce the amount of solid waste to be disposed of at the County landfills.

18. That the TMK 3-8-07 portion of parcel 102 affected by the Project shall be subdivided and/or consolidated with TMK 3-8-07:89.

19. Refuse collection shall be by a private collector.

20. That all wastewater system plans shall conform to all applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater System," and shall be reviewed and approved by the Department of Health.

21. That the following conditions relating to historic preservation shall be adhered to:

- a) That archaeological subsurface survey work shall be conducted on the prominent dune features within the Project area. A report of the findings shall be submitted to the Department of Land and Natural Resources, Historic Preservation Division (DLNR/HPD), and approved prior to the initiation of any earthmoving or vegetation grubbing on the Property. If evidence of human skeletal remains is encountered during the archaeological inventory survey, the Applicant shall submit a burial preservation or burial treatment plan to the DLNR/HPD for approval. If the burial site appears to be Hawaiian, the

treatment plan will be submitted to the Burial Council for their determination.

b) That a qualified archaeologist shall be on-site to monitor vegetation clearing, grubbing, grading, and excavation. A report of the monitoring activities and findings shall be submitted to DLMR/HPD for approval.

c) That if remains of historic sites are encountered during construction, all work in the vicinity of the find shall stop and the archaeologist shall be given sufficient time to collect information, assess the significance of the find, and confer with the DLMR/HPD regarding appropriate treatment. If human burials are encountered during monitoring, procedures as outlined in Hawaii's Revised Statutes §6E-43.6 shall be followed.

22. That the Applicant shall submit an annual progress report to the Planning Director and State Land Use Commission prior to the anniversary date of the approval of the Permit. The report shall include, but not be limited to, the status of the development and to what extent the conditions of approval are being complied with. These conditions shall remain in effect until all of the conditions of approval have been complied with and the Planning Director acknowledges that further reports are not required.

23. The Applicant shall provide the Maui County Planning Department and the Land Use Commission copies of the final approved metes and bounds map and description of the 31.16-acre Property.

24. The Applicant shall commence construction of the baseyard no later than one year from the date of filing of this Decision and Order by the Land Use Commission. If the construction of the baseyard does not commence by this period, the Planning Commission may revoke said Land Use Commission Special Use Permit. The Planning Commission, with the concurrence of the Land Use Commission, may extend the time limit if it deems that circumstances warrant the granting of the extension.

DOCKET NO. SP94-387 - FONG CONSTRUCTION

Done at Honolulu, Hawaii, this 12th day of September 1995,
per motions on August 25, 1995 and September 14, 1995.

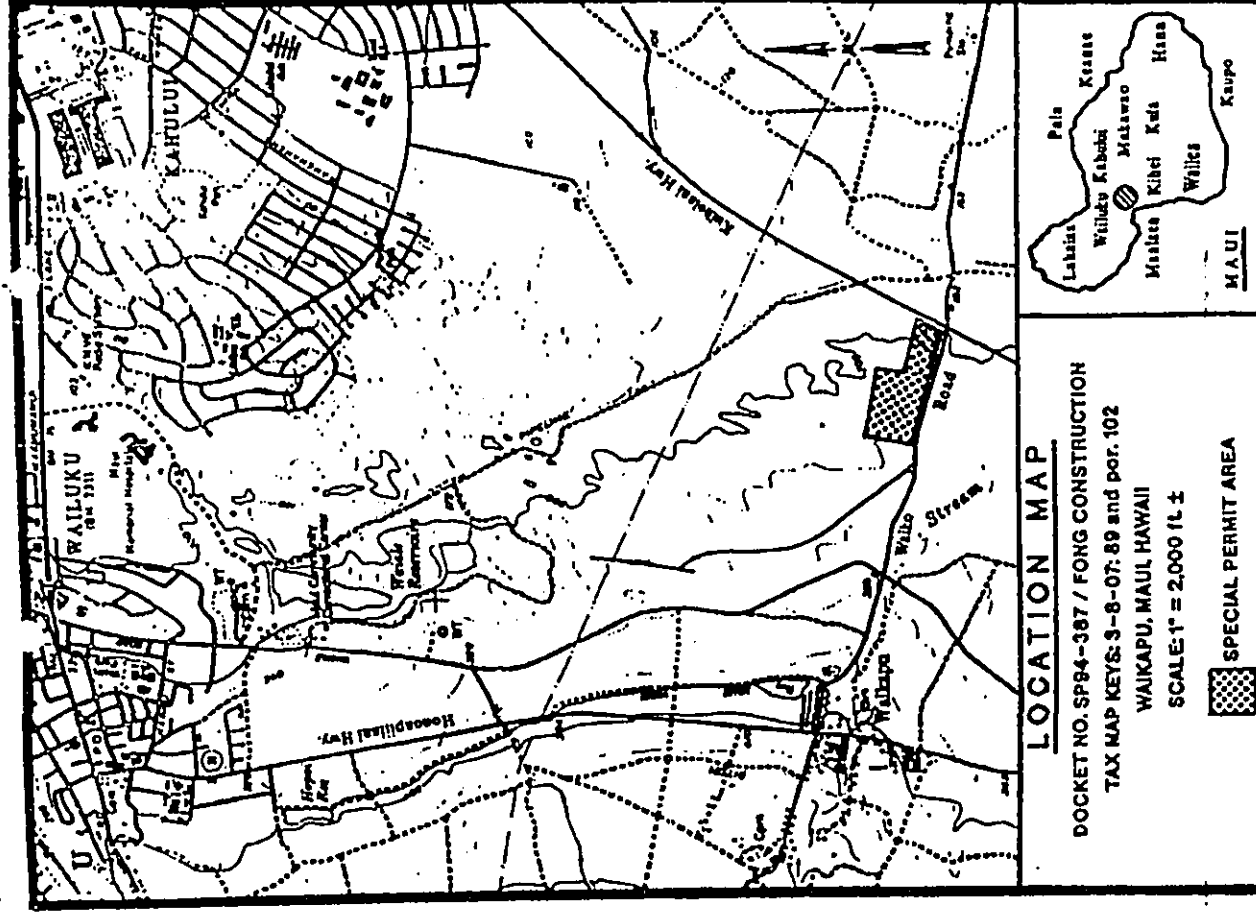
LAND USE COMMISSION
STATE OF HAWAII

- By *Allen K. Hoe*
ALLEN K. HOE
Chairperson and Commissioner
- By *Eusebio Lapina, Jr.*
EUSEBIO LAPINA, JR.
Vice Chairperson and Commissioner
- By *Rupert K. Chun*
RUPERT K. CHUN
Commissioner
- By _____
(opposed)
- By *X. CASEY JARMAN*
X. CASEY JARMAN
Commissioner
- By *LLOYD F. KAWAGAMI*
LLOYD F. KAWAGAMI
Commissioner
- By _____
(excused)
- By *HERLE A. K. KELAI*
HERLE A. K. KELAI
Commissioner
- By *JOHN M. HATTSON*
JOHN M. HATTSON
Commissioner
- By *TRUDY K. SENDA*
TRUDY K. SENDA
Commissioner
- By _____
(absent)
- By *ELTON WADA*
ELTON WADA
Commissioner

Filed and effective on
September 19, 1995

Certified by:

[Signature]
Executive Officer



BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)
FONG CONSTRUCTION) DOCKET NO. SP94-387
CERTIFICATE OF SERVICE)

To Establish a Construction)
Baseyard and Accessory Uses on)
Approximately 31.164 Acres of Land)
Within the State Land Use)
Agricultural District at Waikapu,)
Maui, Hawaii, THK 3-8-07: 89 and)
por. 102)

CERTIFICATE OF SERVICE

I hereby certify that a copy of the Findings of Fact, Conclusions of Law, and Decision and Order was served upon the following by either hand delivery or depositing the same in the U. S. Postal Service by certified mail:


CERT. DAVID M. BLANE, Director of Planning
Planning Department, County of Maui
250 South High Street
Wailuku, Hawaii 96793

CERT. JEFFREY SCHMIDT, ESQ.
Corporation Counsel
Office of the Corporation Counsel
County of Maui
200 South High Street
Wailuku, Hawaii 96793

CERT. RODERICK FONG
Fong Construction
495 Hukilike Street, Bay #4
Kahului, Hawaii 96732

CERT. STEPHEN J. KLASTALA, Manager, Leasing
A & B Properties, Inc.
P. O. Box 156
Kahului, Hawaii 96732-0156

DATED: Honolulu, Hawaii, this 19th day of September 1995.


ESTHER UEDA
Executive Officer

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)
FONG CONSTRUCTION) DOCKET NO. SP94-387
ORDER GRANTING REQUEST)
FOR A TIME EXTENSION)

To Establish a Construction)
Baseyard and Accessory Uses on)
Approximately 31.164 Acres of Land)
Within the State Land Use)
Agricultural District at Waikapu,)
Maui, Hawaii, THK 3-8-07: 89 and)
por. 102)

This is to certify that this is a true and correct copy of the document on file in the office of the State Land Use Commission, Honolulu, Hawaii.
(JUL 21 1997)

Date _____ by _____
Executive Officer

LAND USE COMMISSION
STATE OF HAWAII
1997 JUL 21 A @ 51

ORDER GRANTING REQUEST FOR A TIME EXTENSION

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)
FONG CONSTRUCTION)
DOCKET NO. SP94-387)
ORDER GRANTING REQUEST)
FOR A TIME EXTENSION)
To Establish a Construction)
Baseyard and Accessory Uses on)
Approximately 31.164 Acres of Land)
Within the State Land Use)
Agricultural District at Waikapu,)
Maui, Hawaii, TMK 3-8-07: 89 and)
por. 102)

ORDER GRANTING REQUEST FOR A TIME EXTENSION

On July 22, 1996, the Maui County Planning Department received a request from Fong Construction Company, Ltd.

("Applicant"), for a three-year time extension on the Special Permit issued in the above-entitled docket and a one-year time extension on the period in which to initiate construction of the proposed construction baseyard.

On February 25, 1997, the Maui Planning Commission ("Planning Commission") conducted a public hearing in this matter.

On February 25, 1997, after due deliberation, the Planning Commission recommended approval of a time extension to the Commission, subject to all the conditions originally imposed by the Land Use Commission ("Commission") in its Findings of Fact, Conclusions of Law, and Decision and Order ("Decision and Order") dated September 19, 1995, with amendments to Condition

Nos. 1, 9, 13, and 24 of the Decision and Order and an additional Condition No. 25 as follows:

Condition No. 1

That the State Land Use Commission Special Use Permit shall be valid until September 30, 1998, subject to further extensions by the Maui Planning Commission and the Land Use Commission upon a timely request for extension filed at least one hundred twenty (120) days prior to its expiration. The Maui Planning Commission may require a public hearing on the time extension.

Condition No. 2

That construction waste from the project shall be taken to the Ha'alaea Landfill on North Kihei Road and that refuse collection for the project shall be by a private collector with recycling capabilities.

Condition No. 11

That fire protection and improvements shall be provided in accordance with the rules and standards of the Board of Water Supply and the Department of Fire Control.

Condition No. 24

The Applicant shall commence construction of the baseyard no later than September 19, 1998. If construction of the baseyard does not commence by this date, the Maui Planning Commission and Land Use Commission may revoke said State Land Use Commission Special Use Permit. The Land Use Commission may extend the time limit if it deems that circumstances warrant the granting of the extension.

Condition No. 25

That prior to applying for a time extension, all necessary County Land Use Permits shall be obtained.

On April 17, 1997, the Commission received a portion of the Planning Commission's record in this proceeding.

On May 22 and 23, 1997, the Commission received the remaining documents to the record in this proceeding.

This Commission, having duly considered the arguments provided by the respective parties at its hearing on June 12, 1997, in Lihue, Kaua'i, and good cause existing therefrom,

HEREBY GRANTS a time extension to the Applicant on the Special Permit issued in the above-entitled docket and a time extension on the period in which to initiate construction on the proposed construction baseyard.

IT IS HEREBY ORDERED that Condition Nos. 1, 9, 13, 21, and 24 of the Decision and Order dated September 19, 1995, shall be amended to read as follows:

1. That the State Land Use Commission Special Use Permit shall be valid until September 30, 1998, subject to further extensions by the Maui Planning Commission and the Land Use Commission upon a timely request for extension filed at least one hundred twenty (120) days prior to its expiration. The Maui Planning Commission may require a public hearing on the time extension.
9. That construction waste from the project shall be taken to the Ma'alaea Landfill on North Kihai Road and that refuse collection for the project shall be by a private collector with recycling capabilities.
13. That fire protection and improvements shall be provided in accordance with the rules and standards of the Board of Water Supply and the Department of Fire Control.
21. That the following conditions relating to historic preservation shall be adhered to:
 - a. Archaeological subsurface survey work shall be conducted on the prominent dune features within the project area. A report of the findings shall be approved prior to the initiation of any earthmoving or vegetation grubbing on the property. If evidence of human skeletal remains or cultural deposits are encountered during the archaeological inventory survey, compliance with Chapter 6E must occur and an acceptable mitigation plan

must be prepared. The State Historic Preservation Division must verify in writing to the County that the plan has been successfully executed, prior to any land altering activities.

- b. That a qualified archaeologist shall be on-site to monitor vegetation clearing, grubbing, grading, and excavation. A report of the monitoring activities and findings shall be submitted to DLNR/HPD for approval.
 - c. That if remains of historic sites are encountered during construction, all work in the vicinity of the find shall stop and the archaeologist shall be given sufficient time to collect information, assess the significance of the find, and confer with the DLNR/HPD regarding appropriate treatment. If human burials are encountered during monitoring, procedures as outlined in Hawai'i Revised Statutes §6E-43.6 shall be followed.
24. The Applicant shall commence construction of the baseyard no later than September 19, 1998. If construction of the baseyard does not commence by this date, the Maui Planning Commission and Land Use Commission may revoke said State Land Use Commission Special Use Permit. The Land Use Commission may extend the time limit if it deems that circumstances warrant the granting of the extension.

IT IS FURTHER ORDERED that the Special Permit shall be subject to an additional condition to read as follows:

25. That prior to applying for a time extension, all necessary County Land Use Permits shall be obtained.

All other conditions to the Decision and Order dated September 19, 1995, are hereby reaffirmed and shall continue in effect.

DOCKET NO. SP94-387 - FONG CONSTRUCTION

Done at Honolulu, Hawaii, this 21st day of July 1997,
per motions on June 12, 1997 and July 17, 1997.

LAND USE COMMISSION
STATE OF HAWAII

By Judy v. Benda
TRUDY K. SENDA
Chairperson and Commissioner

By Robert K. Chen
ROBERT K. CHEN
Vice Chairperson and Commissioner

By Laurence H.C. Ima
LAURENCE H.C. IMA
Commissioner

By (opposed)
H. CASEY JARMAN
Commissioner

By (absent)
HERBERT S.K. KAOPUA, SR.
Commissioner

By (absent)
LLOYD F. KAWAKAMI
Commissioner

By M. Kelai
MERLE A. K. KELAI
Commissioner

By (absent)
EUSEBIO LAPENIA, JR.
Commissioner

By Joann N. Mattson
JOANN N. MATTSON
Commissioner

Filed and effective on
JULY 21, 1997

Certified by:
Esther Ueda
Executive Officer

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)
FONG CONSTRUCTION) DOCKET NO. SP94-387
) CERTIFICATE OF SERVICE
)
) To Establish a Construction)
) Baseyard and Accessory Uses on)
) Approximately 31.164 Acres of Land)
) Within the State Land Use)
) Agricultural district at Waikapu,)
) Maui, Hawaii, TMK 3-8-07: 89 and)
) por. 102)

CERTIFICATE OF SERVICE

I hereby certify that a copy of the Order Granting
Request For A Time Extension was served upon the following by
either hand delivery or depositing the same in the U. S. Postal
Service by certified mail:

CERT. DAVID W. BLANE, Director of Planning
Planning Department, County of Maui
250 South High Street
Wailuku, Hawaii 96793

CERT. RODERICK FONG
Fong Construction
495 Hukilike Street, Bay #4
Kahului, Hawaii 96732

DATED: Honolulu, Hawaii, this 21st day of July 1997.

Esther Ueda
ESTHER UEDA
Executive Officer

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)
FONG CONSTRUCTION)
To Establish a Construction)
Baseyard and Accessory Uses on)
Approximately 31.164 Acres of Land)
Within the State Land Use)
Agricultural District at Waikapu,)
Maui, Hawaii, TMK 3-8-07: 89 and)
por. 102)

DOCKET NO. SP94-387
ORDER GRANTING REQUEST
FOR A TIME EXTENSION

This is to certify that this is a true and correct
copy of the document on file in the office of the
State Land Use Commission, Honolulu, Hawaii,
OCT 26 1999 by [Signature]
Date Executive Officer

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition of)
FONG CONSTRUCTION)
To Establish a Construction)
Baseyard and Accessory Uses on)
Approximately 31.164 Acres of Land)
Within the State Land Use)
Agricultural District at Waikapu,)
Maui, Hawaii, TMK 3-8-07: 89 and)
por. 102)

DOCKET NO. SP94-387
ORDER GRANTING REQUEST
FOR A TIME EXTENSION

ORDER GRANTING REQUEST FOR A TIME EXTENSION

On June 4, 1998, the County of Maui Planning Department received a request from Fong Construction Company, Limited ("Applicant"), for a time extension on the Special Permit issued in the subject docket.¹

On June 22, 1999, the County of Maui Planning Commission ("Planning Commission") conducted a public hearing on the Applicant's request. There was no written or oral public testimony provided at the hearing.

On June 22, 1999, after due deliberation at its meeting, the Planning Commission recommended approval of the Applicant's request to the Land Use Commission ("Commission"), subject to all the conditions originally imposed by the Commission in its Findings of Fact, Conclusions of Law, and Decision and Order dated September 19, 1995 ("Decision and

LAND USE COMMISSION
STATE OF HAWAII
OCT 26 1999 10:18:40

ORDER GRANTING REQUEST FOR A TIME EXTENSION

¹ Pursuant to a letter dated March 8, 1999, the Applicant clarified that he was requesting a ten-year time extension on the Special Permit.

order"), as amended by Order Granting Request for a Time Extension dated July 21, 1997, with amendments to Condition Nos. 1, 2, 4, 8, 12, 24, and 25 as follows:

1. That the State Land Use Commission Special Use Permit shall be valid until September 30, 2009, subject to further extensions by the Maui Planning Commission upon a timely request for extension filed at least one hundred twenty (120) days prior to its expiration. The Maui Planning Commission may require a public hearing on the time extension.
2. That the conditions of this State Land Use Commission Special Use Permit shall be enforced pursuant to Sections 205-12 and 205-13, Hawaii Revised Statutes (HRS). Failure to comply with one or more of the conditions herein shall result in a notice of violation issued by the appropriate enforcement agency, notifying the permit holder of the violation and providing the permit holder no more than sixty (60) days to cure the violation. If the permit holder fails to cure the violation within sixty (60) days of said notice, the appropriate enforcement agency shall issue an order which may require one or more of the following: that the violative activity cease; that the violative development be removed; that a civil fine be paid not to exceed ONE THOUSAND AND NO/100 DOLLARS (\$1,000.00) per violation; that a civil fine not to exceed FIVE THOUSAND AND NO/100 DOLLARS (\$5,000.00) shall be issued if violation not cured within six (6) months of the issuance of the order. The order shall become final thirty (30) days after the date of its mailing or hand delivery unless written request for a hearing is mailed or delivered to the Planning Department within said thirty (30) days. Upon receipt of a request for a hearing, the Planning Department shall specify a time and place for the permit holder to appear and be heard. The hearing shall be conducted by the Planning Director or the Director's designee in accordance with the provision of Chapter 91, HRS, as amended.
4. That the applicant, its successors and permitted assigns shall exercise reasonable due care as to third parties with respect to all areas affected by subject State Land Use Commission Special Use Permit and shall procure at its own cost and expense, and shall maintain during the entire

8. That the site shall be used primarily for storage of equipment and material, minor servicing of said equipment, and offices appurtenant to such uses. No retailing or other sales activities shall be permitted except for limited sales accessory to the principal permitted uses. Pertinent structures may be allowed as appropriate to protect materials and equipment.
12. That a landscaping, planting, lighting, fencing, and signage plan shall be submitted to the Planning Department for review and approval.
24. The applicant shall commence construction of the baseyard no later than two (2) years after obtaining the State Land Use Commission time extension or Conditional Permit, whichever ever [sic] is later. If construction of the baseyard does not commence by this date, the Planning Commission and Land Use Commission may revoke said State Land Use Commission Special Use Permit. The Land Use Commission may extend the time limit if it deems that circumstances warrant the granting of the extension.
25. That all necessary County Land Use Permits shall be obtained by June 30, 2000.

period of this State Land Use Commission Special Use Permit, a policy or policies of Comprehensive Liability Insurance in the minimum amount of ONE MILLION AND NO/100 DOLLARS (1,000,000.00) naming the County of Maui and State of Hawaii as an additional named insured, insuring and defending the applicant, County of Maui and State of Hawaii against any and all claims or demands for property damage, personal injury and/or death arising out of this permit, including, but not limited to: (1) claims from any accident in connection with the permitted use, or occasioned by any act or nuisance made or suffered in connection with the permitted use in the exercise by the applicant of said rights; and (2) all actions, suits, damages and claims by whomsoever brought or made by reason of the nonobservance or nonperformance of any of the terms and conditions of this permit. A copy of a policy naming County of Maui as an additional named insured shall be submitted to the Department within ninety (90) calendar days from the date of transmittal of the decision and order.

Appendix B

***County of Maui
Conditional Permit***

For Mayor's Office
 ORDINANCE NO. 3001
 Effective Date: Nov. 5, 2001

- Budget
- CDOS
- Civil Defense
- Finance
- Fire
- Human Concerns
- Liquor Control
- OED
- Parks
- Personnel
- Planning
- Police
- Prosecutors
- Public Works
- Water Supply
- Youth
- Zoning
- Inclusion
- Mobile
- Memo
- Misc

ORDINANCE NO. 3001 NOV - 8 10:14
 DEPT OF PLANNING
 COUNTY OF MAUI
 RECEIVED

BILL NO. 83 (2001)

A BILL FOR AN ORDINANCE GRANTING A CONDITIONAL PERMIT TO CONSOLIDATED BASEYARDS, LLC, IN ORDER TO OPERATE A COMMERCIAL BASEYARD PRIMARILY FOR BUSINESS WITHIN THE CONSTRUCTION INDUSTRY WITHIN THE COUNTY AGRICULTURAL DISTRICT FOR PROPERTY SITUATED AT WAIKAPU, MAUI, HAWAII

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. Pursuant to Chapter 19.40 of the Maui County Code, a Conditional Permit is hereby granted to Consolidated Baseyards, LLC, subject to the conditions imposed in Section 2 of this ordinance, for the operation of a commercial baseyard within the County Agricultural District. The site is identified for real property tax purposes by TMK: 3-8-007:por. 102, and is comprised of approximately 11.836 acres of land, situated at Waikapu, Maui, Hawaii. The subject property sits astride property identified for real property tax purposes as TMK: 3-8-007:089 ("parcel 89") on the north side of Waiko Road, with 7.836 acres of the subject property located at the corner of Waiko Road and Kuihelani Highway and 4,000 acres of the subject property located on the opposite side of parcel 89.

SECTION 2. The granting of this Conditional Permit is subject to the following conditions:

1. That full compliance with all applicable governmental requirements shall be rendered.
2. That the Conditional Permit shall be valid until September 30, 2004, provided that, an extension of this period may be granted pursuant to Section 19.40.090 of the Maui County Code.
3. That the Conditional Permit shall be nontransferable.
4. That Consolidated Baseyards, LLC, its successors and permitted assigns shall exercise reasonable due care as to third parties with respect to all areas affected by subject Conditional Permit and shall procure at its own cost and expense, and shall maintain during the entire period of this

Conditional Permit, a policy or policies of comprehensive liability insurance in the minimum amount of ONE MILLION AND NO/100 DOLLARS (\$1,000,000.00) naming the County of Maui as an additional named insured, insuring and defending Consolidated Baseyards, LLC and County of Maui against any and all claims or demands for property damage, personal injury and/or death arising out of this permit, including but not limited to: (1) claims from any accident in connection with the permitted use, or occasioned by any act or nuisance made or suffered in connection with the permitted use in the exercise by Consolidated Baseyards, LLC of said rights; and (2) all actions, suits, damages and claims by whosoever brought or made by reason of the non-observance or non-performance of any of the terms and conditions of this permit. A copy of a policy naming County of Maui as an additional named insured shall be submitted to the Department within ninety (90) calendar days from the effective date of this ordinance.

5. That this Conditional Permit shall be limited to the storage of equipment and materials, minor services of said equipment, and offices appurtenant to such uses. No retailing or other sales activities shall be permitted except for limited sales accessory to the principal permitted use. Structures shall be allowed to protect material and equipment as appropriate.
6. That the permit holder fully comply with the conditions established under the State Land Use Commission Special Use Permit No. SP94-387.
7. That the permit holder shall submit to the Planning Department annual reports addressing its compliance with the conditions established with the subject Conditional Permit.
8. That the permit holder shall initiate construction of the baseyard no later than two (2) years after obtaining the SUP time extension or Conditional Permit, which ever is later. Further, initiation of construction shall be determined as construction of offsite improvements, issuance of a foundation permit and initiation of construction of the foundation, or issuance of a building permit and initiation of building construction, whichever occurs first. If construction of the baseyard does not commence by this date, the Maui County Council may revoke said Conditional Permit. The Maui County Council may extend the time limit if it deems that circumstances warrant the granting of the extension.

SECTION 3. This ordinance shall take effect upon its approval.

WE HEREBY CERTIFY that the foregoing BILL NO. 83 (2001)

1. Passed FINAL READING at the meeting of the Council of the County of Maui, State of Hawaii, held on the 2nd day of November, 2001, by the following votes:

Present	Chen P. KANE Mayor	Allen H. ADUJAWA	Robert CARROLL	G. Earl MOKAMA	Ji JUNG JOHNSON	MICHAEL MOLINA	WALTER RESNER	CHARLES TAVARES
Excused	Aye	Aye	Aye	Aye	Aye	Excused	Aye	Aye

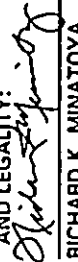
2. Was transmitted to the Mayor of the County of Maui, State of Hawaii, on the 2nd day of November, 2001.


DATED AT WAILUKU, MAUI, HAWAII, this 2nd day of November, 2001.


 DAIN P. KANE, VICE-CHAIR
 Council of the County of Maui



 ROY T. HIRAGA, COUNTY CLERK
 County of Maui

THE FOREGOING BILL IS HEREBY APPROVED THIS 5th DAY OF NOVEMBER, 2001.

APPROVED AS TO FORM
 AND LEGALITY:

 RICHARD K. MINATOYA
 Deputy Corporation Counsel
 County of Maui


 JAMES H. APUNAIUR, MAYOR
 County of Maui

I HEREBY CERTIFY that upon approval of the foregoing BILL by the Mayor of the County of Maui, the said BILL was designated as ORDINANCE NO. 3001 of the County of Maui, State of Hawaii.


 ROY T. HIRAGA, COUNTY CLERK
 County of Maui

Passed First Reading on October 19, 2001.
 Effective date of Ordinance November 5, 2001.

RECEIVED
 2001 NOV 5 10 57

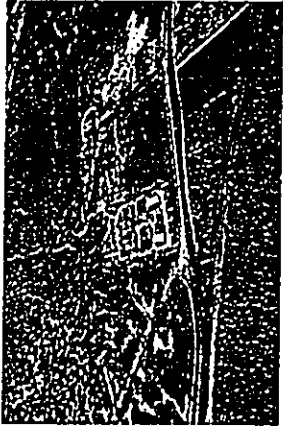
I HEREBY CERTIFY that the foregoing is a true and correct copy of Ordinance No. 3001, the original of which is on file in the Office of the County Clerk, County of Maui, State of Hawaii.
 Dated at Wailuku, Hawaii, on

 County Clerk, County of Maui

Appendix C

Market Study

MARKET STUDY AND ANALYSIS



For the Proposed Consolidated Baseyard Subdivision

38-Lot Industrial Subdivision

On 23.16 Acres of Land

Waikapu, District of Waialuku, Island and County of Maui

December, 2003

Prepared for

Mr. David Ward

**FRAMPTON & WARD, LLC
33 Lono Avenue, Suite 450A
Kahului, Maui, Hawaii 96732**

**ACM Consultants, Inc.
2073 Wells Street, Suite 100, Waialuku, Maui, Hawaii 96793**

ACM Consultants, Inc.

2073 Wells Street, Suite 100
Waialuku, Maui, Hawaii 96793
(808) 242-0481 • Fax: (808) 242-1832

December 13, 2003

03-5113

Mr. David Ward
FRAMPTON & WARD, LLC
33 Lono Avenue, Suite 450A
Kahului, Hawaii 96732

Re: Market study and analysis for the proposed Consolidated Baseyard Subdivision, consisting of 38 lots on 23.16 acres of land in Waikapu, District of Waialuku, Island and County of Maui

Dear Mr. Ward:

In accordance with your request, we have inspected the above-referenced property in order to provide a defined scope market study for the proposed Consolidated Baseyard Subdivision in Waikapu, District of Waialuku, Island and County of Maui. This counseling report, and the conclusions herein, are based on the on-site inspection of the property, a study of current political and economic conditions, and a historical review of the real estate market in the Waialuku-Kahului region and on Maui overall.

The subject consists of approximately 23.16 acres of land and is currently zoned Agricultural District. Its Community Plan classification is Light Industrial (LI). The project, which is still in its preliminary planning stage, will consist of 38 light industrial lots off Waiko Road, in an area that current contains other industrial and agricultural uses. The site is presently utilized as an industrial baseyard authorized by a Conditional Permit which expires on September 30, 2004. The current use is restricted to equipment and material storage, together with minor services of said equipment, and offices appurtenant to these uses.

The focus of this assignment essentially has four parts: (1) to define and delineate the market area; (2) to identify and analyze the current supply and demand conditions specific to the subject's market; (3) identify, measure and forecast the effect of anticipated developments or other factors on future supply; and (4) forecast the effect of anticipated economic or other factors on future demand.

The following report presents a narrative review of the market study and our analysis of data along with other pertinent materials on which this report is predicated. It contains data and exhibits gathered in our investigations, and will include a description of the analytical process and our conclusions.

Mr. David Ward
December 13, 2003
Page 2

Thank you for allowing us the opportunity to work on this interesting assignment.

Respectfully submitted,
ACM Consultants, Inc.



Glenn K. Konihisa, MAI
Certified General Appraiser,
State of Hawaii, CGA-39
Expiration: December 31, 2003

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EXHIBITS
 Exhibit A Photographs of the Subject
 Exhibit B Maps of the Subject
 Exhibit C Marketview Comparison Report, Claritas, Inc.
 Exhibit D Maps of the Improved and Vacant Industrial Land in Central Maui

ADDENDA
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 Limiting and Contingent Conditions
 Qualifications of the Consultant

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A. EXECUTIVE SUMMARY

Background

The Consolidated Baseyard project is a proposed 38-lot, light industrial subdivision situated on Waiko Road between Kiihelani and Honoapiilani Highways, in Waikapu, District of Wailuku, Island and County of Maui. The site is approximately 0.3 mile from Kiihelani Highway and about 0.9 mile from Honoapiilani Highway. A traffic light was recently installed at the Kiihelani Highway intersection, but it is not yet operational.

The subject consists of approximately 23.16 acres of Agricultural-zoned land. The Wailuku-Kahului Community Plan designates this site as Light Industrial (LI). It is anticipated that the project, which is still in its preliminary planning stage, will have industrial lots in the 1/2-acre to one-acre size range.

In seeking the change to Urban and Light Industrial classifications, the applicant is attempting to seek conformity with the present utilization of the site, as well as with a few of the surrounding uses.

Study Objectives

ACM Consultants, Inc. has been retained by Mr. David Ward of Frampton & Ward, LLC to analyze the Central Maui industrial market as it relates to this proposed project. In particular, we studied economic trends and demographics, and supply and demand factors for industrial property. In the process, we have gathered as much information as possible on industrial real estate sales on Maui and, more specifically, in the Wailuku-Kahului region. Specific attention has been paid to industrial land ownership, the availability of vacant parcels, and the future supply of additional industrial land.

The objectives of our study were as follows: (1) to define and delineate the market area; (2) to identify and analyze the current supply and demand conditions specific to the subject's market; (3) identify, measure and forecast the effect of anticipated developments or other factors on future supply; and (4) forecast the effect of anticipated economic or other factors on future demand.

Key Supply Factors

The following points summarize the supply of industrial land in the Central Maui region at this time.

- The majority of the industrial land in Central Maui is provided by two subdivisions in Wailuku and six other subdivisions in Kahului. There is a total of about 386 gross acres of land in these projects.

- In interviewing Realtors and property owners, there is a distinction made among them between vacant land and available land. In other words, although the land is vacant, it may not be available for purchase by the market because the property owner has near-term development plans. Therefore, although there appears to be numerous vacant lots in the Maui Business Park IB, all of them have near-term development plans and are not available to the market.

- The Maui Industrial Park (aka Kahului Industrial Park) does not have any vacant lots available to the market.

- The Wailuku Industrial Park has only two vacant lots, but only one is available.

- Maui Business Park IA has only three lots available to the market.

- The Milliyard has the greatest number of available vacant lots with 11; however, only four of them are listed for sale.

- There are approximately 10.82 acres of industrial land available in the Central Maui subdivisions. Another 7.724 acres are available in other free-standing parcels.

- There are a total of 15 industrial lots currently listed for sale, and 8 of them are presently in escrow. Of the 7 remaining lots, 4 are in The Milliyard and 3 are in the Maui Business Park IA.

- Including the subject, approximately 232 acres of light industrial land are proposed for Central Maui; however, only the 14,891-acre Waiko Baseyard subdivision is imminent.

Key Demand Factors

The following points summarize the demand of real estate in the West Maui region at this time.

- Population on Maui between 1990 and 2000 grew by 27.6 percent. The Central Maui region indicated a growth factor of 26.3 percent during the same period.

- Central Maui has the highest number of employees of all regions on Maui and the combined payroll dollars of Wailuku-Kahului surpass all other regions of Maui County.

- Central Maui is the hub of commerce, transportation and employment on Maui. It currently has approximately 75

percent of all industrial land on Maui.

- Mortgage rates fell to all-time lows this year and are currently around 6 percent for commercial loans.
- Real estate activity in industrial land has been increasing. Eight light industrial parcels in Central Maui are currently in escrow, which is a large number considering that there are only seven other listings.
- Prices for light industrial land in Kahului have been on the increase due to the depleting inventory.
- Warehouse space listings in 1998 averaged \$0.63 per square foot; and, the current warehouse listings in the market average \$0.86 per square foot.
- There is only 18,563 square feet of warehouse space available on the market today. Since January 2000, the monthly absorption rate of pure warehouse space has averaged nearly 48,000 square feet per year.
- Warehouses are not being built by developers because land values are too high for financial feasibility. Nearly all the warehouses being built are by owner-users and this inventory does not get passed on to the general market.
- Vacancy rates for warehouse space have been estimated to be approximately 2 percent, which is a good indication of the strong demand for warehouse space in the market.
- Since 1991, there has been a total of about 131 acres of new industrial land in Central Maui absorbed in the Central Maui subdivisions. This equates to about 10 acres per year.

Conclusion

The Central Maui region of Wailuku-Kahului has seen growth in its population, tourism and economy over the past decade. It has experienced, however, only a slight increase in new industrial inventory. As a result, the occupancy rates have steadily climbed while the inventory has dwindled. Simultaneously, warehouse rents in the Central Maui region have been steadily rising.

Demand is currently strong since employment on Maui is high, and interest rates are at their lowest point since the 1960s. Local businesses are healthier and many of the outlet stores and popular retailers are finding their way to Maui. The last industrial projects to be developed in Central Maui were Maui Business Park Phases IA

and IB. All of the lots have been sold, or are in escrow, with the exception of three parcels in Phase IA. In speaking with owners, Realtors and bank representatives, there will be an increasing number of new industrial projects in the Wailuku-Kahului region within the next one to three years, primarily by owner-occupants.

Consequently, it is the Consultant's opinion that there is a strong need for additional light industrial land to satisfy current and future demand in Wailuku-Kahului.

In this light, the Consolidated Baseyard project, with 38 light industrial lots, would be a welcome addition to Central Maui's industrial inventory at this time. Although it is too early to establish the prices, the location of this product should translate into a highly industrialized use as opposed to the heavy commercial (retail/office) uses in Kahului. Consolidated Baseyards, as proposed, should provide the market participants with additional warehouse inventory which should help stabilize rents in this particular segment.

B. PURPOSE OF THE REPORT

The purpose of this report, as of December 2003, is to generate a market study and analysis with respect to the proposed Consolidated Baseyard, a 38-lot light industrial subdivision.

C. INTENDED USE OF THE REPORT

The intended use or function of this report is to provide real property information and real estate market data upon which internal decision making by our client may be based.

D. SCOPE OF THE REPORT

The Consultant has agreed to provide a current market analysis of this project by (1) defining and delineating the market area; (2) identifying and analyzing the current supply and demand conditions that make up the specific real estate market; (3) identifying, measuring and forecasting the effect of anticipated developments or other changes on future supply; and (4) forecast the effect of anticipated economic or other factors on future demand. The market analysis will be developed and prepared in conformity with, and subject to, the requirements of the Code of Professional Ethics and the Standards of Appraisal Practice of the Appraisal Institute, and the Uniform Standards of Professional Appraisal Practice.

E. STATEMENT OF COMPETENCY

ACM Consultants, Inc. (formerly ACM, Real Estate Appraisers, Inc.) has been actively involved in the real estate appraisal business since 1982. Our business emphasis has focused mainly on the valuation of residential and commercial properties located within the State of Hawaii. The company considers itself competent to conduct a market analysis for a proposed light industrial subdivision in Waikapu, District of Waialuku, Island and County of Maui.

F. EXTRAORDINARY ASSUMPTIONS AND CONDITIONS

(1) As of December 2003, the subject was still in the preliminary stages of planning. Only a preliminary site plan for the project was made available to the Consultant. Consequently, this analysis was based strictly on what is currently known about the subject. The Consultant is not liable for changes in the project plan past this date, nor for information that has not been released or communicated to the Consultant.

(2) The Consultant has no control over economic conditions and other international events that could have an affect upon the Hawaiian economy and the Maui real estate market. As a result, this report has not made any assumptions regarding national or world events.

(3) The valuation is also subject to standard "Limiting and Contingent Conditions" located in the pages following.

G. CONFIDENTIALITY PROVISION

The contents of this report are confidential. Release of this appraisal by ACM Consultants, Inc. is limited to you and your banking relationships, and is for your business use only. Any further release of this appraisal, or portions herein, by you or any of your agents is strictly prohibited and you shall accept the risk and liability for any such release without the previous written consent of ACM Consultants, Inc. Further, you shall indemnify and defend ACM Consultants, Inc., and its individual consultants/appraisers, from any claims arising out of any such unauthorized disclosure.

H. CERTIFICATION

The undersigned does hereby certify that except as otherwise noted in this appraisal report:

- 1. The Consultant's compensation is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
2. The Consultant has no present or prospective interest in the property that is the subject of this report, and no personal interest or bias with respect to the parties involved.
3. The Consultant has no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
4. The Consultant's engagement in this assignment was not contingent upon developing or reporting predetermined results.
5. The Consultant has personally inspected the property, and has made an inspection of all comparable sales listed in the report, and is a signatory of this Certification.
6. To the best of the Consultants' knowledge and belief, all statements of fact and information in this report are true and correct, and the Consultant(s) have not knowingly withheld any significant information.
7. No other person provided significant professional assistance to the person(s) signing this report.
8. The reported analyses, opinions and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial and unbiased professional analyses, opinions and conclusions.
9. The reported analyses, opinion, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics &

Standards of the Appraisal Institute, which include the Uniform Standards of Professional Appraisal Practice.

- 10. This appraisal is to be used only in its entirety and no part is to be used without the whole report. All conclusions and opinions concerning the real estate are set forth in the appraisal report were prepared by the Consultant(s) whose signature(s) appears on the appraisal report, unless indicated as "Review Appraiser." No change of any item in the counseling report shall be made by anyone other than the Consultant, and the Consultant shall have no responsibility for any such unauthorized change.
11. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
12. As of the date of this report, Glenn Kunihsa has completed the requirements of the continuing education program of the Appraisal Institute.

ACM Consultants, Inc.

Glenn K. Kunihsa, MAI
Certified General Appraiser,
State of Hawaii, CGA-039
Expiration: December 31, 2003

I. LIMITING AND CONTINGENT CONDITIONS

- 1) This is a Counseling Report which is intended to comply with the reporting requirements set forth under Standards Rule 5 of the Uniform Standards of Professional Appraisal Practice for a Counseling Report. The information contained in this report is specific to the needs of the client and for the intended use stated in this report. The Consultant is not responsible for unauthorized use of this report.
This report has not been prepared for federally-related mortgage financing purposes, and has not been prepared in compliance with the requirements of Title XI of the Federal Financial Institutions Reform, Recovery, and Enforcement Act of 1989.
- 2) No responsibility is assumed for legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated in this report.
- 3) The property is appraised free and clear of any or all lines and encumbrances unless otherwise stated in this report.
- 4) Responsible ownership and competent property management are assumed unless otherwise stated in this report.
- 5) The information furnished by others is believed to be reliable. However, no warranty is given for its accuracy.
- 6) All engineering is assumed to be correct. Any plot plans and illustrative material in this report are included only to assist the reader in visualizing the property.
- 7) It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. No responsibility is assumed for such conditions or for arranging for engineering studies that may be required to discover them.
- 8) It is assumed that there is full compliance with all applicable federal, state, and local environmental regulations and laws unless otherwise stated in this report.
- 9) It is assumed that all applicable zoning and use regulations and restrictions have been complied with, unless a nonconformity has been stated, defined, and considered in this appraisal report.
- 10) It is assumed that all required licenses, certificates of occupancy

or other legislative or administrative authority from any local, state, or national governmental or private entity or organization have been or can be obtained or renewed for any use on which the value estimates contained in this report are based.

- 11) Any sketch in this report may show approximate dimensions and is included to assist the reader in visualizing the property. Maps and exhibits found in this report are provided for reader reference purposes only. No guarantee as to accuracy is expressed or implied unless otherwise stated in this report. No survey has been made for the purpose of this report.
- 12) It is assumed that the utilization of the land and improvements is within the boundaries or property lines of the property described and that there is no encroachment or trespass unless otherwise stated in this report.
- 13) The Consultant is not qualified to detect hazardous waste and/or toxic materials. Any comment by the Consultant that might suggest the possibility of the presence of such substances should not be taken as confirmation of the presence of hazardous waste and/or toxic materials. Such determination would require investigation by a qualified expert in the field of environmental assessment. The presence of substances such as asbestos, urea-formaldehyde foam insulation, or other potentially hazardous materials may affect the value of the property. The Consultant's value estimate is predicated on the assumption that there is no such material on or in the property that would cause a loss in value unless otherwise stated in this report. No responsibility is assumed for any environmental conditions, or for any expertise or engineering knowledge required to discover them. The Consultant's descriptions and resulting comments are the result of the routine observations made during the appraisal process.
- 14) Unless otherwise stated in this report, the subject property is evaluated without a specific compliance survey having been conducted to determine if the property is or is not in conformance with the requirements of the Americans with Disabilities Act. The presence of architectural and communications barriers that are structural in nature that would restrict access by disabled individuals may adversely affect the property's value, marketability, or utility.
- 15) Any proposed improvements are assumed to be completed in a good workmanlike manner in accordance with the submitted plans and specification.

- 16) The distribution, if any, of the total valuation in this report between land and improvements applies only under the stated program of utilization. The separate allocations for land and buildings must not be used in conjunction with any other appraisal and are invalid if so used.
- 17) Possession of this report, or a copy thereof, does not carry with it the right of publication. It may not be used for any purpose by any person other than the party to whom it is addressed without the written consent of the consultant, and in any event, only with property written qualification and only in its entirety.
- 18) Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the Consultant, or the firm with which the Consultant is connected) shall be disseminated to the public through advertising, public relations, news sales, or other media without prior written consent and approval of the Consultant.

A. REGIONAL DATA - MAUI COUNTY

Maui County is the third most populous of the four counties of Hawaii, with a total resident population of 128,241 (2000 Census) and a change of 27.6 percent since 1990. Maui County consists of the islands of Maui, Molokai, Lanai, and Kahoolawe. Ninety percent (90%) of County residents live on Maui; the 2000 U.S. Census of Population reported 7,404 residents on Molokai and 3,193 on Lanai. The Island of Maui consists of a total of 734.5 square miles, or 470,080 acres. Population Projections for Maui County and the Island Maui are illustrated on the table below.

As shown, Maui County exceeded expected growth as of 1996. Like all the Hawaiian Islands, Maui, Molokai and Lanai are blessed by warm air temperatures year-round, and ocean waters that range from 72-77° F in winter to 77-81° in summer. The islands' distance from other continents, the moderating effects of the surrounding water, and the tropical location combine to create this pleasant climate. Hawaii's topography, particularly the mountains and valleys and location of each island, contributes to the great variety of microclimates within very small areas. On Maui, the West Maui Mountains and Haleakala are the primary geological features affecting the weather.

Due in part to the above geographical factors, Maui has, for nine years, been selected "Best Island in the World" by readers of Condé Nast Traveler magazine. Maui has clearly dominated the tourism competition between the neighbor islands (excluding Oahu), drawing more tourists than the other Neighbor Islands of Hawaii and Kauai combined, and has consistently had the highest occupancy rates of all island (Oahu included). Furthermore, Maui also has preserved more of its original plantation economy than the rest of the state. More than half Hawaii's plantation economy comes from Hawaii Commercial & Sugar Co., a 37,000-acre plantation on Maui, and the nation's last canner of pineapple, Maui Pineapple Co.

Overall, Maui's performance has exceeded other counties during the state's ongoing string of job losses that began in late 1992. In 1999, Maui led the state's four counties in job creation, up almost 3% for the year. In the first half of 2000, that pace of job growth slowed only marginally to 2%. A falling Maui County unemployment rate corroborates the tightening labor market; it dropped from 6.2% for the same period this year. Since the mid 1990s, Maui's unemployment rate has steadily declined.

Visitor Industry

Lately, Maui hotel occupancies exceeded any area in the state with the exception of Waikiki. Its high rating is due to a number of

factors. First, Maui receives the good fortune of location and climate. Second, Maui has the infrastructure in place to move tourists to a diverse variety of activities with a minimum of inconvenience and down time. The accommodations on Maui are another reason. Maui resort hotels have consistently ranked above other Hawaii resort destinations. In the same Conde' Nast Traveler magazine, 10 of the 'Top 25 Pacific Rim Resorts' were Maui County resorts. The Four Seasons Resort Maui at Wailea was ranked 2nd in the survey; and, Fairmont Kea Lani in Wailea ranked 3rd.

With the possible exception of Kauai, Maui is more dependent on tourism than any of Hawaii's four counties. That sector is treating Maui very well nowadays, but it is no accident. For years, Maui has worked very hard at cultivating a worldwide image as a premier, upscale tropical island destination. In fact, it is the only county government in Hawaii that spends money to support tourism. Its consistency in creating that image over the years has been the key to its success today. The now affluent U.S. economy and that upscale image have dovetailed now, to award Maui with its own measure of affluence in today's world.

The leading edge of Maui expansion is tourism, which continues to be very healthy, despite the September 11 terrorist acts. From 1994 through 2000, visitor arrivals have consistently been between 2,300,000 and 2,350,000. However, as shown on the following page, the effects of the September 11, 2001 terrorist attacks had a drastic impact on the tourism industry. The final Maui visitor count for 2001 was 2,041,765. In 2002, the visitor count rebounded slightly to 2,089,287 as the visitors slowly returned during the mid to latter part of the year. Maui's mainstay is visitors from California, and the county continues to benefit from the state's robust economy. Visitors from California alone account for about 35% of Maui's Westbound visitor arrivals.

Added airline seats from elsewhere on the U.S. Mainland are expected to bring even more tourists to Maui. Other factors are better airline equipment and frequent-flyer program benefits. The better equipment allows more longer distance planes to come to Maui without the much debated Kahului runway extension. Even though plans to extend the runway have been shelved, there is a push for strengthening the existing runway to support heavier planes, such as Boeing's 777.

Further evidence of Maui's booming tourism is found in occupancy statistics, even though visitor arrivals do not translate directly to occupancy levels because time-share stays and day-trippers are not included in occupancy rates. Still, Maui Island's occupancy rate led

all other islands (including Oahu) in 2002 at 71.0 percent. At the same time, Maui had the highest average daily room rate for 2002 at \$181.25.

Historically, occupancies in Wailea, Kihei, and Kapalua have run about 8% to 10% below the established resort area of Kaanapali. That gap is closing, however, as Kaanapali approaches its capacity.

Visitor shopping opportunities have increased in recent years with the opening of The Maui Marketplace, a 275,000 square foot shopping complex, modeled after Oahu's successful Waikole Center. The Maui Marketplace is now home to such retail superstores like Lowe's Hardware, Pier One Imports, Borders Books and Music, Sports Authority, Starbucks Coffee, and Office Max, as well as many small local retailers and restaurants. Also opening in the same Kahului area were Home Depot, Wal-Mart, K-Mart and Costco. In addition, the Shops at Wailea opened in December 2000 and added approximately 150,000 square feet of high-end retail space in the Wailea Resort. At about the same time, the 150,000 square foot Pillani Shopping Center opened in Kihei with Safeway as its anchor tenant.

Maui offers more than any other Neighbor Island in the way of proven vacation experiences. It has a larger tourism activities industry relative to the size of its economy than any other county. Such activities include ocean recreation, helicopter tours, biking down Haleakala, and golfing, among numerous other activities. Maui's well-developed ocean recreation industry ranges from windsurfing to snorkeling, scuba diving and sailing cruises which leave regularly from Lahaina and Maalea Harbors.

Maui also has theme destinations, such as the Maui Tropical Plantation. But the premier theme destination, likely to be the foremost in the entire state, is the newly opened Maui Ocean Center. This center, featuring the marine environment of the Hawaiian Islands, is modeled after five other aquarium parks developed elsewhere in the world by Coral World International. This ocean center is located just behind the Maalea Boat Harbor, and is easily accessible from Kahului/Wailuku, and the resort areas of Lahaina/Kaanapali and Kihei/Wailea. The Maui Ocean Center actually anchors the 18-acre Maalea Harbor Village, which also includes a retail strip shopping center, restaurants and other services.

Despite the improving visitor industry on Maui, hotels have not been adding much in the way of jobs. Tourism still dominates the labor force; however, the profitability problems the large resorts have experienced led managers to refine their operations. Tourism numbers are growing steadily, but job creation in the visitor industry

is not matching that growth.

Real Estate

Residential real estate can be divided into three broad categories (single-family homes, condominiums and residential lots) and four important geographic regions. As a result, there are eight subsections of the market that have proven capable of moving up and down with relatively little correlation with the others. Upcountry has virtually no condominium properties; and two other subsections, South Maui and Central Maui, have few leasehold condominiums. Only West Maui has all three types. Of all the neighborhoods, several have virtually all luxury housing, such as Kapalua, Kaanapali, and Wailea. Kahului has no luxury housing and Waialua only a little. All other areas have a mix.

Owner-occupied housing on Maui runs about 57.6 percent of all occupied housing units. The total housing stock has been growing at a rate of about 1,000 units a year in the 1980's. The total accelerated to 1,500-2,000 new units in the late 1980's, well short of demand. The Maui population has expanded tremendously for the past 10 to 12 years, but housing was not being built at the same pace as the 1980s. As a result, demand for housing has outpaced supply and homes prices and rents have risen dramatically. The median single-family home price on Maui in 2002 was \$377,361. Meanwhile, interest rates have fallen to new lows and have helped to make these higher prices achievable. At the same time, these low rates have stimulated new construction, new home buying and refinancing.

The following summarizes a sales volume history for Maui County from 1990 to 2002.

Year	Vacant Land	Single Family	Condominium
1990	298	560	1459
1991	116	430	593
1992	120	382	496
1993	121	361	461
1994	148	404	592
1995	118	331	495
1996	125	445	572
1997	171	491	786
1998	227	602	964
1999	397	950	1338
2000	359	951	1456
2001	318	964	1275
2002	393	978	1551

The real estate market increased significantly over the past four years in all categories. Single-family resales saw a significant increase in 1999 and has been stable up to 2002. Similarly, condominium resales

have experienced significant increases since 1999 in terms of units sold, achieving a new high in 2002. In 1999, 1,338 condominium units were sold, registering a 38.8 percent increase from the prior year. In 2001, the number of sales fell slightly, but rebounded significantly in 2002. Meanwhile, median prices have rose significantly in 2002 for all categories of real estate.

Construction and Development

Employed Maui contractors and construction workers consider themselves fortunate to have a job, but anxiously worry about job security in an immediate future that includes few large building projects.

Recent large projects within the past three years, as further described below, include the new Pihani Shopping Center (anchored by Safeway), Shops at Wailea, Micro Gaia, WorldMark Apartments, Kaanapali Ocean Resorts, and Maalaea Harbor Village.

Maui contractors face a dual problem, whereby there are not enough large construction projects to hire and retain workers, and they now have to bid against large Mainland construction firms, who import both their labor and their building materials. Public works projects also have not provided the construction activity necessary to fill the employment gap. Maui County itself has no current projects other than road paving for contractors to bid on, and its future projects are currently in the design phase.

Office space is currently over-built in Maui, with many commercial property owners seeing building space vacant in their office centers for two years or more. Retail businesses must now adjust to the new trend of "big box" retail stores and centers coming to Maui, and those with good management skills and ability to find their marketing niche can survive, and even prosper, in this new market place. But many Maui businesses have found it hard to adapt to these changes, and have sold out, or closed down, increasing commercial vacancies. However, other entrepreneurs have risen to take their place and the retail inventory, especially in the resort areas, display high occupancy rates.

One large commercial project completed in the year 2000 was the Maalaea Harbor Village shopping complex, where the premier Maui Ocean Center presently stands. This area also includes a retail strip shopping center, restaurants and other services.

A commercial project recently constructed in Kihei is a 150,000 square foot shopping center anchored by a 55,000 square foot Safeway store, considered to be the largest Safeway in the state.

Construction of a second shopping center was also completed in December 2000. The Wailea Shopping Village had been demolished and was replaced with The Shops at Wailea, which includes 150,000 square feet of upscale retail and restaurant space.

Residential properties continue to be built, primarily in new subdivisions throughout Maui. This sector of the market too had been affected by the poor Hawaii economy; however, properties priced under \$300,000 have enjoyed a large degree of success. In Lahaina, small zero-lot-line subdivisions like Mahinahina Village and Kaunale Mahinahina in Lahaina have sold out as the homes were built. In Central Maui, Nanea at Kechalani in Wailuku has sold 78 of 80 units within 12 months of starting construction. Another project that started a few years ago in Kahului is Maui Lani. It is expected to be comprised of about 3,000 units including homes, schools, churches, and a golf course, which has already commenced with development. Wailuku Parkside is another single-family subdivision that was immediately successful in Central Maui next to the Lao Parkside condominiums in Wailuku. Similarly, Olena I, a new 31-lot subdivision, was also immediately reserved when presented to the market and all lots were sold prior to construction completion in 2001-2002.

Kihei has seen a recent upswing in residential development brought upon by new single-family subdivisions including Pillani Village Phases II and III, developed by Jesse Spencer; Ka Ono Ulu Estates, a 51-lot subdivision currently being developed by Betsill Brothers, Inc.; and, Ke Ali'i Kai, a 95-lot subdivision being developed across from Kamali'i Intermediate School. All of these subdivisions were highly successful, receiving immediate reservations and contracts on all units prior to completion of construction. Several other subdivisions are underway or are planned for the Kihei area. They include Kilohana Herma and Kilohana Mauka in south Kihei.

Retailing

In retail, the newest and most striking addition is the 275,000 square foot Maui Marketplace, which opened on Dairy Road two years ago. This site now contains the likes of Lowe's Hardware, Office Max, Sports Authority, Borders Books & Music, Pier One Imports, Burger King and Starbucks Coffee.

Wal-Mart and Home Depot also recently completed their stores on Dairy Road, immediately west of the Maui Marketplace. These outlets joined earlier arrivals Costco and KMart, as well as Alexander & Baldwin's neighboring Triangle Square, in carving up the Maui retail pie. However, the local malls are answering the challenge with more food and entertainment, and retailers that can compete in their niche. Maui's largest mall, Maui Land & Pine's Queen Kaahumanu

Center in Kahului, has been challenged by the presence of these large box retailers and vacancies are very noticeable. The most recent, and highly publicized closure was that of JC Penney in January 2003.

In Kaanapali, Whaler's Village has taken a turn toward the luxury market popular with the Japanese. Recently completing a \$3 million renovation and a change in its tenant mix, this oceanfront center now aims for both westbound and eastbound visitors. Japanese visitors are targeted with Duty Free Shoppers, Louis Vuitton, Prada, Loewe and other high-end shops.

The 150,000 square foot Shops at Wailea recently opened in 2000. This newly opened upscale shopping center contains high-end retail shops, such as Luis Vuitton, Coach, Bally, Fendi, Tiffany & Co., Banana Republic, and Georgiou. Restaurants in this mall include Ruth's Chris Steak House, Tommy Bahama's Café and Emporium, and Longhi's. Other retailers include Crazy Shorts, Hot Topix, Gap, Wolf Camera, and Whaler's General Store.

Agriculture

Agriculture on Maui is dominated by larger operations like Maui Land and Pine and Alexander & Baldwin's Hawaii Commercial and Sugar (HC&S).

Pineapple now confronts more foreign competition from places like Thailand, but Maui Land and Pine has weathered the recent drought relatively well, with adequate irrigation systems. However, there have been some recent changes in top management of Maui Land and Pine as the company seeks profitability.

HC&S survives as one of Hawaii's few remaining sugar operations because of its economies of scale, its shape (a compact area in the isthmus of the Valley Isle rather than being strung out along some coastline, which facilitates cane hauling), and its decisions over the years to reinvest and upgrade plant and equipment.

In 1999, HC&S sugar production was a 10-year high of 228,000 tons. In 2000, the extended drought may have knocked production down by 8% off 1999 levels, and more trouble came from sugar prices, at a 25-year low.

Yet HC&S continues to upgrade. A completed \$6 million modernization of Puunene Mill, consists of a \$2.5 million production facility to manufacture food grade sugar, and installation of an \$8.5 million generator that will produce and additional 16 megawatts of power above 1998 and 1999 levels. The operation is also diversifying. A \$10+ million fiberboard plant was recently completed at the end of 2000, and an ethanol plant is also being evaluated.

Maui's most recent casualty among sugar operations, Pioneer Mill in West Maui, is missed visibly. For years, proponents of maintaining and sustaining Hawaii's sugar industry argued that growing sugarcane imparted to this economy an important, if underestimated, non-pecuniary benefit: sugar kept the land green and attractive, for tourists and locals alike, even if it lost money. Economists call this situation an "externality," an activity that affects others for better or worse, without those others paying or being compensated for activity.

Anyone who doubts that logic now has only to drive the West Maui coast from Olowalu to Kaanapali and look mauka, at an entire mountain side of red, blowing dirt. Perhaps partly because of drought, not even weeds have taken root there yet. As with many cases where sugar plantations have shut down, most diversified agriculture crops are just not land intensive enough to utilize all the vacant land. Coffee and seed corn operations are possibilities, but they make only a small dent.

In addition to sugar and pineapple cultivation, Maui also offers rich opportunities for agricultural diversification by small farmers and large agribusinesses. Top among new agricultural products are: papaya, cut flowers, coffee, Kula onions and strawberries, and Chinese cabbage from Kula. Molokai offers its sweet potatoes, Molokai lettuce and alfalfa, as well as taro.

High-Tech

Maui's contribution to Hawaii's fledgling high-tech industry remains pre-eminent in the state. It also represents genuine diversification of the economy. The Maui Research and Technology Park in Kihei has all its infrastructure in place, and has completed three major building projects. Most important, it houses one of the country's most powerful supercomputers. The park now hosts over 30 companies and over 300 employees on 415 acres.

With access to one of the most powerful supercomputers in the world, funded by the U.S. Air Force, the Maui Research and Technology Park is continuing its efforts to diversify the Maui economy into something fundamentally different from what exists in the county or anywhere else in the state.

Two new buildings are being planned for the Maui Research & Technology Park. One is the Maui Corporate Center, a 54,000 square foot office environment for tenants of the computer complex. The other is an International Business Center, a 15-acre complex that can accommodate up to 2,000 attendees of any single event. To date, however, there has not been any announcement to commence construction of these projects.

The park is sticking to its long-run strategic plan to capitalize on its location at the center of the Pacific Basin. Its extensive fiber-optic lines to the U.S. Mainland make it one of the most fiber-rich environments in the world, greater than many facilities actually located on the Mainland.

County Government

Maui County is unique in having several inhabited islands in its jurisdiction: Maui, Molokai, as well as Lanai, and the uninhabited island of Kahoolawe.

Maui County has an elected Mayor and County Council, and the Board of Water Supply and Liquor Control Commission are semi-autonomous with appointed directors. Although all courts are conducted by the State, the County is responsible for prosecution and the Mayor appoints the prosecutor. The council has nine members, each residing in one of nine districts; however, voters cast ballots for all nine seats.

Unlike other states, Hawaii has only two layers of government: State and County. The State is responsible for many functions that elsewhere come under the jurisdiction of municipalities, such as schools, hospitals, airports. Also, unlike other states, Hawaii has statewide zoning carried out by the State Land Use Commission. The County has zoning authority within the boundaries established by the commission.

In January 2003, a new mayor took office and signaled a change in the way the administration is managed. One of the major changes is the transfer of the semi-autonomous water department to the direct control of the mayor's office. In July, Maui County announced a moratorium on new water meter reservations. This has the potential for curbing growth, something that anti-growth activists welcome but developers and the construction trades dislike.

The new administration is carefully scrutinizing new development and, during the year, has already raised the ire of developers and contractors who claim that the delays and revocation of certain permits have raised the cost of development and the price of housing to the public.

The mayor claims that his administration is not trying to stop all the development projects, but that they have to make sure that what we create, we can live with. He says that they are trying to fit everything (development, environment, economy and tourism) together as a package.

At the same time, the County of Maui is encountering a lack of

affordable housing. Maui is the most expensive county for home buyers, with a median sales price of about \$375,000 in 2002. According to the latest State of Hawaii Data Book, 8.2 percent of the houses are overcrowded on Maui and 48.2 percent of the households pay more than the recommended limit of 30 percent of their income on housing. In fact, 28.2 percent pay more than 40 percent on housing. Lawmakers are being told that the county entitlement process is difficult, expensive and time-consuming. Combined with the price of land on Maui, it is most difficult to deliver affordable housing to the market.

B. NEIGHBORHOOD DESCRIPTION

Since real estate is fixed in location, its marketability and rentability are strongly influenced by economic and social trends in its immediate environment. The continuing attractiveness of this neighborhood environment to potential users and tenants and its competitive relation to those of substitute properties, must therefore be evaluated and forecast by the appraiser. In particular, perceived neighborhood trends affect both the quality and quantity of the revenues the subject property can reasonably be expected to generate.

A neighborhood of income-producing properties is a geographic area characterized by similarity of uses and/or users, within which any change has a direct and immediate effect on the subject property and its value.

The geographic area surrounding the subject property is defined by physical and man-made boundaries, and encompasses an area known as Wailuku-Kahului. This region is located on the north shore of the Island of Maui and encompasses the civic and business centers of Wailuku and Kahului. The island's major seaport and primary airport are also contained within the boundaries of this region. The surrounding agricultural land of Central Maui, and the eastern half of the West Maui Mountains are also within the Wailuku-Kahului neighborhood.

The boundaries of the Wailuku-Kahului region are the northern shoreline from Poelua Bay to Baldwin Park on the north, Kailua Gulch and Lowrie Ditch on the east, Spanish Road to Waikapu Road to Honospitani Highway to Pohakea Gulch on the south, and the Wailuku Judicial District boundary on the west.

Population is concentrated in the urban centers of the region. Wailuku has maintained its role as the civic-financial-cultural center while Kahului has strengthened its role in recent years as the business and industrial center.

In addition to the urban centers of Wailuku-Kahului, the region also includes the more rural settlements of Waihee to the north and Waikapu and Puunene to the southeast. Agricultural lands are adjacent on the lower slopes of the West Maui Mountains and in the central plain south and east of Kahului. This green border is a significant part of the settlement pattern because of its open space and economic value. Kahului Harbor and Airport are major land users along the Kahului shoreline. As major ports of entry for people and goods, they serve as an important center of jobs and economic activity.

The major thoroughfares through Kahului and Wailuku are Kaahumanu Avenue which begins in Kahului and provides primary access to Wailuku as well as Lahaina and Kiheti; Hana Highway, which is actually a continuation of Kaahumanu Avenue, leads from Kahului to the eastern or "upcountry" portions of the island; and Puunene Avenue which provides access to all major areas in Kahului and ultimately leads to the new Kiihelani Highway which provides by-pass access to Lahaina and Kiheti. The Kaahumanu Avenue also runs into Main Street, and via secondary access, runs into Waiehu Beach Road and Lower Main Street.

Kahului, adjacent to Wailuku, is situated on the northwest portion of the island of Maui, and is the central commercial, industrial and residential area of Maui. Kahului Town contains Maui's major shopping centers, centralized industrial areas, financial institutions, medical office facilities and business offices. Additionally, the Kahului Airport and Kahului Harbor are located in Kahului proper and centrally provides the majority of firms providing various goods and services throughout the island, as well as to Lanai and Molokai. Consistent with its central location, post office facilities, community library, parks, schools (elementary, intermediate, high school and a community college), churches of various denominations, entertainment facilities, food outlets and a fire station are located in Kahului.

Wailuku, at one time, was the heart of Maui's business activities. Decentralization of business to nearby Kahului and lack of maintenance and modernization of buildings to keep up with the new shopping habits brought about a gradual decline. However, since the creation of the municipal parking area in Wailuku, several new buildings have been built or renovated and a rejuvenation of the Wailuku Town is being experienced. The recently passed Community Plan envisions Wailuku as the "governmental, cultural and professional center of Maui". Located in Wailuku are the various government agencies, courts, hospital, major recreational facilities and police station.

Wailuku's Fire Station sits in the heart of Wailuku Town, and until the opening of the Kahului Fire Station, was the only one in Central Maui. Kahului's new Fire Station is a 21,300 square foot facility that includes two main buildings and is situated on Dairy Road.

The Maui Memorial Hospital, which is Maui's primary facility of medical and emergency service is located between the connecting boundaries of Kahului and Wailuku. The new Police Station is also conveniently located nearby.

Numerous pre-schools, elementary, grade and high schools are located throughout Kahului and Wailuku, with the Maui Community College located on Kaahumanu Avenue.

In order to fully understand and appreciate Kahului and Wailuku's potential for expansion, as well as factors that could limit the growth of this region, a brief summary of recent or proposed developments in central Maui, along with a few important issues facing future development are in order.

RESIDENTIAL

The residential districts surrounding these two centers are significantly different in character. Kahului residential areas are newer, with wide curvilinear streets. Wailuku, however, is comprised of older residential areas, intermixed with business uses, varying lot sizes, and a more haphazard street pattern representative of older subdivision practices.

Kahului

Currently in Kahului, the major residential area is represented by Alexander & Baldwin, Inc.'s Kahului Town Development. This subdivision consists of 14 increments that was built between 1951 and 1981. There is a total of 3,400 lots within the 14 increments. Kahului Town is distinguished as the first planned "new town" in Hawaii to provide quality housing at affordable prices.

Today, Kahului Town is a bustling residential community, and the on going Maui Lani project is generating a great deal of interest. This development will include up to 3,000 new residential units, ranging from executive golf homes to affordable units and will span 1,000 acres on the south side of Kahului and Wailuku. The Maui Lani development includes a golf course, churches, schools and a recreational center. Already, several phases have been sold over the past three to four years.

Wailuku

In Wailuku, the older residential homes are mixed with small businesses throughout central Wailuku. There are three primary residential subdivisions on the outskirts of the town including Wailuku Heights, Waiehu Terrace and Leisure Estates.

The older Wailuku Heights area was extended by two exclusive and prestigious phases. The first extension offers 270 lots while the second phase offers an additional 130 lots to the subdivision. Once verdant pastureland, Wailuku Heights is nestled in the West Maui Mountains and offers underground utilities, scenic views and a landscaped park.

The newest residential developments in Wailuku include the Olena

I at Kehalani subdivision and the recently completed Wailuku Parkside subdivision. Olena I at Kehalani is an 31-lot project that was first offered to the market in 2000 and all the homes were sold as of early-2002. In fact, Olena II, another 31-lot subdivision, will be starting this year and all properties were sold prior to commencement of construction. These projects, by developer Stanford Carr Development, are being sold strictly as house-and-lot packages. The Wailuku Parkside Subdivision, the same developer consists of 119 lots on approximately 27 acres.

Recently, three other single-family subdivisions were recently offered for sale in Wailuku. Two of them are located in the Kehalani project district and have been approved for construction. They are Maunaleo at Kehalani (83 lots) and Ohia at Kehalani (140 lots). At recent sales events in November 2003, approximately 150 applicants were initially signed up for Maunaleo, and about 500 hopefuls signed up for Ohia. The third subdivision is currently going through the approval process. Yet unnamed, it will consist of approximately 400 single-family homes and is being processed as a 201-g affordable housing project. A total of about 1,800 people signed up for these 400 homes.

Other notable subdivisions in recent years include the Nanea at Kehalani Subdivision, Waiolani subdivision in Waikapu and the Kaimana at Kehalani subdivision. Nanea at Kehalani is an 80-lot project that was first offered to the market in 1998 and nearly all the homes were sold within 12 months. This project, by developer Jesse Spencer, was sold strictly as house-and-lot packages. The Waiolani subdivision was developed in 1993, and is comprised of 116 residential lots ranging in size from 6,001 square feet to 9,375 square feet. All of the lots were pre-sold within the first day of sales. Kaimana at Kehalani, was comprised of 179 residential house & lots, and completed sales in 1998.

COMMERCIAL

Commercial development in Kahului is concentrated along the major thoroughfares in strip fashion, while Wailuku's main commercial activity is concentrated in the central core of the town. Due to the central location of these communities, demand for commercial space is strong, and vacancies within established projects in this region is very low.

Kahului

Most of the buildings in Kahului are no more than four-stories high. This includes the Kahului Building, whose tenants include Central Pacific Bank on the ground floor and other business offices on the remaining three floors. The 95 Lono Center is a two-story office

building situated at the corner of Lono and Kamehameha Avenue, which is adjacent to the Kahului Building and the Kahului Shopping Center. It contains a total leasable area of 12,110 square feet. The Kahului Office Center is another four-story building that was completed in 1991 and contains a total of 29,773 square feet of leasable area. This project is anchored by Blockbuster Video and is surrounded by fast food restaurants such as Jack-In-The-Box, Taco Bell, McDonalds and Pizza Hut. Also nearby is a Safeway and Ross's.

There are three major shopping centers in Kahului. Maui Mall, opened in late 1971 contains a gross leasable area of 181,500 square feet on a 25-acre site. It is anchored by tenants such as Longs Drug Store, Star Supermarket and the new Maui Mall Mega Plex, by Wallace Theater Corporation. Kahului Shopping Center, the oldest major shopping center which opened in 1951, contains 104,000 square feet of gross leasable area. The largest center, Queen Kaahumanu Center, opened in 1973 and has 300,000 square feet of gross leasable area. Extensive renovations were completed in 1995, which includes a new two-level shopping wing, a six-screen movie theater, expanding the major stores, renovating the existing mall and adding a parking structure and access road. The project expanded the center to 500,000 square feet. It is currently anchored by Macy's and Sears.

Presently, the area around Dairy Road is attracting a lot of attention and is quickly becoming the retail corridor of Central Maui. An 8,600 square foot Kmart was built at the intersection of Hana Highway and Dairy Road, and opened in June 1993. Costco, a wholesale warehouse outlet, was completed shortly thereafter and is situated adjacent to Kmart on Dairy Road. Home Depot was recently completed in early 2001 as part of the overall Maui Business Park, and right next to it is the brand new Wal-Mart store which opened in late 2001. Both stores are visible and accessible from Dairy Road.

Wailuku

The hub of commercial activity in Wailuku is concentrated in an area along Market Street and Main Streets. Known as Old Wailuku Town, this neighborhood is characterized by older, low-rise buildings consisting of small, individual shops and offices. Other commercial uses surrounding this area of Wailuku include the State and County buildings, and several other office buildings such as the Wailuku

Major office buildings include Executive Center, which is a four-story office building located at 34 North Church Street. Completed in September of 1988, this site has adequate parking, along with a large municipal lot next door. Also in the business district of Wailuku is the Wailuku Business Plaza. It is situated between Main

and Wells Street and contains approximately 16,000 square feet of rentable area. Also in this business district is the Wells Professional Center, a four-story office condominium building on Wells Street, behind the County of Maui's office building. On the northwestern corner of High and Main Street is One Main Plaza. This six-story structure offers approximately 85,000 square feet of leasable space and 198 covered parking stalls. Tenants include, among others, the Internal Revenue Service, Morgan Stanley Dean Witter, University of Phoenix, and several law offices.

Other major office buildings include 35 Lumaililo Building is located at 35 Lumaililo Street on the outskirts of Wailuku Town. This 4-story office building contains a total leasable area of 18,289 square feet and includes tenants such as Washington Mutual and the Veterans Administration. 33 N. Market Street is the site of a 3-story, wood-framed office building in Wailuku's central business district. It contains a total leasable area of approximately 7,000 square feet and is situated next to the First Hawaiian Bank building. Although there is no parking area on site, street parking is available, along with a large municipal lot adjacent to the building.

Constructed during the 1990s were the 1955 Main Street building and the Maui Realty Suites, both located on Main Street. Tenants of 1955 Main Street include a State of Hawaii agency, Chris Hart & Partners, Commercial Properties of Maui, and a Subway sandwich restaurant. The Maui Realty Suites, which is located across the Ooka Supermarket and adjacent to the Wailuku Fire station consists of six-stories office and residential condominium units.

Main Street Promenade, a three-story restaurant/office complex across the street from the Wailuku Business Plaza is the most recently completed retail office building in Wailuku Town. This building opened in mid-2002.

INDUSTRIAL

Maui's recent industrial developments have evolved into mixed industrial and commercial centers.

Kahului

The most notable industrial developments in Kahului are the Kahului Industrial Park, the Kamehameha Parkway No. 2, the Airport Triangle, and the Maui Business Park, Phases IA and IB.

The Maui (Kahului) Industrial Park is by far the most established industrial subdivision on Maui and is bordered by Hana Highway, Puuene Avenue, Dairy Road and Kamehameha Avenue. It includes low-rise warehouse and commercial uses and is occupied with a

mixture of industrial, retail and office tenants.

In response to the high demand, A&B Properties also developed the Airport Triangle, located makai of the Hana Highway, across the Maui Industrial Park. This 13-acre subdivision currently includes a Lexus dealership, a BMW dealership, Gas Express, a small retail center at the corner of Hana Highway and Dairy Road, and a retail strip-center identified as the Apex Building. The new 15,000 square foot Kele Center was recently completed next to the Apex Building, and is currently anchored by a Denny's restaurant. Presently, a new Krispy Kreme doughnut store is being constructed on Dairy Road, at the northeastern corner facing the airport.

The Kamehameha Parkway No. 2 is the site of the County's old Fairgrounds and is adjacent to the Kahului Industrial Park. This relatively new light industrial subdivision contains a total of 36 lots, ranging in size from 12,826 to 38,181 square feet. There are currently 19 parcels developed in this subdivision, which includes such projects as the upcoming Valley Isle Motors, Gas Express, Spec Dee Lube, the HC&S Federal Credit Union, Kula Produce, Eagle Distributors, Kula Community Federal Credit Union, The Fairgrounds office building, Dr. Baum office building, Service Rentals, and a new professional medical building.

Forty-two acres in Kahului were also developed in the mid-1990s for immediate light industrial and commercial use, and is now known as the Maui Business Park, Phase IA. It includes 32 light industrial zoned lots ranging in size from 16,801 to 35,522 square feet. The lots were originally priced at an average of \$30 to \$35 per square foot. Adjacent to the Maui Business Park is the new Maui Marketplace, developed by the McNaughton Group to house large outlet stores. The tenants include, among others, Sports Authority, Office Max, Pier One Imports, Old Navy, Lowe's Home Improvement and Border's Books and Music. Other tenants Bank of Hawaii and Burger King, among small vendors.

Maui Business Park, Phase IB was developed in 2000 to the south of Phase IA. Home Depot and Wal-Mart were completed in 2001 and other smaller lots were later offered for sale. At this time, there are no available lots for sale. All the parcels behind Home Depot have either been purchased or are in escrow.

Wailuku

The Wailuku Industrial Park is an improved light industrial subdivision with 74 fee simple lots off Lower Main Street in Wailuku. Lots range from 10,106 square feet to a parcel 3,089 acres in size. This subdivision is approximately 97 percent developed, with only one or two vacant lots.

C. PROJECT DATA

Enviorns

The Consolidated Baseyard project is a proposed 38-lot, light industrial subdivision situated on Waiko Road between Kiihelani and Honoapiilani Highways, in Waikapu, District of Waialua, Island and County of Maui. The site is approximately 0.3 mile from Kiihelani Highway and about 0.9 mile from Honoapiilani Highway. A traffic light was recently installed at the Kiihelani Highway intersection, but it is not yet operational. Although the subject has a somewhat remote location on Waiko Road, the close proximity of the subject to these highways help to make it more convenient.

The town of Waikapu is a very small community located approximately 1.5 miles from Waialua Town. Honoapiilani Highway, runs through its center and most of the residential development is mauka of the road. These subdivisions include Waioalani, Waikapu Village, Waikapu Homesites and the recently developed Waioalani Elys. The Maui Tropical Plantation, a tourist attraction, is located at the southern end of Waikapu, also mauka of Honoapiilani Highway.

The subject is located makai of Honoapiilani Highway and it is surrounded by a few agricultural and industrial uses. There are very few buildings along Waiko Road in the vicinity of the subject, and the area is comprised mostly of fallow agricultural land. In close proximity to the subject are Maui Scrap Metal and Recycling; the offices of Waialua Agribusiness; the baseyard, warehouse and offices for Rojac Trucking and Rojac Construction; the Fong Construction baseyard; and the warehouse and office of Brewer Environmental Industries. Other surrounding lots include a cattle feed lot, a compost processing area, and an orchid farm. Near the intersection of Honoapiilani Highway and Waiko Road, to the west, are approximately 34 single-family homes. A small community park and two baseball fields are also in the same area.

As mentioned above, the subject will have easy access to two major highways which will help to facilitate trips to other parts of the island. Honoapiilani Highway (Highway 30) provides access to the west end of Maui which includes the Lahaina, Kaanapali and Kapalua destinations. On the way to these communities, Honoapiilani Highway connects to Highway 31 which furnishes roadway access to the Kiihelani-Wailea-Makena region.

Kiihelani Highway (Highway 380) will take care of travel to Kahului and other communities north and east of the subject. It also connects with Highway 350 (Puunene Avenue) which also travels to Kiihelani via Mokualele Highway.

CONCLUSION

The Milliyard Subdivision, also developed by C. Brewer Properties in 1985 is an improved light industrial subdivision located at the old Waialua Sugar Mill site. This industrial subdivision contains 57 lots, including the opening of the Waialua Post Office in late 1990. Approximately 64 percent of this subdivision has been developed with a mixture of commercial and light industrial uses. Several more lots are planned for development in the near future. The Milliyard Plaza is one of the largest additions to this subdivision, with approximately 30,000 square feet of rentable retail and office space. Also, several dentists have seen fit to build their own free-standing facilities in The Milliyard, which has been developed into more of an office park than an industrial center.

All public utilities including electricity, water, telephone and sewer service are available in Kahului and Waialua, as is police, fire and ambulance services. Propane gas is not a public utility, however, is available. All charges for public services are standardized for Kahului as well as for the Island of Maui.

Although no public transportation exists on Maui, Kahului and Waialua is easily accessible from most parts of the island. This and the fact that it is central to airport and harbor facilities, commercial and industrial establishments, properties located in this area are ideal.

Due to this region being the center of County, State and Federal offices, as well as community services, properties in these areas are anticipated to be in greater demand in the years ahead. Based on the desirability of this area and forecasted demand here, property values are expected to continue their appreciation in the foreseeable future.

Description of the Proposed Project

Land & Improvements: The subject consists of approximately 23.16 acres of Agricultural-zoned land. The Waikuku-Kahului Community Plan designates this site as Light Industrial (LI). It is anticipated that the project, which is still in its preliminary planning stage, will have industrial lots ranging from 10,000 square feet to 85,500 square feet in size. The lots are expected to be fully-serviced and building-ready. Access will be via Waiko Road which runs between Honoapiilani and Kiihelani Highways.

Likely Purchasers or Tenants: In light of its unique location, away from the central business districts, the harbor and the airport, this proposed subdivision is expected to attract pure industrial users. This is meant to include businesses who are looking primarily for warehouse space and fenced yards. Tenants like these are slowly being displaced from Kahului and Waikuku by higher rents which are being driven upward by retail and service users competing for space. Typical industrial tenants may include plumbers, electricians, contractors, building suppliers, wholesalers, fabrication companies, auto repair companies, warehousing companies, trucking companies, and similar type businesses. From a market perspective, the subject is well-suited for a light industrial development of this type; and, businesses have long awaited for this type of inventory to come back to the market.

Retail businesses, professional offices, and service companies are not expected to occupy this industrial subdivision unless the complexion of Waikapu and Waiko Road changes immensely.

Present Use: Despite its Agricultural zoning classification, the site is currently utilized as an industrial baseyard in accordance with a Conditional Permit. The uses under this permit are restricted to the storage of equipment and materials; minor servicing of said equipment; and offices appurtenant to such uses. The Conditional Permit expires on September 30, 2004.

Most Appropriate Use: The proposed industrial subdivision is the most appropriate use of this site from a market perspective. Under its Agricultural zoning, the subject has poor to fair agricultural potential. Its light industrial classification under the Waikuku-Kahului Community Plan is reasonable in consideration of surrounding properties which include Maui Scrap Metal and Recycling, Brewer Environmental Services, Rojac Trucking and Rojac Construction. In fact, the last three businesses will be located in the proposed Waiko Baseyard Subdivision, which will contain 19 light industrial lots.

In addition, the subject has easy access to Honoapiilani Highway, which provides vehicular access to Waikuku and toward Lahaina and Kiihei. Kiihelani Highway, 0.3 mile from the subject, also provides access to Lahaina and Kiihei, and travels in the opposite direction toward Kahului and the Upcountry and East Maui regions.

D. MARKET ANALYSIS

For the purpose of estimating the market response to this project, a market study was conducted to determine how current supply and demand for industrial lots might be affected by the development of the subject's 38 industrial properties. The extent of our survey encompassed existing, ongoing (in sales process) and proposed industrial developments on Maui, specifically in the Central Maui region of Wailuku-Kahului.

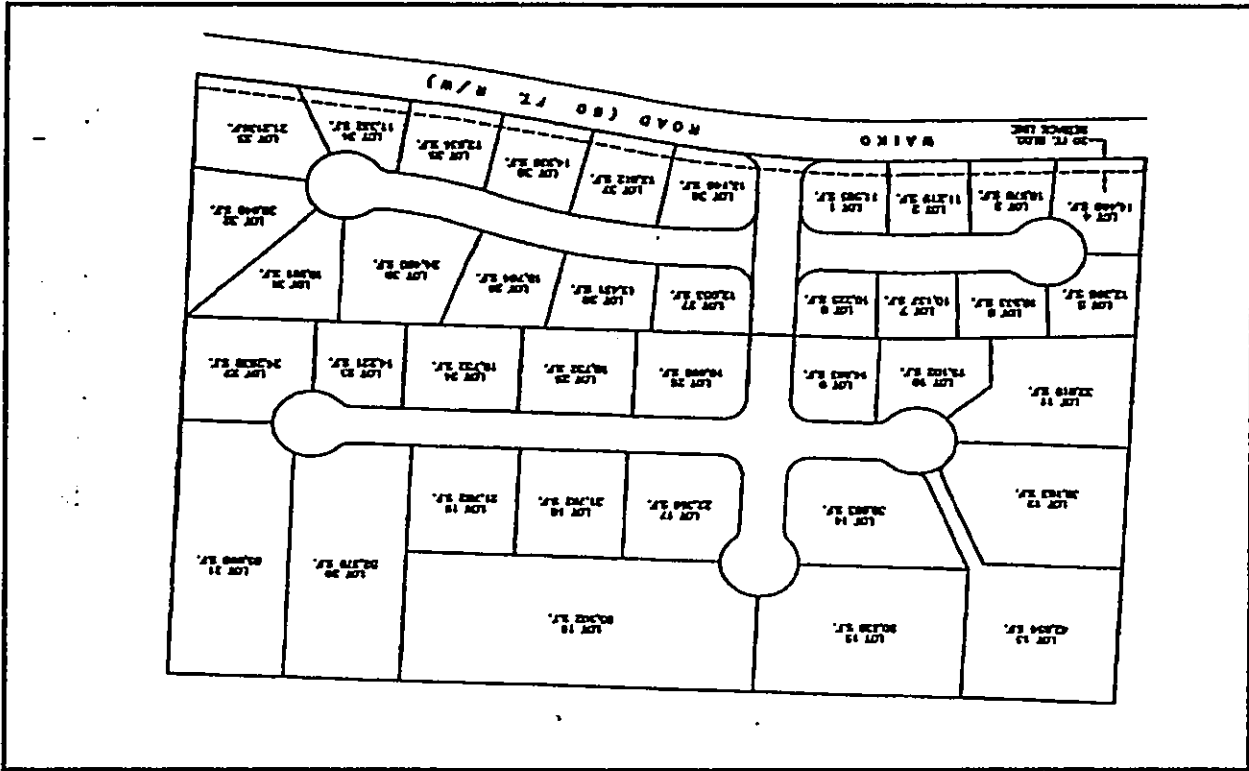
OVERVIEW

One of the more difficult factors in determining the success of a proposed project is estimating future supply and demand. There are several components to this, including the design and pricing of the proposed project. This, of course, is well within the developer's control but has not yet been determined for the subject. Second, is the overall market environment at the time of pre-sale and project completion. This is, obviously, more difficult to define because it involves forecasting such variables as interest rates, overall market conditions, and general and specific sector real estate market conditions.

The added complication with most projects are the time frames and time lags involved. Since most subdivision projects take several years between conception and completion, market and interest rate conditions can change significantly. Thus, a project may commence in a favorable environment and be completed in an unfavorable one (or vice versa). Furthermore, real estate is a cyclical industry and sales activity tends to move in spurts. It is not unusual for a new project to sell half its units in the first year of marketing and require 2 to 3 years (or longer) to sell the remaining half. Thus, the notion of a linear sales rate may be deemed unrealistic for practical purposes, but is a useful and convenient tool for planning.

Consolidated Baseyard Subdivision Wailuku, Island of Maui, Hawaii SITE MAP

Not To Scale For Illustration Purposes Only.



INDUSTRIAL SUPPLY CHARACTERISTICS

The area identified as the Central Maui region encompasses the major communities of Kahului and Wailuku. This popular area contains the major business, civic and transportation centers for the entire island of Maui. Many businesses service the entire island from this convenient Central Maui location; and, as a result, demand for industrial space is strong here.

As research was conducted into light industrial lands in Central Maui, it became very clear that, although there are a number of vacant lots in Central Maui, a large number of them are planned for near-term development. Thus, there is a very noticeable difference between (1) vacant industrial land that is available for sale and future development and (2) vacant industrial land that is not available for sale because it is already planned for near-term development.

This distinction has been addressed in the supply analysis because it identifies which parcels are truly available for development in the industrial market. The following paragraphs briefly describe the existing, newly developed and proposed industrial developments in Central Maui's industrial market.

Maui's Existing Industrial Developments

Central Maui has approximately 75 percent of the island's industrial land, with the largest amount situated in Kahului, near the harbor and airport. In Kahului, these industrial subdivisions are the Maui Industrial Park; Kamehameha Parkway Subdivision No. 2; Maui Business Park Phase IA and IB; Airport Triangle; and Waikea Industrial Subdivision. Wailuku's industrial projects include the Wailuku Industrial Park and The Milliyard.

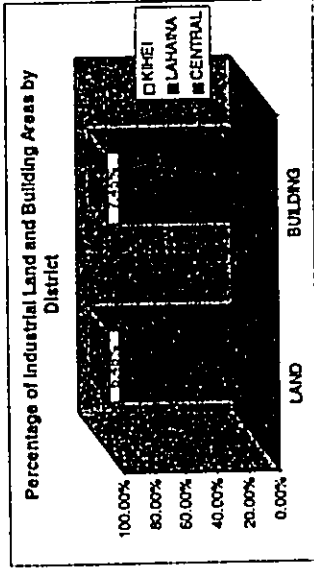


TABLE 1

SUMMARY OF INDUSTRIAL DEVELOPMENTS ON MAUI

Project Name	Location	Gross Project Area In Acres	Primary Users
EXISTING (Central Maui)			
Maui Industrial Park, Hana Highway and Dairy Road Industrial Subdivisions	Kahului	136	Mixed-Use, Light Industrial
Kamehameha Parkway Subdivision	Kahului	62	Commercial, Mixed-use, Light Industrial
Maui Business Park, Phase 1A & 1-B	Kahului	78	Commercial, Mixed-use, Light Industrial
Triangle Square Subdivision	Kahului	13	Retail & Commercial
Waikea Industrial Subdivision	Kahului	12	Commercial, Mixed-use, Light Industrial
Wailuku Industrial Park	Wailuku	55	Commercial, Mixed-use, Light Industrial
Wayard Industrial Subdivision	Wailuku	30	Commercial, Mixed-use, Light Industrial
Total		386	
EXISTING (Other)			
Khei Commercial Center	Khei	15	Commercial, Mixed-use, Light Industrial
Spaul Business Park	Khei	4	Commercial, Mixed-use, Light Industrial
Wai Kō Industrial Subdivision	Lahaina	37	Commercial, Mixed-use, Light Industrial
Lahaina Business Park	Lahaina	16	Mixed-Use, Light Industrial
Total		72	
PROPOSED (Central Maui)			
Maui Business Park, Phase II	Kahului	179	Commercial, Mixed-Use, Light Industrial
Central Maui Baseyard	Kahului	15	Light Industrial
Waikea Industrial Subdivision	Wailuku	15	Light Industrial
Consolidated Baseyard Subdivision	Wailuku	23	Light Industrial
Total		232	

Waialua

The Milliard

Developed in 1984, all lots in this fee simple, light industrial subdivision have been sold, and improvements have been constructed on 34 parcels. Of the 53 lots in this development, only eight are more than one-half acre in size. The balance of the sites are between 10,055 and 20,119 square feet in size. Due to the unavailability of vacant light industrial land in the Central Maui region, sales in this Waialua development have increased during the past two years.

Waialua Industrial Park

This light industrial subdivision was developed by C. Brewer in the late-1970s and it consists of 74 fee simple lots off of Lower Main Street in Waialua. Lots range from 10,106 square feet to a parcel 3,089 acres in size. Approximately 72 percent of the parcels are less than one-half acre in size. Of the 74 light industrial lots, only two are not utilized for a building or as yard space.

Kahului

Maui (Kahului) Industrial Park

This leasehold industrial subdivision was developed and owned by Alexander and Baldwin, Inc., in the early 1960s. Most of the land in the Kahului Industrial Park is being leased on a long-term basis to developers and owner-users who have constructed and sub-leased the improvements. Beginning in 1988, A & B began selling the leased fee interest in some of these properties to a select group of lessees. Since that time several other offerings have been made to the lessees of their properties. In fact, many of the lessees have chosen to purchase the leased fee interest in the land rather than renegotiate their respective ground leases. These leased fee sales, according to a representative of Alexander & Baldwin, reflected their estimate of "fee simple" land value.

On Maui, the Kahului Industrial Park subdivision is by far the most established, and enjoys a superior location with respect to harbor and airport facilities, as well as other supporting commercial activities. Occupancy is high, and demand has spurred the development of additional industrial land along Waikea Avenue with this subdivision, as well as other projects in Kahului. According to officials at A&B Properties, their developments in the Kahului Industrial Park have historically had high occupancy rates.

Kamehameha Parkway Subdivision No. 2

This relatively new subdivision contains 36 parcels ranging in size from 12,826 square feet to 2,428 acres. In December 1991, A&B

Properties sold approximately 16 fee simple parcels in the light industrial Kamehameha Parkway Subdivision No. 2.

There are currently 31 parcels developed in this subdivision, which includes such projects as the Valley Isle Motors, Gas Express, Spee Dee Lube, the HC&S Federal Credit Union, Kula Produce, Kula Community Federal Credit Union, Maui Community Federal Credit Union. The Fairgrounds office building, three medical office buildings, and Service Rentals and Sales.

Triangle Square

In response to the high demand, A&B Properties developed Triangle Square, located makai of the Hana Highway, across the Maui Industrial Park. Lots range between 7,172 square feet to 2.8 acres. Triangle Square is bound by Haleakala Highway, Dairy Road and Hana Highway. This 13-acre, 11-lot subdivision currently includes a Lexus dealership; a BMW dealership; Gas Express; the Kele building anchored by Denny's Restaurant; a small retail center at the corner of Hana Highway and Dairy Road, and the Triangle Square Apex Building. A new Krispy Kreme doughnut outlet is currently under construction at the corner of Dairy Road and Haleakala Highway and is slated to open in about two months. Costco and Kmart are located across Dairy Road from Triangle Square.

All lots in this subdivision are offered as ground leases or build-to-suit only. Three opportunities are currently being advertised including pad sites of 16,190 SF, 24,873 SF and 8,600 SF. None are available for sale.

Maui Business Park

Seventy-six (76) acres were developed between 1995 and the present in Phases IA and IB of the Maui Business Park.

Phase IA includes 32 light industrial zoned lots ranging in size from 16,801 to 35,522 square feet on about 42 acres of land. Lots were initially priced at an average of \$30 to \$35 per square foot. Nine parcels immediately sold and ranged from \$26.00 to \$34.38 per square foot. The Maui Marketplace, which is part of the overall plan, is patterned after Waikole Center in Oahu and was completed in 1997. It includes as tenants, Lowe's Hardware, Borders Books and Music, Office Max, Old Navy, Pier One Imports and Sports Authority.

Phase IB consists of about 34 acres of land and included the large Wal Mart and Home Depot sites which were 14,014 acres and 12,701 acres, respectively. The remaining 10 lots ranged from 17,990 to 45,869 square feet, with an average of 22,817 square feet.

Kihel

Kihel Commercial Center

The Kihel Commercial Center is one of only two areas having Light Industrial classification in the Kihel-Makana Community Plan, the other being the Piilani Business Park. In light of this factor, along with the rapid growth of this community and the potential for economic expansion in this region, the demand for industrial space is high. There are three lots to this development.

The first phase of the project, developed on approximately 6.667 acres, consists of four industrial buildings. The other two lots are vacant, but are planned for development. One parcel, located next to the first phase, has 4.101 acres and is planned for a warehouse condominium project. It is already being marketed, but construction has not yet begun. The other remaining parcel is a 6.128-acre site on Piilani Highway that is being subdivided into 6 light industrial lots. Four of the lots are already in escrow and negotiations are in process for the other two. The three lots along the highway are listed for \$30.00 per square foot and three lots behind them are listed at \$25.00 per square foot.

Piilani Business Park

The Piilani Business Park is the second of only two Light Industrial areas in the Kihel-Makana area. It is located along Piilani Highway and Ohukai Road in Kihel, adjacent to the Kihel Commercial Center. This park is a 12-lot light industrial subdivision developed by Blackfield Hawaii.

Currently, a Tesoro gas station/service facility is on the 49,960 square foot (Parcel 11) site at the corner of Piilani Highway and Ohukai Road. The other developments include the Kihel Gateway Plaza (Parcel 10), the Kihel Trade Center (Parcel 5), the Mityake Concrete (Parcels 2 and 3), Kihel Trade Center II (Parcel 1), and the Kihel Gateway Center (Parcel 4), and the newly completed Aloha Plaza (Parcels 7 & 8).

Lahaina

Wili Ko Subdivision

This light industrial subdivision consists of about 37 acres and is one of only two industrial subdivisions serving the entire West Maui region. It contains 19 lots, of which two are owned by Kaanapali Pacific Railroad, Ltd. The remaining lots are all improved with commercial or light industrial facilities. The lots range in size from 10,000 to 40,457 square feet. The majority of the properties in this subdivision contain multi-tenant facilities.

Lahaina Business Park

The Lahaina Business Park is the newest industrial subdivision in Lahaina situated approximately 800 feet mauka of Honoapiilani Highway. When completed, this light industrial subdivision will contain a total of 62 lots, including one designated as a "roadway lot". This subdivision will be developed in two phases, with Phase I recently completed and sold out. Phase I consists of 28 lots on approximately 16.1 acres with lots ranging in size from 15,727 to 34,882 square feet. Phase II, on about 25 acres, will have 36 marketable lots ranging from 17,271 to 43,939 square feet, with an average lot size of 22,501 square feet. Access is allowed by way of Keawe Street which runs from Honoapiilani Highway, opposite the Lahaina Cannery Mall. Our discussions with the Lister of this subdivision, indicated that all but one of the buyers so far in Phase I are owner-users. There is currently only one project developed in this subdivision which consists of a multi-unit, light industrial condominium.

Analysis of the Central Maui Supply

The preceding summary provides an overview of the supply for industrial-zoned land in Wailuku, Kahului, Kihel and Lahaina. For Central Maui, interest in industrial land continues to be high, and is spurred by an insufficient number of available, industrial-zoned parcels in this area.

Wailuku

Wailuku Industrial Park

There are only two vacant parcels remaining in the Wailuku Industrial Park, one is slated for near-term development as an expansion of an existing building. The other lot has an area of 0.39 acre and is the only parcel available without a proposed development in this 74-lot subdivision (Refer to the maps in Exhibit D at the end of this report).

The Milliyard

With the near-100 percent development of Wailuku Industrial Park, purchases of industrial land in Wailuku have focused on The Milliyard; and, although there are 16 vacant parcels there, some are already planned for near-term development. Research in this industrial subdivision has shown that of the 53 total lots, there are 37 that have already been developed. In addition, five (5) others are planned for development as shown in the accompanying map. This leaves 11 lots available for development, with a total area of 152,547 square feet, or about 3.50 acres. Only four of these 11 lots are currently listed for sale.

Kahului

Maui Business Park, Phase IA

This subdivision came to the market in 1995, during a very slow economic period. Sales were initially brisk for the prime lots facing Dairy Road or across the proposed Maui Marketplace. Sales of the interior lots were much slower and prices were slowly reduced until the economy improved and the stronger business climate stimulated more sales within the last two years. Phase IA has a total of 32 lots, of which 20 have been developed or are being utilized by their owners as yard storage. Nine (9) others are either sold or are currently in escrow, with near-term development plans. This leaves three lots available for sale with a total land area of 76,823, or about 1.76 acres.

Maui Business Park, Phase IB

This second phase was introduced to the market in 2001 and met immediate success. To date, three of the 12 lots have already been developed, including Wal Mart, Home Depot and a veterinary office. The other nine sites have either been sold or are in escrow with near-term development plans for restaurant, storage and office uses. There are no lots available in this subdivision.

Kamehameha Parkway Subdivision No. 2

This subdivision brought 36 light industrial lots to the market in 1991. To date, 31 lots are either developed or are being utilized as yard storage by their owners. Two lots have been purchased for near-term development and three others are available for development. Only one 15,199 square foot site is available in this subdivision.

Triangle Square

This 11-lot subdivision currently has three lots vacant and available with a total area of about 4.15 acres (15,000 square feet was deducted from the actual total to allow for the Krispy Kreme site). As mentioned earlier, the lots are available through a ground lease and/or a build-to-suit. None are available through an outright purchase.

Maui (Kahului Industrial Park)

There are no vacant sites available for development in this subdivision.

Outside of the industrial parks, there are a few other industrial lots available individually. One is the former Brewer Chemical site next to Harbor Lights condominium in Kahului. This light industrial site contains 4.484 acres, and is vacant and listed for sale. Also, a 3.24-acre, triangular site is bounded by Hobron Avenue, Kaahumanu

Avenue and Hana Highway near the oil refineries. This site is vacant and available for development. These two sites total 7.724 acres of available light industrial land.

Other large parcels are visible in the market, but are not considered to be available for development. For instance the former Y. Hata site on Waichu Beach Road in Wailuku appears to have a significant amount of vacant land. This 6.12-acre light industrial site is highly under-improved with a single warehouse building; however, it is located in a coastal flood zone and further development of the property is judged to be not feasible. Another lot is located adjacent to Kanaha Pond in Kahului. It has an area of 8.46 acres and is zoned M-1 Light Industrial District. Although it is vacant, it is not available for development because it is being leased to a trucking company as a baseyard.

Summary of the Supply Characteristics

The existing supply of vacant industrial land available for development in Central Maui is limited to the amounts shown below.

	Available Land in Subdivisions
The Millyard	3.50 acres
Wailuku Industrial Park	0.39 acres
Maui Business Park, IA	1.76 acres
Maui Business Park, IB	0 acres
Kamehameha Parkway No. 2	0.35 acres
Triangle Square	4.15 acres
Maui (Kahului) Industrial Park	0 acres
Total:	10.15 acres

	Other Land Available
Brewer Chemical	4.484 acres
Hobron Triangle	3.24 acres
Total:	7.724 acres

Maui's Proposed Industrial Projects

Research has revealed that two other significant industrial projects are proposed for the Central Maui region. The largest at 179 acres is A&B's Maui Business Park, Phase II. The land is presently classified for agricultural use by both the State of Hawaii and the County of Maui. Aside from this, and the subject, there is only one other proposed industrial project in Central Maui at this time, that is the Waiko Baseyard Subdivision. Extensive information was not available for these proposed or announced projects, but a summary of these developments follows.

Central Maui

Waiko Baseyard Subdivision

This site consists of 14.891 acres and is located approximately 0.4 mile west of the subject on Waiko Road. It is probably the most imminent of all the proposed projects because it is already carries the M-1 Light Industrial zoning classification. The project will contain 19 finished lots ranging in size from 13,342 square feet to 2.86 acres; however, the largest lot (Lot 16) will not be available for sale. In addition, Lots 1, 17 and 18 will remain the property of the developer. In the end, there will be 15 lots made available with a total net land area of about 11.29 acres. Confirmation with the developer revealed that he has more than enough reservations to sell all 15 lots.

Maui Business Park, Phase II

This subdivision will consist of two non-contiguous lots. One parcel is an extension of the existing Maui Business Park, Phase I, and consists of about 140.8 acres. This area is planned for mixed light industrial uses including supply companies, mini-storage businesses, warehouses, contractors, clinics and restaurants. The other 38.1-acre parcel is on the eastern side of the Costco and Kmart properties. Due to its proximity to the airport, this area may be used for airport-related businesses, such as freight forwarders, car rental companies and caterers.

The owner, A&B Properties, Inc. filed a request with the state Land Use Commission to reclassify 138 acres of the 179-acre parcel to urban from agricultural. The commission has already given, or conditionally approved, the urban use of the remaining 41 acres. If the reclassification is approved, the next step will be to change the County zoning of the property from Agricultural to Light Industrial.

The developer hopes to sell the individual lots in Phase II and begin construction of buildings by 2008. The expected size of the lots will range from 0.3 acre to 12 acres.

Maui Lani Business Park (cancelled)

Maui Lani Development was considering the construction of a 56.4-acre industrial project in Wailuku, at the intersection of Waiale Road and Kuikahi Drive. The proposed development is planned for 92 lots ranging from 15,000 to 35,600 square feet. However, a review of the Maui Lani Proposed Land Use Map (revised 10/24/03) indicates that this parcel is now labeled Village Mixed Use/Affordable. Verification with the Maui Lani office and the County of Maui Planning Department revealed that a withdrawal letter for this project will be sent to the County asking for a withdrawal of this proposed light industrial plan. Instead, Maui Lani plans to utilize the land for

retail and office uses with residential apartments on the upper floors. Affordable multi-family units are also planned for this site.

Central Maui Baseyard

This baseyard operation is planning an expansion of about 15 acres on its site on Mokuale Highway between Kahului and Kihei. This business specializes in providing yard storage space rentals and industrial work area. There are no improvements provided except for graded and gravelled surfaces and fenced yards.

Kihei

Aside from the ongoing 6-lot subdivision of the existing 6.128-acre light industrial lot in the Kihei Commercial Center development, there are no other immediate light industrial projects planned for Kihei. As mentioned earlier, four of these lots are in escrow and only two lots remain for sale.

Kaonoulu Ranch is planning mixed-commercial and light industrial uses on about 88 acres mauka of Pihani Highway at a long-range date.

Lahaina

Lahaina Business Park, Phase II

Phase II, on about 25 acres, will have 36 marketable lots ranging from 17,271 to 43,939 square feet, with an average lot size of 22,501 square feet.

Upcountry

Upcountry Town Center in Pukalani is a part of a mixed-use complex being planned across from Pukalani Superette. Developer Maui Land & Pineapple Company is proposing senior housing, retail/restaurant, light industrial and office/medical uses, in addition to open space, parks and roads. The development will be on approximately 41 acres and there will be 13.18 acres of retail/office uses and about 3.25 acres of industrial uses.

Summary of the Proposed Projects

The proposed projects, including the subject, will add approximately 232 acres of light industrial land to the Central Maui inventory over the near- and long-term. As mentioned earlier, the Maui Lani Business Park plan is being withdrawn from the planning process and will be replaced with retail, office, multi-family and affordable units. The large Maui Business Park, Phase II is not expected to be ready for building construction until 2008. On the other hand, the Waiko

Baseyard Subdivision is expected to break ground in 2004. Other areas of Maui will add about 116 acres, although only about 25 acres in the Lahaina Business Park are expected to be developed within the next one to three years.

INDUSTRIAL DEMAND CHARACTERISTICS

Population

Population growth on Maui over the last past 20 years (1980 to 2000) has been exceptionally high. Overall, population growth for the County of Maui during 1980 to 1990 was 40.37 percent. Meanwhile, the 2000 census figures indicate that population in Maui County increased by 27.6 percent between 1990 and 2000. Maui County is the fastest growing county in the state, and leading the growth is the South Maui region at 54.1 percent over the last 10-year period.

Central Maui (Wailuku-Kahului) is ranked third in the state in growth, with an increase of 26.3 percent. Maui County's resident population now stands at 128,241. The population statistics have continued to grow with Central Maui registering a 3.5 percent change between 2000 and 2002. The number of households in Central Maui has also grown proportionately with a 26.8 percent increase between 1990 and 2000; and, a 3.8 percent increase between 2000 and 2002.

According to the State of Hawaii Data Book 2002, Maui's population is expected to grow to 158,700 by 2025 (Refer to Table 2).

Employment and Household Income

The U.S. Census Bureau indicates that Central Maui has the highest number of employees on the island. Kahului alone surpassed West Wailuku's employee count during 2001. When added to Maui region. Similarly, their combined payroll dollars surpass all other regions of Maui County (See Table 3).

At the same time, the civilian labor force on Maui has been expanding since 1980. The labor force count increased from 33,900 in 1980 to 52,400 in 1990 and increased to 67,600 in 2000. The most recent count indicates a figure of 69,400 in 2001.

Mortgage Interest Rates

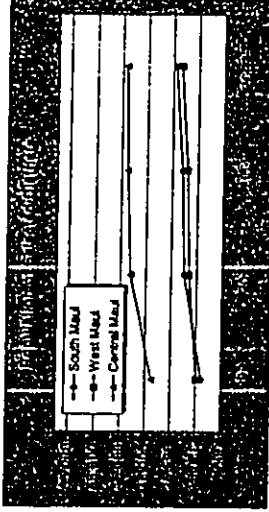
Mortgage rates fell dramatically in 2003 and as of March 6, 2003, the average interest rate on 30-year, fixed-rate mortgages fell to 5.67 percent. According to MSNBC.com, this 30-year rate was the lowest since Freddie Mac began tracking 30-year mortgage rates in 1971. Records that reach back earlier than Freddie Mac's indicate that this rate is the lowest since the early-1960s. Since then, mortgage rates have risen slightly and currently waver around 6 percent.

TABLE 2

POPULATION ESTIMATES

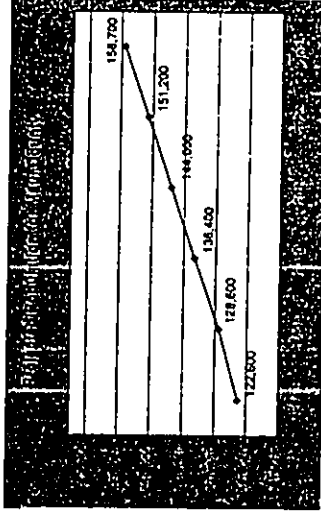
Year	Maui County	Central Maui	West Maui	South Maui
1990	12,878	14,374	32,584	41,168
2000	19,843	17,967	19,012	21,606
2007P	23,863	21,606	43,308	

Source: Census



Year	Population
2000	122,800
2005	128,800
2010	136,400
2015	144,000
2020	151,200
2025	158,700

Source: State of Hawaii Data Book 2002
*Estimated



These low mortgage rates have helped to stimulate real estate purchases of all types including light industrial properties in Central Maui. Financial institutions are reporting numerous inquiries regarding development in the commercial and industrial sectors. The strengthening economy together with low interest rates are spurring this demand.

Interviews with several Realtors have confirmed our findings in the Supply Analysis for Central Maui. Realtors report that there is very little inventory to list. A&B Properties, Inc. has only three available lots in Phase IA of the Maui Business Park and there are only four active listings in The Millyard. Outside of that, no one appears to be willing to sell their vacant industrial lots due to planned near-term development.

As a result, prices are beginning to rise in the Central Maui industrial market. The most current view of the industrial market is provided by the Maui Industrial Park, Phases IA and IB. When Phase IA first came to the market in 1995, listings ranged from \$30.00 to \$40.00 per square foot. Immediately, the most desirable lots bordering Dairy Road, Maui Marketplace and Hana Highway were sold. The economy in general was very stagnant during this period and the interior lots were not purchased. As the years went by, prices were eventually lowered to about \$26 to \$28 per square foot. Still, there were very few interested parties. Prices for the interior lots were lowered to about \$24 to \$26 per square foot for the interior lots, and these parcels began selling sporadically between 2000 and 2002 at prices between \$22 to \$24 per square foot.

At the same time, Phase IB was put on the market by A&B. With the supply of lots dwindling, and with the improving economic conditions, the list prices in this new phase ranged from \$29 to \$40 per square foot. Sales began closing in 2002 and 2003 at prices of about \$26 to \$27 per square foot, and higher prices are reported for those in escrow at this time. With the very limited inventory, prices in the remaining lots in Phase IA are being held firm at \$26 and \$28 per square foot.

Thus, the very small inventory of industrial lots affords limited selection to the market and higher prices. Realtors have indicated that the improved economic conditions and low interest rate environment have given rise to numerous businesses who are looking for the "right location, the appropriate size, and the right price"; however, the absence of a good selection of lots is making it highly difficult for the potential buyer. With limited inventory, the sellers are holding their prices at a high level, making it difficult for the pure industrial users

Industrial Land Pricing Trend

TABLE 3

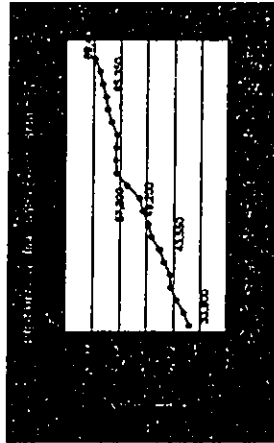
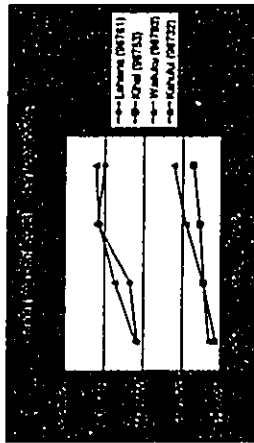
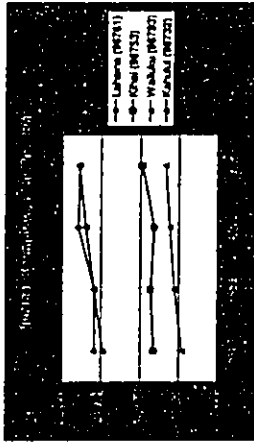
EMPLOYMENT COMPARISONS

Year	U.S. Total	U.S. Non-Farm	U.S. Manufacturing	U.S. Retail	U.S. Wholesale	U.S. Services	U.S. Government	U.S. Agriculture	U.S. Transportation	U.S. Utilities	U.S. Health	U.S. Education	U.S. Other
1998	12,287	11,800	8,115	1,740	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
1999	12,287	11,800	8,115	1,740	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
2000	12,287	11,800	8,115	1,740	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
2001	12,287	11,800	8,115	1,740	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
2002	12,287	11,800	8,115	1,740	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280

Year	U.S. Total	U.S. Non-Farm	U.S. Manufacturing	U.S. Retail	U.S. Wholesale	U.S. Services	U.S. Government	U.S. Agriculture	U.S. Transportation	U.S. Utilities	U.S. Health	U.S. Education	U.S. Other
1998	12,287	11,800	8,115	1,740	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
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2000	12,287	11,800	8,115	1,740	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
2001	12,287	11,800	8,115	1,740	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
2002	12,287	11,800	8,115	1,740	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280

Maui Industrial Land Price Index

Year	Index
1995	30,000
1996	30,000
1997	30,000
1998	30,000
1999	30,000
2000	30,000
2001	30,000
2002	30,000



to feasibly develop properties for their own use.

**Warehouse Rental Rates
In Central Maui**

The land prices mentioned above has a lot to do with the availability of industrial rental spaces, such as warehouses, sheds and yards. Rental rates for warehouses have risen dramatically over the past five years as the supply of these spaces diminished. Part of the reasoning behind it is the gradual conversion of pure industrial space to commercial retail and office uses. This has raised the value of industrial land due to the higher rents being received from retail and office tenants as opposed to warehouse occupants. As a result, there have not been any investor-built warehouses in Kahului and Waialuku in recent years. Land prices, at their present level, make it almost impossible for an investor to develop a feasible warehouse project. This has left many businesses having to deal with rental spaces that are not quite right for them, and also paying higher prices than they would care to.

As shown in Table 4 on the following page, there were 155,757 square feet of pure warehouse space available in Central Maui in December 1998. This figure rose to 208,226 square feet in January 2000, but sharply declined to where the current inventory of available warehouse space is only 18,563 square feet. The rate of absorption is nearly 4,000 square feet per month, so the current supply of 18,563 is so small that it could probably be absorbed by the market within 4 to 6 months.

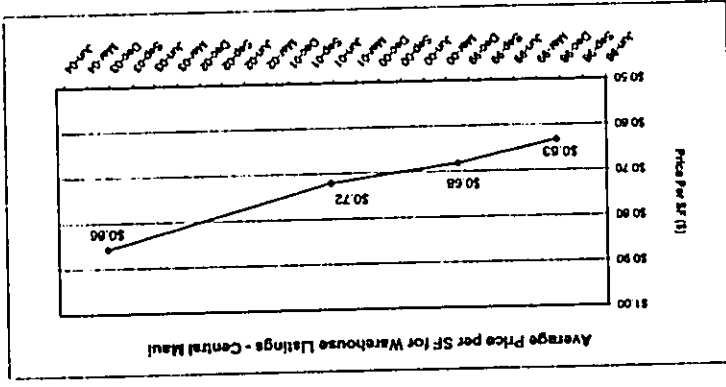
This rapid absorption and low inventory are primarily attributed to the increased construction of new subdivisions and new homes. This increase has given the general contractors and sub-contractors a need for additional space to store their building materials and supplies. Related businesses such as furniture stores, landscaping businesses, home improvement stores, and other specialty retailers all need additional warehouse space to deal with the increased inventory they require.

Consistent with the depletion in inventory is the gradual increase in warehouse rent. The chart in Table 4 shows that the average listed rent for warehouse in December 1998 was \$0.63 per square foot. This rent gradually rose until December 2003, where the average of all warehouse listings is now \$0.86 per square foot. That is a 36.5 percent increase over five years, and it is the result of the absence of competitive inventory.

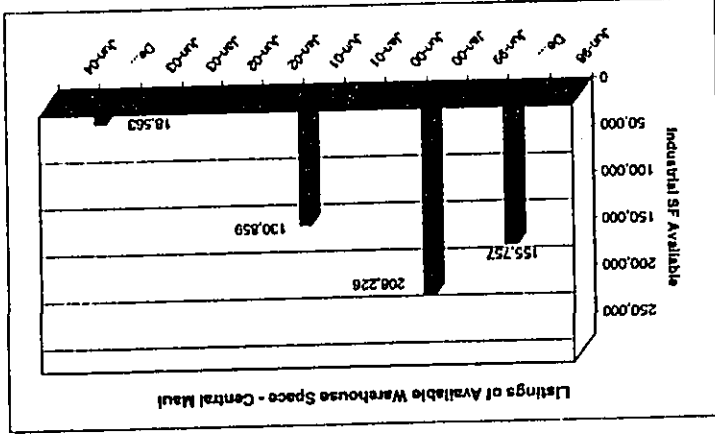
Slowly, the pure industrial users are being relocated to the interior parts of the subdivisions where visibility is nil. It will be only a matter of time, however, before the sprawl of the commercial

ACTIVE LISTINGS OF INDUSTRIAL FLOOR SPACE

TABLE 4



Month	Average Price per SF for Warehouse Listings
Dec-98	\$0.63
Jan-00	\$0.72
Jan-01	\$0.68
Jan-04	\$0.86



Month	Listings of Available Warehouse Space (SF)
Dec-98	155,757
Jan-00	208,226
Jan-04	18,563

segment starts to even take these areas over. Therefore, it is important to establish other industrial acreage away from the urban centers that can address the needs of the pure industrial user. If not, the market factors will continue to push land prices and industrial rents higher.

Vacancy Rates

Vacancy rates for ground floor warehouse spaces in Central Maui are estimated to be around 2 percent, based on the current listings for only 18,563 square feet. This is considered to be well below the norm of about 5 percent, and is a strong indicator that the demand for warehouse space is very high.

Market Absorption of Industrial Land

In 1991, the Kamehameha Parkway Subdivision No. 2 was developed on the former fairgrounds lot in Kahului on about 20 acres of land. Since that time, several other subdivisions mentioned above were also constructed and marketed. They include Triangle Square, Knart, Costco, Maui Business Park IA and Phase IB. In all these projects contained a total gross land area of about 131 acres. Over the 13 years since 1991, all of this light industrial land has been successfully absorbed by the market, with the exception of three lots within the Maui Business Park, Phase IA. This reflects a market absorption rate of about 10 acres per year (See Tables 5 and 6). This rate may be considered to be a conservative figure because the real estate market on Maui was stagnant between 1991 and 1998. The Central Maui market has accelerated this year with 10.2 acres already sold and another 4.769 acres currently in escrow, for a total of about 15 acres in 2003.

TABLE 5

Absorption of Industrial Land Since 1991

Subdivision/Parcel	Tax Map Key	Year Developed	Land (Acres)
Kamehameha Pkwy	(I) 3-7-Plat 12	1991	20.00
Knart	(II) 3-8-79-012	1992	7.00
Costco	(II) 3-8-79-022	1993	13.00
Triangle Square	(I) 3-8-79-1 thru 11	1994	13.00
Maui Business Park 1-A	(II) 3-8-Plat 090	1995	46.00
Maui Business Park 1-B	(II) 3-8-Plat 84	2000	32.00
	Total		131.00
Average acres absorbed per year (13 Year Period to Present) =			10.08 Acres

CONCLUSION

Over the past decade, the Island of Maui has seen significant growth in virtually all aspects (e.g., population, visitor arrivals, economy) of the community. Most of the industrial development is typically found in Central Maui where industrial land is currently about 75 percent of the island's total. Its close proximity to the air and sea ports has resulted in the conglomeration of retail, office, service and industrial uses in the Wailuku-Kahului region. As a result, Central Maui has become the center of commerce for the Island of Maui.

There have been several industrial subdivisions that have come to the market and have been successfully absorbed by the market since 1990. At this time, the inventory of industrial land has been depleted to a point where land values and industrial rents are beginning to rise. Realtors have expressed their frustration at not being able to find the appropriate property for their clients due to the lack of selection. Business owners and developers have likewise said that the interest rates and the business climate make it an ideal time for new development, but there is not enough inventory from which they can select a suitable property.

Through the years, much of the industrial lands have been developed or redeveloped with retail and office uses. This is particularly true of lands along highly traveled roadways like Hana Highway, Dairy Road, Alamaha Street and Wakea Avenue. This has also spread into secondary streets within the industrial parks. The transformation from industrial to commercial utilization is primarily a function of the broad spectrum of permitted uses of the M-1 and M-2 Industrial District zoning ordinances. These industrial designations permit all uses within the B-1, B-2 and B-3 Business Districts which include, among other things, office and retail uses.

As time passed, and land values rose, retail utilization became more plentiful as landowners sought higher and better uses for their appreciating sites. Former warehouse buildings were converted to retail spaces with second floor offices. A notable project is 444 Hana Highway which was formerly a warehouse building, but was converted to retail uses like Marco's Restaurant and Maui Coffee Roasters, together with second floor offices. Many other projects have undergone similar changes, thus reducing the amount of true industrial inventory.

Even many of the new projects built on industrial land have a strong retail flavor. This includes the Maui Marketplace (19.88 acres) which contains numerous outlet stores like Lowes, Office Max, Old Navy, Sports Authority, Borders Books & Music and Pier One

STATUS OF INDUSTRIAL PARCELS ON MARKET

TMK	Subdivision	Address	Area SF (Acres)	Price	Status
3-4-20-035	Milkyard Industrial	1807 WIII Pa Loop	17,879	\$445,000	\$24.89 Available
3-4-20-061	Milkyard Industrial	1772 WIII Pa Loop	10,890	\$300,000	\$27.55 Available
3-4-20-081	Milkyard Industrial	Lot 81, WIII Pa Loop	23,549	\$550,000	\$23.36 Available
3-7-2-005	N/A	65 Kahului Beach Road	195,149	\$4,500,000	\$23.06 Available
3-8-80-009	Maui Business Park PH1-A	Lot 7, Ala Makani Street	20,109	\$563,100	\$28.00 Available
3-8-80-010	Maui Business Park PH1-A	Lot 8, Ala Makani Street	27,189	\$708,900	\$26.00 Available
3-8-80-011	Maui Business Park PH1-A	Lot 9, Ala Makani Street	29,323	\$762,400	\$26.00 Available
Total			7,440		
3-8-80-008	Maui Business Park PH1-A	Lot 6, Ala Makani Street	17,011	\$476,300	\$28.00 In Escrow
3-8-80-008	Maui Business Park PH1-A	Lot 13, Lohukona Street	35,522	\$888,100	\$25.00 In Escrow
3-8-80-015	Maui Business Park PH1-A	Lot 14, Lohukona Street	19,306	\$540,600	\$28.00 In Escrow
3-8-80-016	Maui Business Park PH1-A	Lot 14, Lohukona Street	45,738	\$1,834,760	\$40.11 In Escrow
3-8-84-001	Maui Business Park PH1-B	Lot 1, Hokoheke Street	20,473	\$657,920	\$32.14 In Escrow
3-8-84-004	Maui Business Park PH1-B	Lot 4, Hokoheke Street	18,731	\$599,400	\$32.00 In Escrow
3-8-84-007	Maui Business Park PH1-B	Lot 7, Hokoheke Street	18,731	\$599,400	\$32.00 In Escrow
3-8-84-010	Maui Business Park PH1-B	Lot 10, Hokoheke Street	32,234	\$828,500	\$28.80 In Escrow
3-8-84-011	Maui Business Park PH1-B	Lot 11, Hokoheke Street	32,234	\$828,500	\$28.80 In Escrow
Total			4,759		

Imports. Other new retail developments on industrial land include the upcoming Krispy Kreme doughnut outlet, Costco (12,844 acres), Kmart (7.41 acres), Wal Mart (14,014 acres) and Home Depot (12,701 acres). Therefore, although it may have looked like A&B Properties, Inc., was bringing a lot of light industrial land to the market in the 1990s, much of it was absorbed by the large retailers.

Similarly, although on a different scale, The Millyard industrial subdivision in Wailuku has taken on an office park flavor as opposed to the intended industrial use. Although there are one or two dedicated warehouses in the subdivision, most of the development has shifted to office users. Built within this subdivision are five dental buildings, the Wailuku Post Office, the Maui County Employees Federal Credit Union, Asian Star restaurant, a veterinarian and Millyard Plaza, which is a retail/office center. Even a non-profit entity, Maui Family Support Services, has purchased its own office building in this subdivision.

This has also occurred to a smaller extent in the Kamehameha Parkway Subdivision No. 2 behind Safeway in Kahului. There, you will find three medical buildings, three credit unions and a two-story office building.

The conversion to commercial uses in the subdivisions has led to increasing land prices. High land prices then dictate that developments have higher rents to financially support the new project. Consequently, the only feasible developments arising in Kahului and Wailuku are office or retail buildings. Warehouses cannot be feasibly constructed due to the increasing land values; hence, there have not been any new warehouses built in Central Maui unless they were intended for an owner-occupant. If land values were more reasonable, investors would also be building multi-tenant warehouses. But that is not the case and warehouse space is at a premium today and rents are being driven upward.

As mentioned earlier, vacancy rates in warehouses are currently running at about 2 percent, and there is only 18,563 square feet of pure warehouse space available in the market. This translates into barely enough inventory for four to five months of supply when compared to the average warehouse absorption of about 4,000 square feet per month over the past four years. Average warehouse space listings have risen from about \$0.63 in 1998 to \$0.86 per square foot per month in 2003.

These figures are surprisingly similar to Oahu's numbers which were recently reported by Colliers Monroe Friedlander. The report states that Oahu has a severe shortage of warehouses for rent. Vacancies

are down to 2.69 percent and the average monthly asking rent rose from \$0.61 to \$0.91 per square foot over the past five years. Mike Hamasu, the research and consulting director at Colliers, said that Oahu continues to be a landlord's market with limited available warehouse space, adding that landlords are placing a premium on warehouses of less than 4,000 square feet. Oahu real estate broker, Mark Ambard of Ambard & Co., said that in past years, new warehouse construction other than for an owner-user was near impossible to justify given high land values and low rents generated by warehouse space.

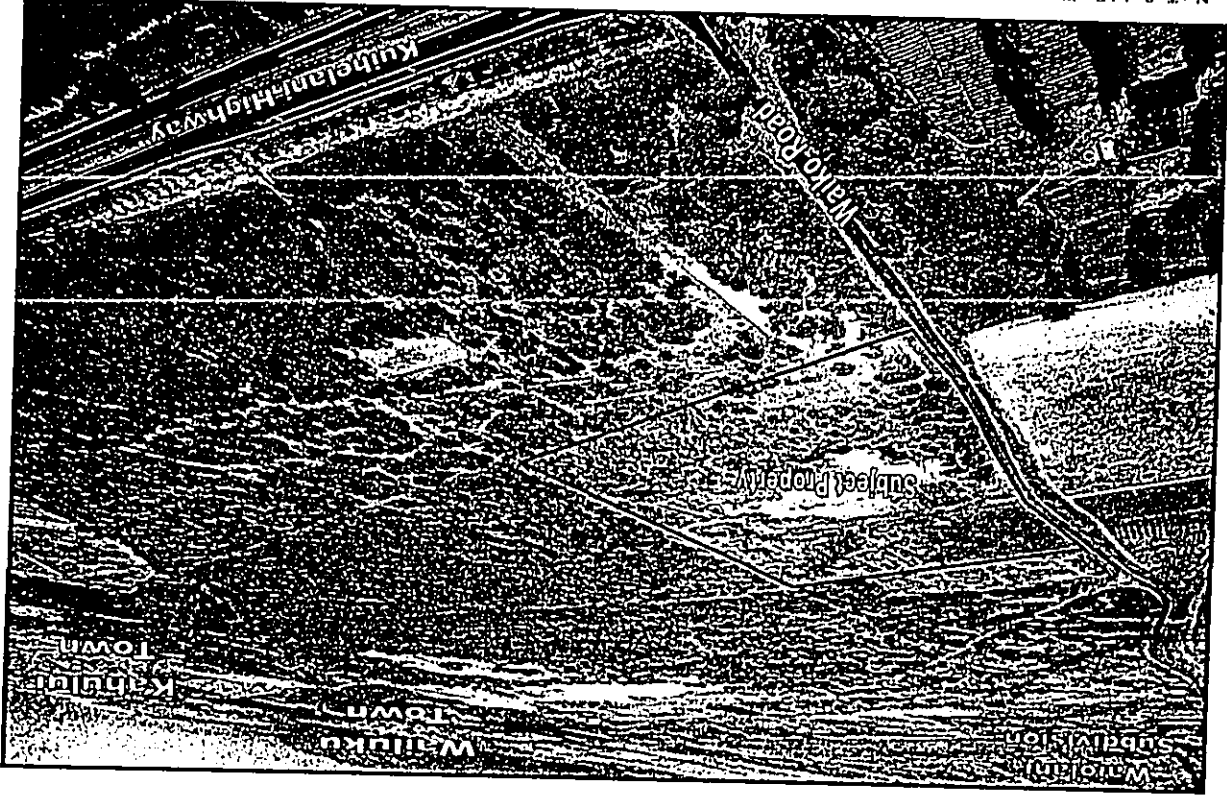
Similarly, there is a need for additional industrial land to increase the supply, help drive down land values and service the pure industrial user here on Maui. The subject is meant to do just that. In light of its location, retail and office users are not expected to seek land in this subdivision. In addition, the subject will have numerous lots in the 10,000 to 15,000 square foot range, lot sizes which were not available in Maui Business Park's Phase IA and IB. These smaller sizes are a better fit for the small, owner-user.

The market absorption was demonstrated earlier to equal about 10 acres per year over the past 13 years. This year, approximately 10.2 acres have already closed and another 4,769 acres are in escrow, for a total absorption of about 15 acres.

At an absorption rate of about 10 to 15 acres, it would first appear that the existing inventory could all be absorbed within a year; however, the market does not function in that manner. More selection is required to satisfy the varying needs of industrial users. Greater product diversity usually translates into more successful sales efforts because there are better chances of finding the right lot for the particular buyer. Some prospective buyers have indicated that there are a few parcels of land available, but they are not the right location, nor the proper size or affordably priced.

Therefore, the market is in imminent need of additional industrial inventory to supplement today's extremely limited supply, and accommodate Maui's growing population and expanding economy. Although A&B's large project should satisfy the mid- to long-range demand, more industrial land of about 50 to 75 acres is needed to bridge the near-term market of, say, three to five years.

EXHIBIT A
Photographs of the Subject



Not To Scale! For Illustration Purposes Only.

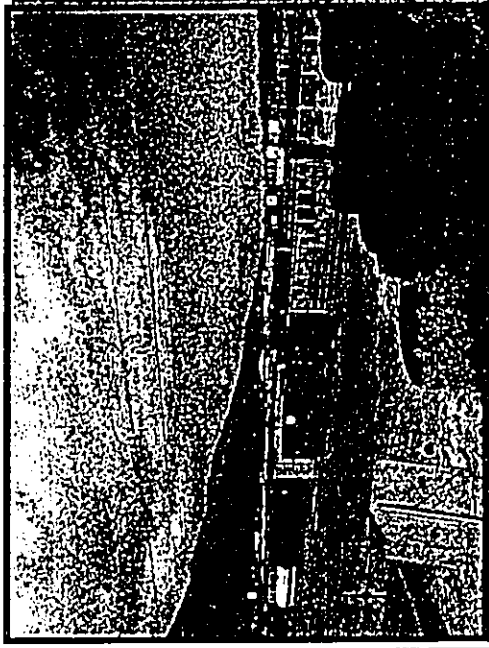
AERIAL PHOTO
Consolidated Baseyard Subdivision
Waipahu, Island of Maui, Hawaii

ACM Consultant, Inc



Photograph No. 1

This photograph depicts the overall view of the subject from the southeastern corner of the property. The West Maui Mountain range is pictured in the background. Waialeale Road is pictured at the far left of this photograph.



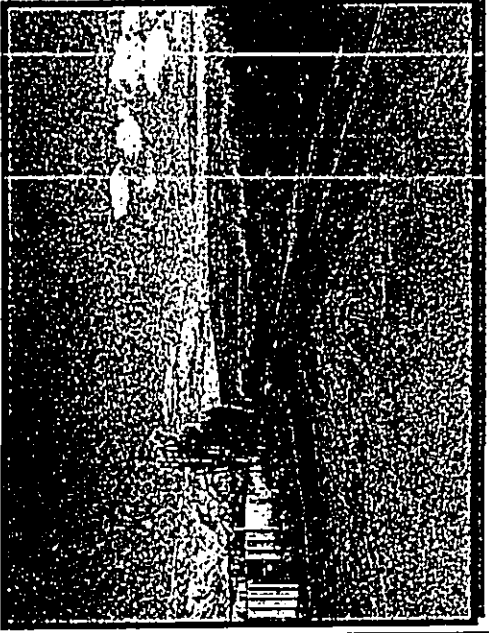
Photograph No. 2

This photograph depicts the overall view of the property in a northwestern direction. The property is presently utilized as a bay area and storage area.



Photograph No. 3

This photograph depicts Waialeale Road facing in a westerly direction. The West Maui Mountain Range is pictured in the background. The subject is located at the far right.



Photograph No. 4

This photograph depicts Waialeale Road facing in an easterly direction. Haleakala is pictured in the background and the subject is at the far left of the photograph.

PHOTOGRAPHS OF THE SUBJECT

Consolidated Baseyard
Waikapu, Island of Maui, Hawaii

ACM Consultants, Inc.
December 2003

PHOTOGRAPHS OF THE SUBJECT

Consolidated Baseyard
Waikapu, Island of Maui, Hawaii

ACM Consultants, Inc.
December 2003

RECEIVED AS FOLLOW

ACM Consultants, Inc.

LOCATION MAP
Consolidated Baseyard Subdivision
Waikapu, Island of Maui, Hawaii

Not To Scale

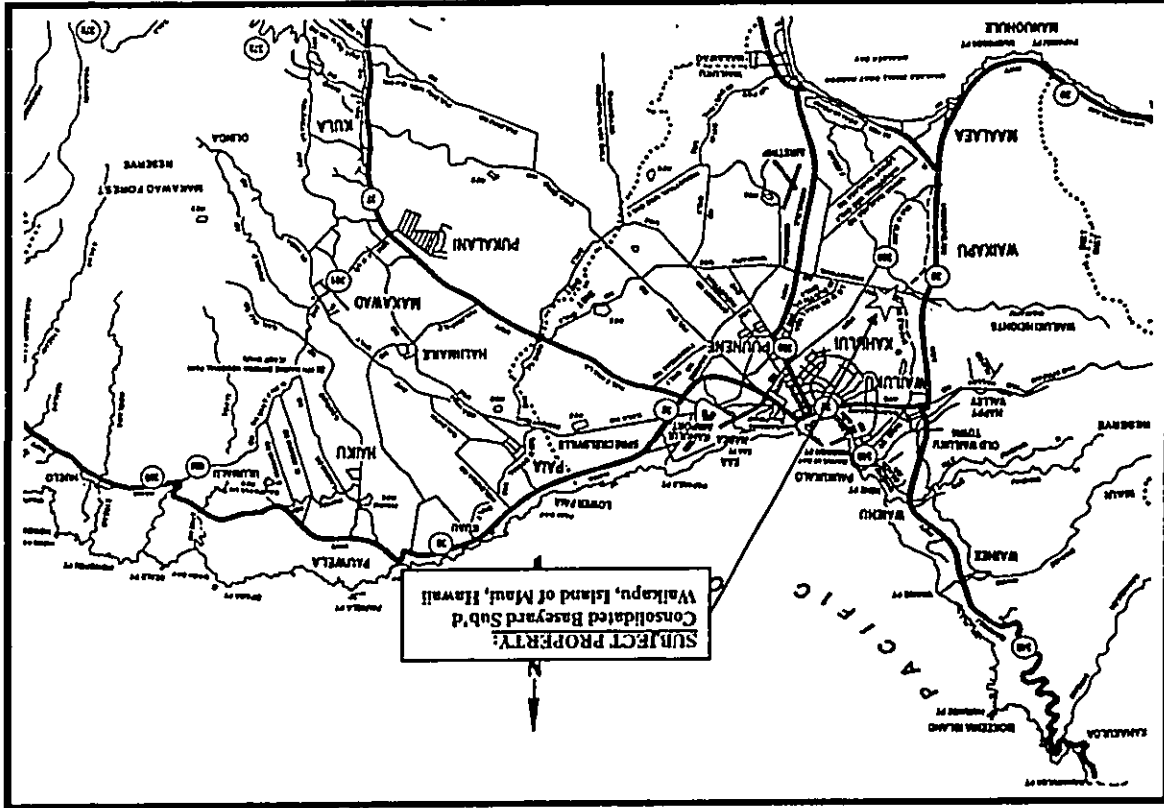


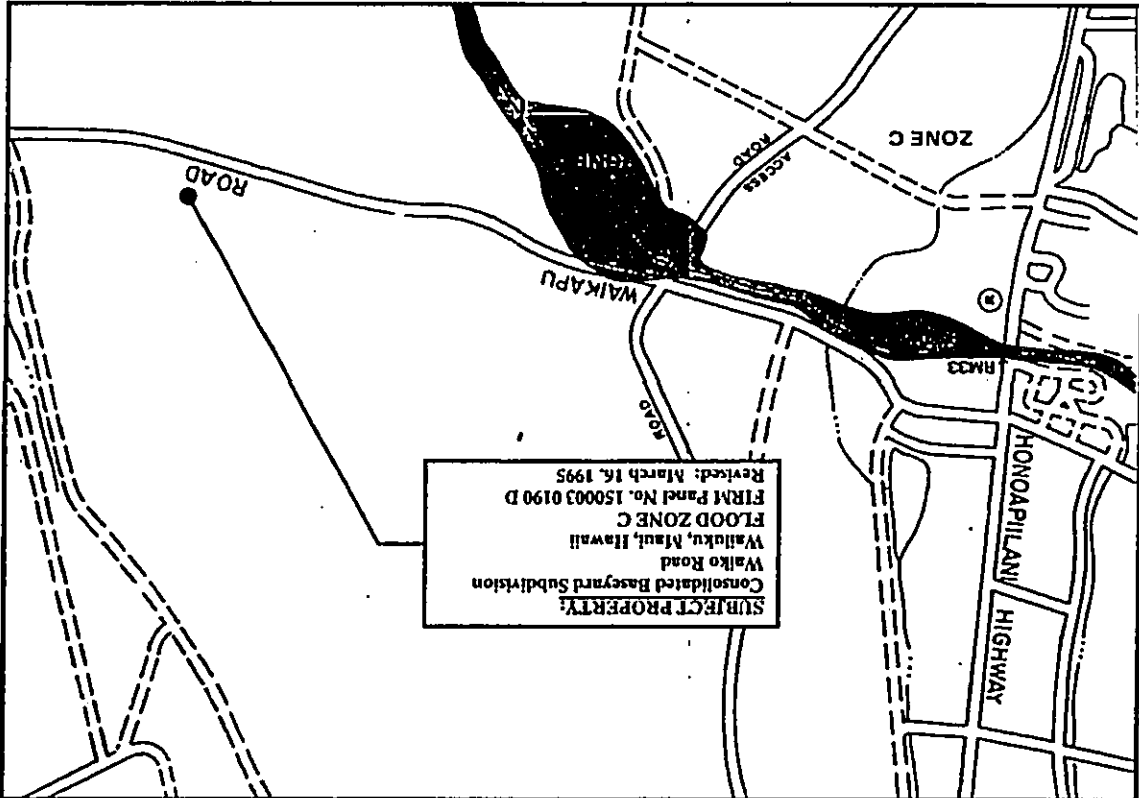
EXHIBIT B
Maps of the Subject

RECEIVED AS FOLLOWS

ACH Consultants, Inc.

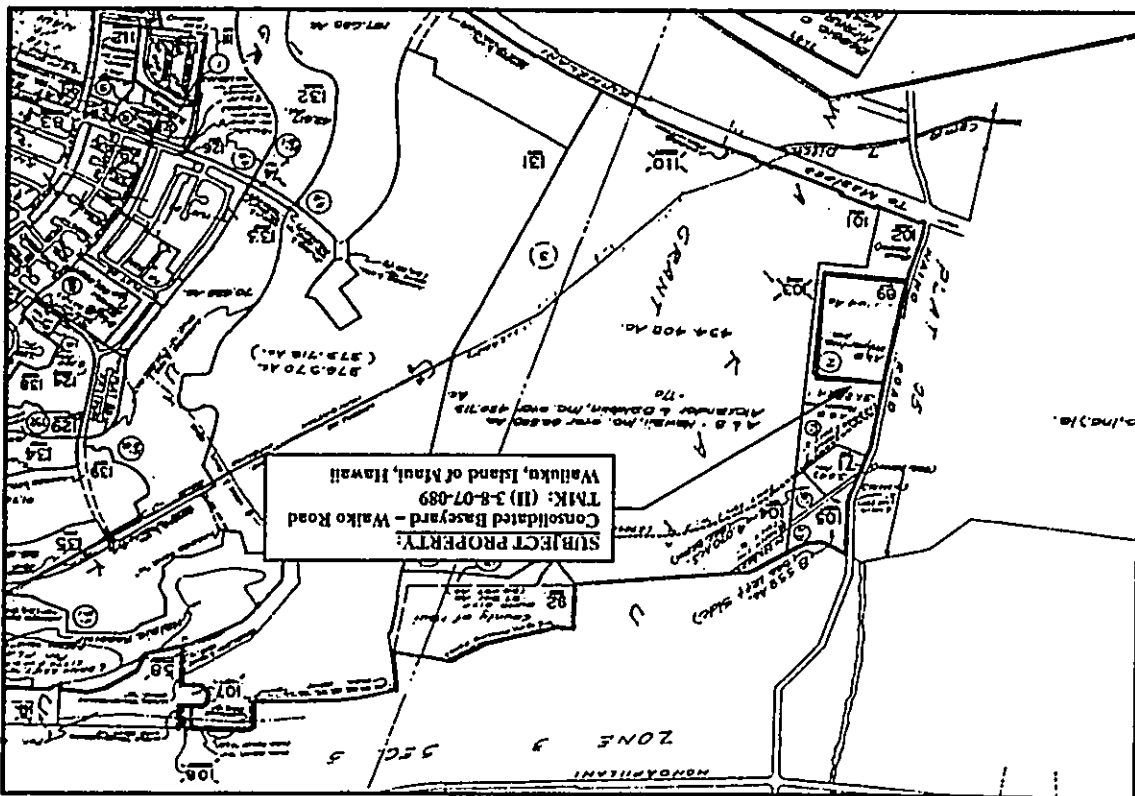
FLOOD MAP LOCATION
Consolidated Baseyard Subdivision
Waikuku, Island of Maui, Hawaii

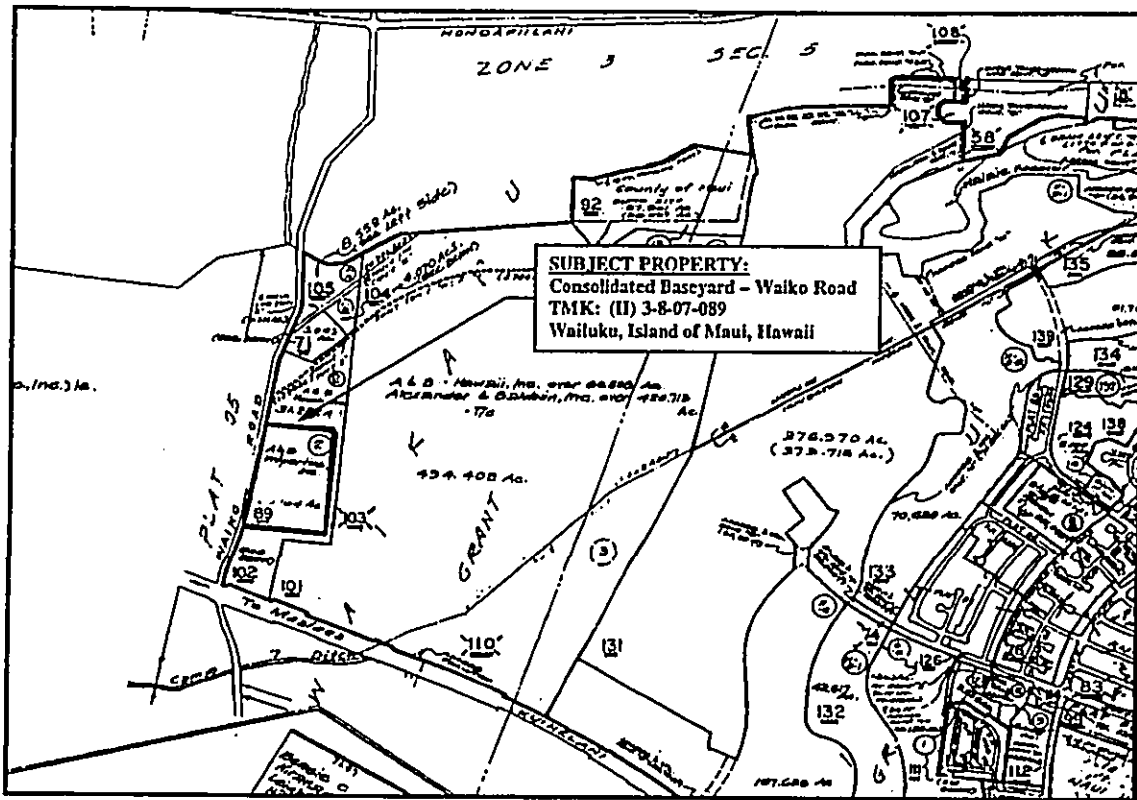
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TAX MAP
Consolidated Baseyard Subdivision
Waikuku, Island of Maui, Hawaii

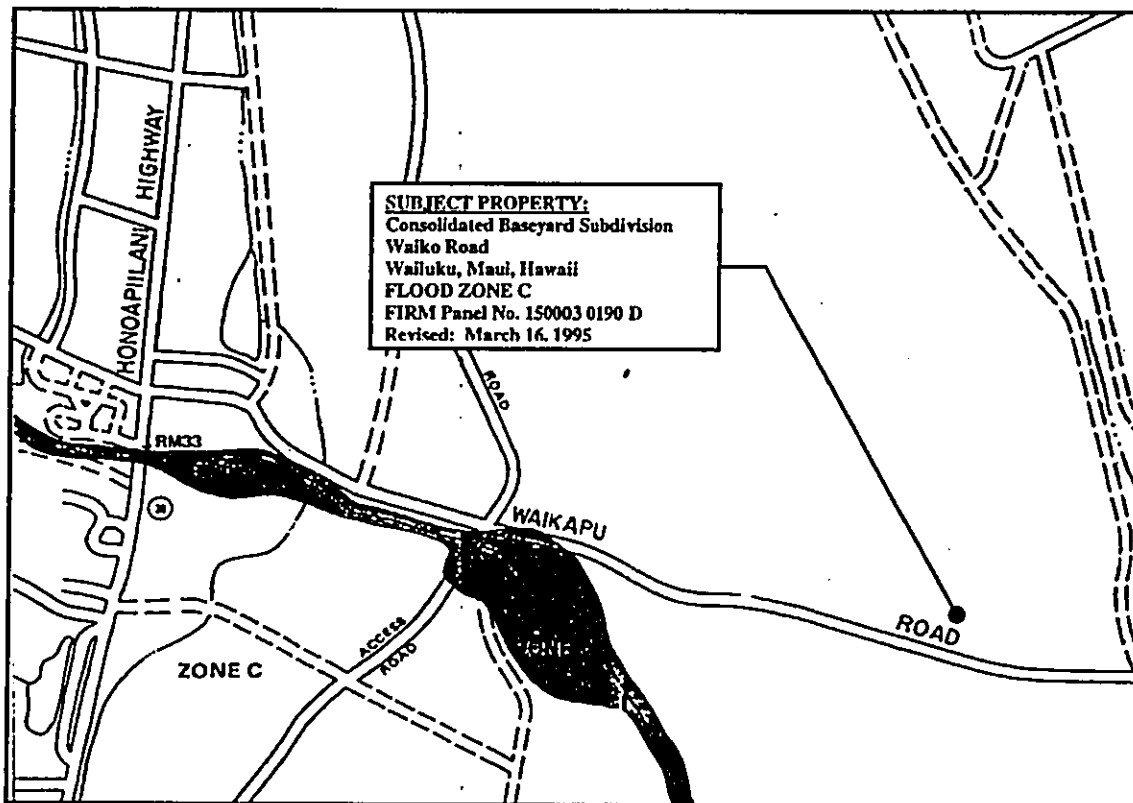
Not To Scale!





Not To Scale!

TAX MAP
Consolidated Baseyard Subdivision
Waikapu, Island of Maui, Hawaii



Not To Scale!

FLOOD MAP LOCATION
Consolidated Baseyard Subdivision
Waikapu, Island of Maui, Hawaii

Marketview Comparison Report (Page 1 of 10)
 Claritas Inc.
 Sales (800)234-5973
 Area 1 = KIHU, HI
 Area 2 = LAHALANA, HI
 Area 3 = AGGREGATION OF KAHULUI, WAILUKU, WAIHEE-WAIKAPU & PUNENE, HI

27-FEB-03
 Support (800)780-4237

Attribute	Area 1	Area 2	Area 3
Population:			
2007 Total	23865	21606	46308
2002 Total	20998	19012	42611
2000 Total	19843	17957	41166
1990 Total	12878	14574	32594
% Change 00-02	5.8	5.8	3.5
% Change 90-00	54.1	23.3	26.3
Households:			
2007 Total	9185	7091	14442
2002 Total	8015	6331	13208
2000 Total	7557	6021	12722
1990 Total	4902	4868	10030
% Change 00-02	6.1	5.0	3.8
% Change 90-00	54.2	23.9	26.8
Av. HH Size:			
2007	2.59	3.03	3.15
2002	2.61	3.00	3.16
2000	2.62	2.98	3.17
2002 Group Quarters Population	77	37	819
Families:			
2007 Total	5495	4340	10447
2002 Total	4866	3947	9693
2000 Total	4613	3789	9388
% Change 00-02	5.5	4.2	3.2
Housing Units:			
2007 Total	14490	12358	15006
2002 Total	12768	10977	13736
2000 Total	12095	10431	13238
2002 Population by Single Classification Census Race and Ethnicity			
Total	20998	19012	42611
White Alone	10731 51.1	7975 41.9	5739 13.5
Black or African American Alone	173 0.8	103 0.5	107 0.3
American Indian or Alaskan Native Alone	101 0.5	65 0.3	119 0.3
Asian Alone	4821 23.0	5663 29.8	20421 47.9
Native Hawaiian/Other Pacific Islander Alone	1474 7.0	1829 8.9	4841 11.4
Some Other Race Alone	326 1.6	566 3.0	538 1.3
Two or More Races	3372 16.1	2941 15.5	10846 25.5
Hispanic or Latino Population	1527	1664	3466
White Alone	550 36.0	561 34.9	613 17.7
Black or African American Alone	5 0.3	11 0.7	8 0.2
American Indian or Alaskan Native Alone	25 1.6	18 1.1	45 1.3
Asian Alone	130 8.5	59 3.5	347 10.0
Native Hawaiian/Other Pacific Islander Alone	38 2.5	20 1.2	171 4.9
Some Other Race Alone	275 18.0	523 31.4	477 13.8
Two or More Races	504 33.0	452 27.2	1805 52.1

EXHIBIT C
 Marketview Comparison Report
 Central Maui (Wailuku, Kahului)
 Claritas, Inc.

CLARITAS For more information please call 800-734-5072

Claritas Inc.
Sales (800)234-5973
Area 1 = KIHU, HI
Area 2 = LAHAINA, HI
Area 3 = AGGREGATION OF KAHULUI, WAILUKU, MAIHE-WAIKAPU & PUUNENE, HI

27-FEB-03
Support (800)780-4237

Claritas Inc.
Sales (800)234-5973
Area 1 = KIHU, HI
Area 2 = LAHAINA, HI
Area 3 = AGGREGATION OF KAHULUI, WAILUKU, MAIHE-WAIKAPU & PUUNENE, HI

27-FEB-03
Support (800)780-4237

Attribute	Area 1	Area 2	Area 3
Not Hispanic or Latino			
Population	19471	17348	32145
White Alone	10181	7394	5126
Black or African American Alone	168	92	99
American Indian or Alaskan Native Alone	76	47	74
Native Hawaiian/Other Pacific Islander Alone	4691	5604	20074
Some Other Race Alone	1436	1679	4670
Two or More Races	51	43	61
	2868	2489	9041
2002 Pop. by Age:			
Under 5 Years	20998	19012	42611
5 to 9 Years	1369	1281	2927
10 to 14 Years	1468	1086	3022
15 to 19 Years	1367	1151	3205
20 to 24 Years	1254	1029	3072
25 to 34 Years	1239	1177	2617
35 to 44 Years	3230	3212	5483
45 to 54 Years	3982	3374	6370
55 to 64 Years	3494	2915	5858
65 to 74 Years	1162	1102	2220
75 to 84 Years	778	766	1704
85 Years and Over	939	1021	2983
Total Median Age (in Years)	139	597	2308
Male Median Age (in Years)	36.5	201	835
		36.7	36.6
		36.5	35.3

Attribute	Area 1	Area 2	Area 3
2002 White population by age:			
White under 5 years	10731	7975	5739
White 5 to 17 years	440	387	192
White 18 to 44 years	1219	708	621
White 45 to 64 years	4395	3687	2173
White 65 years and over	3506	2426	1812
	1171	767	941
2002 Black population by age:			
Black under 5 years	173	103	173
Black 5 to 17 years	8	3	4
Black 18 to 44 years	30	12	9
Black 45 to 64 years	74	57	55
Black 65 years and over	53	24	27
	8	7	12
2002 Hispanic population by age:			
Hispanic under 5 years	1527	1664	3466
Hispanic 5 to 17 years	180	223	427
Hispanic 18 to 44 years	417	354	971
Hispanic 45 to 64 years	687	875	1358
Hispanic 65 years and over	214	171	480
	29	41	190
Per capita inc.: 2002	\$28991	\$24253	\$19311
	\$19107	\$17786	\$13934
	51.2	36.4	38.6
Avg. hhd inc.: 2002	\$73170	\$73415	\$61886
	\$50357	\$52946	\$45045
	45.9	38.7	37.4
Med. hhd inc.: 2002	\$57532	\$56242	\$50523
	\$40548	\$41266	\$39216
	41.9	36.3	28.8
Med. Family HH inc.: 2002	\$65611	\$63504	\$59883
	\$45633	\$47301	\$45938
	43.8	34.3	30.4
2002 Average Household Net Worth	\$184464	\$205449	\$201393
2002 Median Household Net Worth	\$88482	\$97390	\$105486

Attribute	Area 1	Area 2	Area 3
2002 Females by age:			
Under 5 Years	10330	9165	21438
5 to 9 Years	691	657	1457
10 to 14 Years	700	536	1448
15 to 19 Years	658	565	1559
20 to 24 Years	637	602	1559
25 to 34 Years	596	489	1467
35 to 44 Years	1580	556	1236
45 to 54 Years	1910	1481	2683
55 to 64 Years	1728	1591	3135
65 to 74 Years	1392	1392	2875
75 to 84 Years	565	516	1351
85 Years and Over	385	387	921
Total Median Age (in Years)	494	511	1664
Female Median Age (in Years)	301	361	1325
	85	123	517
	36.6	36.9	37.9

Attribute	Area 1	Area 2	Area 3
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CLARITAS For more information please call 800-234-5073

Marketview Comparison Report (Page 4 of 10)
 Claritas Inc.
 Sales (800)234-5973
 Area 1 = KIHAI, HI
 Area 2 = LAHAINA, HI
 Area 3 = AGGREGATION OF KAHULUI, WAILUKU, WAIIHEE-WAIKAPU & PUUNENE, HI

Support (800)780-4237

27-FEB-03

Support (800)780-4237

Attribute	Area 1	Area 2	Area 3
2002 Hholds by Hhld Income:	8015	6331	13208
Under \$15,000	478	365	1318
\$ 15,000 to \$ 24,999	577	382	1368
\$ 25,000 to \$ 34,999	847	620	1623
\$ 35,000 to \$ 49,999	1168	758	2213
\$ 50,000 to \$ 74,999	2104	1162	3213
\$ 75,000 to \$ 99,999	2304	1559	3251
\$ 100,000 to \$ 149,999	1255	861	1635
\$ 150,000 to \$ 249,999	1013	807	1225
\$ 250,000 to \$ 499,999	323	346	437
\$ 500,000 and Over	41	41	120
1990 Hholds by 1989 hhd income:	4902	4854	9970
Under \$15,000	554	445	1539
\$ 15,000 to \$ 24,999	680	707	1342
\$ 25,000 to \$ 34,999	732	750	1413
\$ 35,000 to \$ 49,999	1124	1099	2139
\$ 50,000 to \$ 74,999	1139	947	2133
\$ 75,000 to \$ 99,999	423	536	842
\$ 100,000 to \$ 149,999	215	299	423
\$ 150,000 to \$ 249,999	12	27	125
\$ 250,000 to \$ 499,999	3	29	24
\$ 500,000 and Over	20	15	4
2002 Fam. HHs by Fam. Hhld Inc.:	4866	3947	9693
Under \$15,000	163	120	437
\$ 15,000 to \$ 24,999	194	131	582
\$ 25,000 to \$ 34,999	407	389	971
\$ 35,000 to \$ 49,999	635	679	1713
\$ 50,000 to \$ 74,999	1526	1049	2688
\$ 75,000 to \$ 99,999	975	582	1498
\$ 100,000 to \$ 149,999	698	577	1171
\$ 150,000 to \$ 249,999	230	279	416
\$ 250,000 to \$ 499,999	4	50	106
\$ 500,000 and Over	34	41	15
1990 Fam. HH by 1989 Fam. HH Inc	3112	2958	7655
Under \$15,000	185	136	521
\$ 15,000 to \$ 24,999	329	315	749
\$ 25,000 to \$ 34,999	420	450	1122
\$ 35,000 to \$ 49,999	736	677	1798
\$ 50,000 to \$ 74,999	945	663	1969
\$ 75,000 to \$ 99,999	312	409	824
\$ 100,000 to \$ 149,999	161	237	416
\$ 150,000 to \$ 249,999	6	27	120
\$ 250,000 to \$ 499,999	0	29	22
\$ 500,000 and Over	18	15	4

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Marketview Comparison Report (Page 5 of 10)
 Claritas Inc.
 Sales (800)234-5973

27-FEB-03

Support (800)780-4237

Attribute	Area 1	Area 2	Area 3
2002 Hholds by Hhld Net Worth:	8015	6331	13208
Less than \$25,000	2574	1939	3706
\$25,000 to \$49,999	677	522	1059
\$50,000 to \$74,999	523	400	833
\$75,000 to \$99,999	433	340	655
\$100,000 to \$149,999	723	558	1285
\$150,000 and 249,000	1036	802	1793
\$250,000 and 499,000	1311	1070	2294
\$500,000 and 749,000	450	408	827
\$750,000 and 999,000	140	139	270
\$1,000,000 and over	148	153	286
2002 Householders by Age:	8015	6331	13208
15 to 24 Years	335	280	431
25 to 34 Years	1388	1032	1761
35 to 44 Years	2151	1457	2822
45 to 54 Years	2088	1489	2922
55 to 64 Years	1129	1000	1934
65 to 74 Years	520	551	1071
75 Years and Over	424	522	1719
Age of Hholder 25-44 Years:	3539	2489	4583
Under \$15,000	167	137	212
\$ 15,000 to \$ 24,999	217	131	410
\$ 25,000 to \$ 34,999	289	253	640
\$ 35,000 to \$ 49,999	565	473	914
\$ 50,000 to \$ 74,999	1122	740	1275
\$ 75,000 to \$ 99,999	584	364	611
\$ 100,000 to \$ 149,999	494	264	513
\$ 150,000 to \$ 249,999	81	103	392
\$ 250,000 to \$ 499,999	3	13	102
\$ 500,000 and Over	27	11	24
Age of Hholder 45-64 Years:	3197	2489	4856
Under \$15,000	159	119	234
\$ 15,000 to \$ 24,999	195	125	347
\$ 25,000 to \$ 34,999	380	305	425
\$ 35,000 to \$ 49,999	401	358	741
\$ 50,000 to \$ 74,999	870	531	1330
\$ 75,000 to \$ 99,999	548	347	791
\$ 100,000 to \$ 149,999	419	443	641
\$ 150,000 to \$ 249,999	221	204	268
\$ 250,000 to \$ 499,999	3	30	68
\$ 500,000 and Over	0	27	11
Age of Householder 65+ Years:	944	1073	3338
Under \$15,000	125	105	266
\$ 15,000 to \$ 24,999	81	94	538
\$ 25,000 to \$ 34,999	149	134	494
\$ 35,000 to \$ 49,999	153	125	495
\$ 50,000 to \$ 74,999	263	187	560
\$ 75,000 to \$ 99,999	72	136	219
\$ 100,000 to \$ 149,999	79	85	185
\$ 150,000 to \$ 249,999	13	36	63
\$ 250,000 to \$ 499,999	1	6	16
\$ 500,000 and Over	8	2	2

CLARITAS For more information please call 800.234.5973

Claritas Inc.
 Sales (800)234-5973
 Area 1 = KIHAI, HI
 Area 2 = LAHAINA, HI
 Area 3 = AGGREGATION OF KAHULUI, MAIIUKU, WAIIHE-WAIKAPU & PUUNENE, HI

Support (800)780-4237

Attribute	Area 1	Area 2	Area 3
2002 Households by Ethol Type:			
Male no Wife no Child.....	8015	6331	13308
Female no Husband no Child.....	1142	739	1231
Married Couple Family.....	289	1496	1496
Other Family Ethol Own Child.....	3643	2955	6396
Non-Family.....	1223	992	2597
	1018	976	788
1990 Pop. 65+ Yr. by HH Type:			
Living Alone.....	1073	1415	4826
In Families.....	238	247	885
In Non-Families.....	792	1157	3722
In Group Quarters.....	43	11	11
	0	0	0
2002 Marital status:			
For Population 15+ Years:			
Never Married.....	16794	15494	33457
Now Married (Exc. Separated).....	4573	5316	9201
Divorced or Separated.....	9014	7377	19055
Widowed.....	2561	2109	2773
	646	592	2428
For Females 15+ Years:			
Never Married.....	8281	7407	16974
Now Married (Exc. Separated).....	1851	2065	3935
Divorced or Separated.....	4613	3735	9485
Widowed.....	1298	1057	1538
	519	550	2016
2002 Educational Attainment for			
Population 25+ Years:			
Less than 9th Grade.....	14301	13288	27761
9th to 12th Grade, No Diploma.....	633	1427	4806
High School Graduate.....	1305	1214	2967
Some College, No Degree.....	4567	4050	8570
Associate Degree.....	3710	3561	4325
Bachelor's Degree.....	1293	891	2527
Graduate or Prof. Degree.....	2024	1651	3360
	769	494	1196
2002 Pop. Age 16+, In Labor Frc:			
Civilian Employed Males.....	13050	11740	23062
Civilian Employed Females.....	6916	6453	11839
Persons in Armed Forces.....	5701	5094	10583
Persons Unemployed.....	36	29	7
	397	164	633

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Claritas Inc.
 Sales (800)234-5973
 Area 1 = KIHAI, HI
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Support (800)780-4237

Attribute	Area 1	Area 2	Area 3
2002 Occupat.-Employed pop. 16+:			
Managerial/Prof. Spec.....	12617	11547	22422
Exec/Admin/Managerial.....	3043	2425	4354
Professional Speciality.....	1724	1592	2093
Tech./Sales/Adm. Support.....	1319	833	2261
Technician and Related.....	3439	3199	6652
Sales.....	261	68	613
Administrative Support.....	1967	1806	2861
Service Occupation.....	1211	1325	3178
Private Household.....	2735	3452	4650
Protective Service.....	42	53	22
Other Service.....	173	158	22
Farming/Forestry/Fishing.....	2520	3241	502
Precision/Craft/Repair.....	199	484	4126
Operator/Fabricator/Laborer.....	1825	1028	1020
Machine Op/Assem./Inspect.....	1375	959	2768
Trans. & Material Moving.....	418	202	2978
Handlers/Helpers/Laborers.....	443	497	892
	515	260	989
	515	260	1097
2002 Industry-Employed Pop. 16+:			
Agriculture/Forestry/Fisheries.....	12617	11547	22422
Mining.....	253	338	1055
Construction.....	11	1	0
Manufacturing-Nondurable Goods.....	1793	958	2038
Manufacturing-Durable Goods.....	430	446	1422
Transportation.....	294	105	212
Communications and Public Util.....	532	530	1219
Wholesale Trade.....	303	68	545
Retail Trade.....	290	108	904
Finance/Insurance/Real Estate.....	2876	2919	4152
Business and Repair Services.....	786	720	1107
Personal Services.....	532	487	1107
Entertainment/Recreation Serv.....	2475	3375	3299
Professional and Related Serv.....	337	555	424
Public Administration.....	1387	786	3585
	318	151	1357
2002 Pop. by Travel Time to Work:			
Travel in Under 10 Minutes.....	11636	10814	21442
Travel in 10 to 14 Minutes.....	1682	3105	5438
Travel in 15 to 19 Minutes.....	2051	3300	5401
Travel in 20 to 29 Minutes.....	1995	2144	3023
Travel in 30 to 44 Minutes.....	2678	1086	1747
Travel in 45 to 59 Minutes.....	1791	478	2918
Travel in 60 to 89 Minutes.....	1157	560	2143
Travel in 90 Minutes and Over.....	150	114	663
	132	27	109
2002 Pop. by Transport. to Work:			
Travel by Driving Alone.....	12147	11249	21750
Travel by Carpool.....	8613	6888	15383
Travel by Public transport.....	2380	2129	4945
Travel by Walking Only.....	79	132	127
Travel by Other Means.....	363	1058	613
Working at Home.....	201	607	374
	511	435	308

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Marketview Comparison Report (Page 8 of 10)

Claritas Inc. 27-FEB-03
 Sales (800)234-5973 Support (800)780-4237
 Area 1 = KIHAI, HI
 Area 2 = LAHAINA, HI
 Area 3 = AGGREGATION OF KAHULUI, MAILOKU, WAHIE-WAIKAPU & PUNENE, HI

Attribute	Area 1	Area 2	Area 3
2002 Housing Units:	12768	10977	13736
Owner-Occupied Housing Units:	3965	3249	8025
Renter-Occupied Housing Units:	4050	3082	5183
Vacant Housing Units:	4753	4646	528
2002 Specified Owner-Occ. Housing Units by Value:	2305	2033	7107
Under \$ 25,000:	1	5	30
\$25,000 to \$49,999:	3	6	51
\$50,000 to \$74,999:	4	13	139
\$75,000 to \$99,999:	12	15	258
\$100,000 to \$149,999:	62	84	879
\$150,000 to \$199,999:	153	182	1223
\$200,000 to \$299,999:	733	610	2362
\$300,000 to \$399,999:	724	620	2378
\$400,000 to \$499,999:	371	236	454
\$500,000 and Over:	242	462	433
Median Housing Value:	325483	324366	236987

1990 Specified Renter-Occupied

Units by Gross Rent:	Area 1	Area 2	Area 3
With Cash Rent:	2375	2551	3942
Less than \$100:	0	24	77
\$100 to \$149:	0	44	106
\$150 to \$199:	0	17	163
\$200 to \$249:	0	21	109
\$250 to \$299:	17	30	60
\$300 to \$399:	44	151	376
\$400 to \$499:	114	119	463
\$500 to \$599:	127	156	561
\$600 to \$749:	462	425	649
\$750 to \$999:	772	768	605
\$1,000 or More:	689	648	343
No Cash Rent:	150	148	449

2002 Households by Vehicles:

Households	Area 1	Area 2	Area 3
0 Vehicles:	8015	6331	13208
1 Vehicle Available:	247	416	854
2 Vehicles Available:	2841	2561	3933
3 Vehicles Available:	3199	2352	4943
4 Vehicles Available:	1150	762	2256
5+ Vehicles Available:	467	207	779
Total:	111	133	443

2002 Housing Units by

Number of Units in Structure:	Area 1	Area 2	Area 3
Single Detached Unit:	12768	10977	13736
Structures with 2 Units:	4537	3256	9611
Structures w/ 3-4 Units:	759	428	1474
Structures w/ 5-9 Units:	177	221	186
Structures w/ 10-19 Units:	304	410	149
Structures w/ 20-49 Units:	864	714	364
Structures w/ 50+ Units:	942	940	584
Mobile Homes/Trailers or Other:	1406	1289	339
Total:	3651	3574	748

Marketview Comparison Report (Page 9 of 10)

Claritas Inc. 27-FEB-03
 Sales (800)234-5973 Support (800)780-4237
 Area 1 = KIHAI, HI
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 Area 3 = AGGREGATION OF KAHULUI, MAILOKU, WAHIE-WAIKAPU & PUNENE, HI

Attribute	Area 1	Area 2	Area 3
2002 Housing Units by Year Built:	12768	10977	13736
Built 1989 to March 1990:	5616	3679	3602
Built 1985 to 1988:	1073	598	835
Built 1980 to 1984:	1462	959	1432
Built 1970 to 1979:	3993	3820	2697
Built 1960 to 1969:	379	1189	2023
Built 1950 to 1959:	130	344	1631
Built 1940 to 1949:	82	88	707
Built 1939 or Earlier:	33	300	809
2002 HU by Year Moved In:	8015	6331	13208
Moved in 1989 to March 1990:	3337	2185	1968
Moved in 1985 to 1988:	2973	1845	3604
Moved in 1980 to 1984:	778	810	1913
Moved in 1970 to 1979:	774	963	2255
Moved in 1969 or Earlier:	153	528	3468

2002 estimates and 2007 projections produced by Claritas Inc.

Units by Gross Rent:	Area 1	Area 2	Area 3
With Cash Rent:	2375	2551	3942
Less than \$100:	0	24	77
\$100 to \$149:	0	44	106
\$150 to \$199:	0	17	163
\$200 to \$249:	0	21	109
\$250 to \$299:	17	30	60
\$300 to \$399:	44	151	376
\$400 to \$499:	114	119	463
\$500 to \$599:	127	156	561
\$600 to \$749:	462	425	649
\$750 to \$999:	772	768	605
\$1,000 or More:	689	648	343
No Cash Rent:	150	148	449

2002 Households by Vehicles:

Households	Area 1	Area 2	Area 3
0 Vehicles:	8015	6331	13208
1 Vehicle Available:	247	416	854
2 Vehicles Available:	2841	2561	3933
3 Vehicles Available:	3199	2352	4943
4 Vehicles Available:	1150	762	2256
5+ Vehicles Available:	467	207	779
Total:	111	133	443

2002 Housing Units by

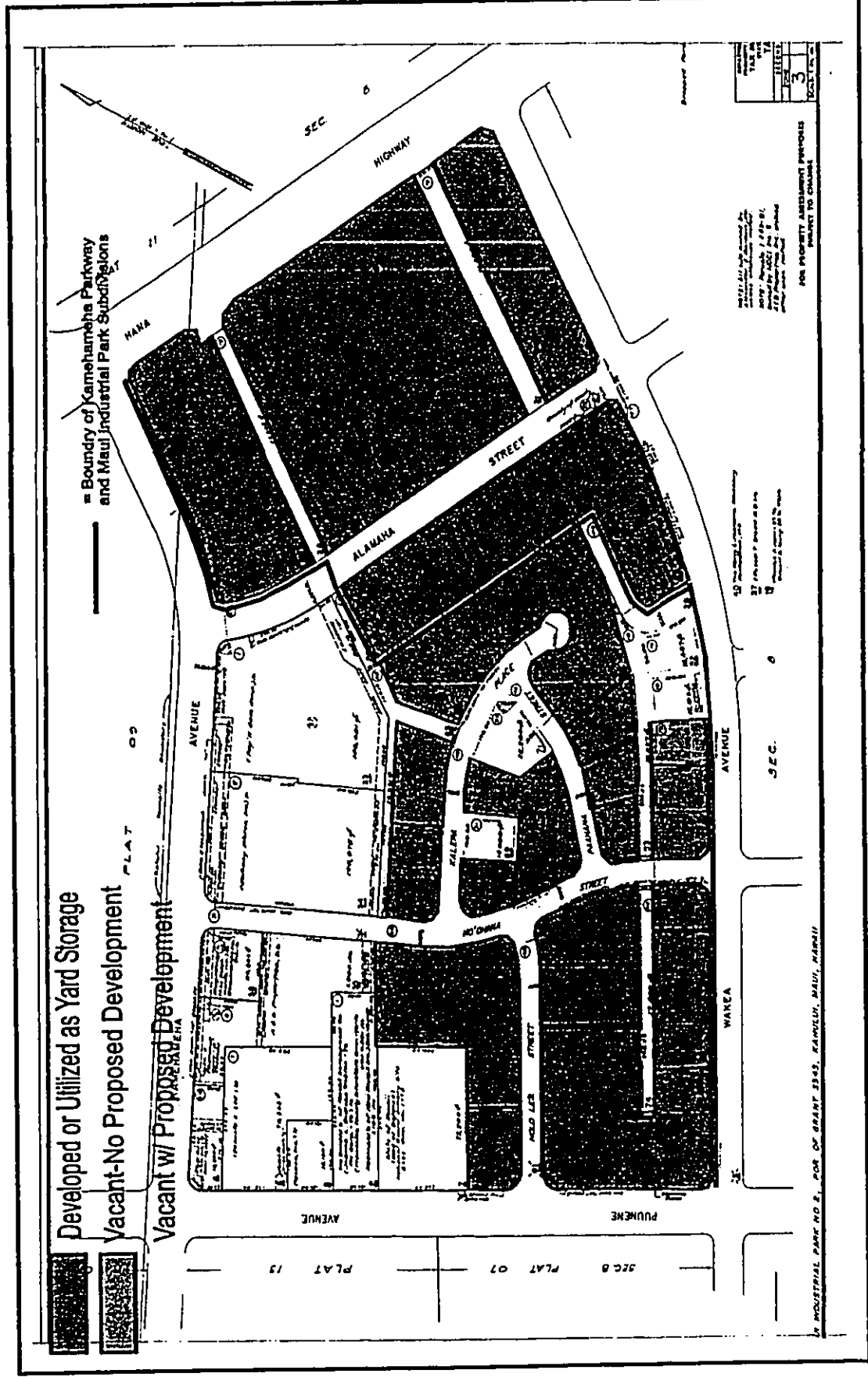
Number of Units in Structure:	Area 1	Area 2	Area 3
Single Detached Unit:	12768	10977	13736
Structures with 2 Units:	4537	3256	9611
Structures w/ 3-4 Units:	759	428	1474
Structures w/ 5-9 Units:	177	221	186
Structures w/ 10-19 Units:	304	410	149
Structures w/ 20-49 Units:	864	714	364
Structures w/ 50+ Units:	942	940	584
Mobile Homes/Trailers or Other:	1406	1289	339
Total:	3651	3574	748

Marketview Comparison Report (Page 10 of 10)
 Claritas Inc. 27-FEB-03
 Sales (800)234-5973 Support (800)780-4237
 Area 1 - KIHU, HI
 Area 2 - LAHAINA, HI
 Area 3 - AGGREGATION OF KAHULUI, MAILOWU, WAHIE-WAIKAPU & PUUNENE, HI

Attribute	Area 1		Area 2		Area 3	
	U.S. Index	(\$000s)	U.S. Index	(\$000s)	U.S. Index	(\$000s)
2002 Expenditures by Selected Product Categories (in thousands of dollars):						
Food at Home	\$18086	102	\$1828	108	\$6271	108
Food Away From Home	\$34928	103	\$28226	105	\$53747	96
Alcoholic Beverages at Home	\$5479	98	\$4332	98	\$7688	84
Alcoholic Beverages Away From Home	\$5612	92	\$4538	94	\$7412	73
Personal Care Products	\$4515	114	\$3628	116	\$712	118
Personal Care Services	\$3358	90	\$1987	95	\$3425	79
Nonprescription Drugs	\$1514	101	\$1266	107	\$2713	109
Women's Apparel	\$10258	104	\$8882	114	\$16074	99
Men's Apparel	\$6631	107	\$5857	119	\$10089	98
Girls' Apparel	\$2049	97	\$1751	105	\$3733	108
Boys' Apparel	\$1652	92	\$1391	98	\$3120	106
Infants' Apparel	\$343	96	\$831	108	\$1586	98
Footwear (Excl. Infants)	\$3540	104	\$3063	114	\$5868	105
Housekeeping Supplies	\$2504	102	\$2035	105	\$3910	97
Lawn/Garden Supplies (Incl. Plants)	\$1035	92	\$832	95	\$1603	87
Housekeeping Services	\$1363	96	\$1207	108	\$2150	92
Household Textiles	\$2551	102	\$3620	110	\$6395	93
Furniture	\$5494	105	\$4710	114	\$8090	94
Floor Coverings	\$312	95	\$286	110	\$469	86
Major Appliances	\$2487	92	\$2155	101	\$4040	91
Small Appliances & Houseware	\$5043	102	\$4316	110	\$7643	94
TV, Radio & Sound Equipment	\$1254	108	\$10607	114	\$12174	99
Transportation	\$46335	103	\$36317	102	\$75145	101
2002 Expenditures by Selected Store Type (in thousands of dollars):						
Building Materials & Garden Equip.	\$538	94	\$4616	102	\$8654	92
Hardware Stores	\$574	97	\$489	104	\$914	93
Lawn/Garden Equipment/Supply Store	\$808	93	\$671	97	\$1257	87
Home Centers	\$1336	94	\$1160	104	\$2165	93
Gasoline Stations w/Convenience Str	\$11592	104	\$8941	102	\$17743	97
Gasoline Stations w/out Conven. Str	\$4571	106	\$3547	102	\$7419	102
Grocery Stores	\$41018	101	\$34062	106	\$63656	104
Drug and Proprietary Stores	\$9592	90	\$8332	97	\$17561	98
Eating Places	\$26741	103	\$21505	105	\$41740	97
Drinking Places	\$2084	93	\$1689	95	\$2811	76
Department Stores (Excl. Leased)	\$21981	101	\$18832	110	\$35471	99
Apparel Stores	\$15691	103	\$13607	114	\$24571	98
Shoe Stores	\$1851	104	\$1603	114	\$3052	104
Furniture	\$4321	103	\$4220	112	\$7316	93
Home Furnishing Stores	\$3482	96	\$3072	108	\$5243	88
Radio/TV/Other Electronics Stores	\$1469	97	\$1268	106	\$2404	97
Computer & Software Stores	\$1178	111	\$2711	120	\$5123	108
Electronic Shopping & Mail Order	\$1136	108	\$957	115	\$1629	94
	\$6040	102	\$5130	110	\$9426	97

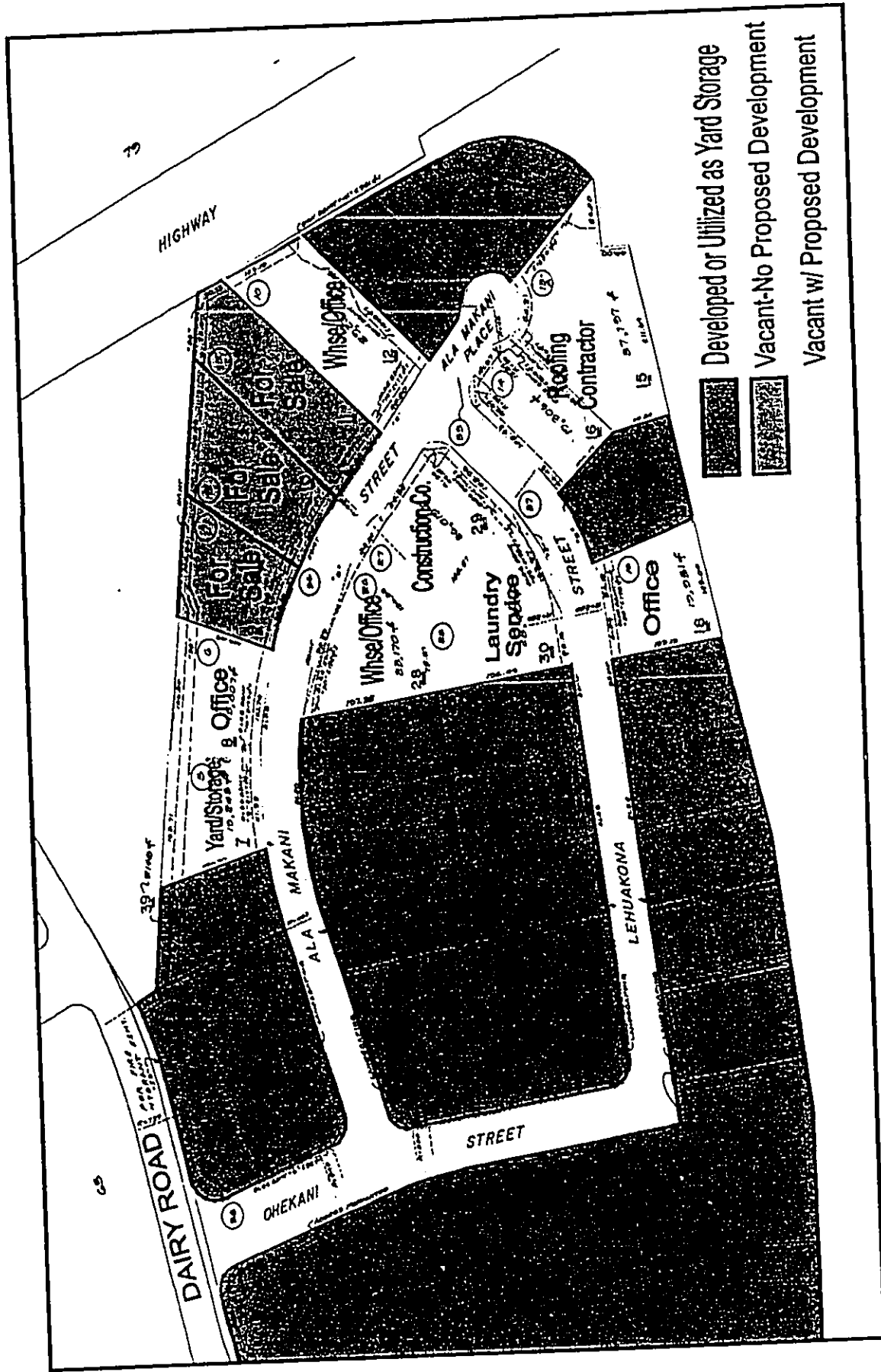
EXHIBIT D
 Maps of the Improved and Vacant
 Industrial Land In Central Maui

CLARITAS For more information please call 800-234-5973



Kamehameha Parkway Subdivision No. 2
 Former Kahului Fairgrounds
 Kahului, Island of Maui, Hawaii

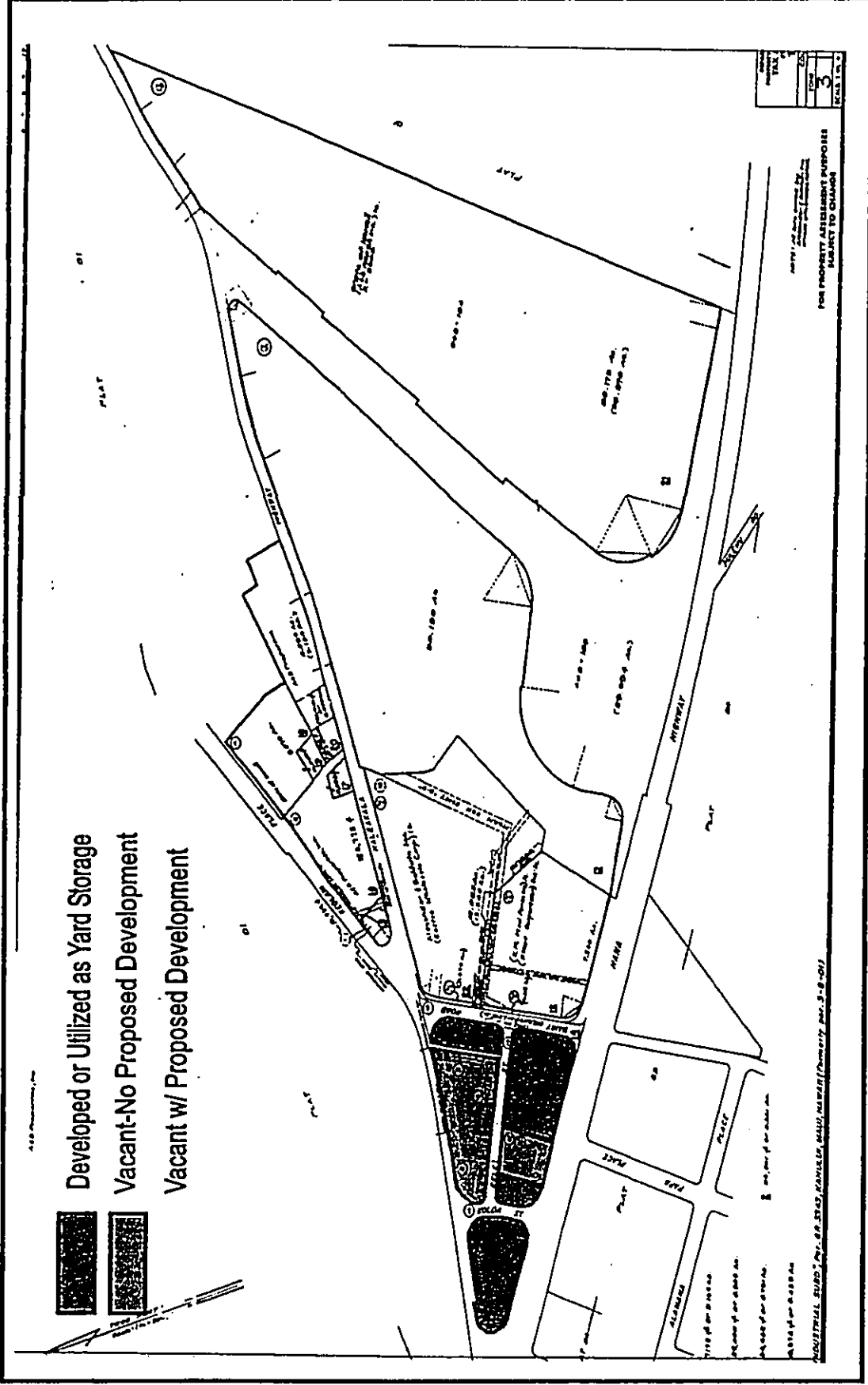
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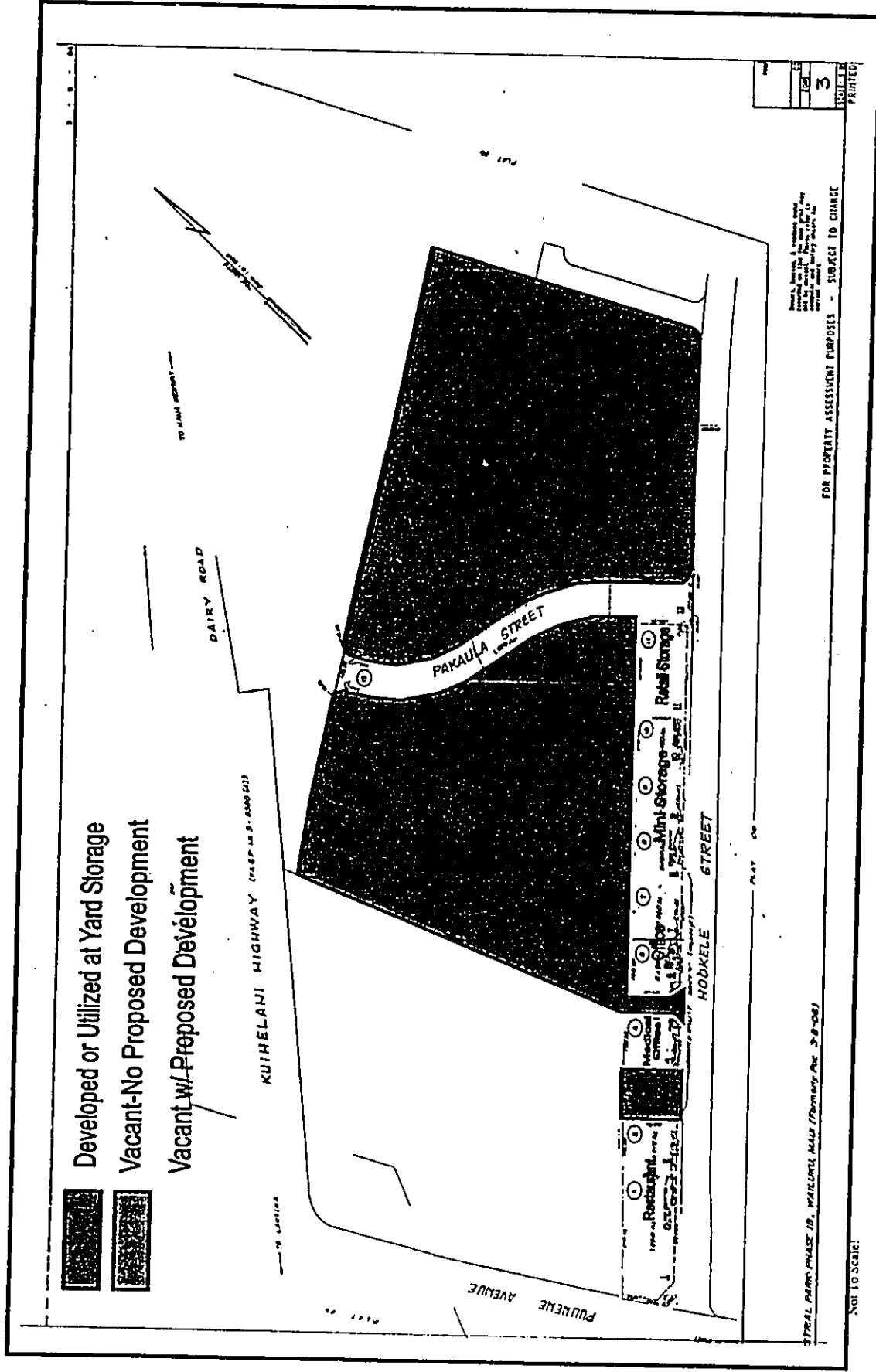
Not To Scale:

MAUI BUSINESS PARK, PHASE 1-A
 Ala Makani and Lehuakona Streets
 Kahului, Island of Maui, Hawaii

Not To Scale!



AIRPORT TRIANGLE SUBDIVISION
Kele and Keolua Streets
Kahului, Island of Maui, Hawaii



MAUI BUSINESS PARK, PHASE I-B
 Ho'okele and Pa'akaula Streets
 Kahului, Island of Maui, Hawaii

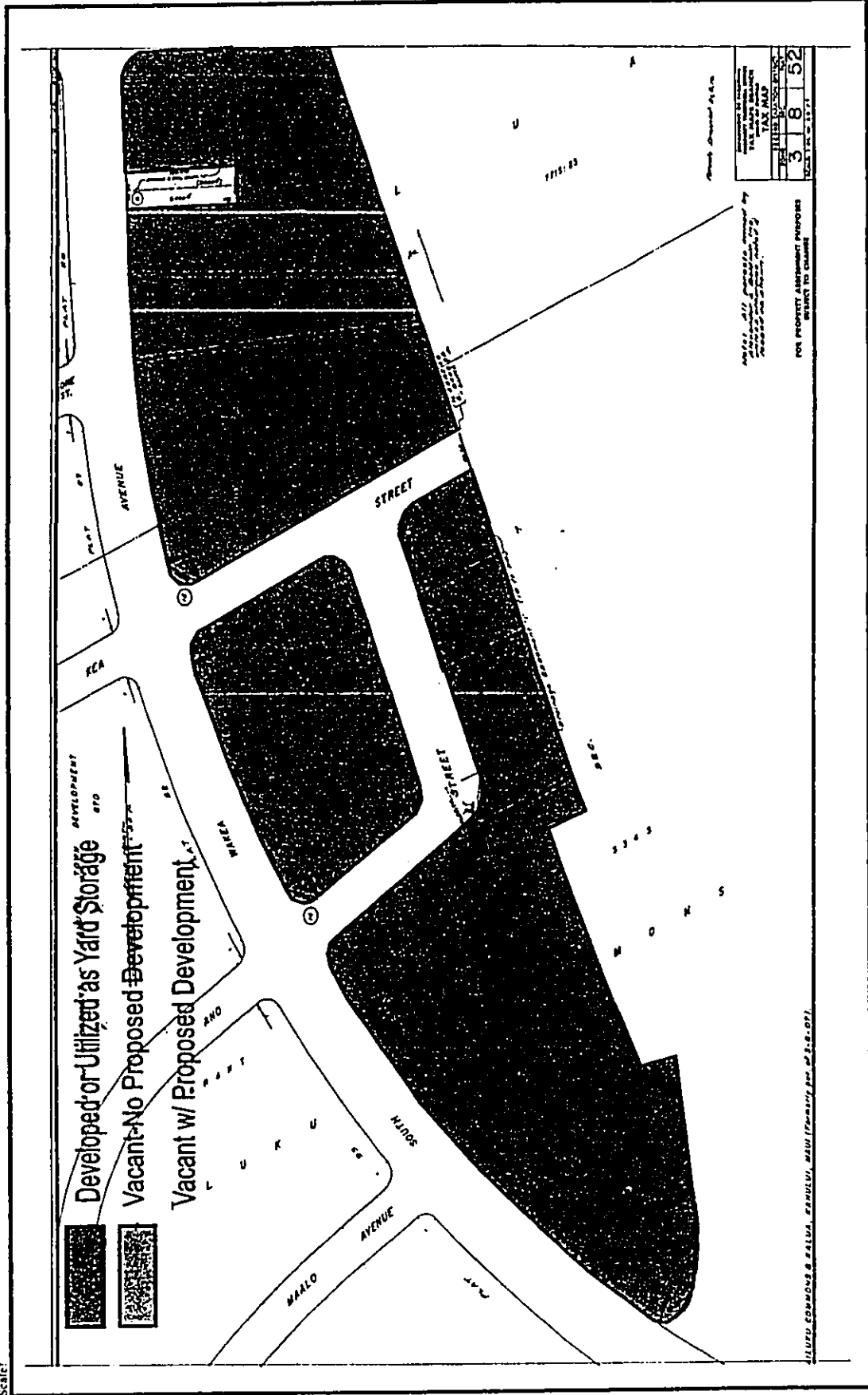
STRAIL PARK, PHASE I-B, MAUI, HAWAII (FORM NO. 3-B-06)

NOT TO SCALE!

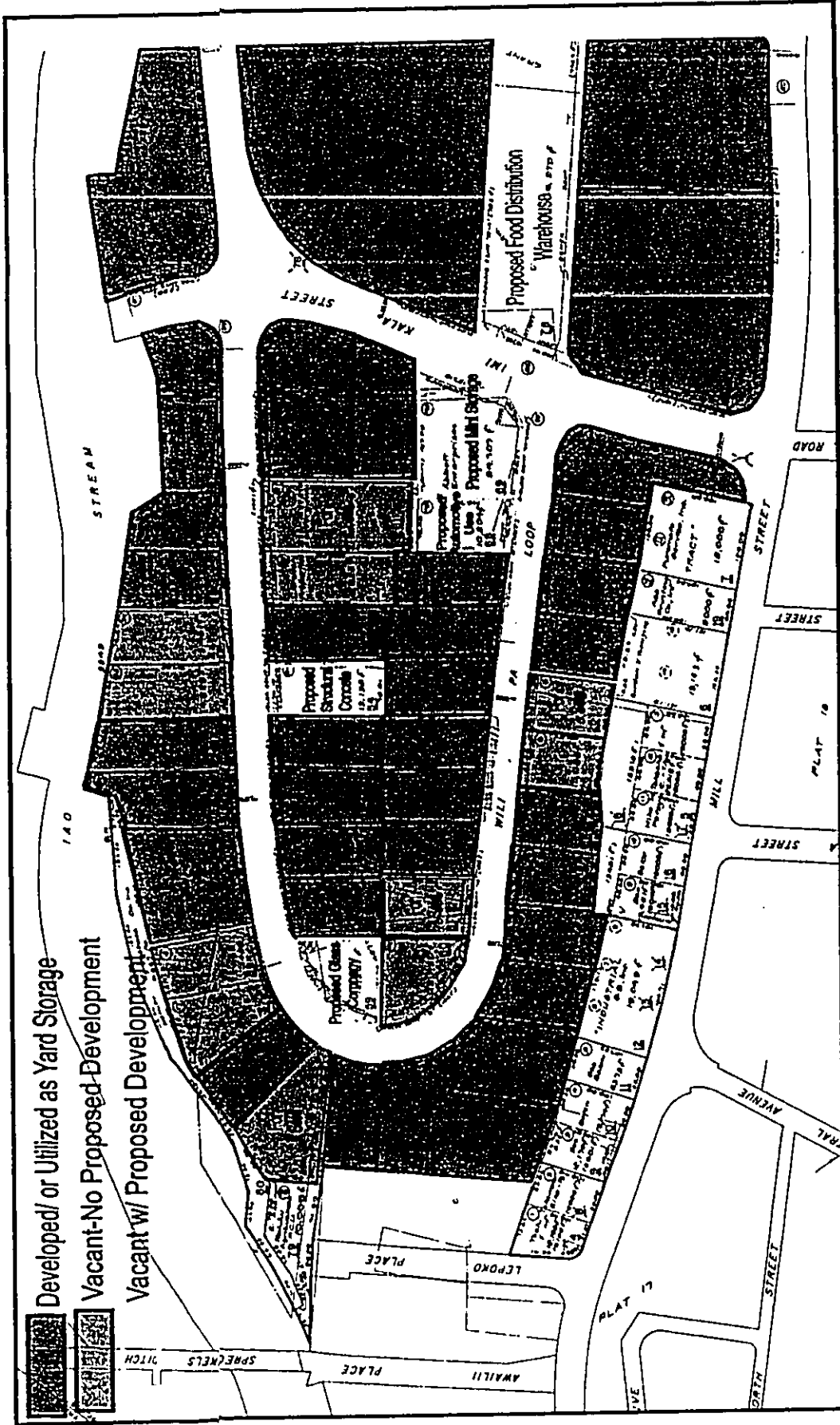
FOR PROPERTY ASSESSMENT PURPOSES - SUBJECT TO CHANGE

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 PRINTED

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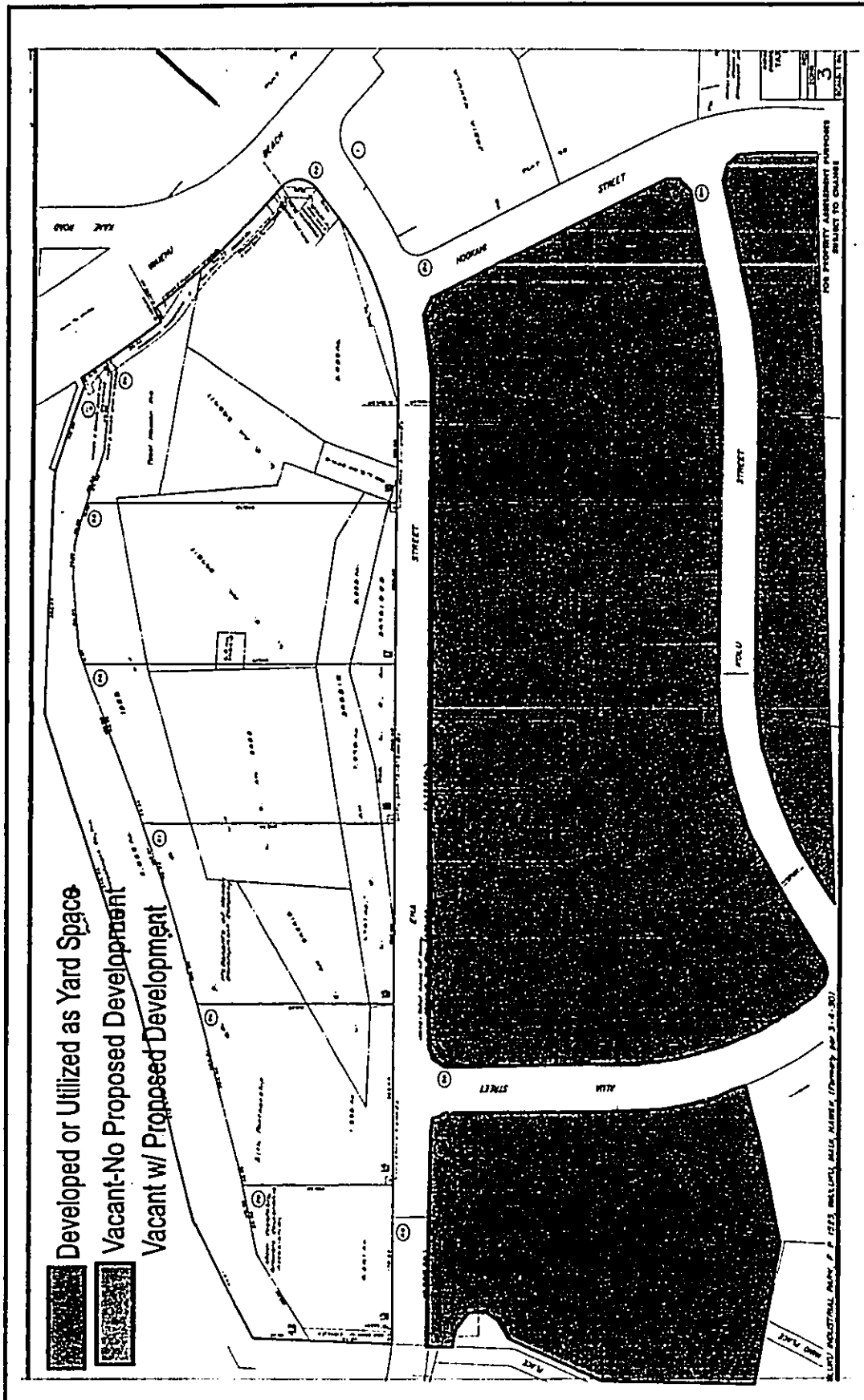


WAKEA INDUSTRIAL SUBDIVISION
 Wakea Avenue & Ano Street
 Kahului, Island of Maui, Hawaii



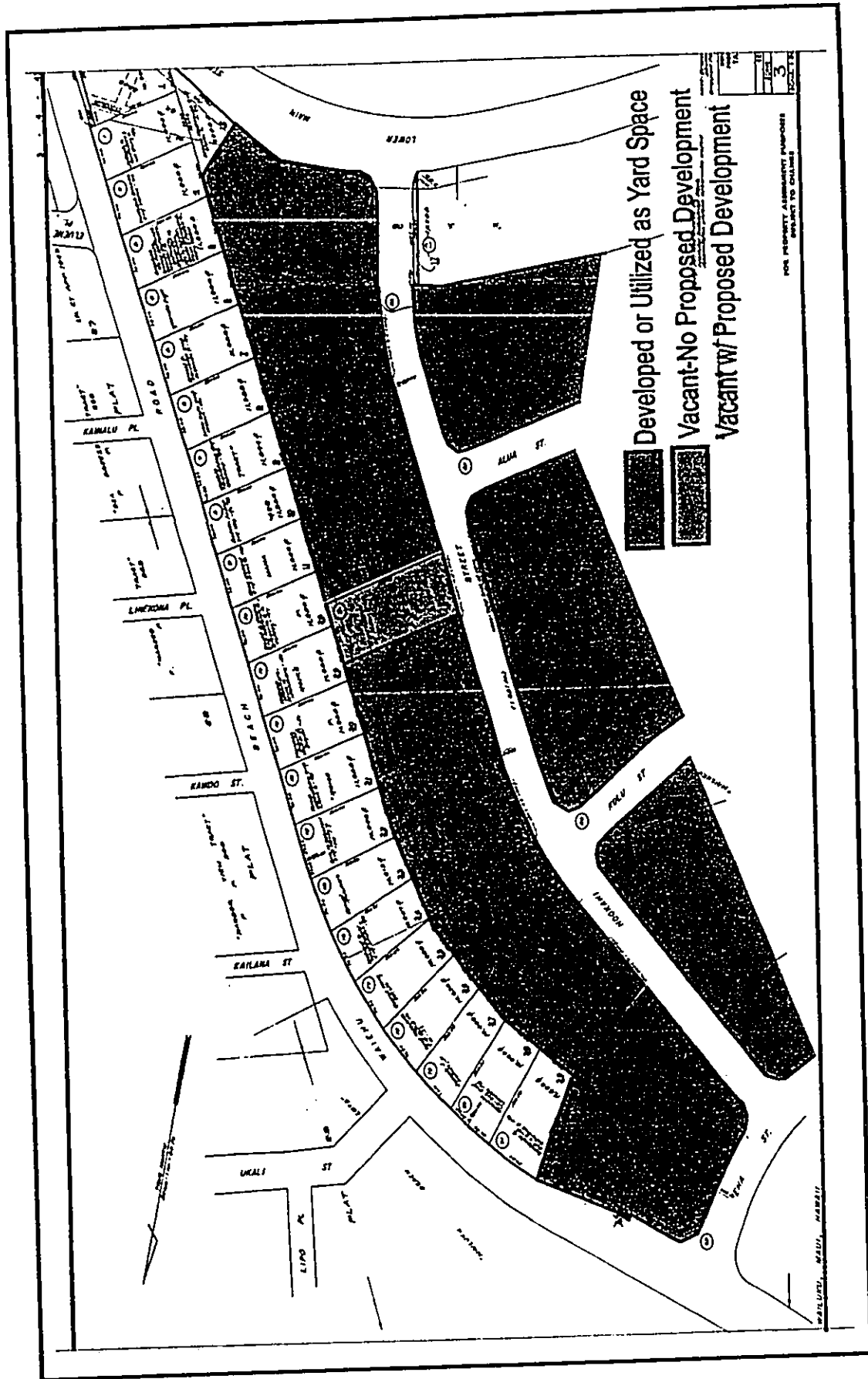
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MILLYARD INDUSTRIAL SUBDIVISION
 Will Pa Loop & Imi Kaia Street
 Waihuku, Island of Maui, Hawaii



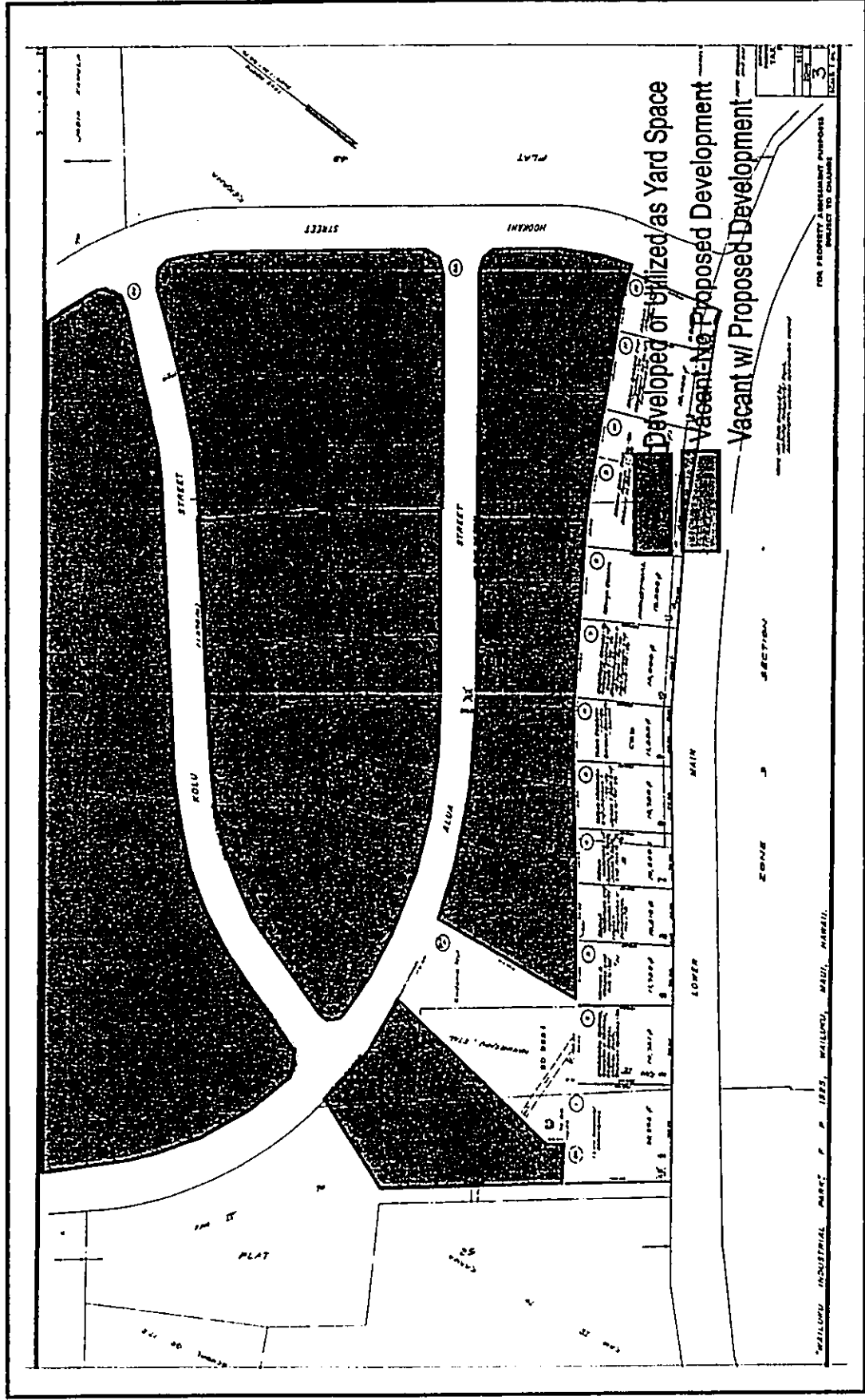
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WAILUKU INDUSTRIAL PARK
 Ho'okahi, Alua and Kolo Streets
 Wailuku, Island of Maui, Hawaii



Not To Scale!

WAILUKU INDUSTRIAL PARK
 Ho'okahi, Alua and Kolu Streets
 Wailuku, Island of Maui, Hawaii



WAILUKU INDUSTRIAL PARK
 Ho'okahi, Alua and Kolu Streets
 Wailuku, Island of Maui, Hawaii

Not To Scale!

DEFINITIONS

The purpose of this Glossary is to assist the reader in understanding specific terminology used in this report.

Appraisal

(noun) the act or process of estimating value; an estimate of value. (adjective) of or pertaining to appraising and related functions, e.g. appraisal practice, appraisal services.

Complete Appraisal: The act or process of estimating value or an estimate of value performed without invoking the Departure Provision.

Limited Appraisal: The act or process of estimating value or an estimate of value performed under and resulting from invoking the Departure Provision.

Binding Requirement

All or part of a standards rule of the Uniform Standards of Professional Appraisal Practice (USPAP) from which departure is not permitted (See Departure Provision).

Cash Equivalent

A price expressed in terms of cash, as distinguished from a price expressed totally or partly in terms of the face amounts of notes or other securities that cannot be sold at their face amounts.

Departure Provision

This provision permits limited exceptions to sections of the Uniform Standards of Professional Appraisal Practice that are classified as specific guidelines rather than binding requirements. The burden of proof is on the appraiser to decide before accepting a limited assignment that the result will not confuse or mislead. The burden of disclosure is also on the appraiser to report any limitations.

Discounting

The procedure used to convert periodic income and reversions into present value; based on the assumption that benefits received in the future are worth less than the same benefits received now.

Fair Value

The cash price that might reasonably be anticipated in a current sale under all conditions requisite to a fair sale. A fair sale means that buyer and seller are each acting prudently, knowledgeably, and under no necessity to buy or sell-, i.e., other than in a forced or liquidation sale. The appraiser should estimate the cash price that might be received upon exposure to the open market for a reasonable time, considering the property type and local market conditions. *When a current sale is unlikely--i.e., when it is unlikely that the sale can be completed within 12 months--the appraiser must discount all cash flows generated by the property to obtain the estimate of fair value.* These cash flows include, but are not limited to, those arising from ownership, development, operating, and sale of the property. The discount applied shall reflect the appraiser's judgement of what a prudent, knowledgeable purchase under no necessity to buy would be willing to pay to purchase the property in a current sale.

ADDENDA

ACM Consultants, Inc.

Fee Simple Estate

Absolute ownership encumbered by any other interest or restate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat.

Hawaiian Terms

The Hawaiian words "mauka" and "makai" are commonly used in the islands as indicators of direction. The word "mauka" means toward the mountain, and "makai" means toward the ocean.

Highest and Best Use

The reasonably probable and legal use of vacant land or an improved property, which is physically possible, appropriately supported, financially feasible, and that results in the highest value. The four criteria the highest and best use must meet are legal permissibility, physical possibility, financial feasibility, and maximum profitability.

Highest and Best Use of Land or a Site as Though Vacant

The use of a property based on the assumption that a parcel of land is vacant or can be made vacant through demolition of any improvements.

Highest and Best Use of Property as Improved

The use that should be made of a property as it exists.

Leased Fee Estate

An ownership interest held by a landlord with the right of use and occupancy conveyed by lease others; the rights of lessor or the leased fee owner and leased fee are specified by contract terms contained within the lease

Leasehold Estate

The right to use and occupy real estate for a stated term and under certain conditions; conveyed by a lease.

Market Rent

The rental income that a property would most probably command in the open market.

Market Value

Market value is the major focus of most real property appraisal assignments. Both economic and legal definitions of market value have been developed and refined. Continual refinement is essential to the growth of the appraisal profession. The current economic definition of market value can be stated as follows:

"The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress."

The current economic definition of "market value" as stated in the Uniform Standards of Professional Practice, published by The Appraisal Foundation in 1990, is as follows:

ACM Consultants, Inc.

"The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. buyer and seller are typically motivated;
2. both parties are well informed or well advised, and acting in what they consider their best interests;
3. a reasonable time is allowed for exposure in the open market;
4. payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto; and
5. the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."

Prospective Market Value Upon Completion of Construction

The prospective future value of a property on the date that construction is completed, based upon market conditions forecast to exist as of the completion date.

Prospective Value Estimate

A forecast of the value expected at a specified future date. A prospective value estimate is most frequently sought in connection with real estate projects that are proposed, under construction, or under conversion to a new use, or those that have not achieved sellout or a stabilized level of long-term occupancy at the time the appraisal report is written.

Report

Any communication, written or oral, of an appraisal, review, or consulting services that is transmitted to the client upon completion of an assignment. The types of written reports listed below apply to real property appraisals:

Self-Contained Appraisal Report: A written report prepared under Standards Rule 2-2(a) of a complete or Limited Appraisal performed under Standard 1.

Summary Appraisal Report: A written report prepared under Standards Rule 2-2(b) of a Complete or Limited Appraisal performed under Standard 1.

Residually Appraisal Report: A written report prepared under Standards Rule 2-2(c) of a Complete or Limited Appraisal performed under Standard 1.

ACM Consultants, Inc.
Specific Guideline

Uniform Standards
of Professional
Appraisal Practice

All or part of a standards rule of the Uniform Standards of Professional Appraisal Practice (USPAP) from which departure is permitted under certain conditions (See Departure Provision).

Current standards of the appraisal profession, developed for appraisers and the users of appraisal services; the USPAP deal with the procedures to be followed in developing an appraisal, analysis, or opinion and the manner in which an appraisal, analysis, or opinion is communicated. The USPAP are endorsed by the Appraisal Institute and other professional appraisal organizations.

LIMITING AND CONTINGENT CONDITIONS
ACM Consultants, Inc.

LIMITING AND CONTINGENT CONDITIONS: The certification of the Appraiser appearing in the appraisal report is subject to the following conditions and to such other specific and limiting conditions as may set forth by the Appraiser in the report. By this notice, all persons and firms reviewing, utilizing or relying on the report in any manner bear themselves to accept these limitations and limiting conditions. Do not use this report if you do not so accept. These conditions are a part of the appraisal report, they are a predicate to any certification, definition, fact or analysis, and are intended to establish as a part of the Appraiser's function to provide a present market value indication for the subject property based upon the Appraiser's observation as to the subject property and real estate market. This appraisal report is an economic study to estimate value as defined in it. It is not an engineering, construction, legal or architectural study nor survey and expense in these areas, among others, is not implied.

1. **CONFIDENTIALITY.** The contents of this appraisal are confidential. Release of this appraisal by ACM Consultants, Inc. to you is limited to and solely for your business use only. Any further release of this appraisal by you or any of your agents is hereby prohibited and you shall accept the risk and liability for any such release without the previous written consent of ACM Consultants, Inc. Further, you shall indemnify and defend ACM Consultants, Inc. from any claims arising out of any such unauthorized disclosure.

2. **LIMIT OF LIABILITY.** The liability of ACM Consultants, Inc. and employees and affiliated independent contractors is limited to the fee actually received by Appraiser (total per appraisal). Further, there is no accountability, obligation, or liability to any third party. If this report is placed in the hands of anyone other than client, the client shall make such party aware of all limiting conditions, obligations, or liability in the report and related discussions. The Appraiser is in no way to be responsible for any cost incurred to discover or correct any deficiencies of any type present in the property, physically, financially, and/or legally. In the case of limited partnerships or production offerings or stock offerings in real estate, client agrees that in case of lawsuit (brought by lender, partner or joint owner in any form of ownership, tenancy, or any other party), any and all awards, settlements of any type in such suit, regardless of outcome, client will hold Appraiser harmless in any such action.

3. **INFORMATION USED.** No responsibility is assumed for accuracy of information furnished by work of or work by others, the client, his designer, or public records. We are not liable for such information or the work of possible subcontractors. The comparable data relied upon in this report has been confirmed with one or more parties familiar with the transaction or from affidavits or other sources though treated as if all are considered appropriate for inclusion to the best of our factual judgment and knowledge. An appraisal and economic certificate of time would be required in attempting to furnish independent verification in all instances, particularly as to engineering and market-related information. It is requested that the client consider independent verification as a prerequisite to any transaction involving sale, lease, or other significant commitment of funds of subject property.

4. **TESTIMONY, CONSULTATION, COMPLETION OF CONTRACT FOR APPRAISAL SERVICES.** The contract for appraisal, consultation or analytical service is fulfilled, and the total fee is payable upon completion of the report.

The Appraiser(s) or those assisting in preparation of the report will not be asked or required to give testimony in court or hearing because of having made the appraisal, in full or in part, nor engage in post appraisal consultation with client or third parties except under separate and special arrangement and at additional fee. If testimony or deposition is required because of subpoena, the client shall be responsible for any additional time, fees, and charges regardless of causing party.

5. **LEGALITY OF USE.** The appraisal is based on the premise that there is full compliance with all applicable federal, state and local environmental regulations and laws unless otherwise stated in the report; further, that all applicable zoning, building, use regulations and restrictions of all types have been completed with unless otherwise noted in the report; further, it is assumed that all required licenses, consents, permits or other legislative or administrative authority, local, state, federal and/or private entity or organization have been or can be obtained or renewed for any use considered in the value estimate.

6. **COMPONENT VALUES.** The distribution of the total valuation in this report between land and improvements applies only under the existing program of utilization. The separate valuations for land and building must not be used in conjunction with any other appraisal and are invalid if so used.

7. **AUXILIARY AND RELATED STUDIES.** No environmental or impact studies, special market study or analysis, highest and best use analysis or feasibility study has been requested or made unless otherwise specifically stated in an agreement for services or in the report.

8. **DOLLAR VALUES, PURCHASING POWER.** The market value estimated, and the costs used, are as of the date of the estimate of value. All dollar amounts are based on the purchasing power and price of the dollar as of the date of the value estimate.

9. **INCLUSIONS.** Furnishings and equipment or personal property or business operations except as specifically indicated and typically considered as a part of real estate, have been disregarded with only the real estate being considered in the value estimate unless otherwise stated.

10. **ENVIRONMENTAL DISCLAIMER.** The value estimated in this report is based on the assumption that the property is not negatively affected by the existence of hazardous substances or detrimental environmental conditions. The Appraiser is not an expert in the identification of hazardous substances or detrimental environmental conditions. The Appraiser's positive inspection of and inquiry about the subject property did not develop any information that indicated any apparent significant hazardous substances or detrimental environmental conditions which would affect the property negatively. It is possible that tests and inspections made by a qualified hazardous substance and environmental expert would reveal the existence of hazardous material and environmental conditions or around the property that would negatively affect its value.

11. **LEGAL, ENGINEERING, FINANCIAL, STRUCTURAL OR MECHANICAL NATURE, HIDDEN COMPONENTS, SOIL.** The Appraiser and/or firm has no responsibility for matters legal in character or nature, nor of any architectural, structural, mechanical, or engineering nature. No system is rendered as to the table, which is presumed to be good and marketable. The property is appraised as if free and clear, unless otherwise stated in particular parts of the report. The legal description is assumed to be correct as used in this report as furnished by the client, his designer, or as derived by the Appraiser.

Note that no advice is given regarding mechanical equipment or structural integrity or adequacy, so such and potential for settlement, drainage, and such (such assistance from qualified architect and/or engineer) are matters concerning the site, the work, and legal marketability (such legal assistance), and such. The lender and owner should inspect the property before any disbursement of funds further to be clearly that the lender or owner may wish to require mechanical or structural inspections by a qualified and licensed contractor, civil or structural engineer, architect, or other expert.

The Appraiser has inspected as far as possible, by observation, the land and the improvements; however, it was not possible to personally observe conditions beneath the soil or hidden structurally or by other components. We have not visually inspected mechanical components within the improvements and no representations are made herein as to those matters unless specifically noted and considered in the report. The value estimate considers there being no such

APPRAISAL QUALIFICATIONS

Glenn K. Kunihira, MAI

STATE LICENSING

State Certified General Appraiser,
State of Hawaii, License No. CGA 39, July 17, 1991
Expiration: December 31, 2003

PROFESSIONAL AFFILIATIONS

Member, Appraisal Institute, MAI Designation, Hawaii Chapter No. 67
Member, International Right of Way Association
Appraiser-Realtor, National Association of Realtors, Maui Board of Realtors

EMPLOYMENT

President
ACM Consultants, Inc.
May, 1997 to present

Previously associated with the following:

ACM, Real Estate Appraisers, Inc. - 1986 to 1997
A&B Commercial Company; a division of Alexander & Baldwin, Inc. - 1979 to 1985
Bank of Hawaii - 1976 to 1979

GENERAL EDUCATION

University of Hawaii at Manoa
Master of Business Administration (MBA) - Executive MBA Program V, 1988
Bachelor of Business Administration (BBA), 1976
Iolani School, 1971

LEGAL

Qualified as an expert witness in the Second Circuit Court of the State of Hawaii

APPRAISAL EDUCATION

Appraisal Institute
Seminar
Chicago, Illinois - August 2003
Seminar
Chicago, Illinois - August 2003
Seminar
Chicago, Illinois - August 2003
Seminar
Chicago, Illinois - August 2003
Course 400
Honolulu, Hawaii - May 2003
Course 420
Honolulu, Hawaii - May 2003

conditions that would create a loss of value. The land or the soil of the area being appraised appears firm, however, subsidence in the area is unknown. The Appraiser(s) do not warrant against this condition or occurrence of problems arising from soil conditions.

The appraisal is based on data being on file, equipment, or appraised conditions of the property use, subject, or structure or basic material which would render it more or less valuable. The Appraiser and firm have no responsibility for any such conditions or for any expense or engineering to discover them. All mechanical components are assumed to be in operable condition and means provided for protection of the subject type. Conditions of heating, cooling, ventilation, electrical and plumbing equipment is considered to be commensurate with the conditions of the balance of the improvements unless otherwise stated. No judgment may be made by us as to adequacy of foundation, type of foundation, or energy efficiency of the improvements or equipment which is assumed standard for subject and type.

If the Appraiser has not been supplied with a termite inspection, survey or occupancy permit, no responsibility or representation is assumed or made for costs associated with obtaining same or for any deficiencies discovered before or after they are obtained. No representation or warranty is made concerning obtaining the above mentioned items.

The Appraiser has no responsibility for any costs or consequences arising due to the need, or the lack of need for flood hazard insurance. An Agent for the Federal Flood Insurance Program should be contacted to determine the actual need for Flood Hazard Insurance.

12. PROPOSED IMPROVEMENTS, CONDITIONED VALUE. Improvements proposed, if any, on or off-site, as well as any repairs required are considered, for purposes of the appraisal to be completed in good and workmanlike manner according to information submitted and/or considered by the Appraiser(s). In cases of proposed construction, the appraisal is subject to change upon inspection of property after construction is completed. The estimate of market value is as of the date shown, as proposed, as if completed and operating at levels shown and projected. On all appraisals, subject to satisfactory completion, repairs, or alterations, the appraisal report and value conclusion are contingent upon completion of the improvements in a workmanlike manner.

13. VALUE CHANGE, DYNAMIC MARKET, INFLUENCES, ALTERATION OF ESTIMATE BY APPRAISER. The estimated market value, which is defined as the report, is subject to change with market changes over time; value is highly related to exposure, time, promotional effort, terms, motivation, and conditions surrounding the offering. The value estimate considers the productivity and relative attractiveness of the property physically and economically in the marketplace.

Appraisal report and value estimate subject to change if physical or legal study or financing is different than that envisioned in the report.

14. EXHIBITS. The sketches and maps in this report are included to assist the reader in visualizing the property and are not necessarily to scale. Various photos, if any, are included for the same purpose as of the date of the photos. Site plans are not surveys unless shown from separate surveyor. All documents, materials, photographs, negatives, and other items provided to or obtained by the Appraiser become the property of the Appraiser unless other arrangements have been previously made therefor.

15. CHANGES, MODIFICATION. The Appraiser(s) and/or officers of ACM Consultants, Inc., reserve the right to alter statements, analysis, conclusion or any value estimate in the appraisal if there becomes known to us facts pertinent to the appraisal process which were unknown to us when the report was completed.

16. DISCLOSURE. Disclosure of the contents of the appraisal report is governed by the By-laws and Regulations of the professional appraisal organizations with which the Appraiser is affiliated. Notice of all, not any part of the content of the report or copy thereof (excluding conclusions as to the property value, the identity of the Appraiser, professional designations, references to any professional appraisal organizations, or the firm with which the Appraiser is connected), shall be used for any purpose by anyone but the client specified in the report, without the previous written consent of the Appraiser; nor shall it be conveyed by anyone to the public through advertising, public relations, news stories, or other media, without the written consent and approval of the Appraiser. The Appraiser may not divulge the material (evaluation) contents of the report, analytical findings or conclusions, or give a copy of the report to anyone other than the client or his designee as specified in writing, except as may be required by the Appraisal Institute as they may request in confidence for ethics enforcement, or by a court of law or body with the power of subpoena.

17. CONTINUING EDUCATION. The Appraisal Institute conducts a voluntary program of continuing education for its designated members. As of the date of this report, Glenn Kunihira has completed the requirements of the continuing education program of the Appraisal Institute.

ACCEPTANCE OF, AND/OR USE OF THIS APPRAISAL REPORT BY CLIENT OR ANY THIRD PARTY CONSTITUTES ACCEPTANCE OF THE ACM CONSULTANTS, INC., CERTIFICATION, LIMITING AND CONTINGENT CONDITIONS. APPRAISER LIABILITY EXTENDS ONLY TO STATED CLIENT, NOT SUBSEQUENT PARTIES OR USERS OF ANY TYPE, and the total liability of Appraiser(s) and firm is limited to the amount of fee received by Appraiser.

Appraisal Qualifications
Page 2

Seminar *The Private Conservation Market*
Honolulu, Hawaii - July 2002

Seminar *Finance Reporting Valuations Parts I and II*
Honolulu, Hawaii - July 2002

Seminar *Future of Appraisal Profession from a Global Perspective*
Honolulu, Hawaii - July 2002

Seminar *Appraisal Office Management*
Honolulu, Hawaii - July 2002

Course 540 *Report Writing*
Denver, Colorado - December 2000

Seminar *Partial Interests: Theory and Case Law*
Las Vegas, Nevada - July 2000

Seminar *Easement Valuation*
Las Vegas, Nevada - July 2000

Seminar *Bridging the Gap: Marketability Discounts for Real Estate Interests*
Las Vegas, Nevada - July 2000

Course 430 *Standards of Professional Practice, Part C*
Honolulu, Hawaii - September 1999

Seminar *Litigation Skills for the Appraiser: An Overview*
Honolulu, Hawaii - May 1998

Seminar *Special Purpose Properties*
Honolulu, Hawaii - September 1997

Seminar *Highest and Best Use Applications*
Honolulu, Hawaii - September 1997

Seminar *Detrimental Conditions*
Honolulu, Hawaii - July 1997

Seminar *The Appraiser As Expert Witness*
Honolulu, Hawaii - August, 1995

Seminar *How to Appraise FHA-Insured Property*
Los Angeles, California - January, 1995

Seminar *Understanding Limited Appraisals and Reporting Options*
Honolulu, Hawaii - August, 1994

Seminar *Valuation of Leasehold Interests*
Honolulu, Hawaii - May, 1993

Seminar *Valuation of Leased Fee Interests*
Honolulu, Hawaii - May, 1993

Seminar *Valuation Considerations: Appraising Non-Profits*
Boston, Massachusetts - July, 1992

Seminar *Americans With Disabilities Act*
Boston, Massachusetts - July, 1992

Seminar *Valuation in Today's Capital and Financing Markets*
Honolulu, Hawaii - June 1992

Seminar *Arbitration Principles, Procedures and Pitfalls*
Honolulu, Hawaii - June, 1992

Seminar *Institutional Real Estate in the 1990's*
Honolulu, Hawaii - June, 1992

Appraisal Qualifications
Page 3

Seminar *FIRREA and its Impact on Appraisers*
Honolulu, Hawaii - June, 1992

Course 410/420 *Standards of Professional Practice, Parts A & B*
Honolulu, Hawaii - April, 1991

Society of Real Estate Appraisers

Course 101 *Introduction to Appraising Real Property*
Dallas, Texas - 1987

Course 102 *Applied Residential Property Valuation*
Honolulu, Hawaii - July 1990

Course 201 *Principles of Income Property Appraising*
Chicago, Illinois, 1987

Course 202 *Applied Income Property Valuation*
San Diego, California - 1988

Seminar *Professional Practice and the Society of Real Estate Appraisers*
Honolulu, Hawaii - 1988

Seminar *Appraisal Standards Seminar - Federal Home Loan Bank Board Guidelines, Regulations and Policies*
Honolulu, Hawaii - April, 1988

American Institute of Real Estate Appraisers

Seminar *Rates, Ratios and Reasonableness*
Honolulu, Hawaii - 1989

Seminar *Discounted Cash Flow Analysis*
Honolulu, Hawaii - 1989

Seminar *Highest and Best Use*
Honolulu, Hawaii - 1989

Seminar *Capitalization Overview - Part A*
Honolulu, Hawaii - 1990

Seminar *Capitalization Overview - Part B*
Honolulu, Hawaii - 1990

Seminar *Accrued Depreciation*
Honolulu, Hawaii - 1990

International Right of Way Association

Course 101 *Appraisal*
Las Vegas, Nevada - October, 1998

Course 101 *Negotiation*
Las Vegas, Nevada - October 1998

National Business Institute, Inc.

Seminar *Commercial Real Estate Leasing In Hawaii*
Honolulu, Hawaii - 1989

American Arbitration Association

Seminar *Real Estate Dispute Resolution - Mediation and Arbitration*
Kahului, Maui, Hawaii - October, 1990

Appendix C-1

***Letter Dated August 4, 2004
from ACM Consultants, Inc.***



Real Estate Appraisal, Research & Advisory Group

August 4, 2004

Mr. David Ward
Consolidated Baseyards, LLC
33 Lono Avenue, Suite 450A
Kahului, HI 96732


Re: Consolidated Baseyards LLC Proposed Light Industrial Subdivision

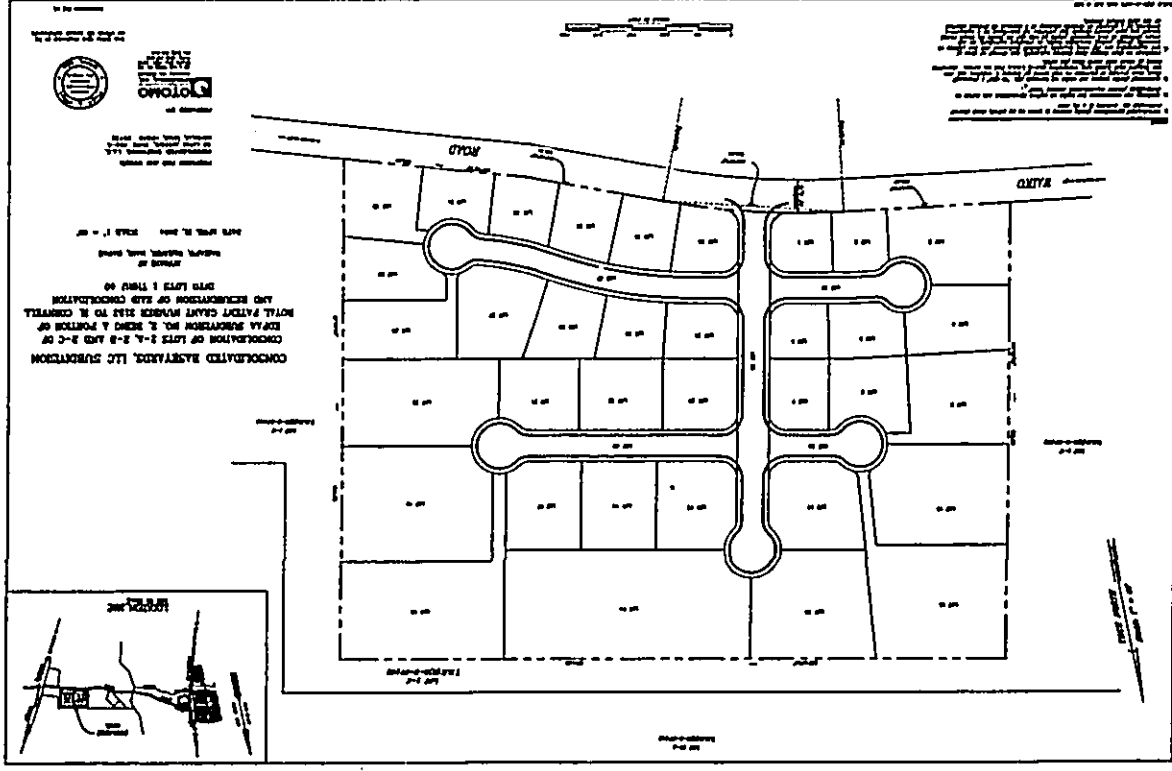
Dear Mr. Ward:

As you have indicated to us, the proposed Consolidated Baseyard light industrial subdivision to be located on Waiko Road in Wailuku, Island and County of Maui, Hawaii, has been revised from 38 useable lots to a total of 35 useable lots. Upon review of the revised subdivision plan (see attached), it is our opinion that the reduced number of lots in the subdivision will not have any affect upon our conclusions in our original market study and analysis conducted in December 2003.

Please do not hesitate to call me at 242-6481, should you have any questions or concerns.

Sincerely,


Glenn K. Kiyohisa, MAI
Certified General Appraiser,
State of Hawaii, CGA-039
Expiration: December 31, 2005



Appendix D

***Biological
Resources Survey***

**BIOLOGICAL RESOURCES SURVEY
CONSOLIDATED BASEYARDS L.L.C.
WAIKO ROAD, WAIKAPU, MAUI**

INTRODUCTION

The Consolidated Baseyards Project lies on an approximately 23 acre parcel of partially developed land along Waiko Road in Waikapu, Maui. It lies on the north side of Waiko Road about 200 yards west of its junction with Kihelani Highway. It is bounded on its other three sides by an equipment storage area and kiawe pasture lands.

SITE DESCRIPTION

The terrain within the project area is level to gently sloping with a number of small stabilized dunes in the eastern portion. Elevations above sea level range from 200 to 220 feet. The area could be characterized as a dry savannah. Rainfall averages only about 20 inches per year with long hot summers (Armstrong, 1983). Soils are of the Puuone Sand Complex, slightly alkaline and about 20 to 40 inches deep and underlain by a lithified sand layer over alluvium (Foote, et al. 1972).

BIOLOGICAL HISTORY

In pre-contact times this area would have been an open duneland, sparsely vegetated with low shrubs and grasses. The diversity of native species was all but eliminated by over a century of browsing and grazing by feral and domesticated herbivores and replaced by aggressive non-native plant species. The project area now contains only some of the commoner native species that have proven to be stronger competitors and more resistant to disturbance.

SURVEY OBJECTIVES

This report summarizes the findings of a flora and fauna survey of the proposed Consolidated Baseyards Project which was conducted in March, 2004.

- The objectives of the survey were to:
1. Document what plant, bird and mammal 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

BIOLOGICAL RESOURCES SURVEY

for the

**CONSOLIDATED BASEYARDS L.L.C.
WAIKO ROAD, WAIKAPU, MAUI**

by

**ROBERT W. HOB DY
ENVIRONMENTAL CONSULTANT
Kokomo, Maui
March, 2004**

Prepared for: Consolidated Baseyards L.L.C.

- 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 method was used following a route to ensure maximum coverage of the area. Areas most likely to harbor native or rare plants were more intensively examined. Notes were made on plant species, distribution and abundance as well as terrain and substrate.

DESCRIPTION OF THE VEGETATION

The vegetation across the east side of the project area is fairly uniform. It consists of an almost continuous cover of buffelgrass (*Cenchrus ciliaris*) with scattered kiawe trees (*Prosopis pallida*). The buffelgrass, following a wet winter season, was extremely dense and two to three feet deep, crowding out most other species. The kiawe trees are scattered throughout the whole area but sometimes form a closed canopy in small areas. Some areas where the buffelgrass is less dense support a variety of other herbaceous species many of which are ephemeral annuals in this dry locality. The west side of the project area has been completely leveled and has been utilized for work areas and the storage of materials and equipment. The vegetation here is very sparse and consists mainly of weed species.

DISCUSSION

The vegetation throughout much of the project area is totally dominated by just two species, buffelgrass and kiawe that together comprise at least 90% of the biomass. Most of the rest of the sixty four plant species found are ephemeral annuals that all but disappear during the hot, dry summer and fall seasons.

A total of four native plant species were found within the project area. All of these are common lowland species in Maui County. No officially listed threatened or endangered plants (U.S. Fish and Wildlife Service 1999) are found on the site, nor do any plants proposed as candidate for such status occur on the property.

No wetlands occur on the site. Nothing remotely approaching the three essential criteria that define a Federally recognized wetland, namely 1) hydrophytic

vegetation 2) hydric soils and 3) wetland hydrology occur within this dry project area.

Because the vegetation on the site is dominated primarily by non-native plants and because there are no rare or protected native species within the project area, there is little of botanical concern and the proposed project is not expected to have a significant negative impact on the botanical resources.

PLANT SPECIES LIST

Following is a checklist of all those 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) and St. John (1973).

For each species, the following information is provided:

1. Scientific name with author citation
2. Common English or Hawaiian name.
3. Bio-geographic 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).
 - 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	SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
MONOCOTS							
POACEAE (Grass Family)							
<i>Axonopus compressus</i> (Sw.) Beauv.	broad-leaved carpet grass	non-native	rare	<i>Phytolacca carolinensis</i> (Jacq.) G. Don	sourbush	non-native	uncommon
<i>Cenchrus ciliaris</i> L.	buffelgrass	non-native	abundant	<i>Sonchus oleraceus</i> L.	<i>puaiale</i>	non-native	rare
<i>Chloris barbata</i> (L.) Sw.	swollen finger grass	non-native	common	<i>Sphagnetocola trilobata</i> (L.) Pruski	wedelia	non-native	rare
<i>Chloris radiata</i> (L.) Sw.	plush grass	non-native	rare	<i>Verbena encelioides</i> (Can) Benth. & Hook.	golden crown beard	non-native	common
<i>Chloris virgata</i> Sw.	feather fingergrass	non-native	rare	<i>Xanthium strumarium</i> L.	<i>kikania</i>	non-native	rare
<i>Cynodon dactylon</i> (L.) Pers.	<i>maniznie</i>	non-native	rare	-----			
<i>Echinochloa polystachya</i> (L.) Gaertn.	wiregrass	non-native	uncommon	BORAGINACEAE (Borage Family)			
<i>Eragrostis pectinacea</i> (Michx.) Nees	carolina lovegrass	non-native	common	<i>Heliotropium Procumbens</i> Mill.			
<i>Panicum maximum</i> Jacq.	guinea grass	non-native	common	BRASSICACEAE (Mustard Family)			
<i>Rhynchosytrum repens</i> (Willd.) Hubb.	Natal redtop	non-native	uncommon	<i>Sisymbrium officinale</i> (L.) Scop.			
<i>Setaria verticillata</i> (L.) P. Beauv.	bristly foxtail	non-native	uncommon	hedge mustard			
DICOTS							
AMARANTHACEAE (Amaranth Family)							
<i>Amaranthus spinosus</i> L.	spiny amaranth	non-native	common	CHENOPODIACEAE (Goosefoot Family)			
ASTERACEAE (Sunflower Family)							
<i>Ageratum conyzoides</i> L.	<i>maile hohono</i>	non-native	uncommon	<i>Atriplex suberecta</i> Verd.			
<i>Bidens pilosa</i> L.	spanish needle	non-native	uncommon	<i>Chenopodium carolinatum</i> R.Br.			
<i>Conyza bonariensis</i> (L.) Cronq.	hairy horseweed	non-native	rare	<i>Chenopodium murale</i> L.			
<i>Conyza canadensis</i> (L.) Cronq.	horseweed	non-native	rare	CONVOLVULACEAE			
<i>Emilia fosbergii</i> Nicolson	red pualele	non-native	rare	(Morning Glory Family)			
<i>Lactuca serriola</i> L.	prickly lettuce	non-native	rare	<i>Ipomoea obscura</i> (L.) Ker-Gawl.			
				<i>Ipomoea triloba</i> (L.)			
				<i>Merremia aegyptia</i> (L.) Urb.			
				CUCURBITACEAE (Gourd Family)			
				<i>Sicyos pachycarpus</i> Hook. & Arnott			
				<i>kupala</i>			

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE	SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
EUPHORBACEAE (Spurge Family)				MALVACEAE (Mallow Family)			
<i>Chamaecybe firtia</i> (L.) Millsp.	hairy spurge	non-native	common	<i>Abutilon grandifolium</i> (Willd.) Sweet	hairy abutilon	non-native	rare
<i>Chamaecybe kyssofolia</i> (L.) Small	-----	non-native	uncommon	<i>Mafva parviflora</i> L.	cheeseweed	non-native	uncommon
<i>Ricinus communis</i> L.	castor bean	non-native	rare	<i>Mafvastrum coromandelianum</i> (L.) Garcke	false mallow	non-native	uncommon
FABACEAE (Pea Family)				<i>Sida fallax</i> Walp.	<i>yitma</i>	indigenous	common
<i>Chamaecrista nictitans</i> (L.) Moench	partridge pea	non-native	uncommon	<i>Sida rhombifolia</i> L.	Cuba jute	non-native	uncommon
<i>Crotalaria incana</i> L.	fuzzy rattlepod	non-native	common	MORACEAE (Mulberry Family)			
<i>Crotalaria pallida</i> Aiton	smooth rattlepod	non-native	uncommon	<i>Ficus benjamina</i> L.	weeping fig	non-native	rare
<i>Desmanthus pennambucanus</i> (L.) Thellung	slender mimosa	non-native	uncommon	PORTULACACEAE (Purslane Family)			
<i>Desmodium tortuosum</i> (Sw.) DC	Florida beggarweed	non-native	common	<i>Portulaca oleracea</i> L.	pigweed	non-native	uncommon
<i>Indigofera hendecaphylla</i> Jacq.	creeping indigo	non-native	uncommon	SOLANACEAE (Nightshade Family)			
<i>Indigofera suffruticosa</i> Mill.	<i>yitico</i>	non-native	uncommon	<i>Micondra physalodes</i> (L.) Gaertn.	apple of Peru	non-native	uncommon
<i>Leucaena leucocephala</i> (Lam.) de Wit	<i>koa hiale</i>	non-native	uncommon	<i>Micotiana glauca</i> R.C. Graham	tree tobacco	non-native	uncommon
<i>Macropitium atropurpureum</i> (DC) Urb.	-----	non-native	rare	<i>Solanum americanum</i> Mill.	<i>popolo</i>	indigenous	rare
<i>Macropitium latyroides</i> (L.) Urb.	wild bean	non-native	uncommon	<i>Solanum lycopersicum</i> L.	tomato	non-native	rare
<i>Mimosa pudica</i> L.	sensitive plant	non-native	rare	STERCULIACEAE (Cacao Family)			
<i>Neonotonia wightii</i> (Wight & Arnott) Lackey	-----	non-native	rare	<i>Walferia indica</i> L.	<i>yuhala</i>	indigenous	uncommon
<i>Prosopis pallida</i> (Humb. & Bonpl. Ex. Willd.) Kunth	<i>kizwe</i>	non-native	abundant				
<i>Samanea saman</i> (Jacq.) Merr.	monkey pod	non-native	rare				
<i>Senna occidentalis</i> (L.) Link	coffee senna	non-native	uncommon				
LAMIACEAE (Mint Family)							
<i>Leonotis nepetifolia</i> (L.) R.Br.	lion's ear	non-native	uncommon				

FAUNA SURVEY REPORT

SURVEY METHODS

A walk-through 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 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

Only two species of feral mammal were observed in the project area during two site visits. Taxonomy and nomenclature follow Tomich (1986).

Axis deer (*Axis axis*) - A herd of five or six deer was flushed from deep grass from the back part of the project area. They had bedded down for the day in this undeveloped area. These animals are nocturnally active, mobilizing around dusk to feed within this area and likely within similar surrounding areas. Numerous tracks were evident throughout the area as well as significant signs of feeding, all attesting to the frequent use of the area.

Domestic dog (*Canis familiaris*) - One dog was tied at one of the structures to serve as a guard.

Deep, dense grass cover prevented good visibility of other ground dwelling animals, but a significant population of mongoose, rats and mice would be expected. Mongoose feed on rats and mice as well as ground nesting birds. Mice and rats were not seen but their presence is virtually guaranteed by the abundant food supply in the form of grass seed and herbaceous vegetation.

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.

BIRDS

There was moderate birdlife diversity in this normally dry area. An ample supply of grass and herbaceous plant seeds were available following a good winter wet season. Adult insects and caterpillars were also seen especially on the kiawe trees. Ten species of non-native, one indigenous and one endemic birds were seen, most taking advantage of this seasonal food supply. Taxonomy and nomenclature follow American Ornithologist's Union (1988), Berger (1981), Pratt et al.(1987) and Hawaii Audubon Society (1989).

Barred dove (*Geopelia striata*) - Many barred doves were seen and heard in the kiawe trees. Their smaller size, striated body and white flashing tails feathers when taking flight distinguish this species from the spotted dove.

Black francolin (*Francofinus francolinus*) - Only one black francolin was seen but many calls were heard from the deep grass.

Spotted dove (*Streptopelia chinensis*) - This large dove was seen frequently throughout the area and transiting overhead. Their smooth flight and evenly modulated cooing are distinctive.

House sparrow (*Passer domesticus*) - Small flocks were seen throughout the area feeding in the kiawe trees and around the structures and equipment. Their persistent chirping and twittering were often heard.

American cardinal (*cardinalis cardinalis*) - Both sexes of this species were seen individually or in pairs throughout the area. Their bright color and distinctive calls are unmistakable.

Gray francolin (*Francofinus pomalicus*) - A few gray francolins were seen in ground openings and in kiawe trees, but their loud and distinctive calls were heard frequently throughout the area indicating a larger population than seen.

Japanese white-eye (*Zosterops japonica*) - Many white-eyes were seen feeding in the kiawe and their high pitched calls were frequently heard.

House finch (*Carpodacus mexicanus*) - A few pairs of these moderately-sized, light brown finches were seen in the kiawe trees.

Domestic chicken (*Gallus gallus*) - one rooster was seen and heard around the structures where it had no doubt been introduced.

Golden plover (*Puffinus dominica fulva*) – Two individuals were seen wheeling overhead at the project area at dusk.

Cattle egret (*Bubulcus ibis*) – One individual was seen transiting above the area at dusk. This site does not represent habitat for egrets to either feed or roost.

Hawaiian stilt (*Himantopus mexicanus knudseni*) – Two individuals were seen transiting the area high overhead. These birds are opportunists that actively search out temporary ponds following heavy rain events to capitalize on abundant insect life that is stranded or killed by rising waters. No such ponds occur on the project site and this area does not represent habitat for stilts.

INSECTS

While insects in general were not tallied, they were abundant throughout the area and fueled the elevated bird activity observed. One native Spingid moth, Blackburn's sphinx moth (*Manduca blackburni*) has been put on the Federal Endangered species list and this designation requires special focus (USFWS 2002). Blackburn's sphinx moth occurs on Maui although it has not been found in this area. Its native host plants are species of 'Aiea (*Neofocetrum*) and a non-native alternative host plant is tree tobacco (*Nicotiana glauca*). There are no 'aiea on or near the project area. A good number of tree tobacco plants are scattered through the western portion of the property. Each of these plants was examined carefully, but no Blackburn's sphinx moths or their larvae were observed.

CONCLUSIONS

Fauna surveys are seldom comprehensive due to the short window of observation, the seasonal nature of animal activities and the unpredictable nature of their daily movements. This survey, however, should be considered fairly representative due to the abundance of food resources present throughout the area and the resulting level of animal use. While ideal for many types of non-native animals the habitat is not suitable in its present state for most native animals, and is far removed from remnant populations. No endangered mammal, bird or insect species were observed in the project area during the course of the survey. Two Hawaiian stilts an endangered native bird were seen flying high above the area, but the project area does not represent habitat for these waterbirds and they did not stop.

RECOMMENDATIONS

No recommendations were deemed necessary regarding the wildlife or their habitat on this site.

ANIMAL SPECIES LIST

Following is a checklist of the animal species inventoried during the field work. Animal species are arranged in descending abundance within two groups: Mammals and Birds. 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.

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	<u>STATUS</u>	<u>ABUNDANCE</u>	<u>Literature Cited</u>
<u>MAMMALS</u>				
Axis deer	<i>Axis axis</i>	non-native	common	American Ornithologist's Union 1983. Check-list of North American Birds. 6 th edition. American Ornithologist's Union. Washington D.C.
Domestic dog	<i>Canis familiaris</i>	non-native	rare	Armstrong, R. W. (ed.) 1983. Atlas of Hawaii. (2 nd ed.) University of Hawaii Press.
<u>BIRDS</u>				
Barred dove	<i>Geopelia striata</i>	non-native	abundant	Berger, A.J. 1981. Hawaiian Birdlife. (2 nd ed.) University Press. Hon. Ha.
Black francolin	<i>Francolinus francolinus</i>	non-native	common	Foote, D.E., E.L. Hill, S. Nakamura, and F. Stephens. 1972. Soil survey of the islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii. U.S. Dept. of Agriculture, Soil Conservation Service. Washington, D.C.
Spotted dove	<i>Streptopelia chinensis</i>	non-native	common	
House sparrow	<i>Passer domesticus</i>	non-native	common	
American cardinal	<i>Cardinalis cardinalis</i>	non-native	common	Hawaii Audubon Society. 1989. Hawaii's Birds. (4 th ed.) Hawaii Audubon Society, Honolulu.
Gray francolin	<i>Francolinus pondicerianus</i>	non-native	common	
Japanese white-eye	<i>Zosterops japonica</i>	non-native	common	Pratt, H.D., P.L. Brunner and D.G. Berrett. 1987. A Field Guide to the Birds of Hawaii and the Tropical Pacific, Princeton University Press.
House finch	<i>Carpodacus mexicanus</i>	non-native	uncommon	
Domestic chicken	<i>Gallus gallus</i>	non-native	rare	St. John, H. 1973. List and Summary of the Flowering Plants in the Hawaiian Islands. Pacific Tropical Botanical Garden, Memoir Number 1. Lawai, Kauai, Hawaii.
Golden plover / Kolea	<i>Pterivialis dominica fulva</i>	indigenous/migratory	rare	
Cattle egret	<i>Bubulcus ibis</i>	non-native	rare	Tomich, P.Q. 1986. Mammals in Hawaii. Bishop Museum Press, Honolulu.
Hawaiian stilt / Ae'o	<i>Himantopus mexicanus knudseni</i>	endemic/ endangered	rare	U.S. Fish and Wildlife Service. 1999. Endangered and threatened wildlife and plants. 50 CFR 17.11 & 17.12
				U.S. Fish and Wildlife Service. 2000. Endangered and threatened wildlife and plants: determination of endangered status for Blackburn's sphinx moth from Hawaii. Federal Register 65(21): 4770-4779.
				Wagner, W. L., D.R. Herbst, and S. H. Sohmer. 1999. Manual of the flowering plants of Hawai'i. Univ. of Hawai'i Press and Bishop Museum Press. Honolulu.

Appendix E

***Cultural Impact
Assessment***

ABSTRACT

At the request of Consolidated Baseyards, LLC, Scientific Consultant Services, Inc. (SCS) conducted a Cultural Impact Assessment on a piece of property (TMK: 3-8-07:89) located in Waikapū Ahupuaʻa, Waikapū District, Maui Island. The project area consists of approximately 23 acres—a portion of which is presently used for storage. Individuals and organizations, including the Native Rights Division of the Office of Hawaiian Affairs (OHA), The Community Resource coordinator of OHA on Maui, and the Central Maui Hawaiian Civic Club were contacted by SCS in order to obtain information concerning cultural activities occurring at or in the vicinity of Parcel 89. None of the individuals and/or groups who responded had any cultural information pertaining to the project area. Based on this, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by construction on Parcel 89. Because there were no activities identified, there are no adverse effects.

**ACULTURAL IMPACT ASSESSMENT
ON A PIECE OF PROPERTY LOCATED IN
WAIKAPŪ AHUPUAʻA, WAILUKU DISTRICT,
MAUI ISLAND, HAWAII
[TMK: 3-8-07:89]**

By:
Leann McGerty, B.A.
and
Robert L. Spear, Ph.D.
January 2004

Prepared for:
Consolidated Baseyards, LLC.
c/o Frampton and Ward, LLC
33 Lono Avenue, Suite 450A
Kahului, HI 96732

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Figure 5: Photograph of Manny Lopes B:3

INTRODUCTION

At the request of Consolidated Baseyards, LLC, Scientific Consultant Services, Inc. (SCS) conducted a Cultural Impact Assessment, on a piece of property (TMK: 3-8-07:89) located in Waikapu Ahupua'a, Wailuku District, Maui Island (Figure 1). The project area consists of approximately 23 acres a portion of which is presently used for storage. Consolidated Baseyards, LLC is preparing to file an application for a District Boundary Amendment (DBA) with the State of Hawai'i to reclassify the project area from agricultural to urban for future light industrial use (Figure 2). The DBA will establish consistency with the Wailuku-Kahului Community Plan, which designates the property for Light Industrial use.

Currently, Consolidated Baseyards, LLC utilizes approximately 12 acres of the project site for storage of equipment and materials and minor servicing through a State Special Use Permit and a County Conditional Permit. The remaining land is vacant and covered with nutritious grasses and *kiawe* (*Prosopis pallida*) trees.

A Cultural Impact Assessment involves evaluating the probability of negative impact on cultural values and rights within the project area and its vicinity. According to the *Guidelines for Assessing Cultural Impacts* established by the Hawaii State Office of Environmental Quality Control (OEQC 1997):

The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs...The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural which support such cultural beliefs.

Act 50, enacted by the Legislature of the State of Hawaii (2000) with House Bill 2895, relating to Environmental Impact Statements, proposes that

...there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawai'i's culture, and traditional and customary rights...[H.B. NO. 2895].

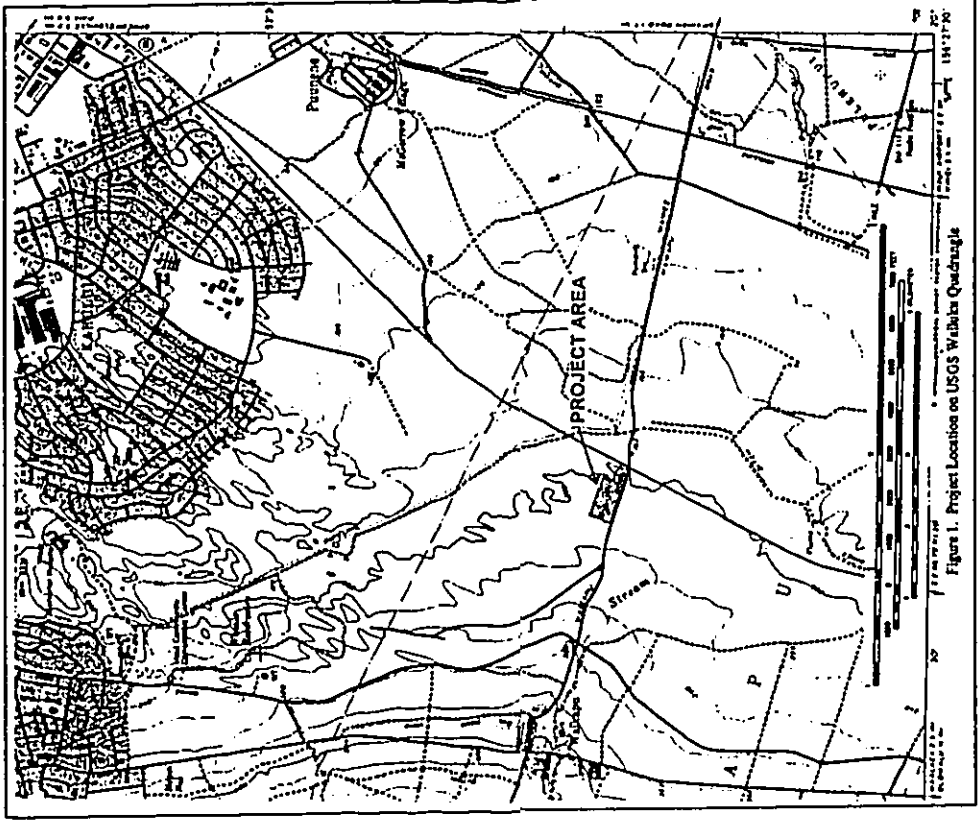


Figure 1: USGS Quadangle Map Showing Project Location.

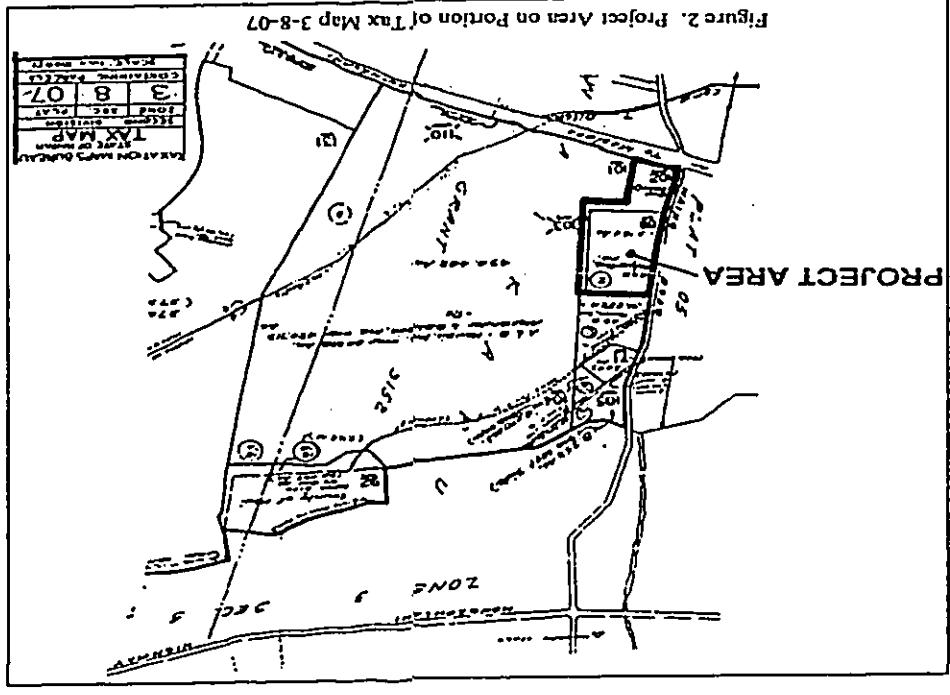


Figure 2: Tax Map Key [TMK] 3-8-07 Showing Project Area.

The purpose of Act 50 is to require that Environmental Impact Statements include an assessment of any impact on the cultural practices of the community and state. It also amends the definition of "significant effect" to include adverse effects on cultural practices. Thus, Act 50 requires an assessment of cultural practices to be included in the Environmental Impact Statement and to be taken into consideration during the planning process. The concept of geographical expansion is recognized by using, as an example, "the broad geographical area, e.g. district or ahupua'a" (OEQC 1997). It was decided that the process should identify "anthropological" cultural practices, rather than "social" cultural practices. For example, *limu* (edible seaweed) gathering would be considered an anthropological cultural practice, while a modern-day marathon would be considered a social cultural practice. The discussion resulted in the following workable definition for cultural practices:

- (1) A traditional cultural practice that is being conducted [at present]...and
- (2) Traditional, beliefs, practices, life ways, societal, history of a community and its traditions, arts, crafts, music, and related social institutions [Act 50, Cultural Impact Assessment 2001].

It was also concluded that a proposed action that may not physically alter gathering practices, but affect access to gathering areas would be included in the investigation (State of Hawaii 1997).

METHODOLOGY

This Cultural Impact Assessment was prepared in accordance with the methodology and content protocol provided in the *Guidelines for Assessing Cultural Impacts* (OEQC 1997). This report contains archival and documentary research, as well as consultation with individuals or organizations with knowledge of the project area, its cultural resources, and its practices and beliefs. Based on this research, an assessment of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

ARCHIVAL RESEARCH

Archival research focused on a historical documentary study involving both published and unpublished sources. These included accounts about Hawaiian legends from native and early foreign writers; early historical journals and narratives; historic

maps and land records such as Land Commission Awards, Royal Patent Grants, and Boundary Commission records; historic accounts, and previous archaeological project reports.

CONSULTATION

Individuals and/or groups having knowledge of traditional practices and beliefs associated with a project area or knowing the location of historical properties within a project area were consulted. Individuals who had particular knowledge of traditions passed down from preceding generations and personal familiarities with the project area were invited to share their relevant information. Initial contact was made with Pua Aiu of the Native Rights Division of the OHA, Thelma Shimaoka, the OHA community resource coordinator on Maui, and the Central Maui Hawaiian Civic Club. Personal interviews were held with two individuals on Maui on December 3, 2003.

PROJECT AREA AND VICINITY

The project area is located north of East Waiko Road, approximately 1,000 feet mauka from the East Waiko Road and Kuihelani Highway intersection in an area known as the Wailuku Sand Hills (Figure 3). It is bounded on the east by Kuihelani Highway, on the west by the Fong Construction baseyard, north by open land demarcated with post-and-wire fencing, and on the south by Waiko Road.

CULTURAL HISTORICAL CONTEXT

The island of Maui ranks second in size of the eight main islands in the Hawaiian Archipelago. Pu'u Kukui, forming the west end of the island (1,215 m above mean sea level), is composed of large, heavily eroded amphitheater valleys that contain well-developed permanent stream systems that watered fertile agricultural lands extending to the coast. The deep valleys of West Maui and their associated coastal areas have witnessed many battles in ancient times and were coveted productive landscapes. Waikapu was the most southern valley of the Na'wai Eha (The Four Streams) a region that was famous as the largest continuous area of wet taro cultivation in the islands (Handy 1940:107).

PAST POLITICAL BOUNDARIES

Traditionally, the division of Maui's lands into districts (*moku*) and sub-districts was performed by a *kahuna* (priest, expert) named Kalaiha'ohia, during the time of the

ali'i Kaka'aloano (Beckwith 1940:383; Fomander places Kaka'aloano at the end of the 15th century or the beginning of the 16th century [Fomander 1969, Vol. 6:248]). Land was considered the property of the king or *ali'i 'ai moku* (the *ali'i* who rules the island/district), which he held in trust for the gods. The title of *ali'i 'ai moku* ensured rights and responsibilities to the land, but did not confer absolute ownership. The king kept the parcels he wanted, his higher chiefs received large parcels from him and, in turn, distributed smaller parcels to lesser chiefs. The *maka 'ainana* (commoners) worked the individual plots of land.

In general, several terms, such as *moku*, *ahupua'a*, *'i'i* or *'i'i 'aina* were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua'a*) that customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua'a* were therefore able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua'a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *'i'i 'aina* or *'i'i* were smaller land divisions next in importance to the *ahupua'a* and were administered by the chief who controlled the *ahupua'a* in which it was located (*ibid*:33; Lucas 1995:40). The *mo'o 'aina* were narrow strips of land within an *'i'i*. The land holding of a tenant or *hoa 'aina* residing in an *ahupua'a* was called a *huleana* (Lucas 1995:61). The project area is located in the *ahupua'a* of Waikapu, which translated means literally "water [of] the conch" and refers to a shell located in a cave that could be heard everywhere in the Hawaiian Islands until it was stolen by a supernatural dog named Puapualenalea (Pukui *et al.* 1974:223).

TRADITIONAL SETTLEMENT PATTERNS

The Hawaiian economy was based on agricultural production and marine exploitation, as well as raising livestock and collecting wild plants and birds. Extended household groups settled in various *ahupua'a*. During pre-Contact times, there were primarily two types of agriculture, wetland and dry land, both of which were dependent upon geography and physiography. River valleys provided ideal conditions for wetland *kalo* (*Colocasia esculenta*) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as *kō* (sugar cane, *Saccharum officinarum*) and *mai'a* (banana, *Musa sp.*), were also grown and, where appropriate, such crops as *'uala* (sweet potato, *Ipomoea batatas*) were produced. This was the typical agricultural pattern seen during traditional times on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). In the valleys of West Maui, intensified agriculture, including irrigation

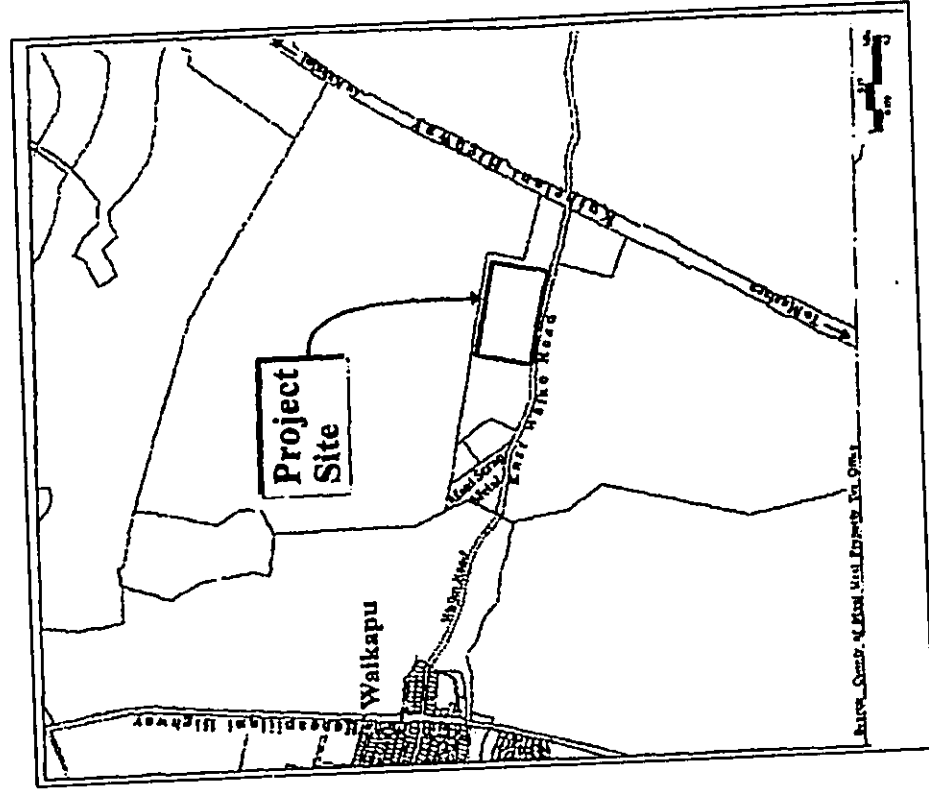


Figure 3: Planview Map Showing Project Location (From Frampton and Ward 2003).

channels and stone-faced pond fields, was likely to have begun in what is referred to as the Expansion Period (A.D. 1200-1400, Kirch 1985).

WAHI PANI (Legendary Places)

Although it has been said that Waikapu Valley contained "many temples and sites", most of their locations were not recorded (Ashdown 1970:58). Thrum refers to a *heiau* that was reportedly located on Pu'u Hele, but he did not confirm this (1917). Thrum also mentions two *heiau* located below the road but again, they were not investigated and their name and function had been lost (1916). One *mo'olelo* recounting the origin of its name was published in *Ka Nuipepa Kuokoa* in 1872:

The Wai-Ka-pu now being discussed was named by some of the ancients and it remains by this name to this day. This place, Waikapu, has a cave away up the stream, about a mile or more from the village. On the left side of the stream is a cave and it the cave was the conch. It sounded all the time, unseen by the public, but a prophet of Kaula listened for it and came to seek with the idea of finding it...

On a cliff above the stream and opposite the cave was a dog named Puapualenala who had also heard the conch and was searching for it. However, those that guarded the conch were very attentive and, so far, the dog had not located it.

The owners of the conch did not believe, perhaps, that any supernatural being would succeed in taking it away, so they tried to be a little careless. It was not taken, but on the day that Puapualenala did get it away, they had been utterly careless. After he took it, it sounded no more to this day. It used to be heard everywhere in these islands and was annoying to some people. From this conch, the whole oaf the place was named Waikapu (Water of the conch). This is the legend of how it received its name and is a place much visited by strangers who wish to see it (W. K. Kaula'iliihewa, Sept 21, 1872).

Oral traditions preserved by Fomander (1969) and Kamakau (1963) contribute to our knowledge of Waikapu. The battle of Ahulau ka pipii i Kakanitua featuring the elite 'Alapa warriors of Kalaniopu'u was fought in 1776 on the sand hills southeast of Waialuku:

...Taking part of his forces around by water, *Kalaniopuu* landed again at Kihikapukoa, near the Kealia or salt marsh between Kalapolepo and Maalaea...The detachment or regiment known as the *Alapa*, mustering eight hundred men, was selected for this hazardous expedition, and with high courage the started across the isthmus of Kamaomao, now known as the Waikapu common, determined, as the legend says, "to drink the waters of the Waialuku that day." This regiment was considered the bravest and best of *Kalaniopuu's* army, every man in its ranks being a member of "the *haute noblesse*" of Hawaii. The are said to have all been of equal stature and their spears of equal length; and the legend represents their appearance-with their feather cloaks-reflecting the sunshine and the plumes of their helmets tossing in the wind-as a gorgeous and magnificent spectacle...Offering no resistance to the enemy while crossing the common, *Kahakili* distributed his forces in various directions on the Waialuku side of the common, and fell upon the Hawaii corps *d'armee* as it was entering among the sandhills south-east of Kalua, near Waialuku. After one of the most sanguinary battles recorded in Hawaiian legends and deeds of valor...the gallant and devoted *Alapa* were literally annihilated; only two out of the eight hundred escaped alive to tell *Kalaniopuu* of this Hawaiian Balaklava...[Fomander 1969:153].

In a similar version, Kamakau recounts:

...The *Alapa* were led by Inaina, Kua'ana, Kane-ha'I-lua, and Keawe-hano. There were 800 of them, all expert spear-point breakers, every one of whose spears went straight to the mark, like arrows shot from a bow, to drink the blood of a victim. Across the plains of Pu'u'ainako and *Kama'oma'o* shone the feather cloaks of the soldiers, woven in the ancient pattern and colored like the hues of the rainbow in red, yellow, and green, with helmets on their heads whose arcs shone like a night in summer when the crescent lies within the moon...Said *Ka-leo-pu'upu'u* to *Kahakili*, "the fish have entered the sluice; draw in the net." Like a dark cloud hovering over the *Alapa*, rose the destroying host of *Kahakili* seaward of the sandhills of *Kahalu'u*, the "smoke head" (*po'ouahi*) and the "red coconut" (*nii'uila*) divisions. They slew the *Alapa* on the sandhills at the southeast of *Kahua*. There the dead lay in heaps strewn like *kukui* branches; the corpses lay heaped in

death; they were slain like fish enclosed in a net. This great slaughter was called *Ahulau ka Pi'ipi'i Kakanilua*... [1963:65-86].

WAIKAPŪ SETTLEMENT PATTERNS

As part of Na Wai Eha, Waikapū was a vast taro-producing valley requiring a large population to maintain its terraces and pond fields (*lo'i*). Handy and Handy describe the "Four Streams" system below:

The old *'okana* (land division) named Na Wai Eha... comprised four great valleys which cut far back into the slopes of West Maui and drain the eastward watershed of Pu'u Kukui and the ridges radiating northeastward, eastward, and southeastward from it. Two of the great valleys, Waihe'e and Waiehu, open toward the ocean and their streams empty into it. Waikapū is partly land bound, but its stream flows into Kahului Bay, which has been eroded by the ocean out of what was formerly the stream mouth. Waikapū is land bound. The waters of its great stream, now utilized for irrigating a great acreage of sugar cane, formerly was diverted into *lo'i* and its overflow was dissipated on the dry plains of the broad isthmus between West and East Maui [1972:496].

Given the amount of intensive agricultural development within Waikapū, it seems probable that these coastal valleys were recognized for their production potential and were settled early. Waikapū and similar valleys lent support to the increasingly stratified and expanding Hawaiian population, whose centralized ruling class congregated in the coastal region near its religious complexes. Such a vast agricultural complex suggests habitation existed throughout and on the margins of these features.

Descriptions found in journals surviving from the 1800s record that the valleys of Waikapū and Waikapū still supported a substantial population and traditional life-style, as well as providing an alternative explanation for the valleys' name:

The first village of any note on the way to Wai-lu-ku is Wai-kapu. It contains a population of about 500. Here the forces of Kamehameha the Great once assembled for a battle at the sounding of the conch shell. Hence the name, Wai-ka-pu (water of the conch or trumpet) [Bates 1854:309].

In *Ke Au Okoa* (Nov. 6, 1865), S.W. Nailili stated, "Waikapu, a district known for its majesty and splendid living. Whose native songs gather flowers in the dew and weave wreaths of ohelo berries." Twenty years later, opinions of what was "splendid living" seems to have been heavily influenced by western thought. In an interesting anecdote, Mr. Kauai'iliehua describes the life of the Waikapū villagers in the 1800s:

The life of the people is pleasant and there are no frequent deaths as there were before. Men and women are all working together for the white men. In the past days death among infants was frequent because the parents did not give them proper care.

Mr. Kauai'iliehua continues his commentary expressing his newly formed, missionary-influenced attitudes:

In the months of June and July, the native dance called the hula pu'i'i came in and many of the church members have indulged in this filthy pastime of an ignorant period. The officers and pastor have tried hard to quench this worthless activity but no attention was paid to them. It has grown less and today this benighted activity has ceased, but it has a substitute, the dance of the white people under the leadership of a half-white person. Some of the members are sticking around in this occupation that is not becoming to a Christian... The church is weak in carrying on with the work of the Lord... There was strength here once but now, only a portion desire to do God's work... If the conch still continues to sound, it will sound for Christian righteousness in this church. No, Puapualenalena took it, so it sounds no more [Ka Nupepa Kuokoa: Sept. 21, 1872].

The present project area lies below the actual valley of Waikapū on sand dunes created during the Pleistocene lower stand of the sea (southern periphery of the Waikapū Sand Hills). The sand dunes were left unsettled by the Hawaiians who appear to have mainly utilized the coastal margins of the sand hills for burials. However, as recorded ethnographically, warfare did occasionally occur on the dunes and burials have been uncovered within the Waikapū Sand Hills Area.

THE GREAT MĀHELE

In the 1840s, traditional land tenure shifted drastically with the introduction of private land ownership based on Western law. While it is a complex issue, many scholars

believe that in order to protect Hawaiian sovereignty from foreign powers, Kamehameha III (Kamehameha III) was forced to establish laws changing the traditional Hawaiian economy to that of a market economy (Kuykendall 1938 Vol. 1:145; Daws 1962:11; Kelly 1983:45, 1998:4; Kame'ele'ihiwa 1992:169-70, 176). The Great Māhele of 1848 divided Hawaiian lands between the king, the chiefs, the government, and began the process of private ownership of lands. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were thus made available and private ownership was instituted, the *maka zinana* (commoners), if they had been made aware of the procedures, were able to claim the plots on which they had been cultivating and living. These claims did not include any previously cultivated but presently fallow land, *ōkipi* (on O'ahu), stream fisheries, or many other resources necessary for traditional survival (Kelly 1983; Kame'ele'ihiwa 1992:295; Kirch and Sahlins 1992). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could take possession of the property (Chinen 1961:16). One hundred and forty LCAs were claimed for Waikapū and of these, 22 were not awarded.

HISTORIC LAND USE

Large tracks of land that became available for purchase after the Māhele were put into sugar cane. As early as 1828, James Louzada, a Spaniard, was making cane syrup in Waikapū. The project area is located on land that was once a part of Royal Patent Grant 3152 belonging to Mr. Cornwall and was under cultivation by the Waikapū Sugar Company. Kamehameha III (Kauikeaouli) obtained some of these lands for his own sugar venture, but by 1862, Waikapū, Waihe'e, and Wailuku cane lands combined to form Wailuku Sugar (Conte and Best 1973). In 1895, a railroad was installed to transport cane from Waikapū to the mill in Wailuku. Eventually, all these lands passed into the control of Alexander and Baldwin as did neighboring sugar lands originally awarded to Claus Spreckles by King Kalanikau for his Hawaiian Commercial and Sugar Company.

Walls and terraces, evidence of traditional wet-taro plantings extended north and south from the base of Waikapū for some distance below the valley and was still noted in the 1930s. Within the historic time period, these agricultural features remained valuable not only to the Hawaiians but to other cultures that settled in Hawai'i:

...below the valley are the vestiges of extensive wet-taro plantings, now almost obliterated by sugar cane cultivation; a few here and there are preserved in plantation camps and

under house and garden sites along the roads. Among these gardens there were, in 1934, a few patches of dry Japanese taro. Far on the north side, just above the main road and at least half a mile below the entrance to the canyon, an extensive truck garden on old terrace ground showed the large area and the distance below and away from the valley that was anciently developed in terraced taro culture. On the south side there are likewise several sizable *kūleana* where, in 1934, old terraces were used for truck gardening. In the larger of these a few old patches were flooded and planted with Hawaiian wet taro, and there was some dry Japanese taro. Several terraces were used as ponds planted with lotus for their edible seed. There were probably once a few small terraces on the narrow level strips of valley bottom in the lower canyon [*ibid.*:497].

Parcel 89 is located in the sand hills, a location not conducive to traditional agriculture. The central portion of the project area was cleared and graded in the early 1970s for a proposed drive-in theater that never materialized leaving the area vacant. However, gravel paving still covers parts of the site. The eastern section of the project area was most recently supported a barbed-wire enclosure containing horses (Sinoto *et al.* 2000).

CULTURAL ASSESSMENT

Individuals and organizations, including the Native rights division of OHA, The Community Resource coordinator of OHA on Maui, and the Central Maui Hawaiian Civic Club were contacted by SCS in order to obtain information concerning cultural activities occurring at, or within the vicinity of Parcel 89. None of the individuals and/or groups who responded had any cultural information pertaining to the project area. Two informants, Brendan Balhazar and Manny Lopes who, along with family members have leased pasturelands adjacent to the project for over 25 years, reported no knowledge of any cultural activities occurring in the area of the project (Appendix A). Due to the nature of the land, it wasn't until the advent of drip irrigation and the transport of soil, that agriculture could take place near by. In the general vicinity, *kiawe* trees were harvested, after their introduction and proliferation, by ranchers for fence posts, and nutritious grasses provided a seasonal pasture for cattle breeders, but presently, sand mining is the only on going commercial activity in this section of the Wailuku Sand Hills.

Based on community response, archival research, and historic land alteration, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by construction on Parcel 89. Because there were no activities identified, there are no adverse effects.

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APPENDIX A. TRANSCRIPTION OF INTERVIEW AND RELEASE FORM
FROM BRENDAN BALTHAZAR

Interview with Brendan Balthazar concerning Consolidated Baseyards, LLC, property at Waikapu (Figure 4).

The interview took place at the Kula Fire Station on Maui Island on December 3, 2003. Present: Brendan Balthazar (BB), Leann McGerty (LM) of Scientific Consultant Services.



Figure 4: Photograph of Brendan Balthazar.

BB: ...My concerns, really was, I'm not sure, they said something about going in for one re-zoning. So, the re-zoning part, it's not one re-zoning for a base yard, so to speak. The zoning going to be like where they can turn around and cut 'em up and make houses. Which is fine, you know, which is fine and it's smart...

LM: But they don't have that planned, do they?

BB: Well, my point is, if I'm going to do that, I'm not going to tell you, "Eh, you know what, I hope you don't mine, but I'm going to make a whole bunch of houses next to you", you know what I mean. So, the whole point is, they're not going to say that. So, all I'm saying is, it's smart on their part...if I have to go re-zone something, I'll try re-zone 'em to the smallest that I can, as a benefit to myself, right? In the future, it may not be the intent now, but what Dean is saying, they saying that, if they intend to make houses in the future, they going have to go and re-visit the whole thing. The way that this whole thing is being handled, is they going for a change of zoning so the can change that...I don't know what the heck the zoning is now...but they can change that to be, whatchu call? To be used as a base yard.

LM: Yeah, in the report they say, "... Consolidated Baseyards is preparing to file an application for a District boundary amendment with the State of Hawaii to re-classify the project area from agricultural to urban for future light industrial use". I see...

BB: Which is, like I said, eventually, I know the property that I'm leasing is all going to be houses someday. I mean it's just inevitable. It's just going come! Maui Lani going just keep coming in the back. A and B [Alexander and Baldwin] going eventually do something with their place. The only thing that's really kinda putting one wet blanket on their whole deal is, they've been mining sand in there. So they're taking out all the sand and they've been finding some bones in there.

LM: I was going to say...you Maui Lani?

BB: Maui Lani and A and B. Because Hawaiian Cement, they've been finding bones and so they gotta move...

LM: How close to the project area?

BB: They're a little ways away. I mean, when I say little ways, I'm just guessing, the place they're mining the sand might be probably 2-3 thousand feet away from the boundary.

LM: Oh, yeah? You're familiar with where they...[looking on map] this is mauka, yeah? [map discussion and orientation to project area and Brendan's land]

BB: This is the base yard, this is the feedlot. This is the pasture here. They're mining sand just about where you get that square [square on map that says "Project Area"] They're mining there. But the reason they're not mining here is cause there's not too much sand right next door. But they'll come pretty much around here. But the moment they poke around and there's bones, they gotta stop there. So, eventually my guess is, A and B goin end up selling that property because the cost to develop that, there's too many sites that they uncovered with bones, now. So, goin end up with more of a problem. So, what they gonna do, God only knows, but I really think A and B will walk away from there...I've been on that property for a good part of 22, 24 years, you know? And nothing has changed with the exception of the mining of sand now and that whole section was part of the pasture. Part of that area was gonna be taken over by Manny Lopes father-in-law, ah, Botelho...I forgot his first name. He was the original person in there who had the little strip of land along the front...

LM: Where, show me on the map where? [shows where on map]

BB: They had one little strip here and then, we had the whole thing, when I say we, me and this guy J.J. Costa, we had the whole piece. And then he has since kept one little strip there. That's Costa [writes on map]...and then I took the rest of the piece. But I boundary with that section where Fong-guys going do their deal. At first when I got called, I said, "Eh, wait a minute. Hopefully, they going make houses and no guys going be grumbling about cows!" You know what I mean?

industrial areas left. People that subdivide try to get the most out of the property by making houses. The smaller the lots, the better it is, you know. So, right now they're gonna make base yards where there is places, a need for 'um and I'm sure the county going end up re-visit the whole deal if they're gonna end up building houses.

LM: Oh, yeah, I would think so. So, now, you have a lease, a long term lease there, yea?

BB: I had a long term lease. The lease expired maybe four-five years ago and then we just stayed on month to month.

LM: So, if somebody did complain it's not like you could say, "Hey, I got a 30-year lease".

BB: Oh, no, no, no. I mean, if there was a problem, it just depends on A and B. You know what I mean. A and B right now, for what they're getting for the sand...I pay them peanuts compared to what they make on sand.

LM: Really? Who do they sell the sand to?

BB: Honolulu. Everything goes to Honolulu.

LM: And what do they use the sand for, in concrete?

BB: Cement. So, Maui Concrete has a contract with them to mine the sand and they paying them so much a ton. There's a scale there that they haul out all this sand and they pay so much a ton for the sand, but...the sand in Honolulu selling for what, twenty-six, twenty-eight bucks a ton. Of course, it's gotta get shipped over there, so they have sand barges almost monthly, or bi-monthly they get one sand barge. Eventually the sand gonna run out, you know what I mean? But Hawaiian Cement is in Honolulu, it's all over the place. So, they buying the sand from A and B. It's a twofold thing. A and B make a lot of money selling the sand, A and B gets the property cleaned up, they get 'um all leveled up and then, after it's all said and done, now they have the property all ready to be sold.

LM: I see. So, even though you're leasing this whole area, they're still sand mining. That doesn't stop them?

BB: Oh, yeah, Yeah. Well, they called me first...[brief cow/sand mining discussion]

LM: How many cows do you have?

BB: That I have down at that property? Probably...I run about 18 head. Only bulls down at...I deep all my bulls down there. I mean, the reason is, it's isolated from all other cattle, so I have no problems. So I just raise all my breeding bulls there. It's a good pasture. It's a seasonal thing. When we get the rains like now, you get good feed. But normally when the rainy season is not there and it's dry, that's when I'm breeding someplace else so the bulls are out.

LM: Right.

BB: And that was my only concern, but, it's just a concern, I can not do squat about it. I mean, you know, if they're goin make houses, God bless 'um, you know. But, right now, it's unfortunate, because there's so much places that has been taken out of, like one base yard kind of a deal for the truckers to park or whatever...they've been taken out and developed for houses. So, the whole industry gonna work hand-in-hand. Without the truckers, without the base yards, how you goin get the services to make subdivisions, to build houses to do everything else. Unfortunately here, what I've seen over the years, growing up here, when you have somebody buy one piece of property and move in next to you or whatever. They get the trucks coming in, the dust is blowing, then everything is happening, and nobody says nothing! They says, "Oh, well, only little while. They makin their house." O.K., then they're done with their house. Now, you say, "Eh, I'm gonna make a little cottage for my kids." And you start building. The first thing you know you getting one call, "Eh, the dust is blowing here! Oh, the noise from the trucks! The tractor making noise". What the hell was all of the noise when they was doing their deal! And that's the problem with a lot of local people. They tend to stick their nose in their own business and not bother anybody else! But the moment that project is done...I watch once in a while on TV they have like the public hearings for different projects and all of that. Very few, unfortunately...very few local people are there ranting and raving and making noise about this and that...about the construction, about this developer, and all of these [indistinguishable] and I tell myself, most of these people just moved, they're probably not in Hawai'i very long, they came here, bought one piece of property, did what they need to do, but now, nobody else can do nothing, because they...And it's sad when people have that attitude, you know! I have pastures where people goin to develop, and they come and they're so nice, I mean, "Oh, I hope you don't mind..." "Eh, no problem, you wanna come through my property, come and bring the tractors, bring that, haul rubbish, just dump 'um in my pasture, no problem, that'll rot". The moment everything is said and done, and they're there for five or six months, then they calling me, "Eh, you know, these cows are making noise. Ah, gee, there's flies coming to our house!" "Didn't you know that when you built next to me? Didn't you know there was a coral here?" All of a sudden I'm the bad guy. I mean, they get amnesia...and it's really sad! Sometimes you think to yourself, I mean it's really ridiculous think of it, I think to myself, "What happened to the days of the old west, you know?" [both laugh] You pulled your gun out and say, "Eh, go back in your house!" I gotta do that kind stuff almost daily. We get...some of the farmers, they're burning some of their stuff, and they call and they say, "Oh, I have a burn permit! We get people calling from Khei! Calling up Kula Fire Station, saying, "You know that there's smoke up there?" I wanna say, "Well, obviously there's smoke and do you think if something else was burning somebody close by wouldn't be calling? The neighbor would be calling saying, "Eh, so-and-so's house is burning!" but they're concerned cause there's the smoke up here and they're living in Khei! And, you know, I said, "No, that's a [controlled burn]." You know, they'll call Central, they'll send us out, we know it's a controlled burn! The island is just getting strange, you know! It's really a sad deal, really a sad deal. But, as far as that property, eventually that's going to be all developed... I mean it's good that the boys going do one light industrial, kind of one deal there, because there is very little light

LM: So, then you move them...[discussion on routine of breeding cattle, and more map orientation]
...and so this close they are finding bones...

BB: Well, in the back of this project around here where they're mining sand in my pasture, they're finding some bones in there. A couple sites that they have fenced off, you know, circle, where you can not.

LM: Cause that's interesting, traditionally, it was easy to bury, but we find more burials down on the coastal sand dunes and I didn't realize that it was that far inland that they were also... but I also know that this is an area where there had been a major battle in the time of Kahakill and Kalaniopu'u, there was a major battle that was fought in the sand hills, which is kind of interesting, I'm wondering if that's...

BB: Maybe that's why, the bury them shallow.

LM: Sure, or just leave 'um and they after while the sand blow over 'um. Interesting.

BB: but I know they found sites, cause I see 'um all fenced off... with bones. What they gonna do, how they gonna do 'um, I mean they gotta major thing to go move all of that, sift all the bones and relocate 'um, you know what I mean? Whether they gonna do that or not, I have no idea.

LM: Well, that's up to the burial council [Maui Burial Council].

BB: In fact, they keep... the brother stay on the Burial Council.

LM: Oh, yeah? Dean's brother? [Brendan nods "yes"]

BB: So I know that they get sites there, but they never did find nothing way up in the front by Fong.

LM: Right, right. Interesting. So, [for the tape] I'm interviewing now, Brendan Balhazar on Maui and this is December 3rd [2003] and we're talking about the property at Waikapu that Consolidated Baseyards wants to continue using and expand and just to establish a few things. Brendan, you've lived on Maui all your life?

BB: Yep. Fifty-three years.

LM: That was the next thing I was going to ask you was when you are born so I could figure out how old you were [laughs].

BB: Yeah. Nineteen-fifty.

LM: And you are leasing land for pasture directly next to the...

BB: Right adjacent to the project. The back fence is my fence.

A6

LM: Yeah. So, how long have you been leasing there now?

BB: Twenty-four, twenty-five years.

LM: Oh, really that long! So, as far as your knowledge in the last 25 years, you haven't seen this property used for, and you haven't heard that it was ever identified for any kind of cultural use at all.

BB: No, no.

LM: It's basically sand hills...

BB: Basically sand and *kiawe* trees and I used to go on that property from when I was about 12, 13, 14 years old. That whole area there, before even Fong was there and the base yard was there, we used to call that Wai'ale pasture. Walter Botelho had that pasture. Used to go all the way from that front where the proposed project is, all the way back, all around that, by Maui Correctional Center, by that Wai'ale reservoir, that was one big pasture, all what Maui Lani had, the whole section over there right in the back in Maui school, that was one big pasture. Walter Botelho had that. He's past away already. He's married to a cousin of mine so that's how...

LM: Now, he owned it or leased it?

BB: No, they used to lease that and used to be from Alexander and Baldwin before. And that was really a pasture that, I mean, not too many people wanted the dam place because was pretty desolate, just sand. Always been one pasture, seasonal. When it's rainy season, you get good grass. When it's not you get out. It really wasn't worried as a place to go cut posts [the *kiawe* trees were cut for fence posts], because you could get one damn *kiawe* tree anyplace you wanted before. Now, because of all of the construction and K'hei has been developed so much, it's getting a little harder to get *kiawe* posts. You know I used to cut post before for a dollar a post...and I thought that was great, you know? And they sell them for about 15 bucks now.

LM: Wow! So mostly, even up here *mauka* they use *kiawe*...?

BB: Mostly *kiawe* posts, if they can get 'um. They bring in a lot of those treated round pine posts, but they last five to six years and they rot.

LM: But *kiawe* lasts longer?

BB: *Kiawe* last 30, 30, 50 years, 60 years.

LM: Really?

A7

BB: There some posts on some of the old fence line next to my grandpa's house and they put...my grandpa's been dead a few years now...and when he bought the place in 1926 or 24, and those posts is just good, almost like when you just put-up in.

LM: It's a dense wood isn't it? That's why it makes such good charcoal I bet, yeah?

BB: Yeah, yeah. there's only one charcoal guy that used to be across the road from this Wai'ale project. And that...across the road where you see cane field? That was all kiawe. And that was kiawe up to maybe four or five years ago, not even, yeah about four years ago, cause I had cattle across the road, too. And then they decided that they was going to plant that into cane, but the sugar plantation never planted cane there before because there was so much sand. So what they did is they brought mud lines from the Mill, started pumping all that mud in there, mixing 'um with the sand and then, because of the advent of drip-irrigation, now they could plant cane.

LM: Where was that?

BB: Right across the road, across Kūihelani Highway. All that whole section in cane.

LM: Ahh, so then they started growing cane there, cause that was all sand hills as well! Where did they bring the mud from?

BB: From the Mill, sugar cane. The Mill is right up here. A lot of the mud got mixed in there and they had mud lines, six, eight inch big lines that they tried pumping the mud through and that never worked very good, so they abandoned that and started the damn thing. But then eventually with advent of drip irrigation, because remember now, all of the plantation before was all *hanawai*, with ditches. So the dirt can carry the water and with sand, she going disappear, so no work right? So, because now you get drip, now it works! So they planted all cane in there.

LM: So they just put the drip lines along the lines of each cane...

BB: ...each cane, yeah and it just drip. Yeah, drip water. And then it's enough to grow cane, they can grow seed cane there.

LM: And then you take that seed cane and you put it somewhere else?

BB: You just burn the whole damn place when they going to harvest them, or they take seed cane, they come cut the cane and they use that method. But, nobody ever thought...some of the old guys said, "I never..." That used to be the plantation horse pasture and new pasture and they used to keep horses and mules that they would use to haul cane. See, up to about...that I remember, probably ten, fifteen years ago, they still was one small remnants of horses yet on the plantation in use.

LM: Really! That recently, 15 years ago?

A8

BB: Because, a lot of the rows and all of that stuff that used to be planted...I remember 20, 25 years ago, I remember seeing the Filipino guys leading two, three horses with all of the shoots of cane on them. Because what had happened, they plant all that by machine, right? And then they come back and all where the thing wouldn't grow, they would come back and plant. So they had the horse to walk in between the rows.

LM: You couldn't do that with the machine.

BB: No, so instead of the guy carry only one 10 little plants, they have the horse carry 'um and they had like one pack saddle on 'um then with two big 'U'-like and all the seed was in there, and they just lead the horse and off they would go and plant all the deal. And all of them used to have muzzles on. Used to look like one feed bag, but that was so that they don't be eating all the young cane.

LM: Oh, yeah, yeah! they could just reach over and take a bite! [laughs] I wonder if they did that in Wai'alua [O'ahu]. I lived out in Wai'alua for...since '65, and I don't remember seeing them, but they must of, they must of. So, in this area, in Waikapu Valley and even out of the valley there were, traditionally, a lot of terracing. Did the terracing go down as far as where you are? Because they planted cane...in the 1930s you could see the terracing...

BB: In that area where I am?

LM: No, no, no. Not in the area where you are, but in some of the areas where they planted sugar cane you could see, but down in here was all sand, it was never any cane?

BB: It was all sand. From when I was one kid, like I said, I remember kiawe trees in there.

LM: Well, as you say, they couldn't have really grown cane there without the mud, right? And the drip irrigation. Yeah. So, obviously the terracing might have come down a little bit, maybe down even this far [points on map slightly below the valley] but never down into that area. Very interesting. Well, I think we've established though, as far as you know and you've been in that area also for 25 year, that that land had never been used, as far as you know, for anything cultural at all.

BB: More than that. I used to ride horse in there when I was one kid, like I said, when they would go drive cattle and was always kiawe trees, the whole area. There was nothing else in that area.

LM: So now, these base yards, I'm really curious, cause I didn't realize that these base yards are used for people who are developing to put there trucks and equipment?

BB: No. Like, if I own five trucks or three trucks, or whatever...like I have one cousin that lives down Makawao, he has four trucks. His son and his nephew drives for him.

A9

And they haul material all over the island. They not going bring 'um home and park in the yard. So, they need someplace to park these trucks central...

End of Tape Side 1 and Interview concerning Consolidated Baseyards project.

INFORMATION RELEASE FORM

I, the undersigned, participated in an interview with Scientific Consultant Services, Inc. on Dec 3 of the year 2003. Scientific Consultant Services, Inc. Senior Archaeologist, Leslie McGarry conducted the interview on the island of Oahu, State of Hawaii.

I understand that the information I have provided to Scientific Consultant Services, Inc. shall be retained as a part of a report identifying traditional cultural properties in the vicinity of the Kahuia Training Area (KTA) and the Kahuia Training Area (KLOA) on the island of Oahu for a Traditional Cultural Places Survey for the U.S. Army Garrison, Hawaii.

I have read the transcript of the interview and the information is true and accurate to the best of my knowledge. By signing this release form, I am providing my approval for the release of the information to Scientific Consultant Services, Inc. For the purpose outlined above.

Date of recorded interview Dec 3 2003

Print Name: S. RENDAN D. HARRIS

Signature: [Handwritten Signature]

Release Date: 12/17/03

Interview with Manny Lopes on December 3, 2003 at the McDonald's in Kula, Maui
Island concerning Consolidated Baseyard project at Waikapu.
Present: Manny Lopes [ML] and Leann McGarry [LM]

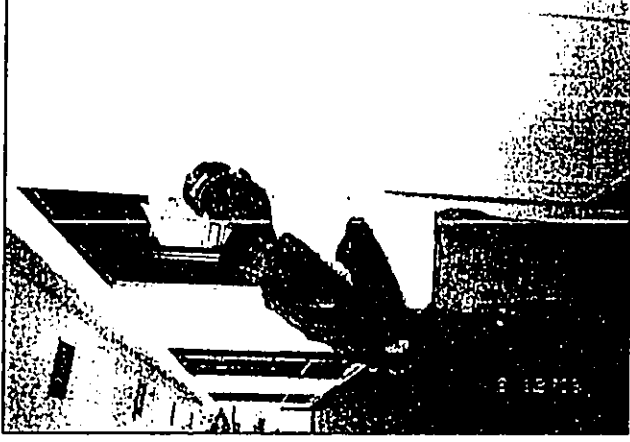


Figure 5: Photograph of Manny Lopes.

LM: ...and you've lived on Maui all your life?

ML: All my life.

LM: And may I ask when you were born?

ML: Sept 23, 1946.

LM: A long time Maui resident, your whole life and you are a rancher? You have a pasture area here next to, in the same area as Brendan? So you run cattle there.

ML: Yeah.

APPENDIX B: TRANSCRIPTION OF INTERVIEW AND RELEASE FORM
FROM MANUEL LOPES

B

B2

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

LM: Now, my understanding is that this area is basically sand dunes and *kiawe*.
ML: [confirms this with a nod]

LM: Are you aware of any kind of cultural activities that might have taken... since you've been out there with the pasture, have people come to gather *kiawe* beans or something and said, "Oh, we've been doing this for 50 years", or anything along those lines.

ML: Not that I know of. You see, Brendan's been behind for the last 20 plus years....my father-in-laws been there before him!

LM: Oh, yeah. Before Brendan you mean?

ML: Yeah. Before Brendan.

LM: Well, he's been out there, what, 25, something like 25 years.

ML: So, as far as I can tell I don't recall anybody having any cultural events or anything out of the ordinary except going in there probably before me to *kiawe* posts.

LM: Exactly, yeah. That's what Brendan was saying, that *kiawe* was used for fence posts and stuff like that.

ML: That's the only thing I can think of.

LM: That's not really a traditional cultural activity...

ML: No, no.

LM: Yeah, and I know you have concerns, Brendan was talking about his concerns, having been that development will take place and my understanding in listening to Dean talk with Brendan, you can talk with Brendan more and get more of an idea of what's going on. But, at least for there 23 acres that they have control over, there's nothing like that planned and it is going to be used for a base yard. That's my understanding... Where are you on this [map]? [map is looked at and a discussion as where Manny's land is located]

ML: ...See, there's a pipeline here, we've opened this. Right next to me there was this Frank Weatherford. He had a sod farm, Maui Sod Farm. He had a large portion inside here, I think about 50 acres...[brief land use discussion] ...If they gonna operate an industrial zone in an agricultural zoned area, and they use it for a base yard and stuff like that, I get no problem with that. But if they gonna change this whole area to industrial zone, light industrial...[it will affect Manny's agricultural use of the property. A long informative discussion of the present use of land in the on Maui and the in the area of the project follows].

[End of released portion of interview]

Appendix F

***Archaeological
Inventory Survey***

ASC2008-5

ABSTRACT

An archaeological inventory survey was conducted by Aki Sinoto Consulting of Honolulu, in association with Archaeological Services Hawaii of Wailuku, at the request of Fong Construction Co., Ltd. of Kahului. The project area was a c.30-acre property (TMK 3-8-07:89 & por 102), slated for industrial park development, located north of Waiko Road near its intersection with Kulhela Highway in Waikapu, Wailuku, Maui Island.

An initial walk-through surface survey was followed by a subsurface testing phase during which eight backhoe trenches were excavated in possible remnant dune areas. No cultural remains were encountered on the surface or during the subsurface testing. The results of the survey indicated that roughly 75% of the surface area had previously been disturbed through vegetation clearing, grubbing, and rough grading.

Although the results of the current study were negative and no further pre-construction work is warranted, based on the discovery of a number of human burials in the neighboring areas during previous investigations, archaeological monitoring during construction is recommended. A monitoring plan shall be prepared under separate cover for approval by the State Historic Preservation Division of the Department of Land and Natural Resources.

ARCHAEOLOGICAL INVENTORY SURVEY
OF THE PROPOSED
INDUSTRIAL PARK DEVELOPMENT AREA
WAIKAPU, WAILUKU, MAUI ISLAND
TMK 3-8-07:89 & POR 102

for:

Fong Construction Co., Ltd.
495 Hukilike Street
Kahului, Maui, HI 96732

by:

Aki Sinoto
Lisa Rotundo-Hazuka
and
Jeffrey Panaloo

August 2000

Aki Sinoto Consulting
2333 Kapiolani Blvd., No. 2704
Honolulu, Hawaii 96826

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INTRODUCTION

At the request of Fong Construction Co., Ltd. of Kahului, Aki Sinoto Consulting of Honolulu in association with Archaeological Services Hawaii of Waialuku, undertook an archaeological inventory survey of a property located in Waikapu, Waialuku, Maui Island. The development of an industrial park is being proposed for the subject area. A surface, walk-through survey, conducted on May 17, was followed by subsurface testing of selected areas on May 19, 2000.

PROJECT LOCATION

The project area is situated on the lowlying isthmus between East and West Maui, within Waikapu *ahupua'a*, Waialuku District, Maui Island (Fig. 1). The project area, encompassing roughly 30 acres, occurs along the northern side of Waialuku Road near its intersection with Kuiuhalani Highway. It consists of a rectangular parcel (TMK 3-8-07:89) with a smaller rectangular area (TMK 3-8-07: par. 102) adjoined on the eastern terminus fronting Kuiuhalani Highway. The property is bounded on the west by the existing Fong Construction baseyard, north by a post-and-wire fence-line and open land, east by Kuiuhalani Highway, and south by Waialuku Road (Fig. 2).

ENVIRONMENT

The project area occurs on the southern periphery of the Waialuku Sand Hills which incorporates coastal portions of Wahee, Waiehu, and Waialuku *ahupua'a*. This geologic feature is currently the major extant surface remnant of a vast consolidated dune complex extending from Kahului to Kihui which was formed by windblown sand from exposed beaches during the Pleistocene lower stand of the sea (the Waipio Stand, -12 meters). Elevation in the project area ranges from 200 to 235 feet above sea level. Rainfall averages between 20 and 30 inches annually, with most of the precipitation occurring during the winter months from November through March. Waikapu Stream passes within 500 m to 1 km of the southern boundary of the project area.

The overall project area topography is fairly level, but the terrain in localized areas is undulating with low knolls and an occasional erosional gully. The southern portion of the western end of the project area (Fig. 3) has been previously altered through grubbing and rough grading. A stockpile of imported excavated material currently occupies the southern portion of this area. The central portion of the project area was cleared and graded during the early 1970s for a proposed drive-in theater, but the project was never completed and currently the area is vacant. Gravel paving is still evident in parts of this central area (Fig. 4). The eastern end of the project area (Fig. 5) where horses are currently kept, is enclosed with a barbed-wire fence-line.

Three soil types are represented in the project area. Two of these, the Puuone and Jaucus sands, are identified in the soil survey manual to be geographically associated and characterized as being excessively-drained, calcareous soils derived from coral and marine shells (Footo et al. 1972). These soils are used for pasture, cultivation of sugar cane and truck crops, as well as urban development. The third type, which only occurs as lenses in a subsurface context within the project area, is the Pulehu cobbly silt loam. Deposits of this soil occur further to the west and up slope suggesting that its variable occurrence in the project area, most likely, is the result of sporadic alluvial deposition from the flooding of Waikapu Stream.

The flora of the project area is typical of the Waialuku Sand Hills area and consists of dry grasses with stands of *Eleocharis* (*Protopis pallida*) and intermittent shrubs of *Ilima* (*Sida fallax*). The size and variety of vegetation indicative of secondary growth, attest to the ground-disturbing activities that took place previously. The remnants of stumps and fallen trunks of larger *Eleocharis* trees in parts of the project area is further evidence of the nature and extent of previous disturbances.

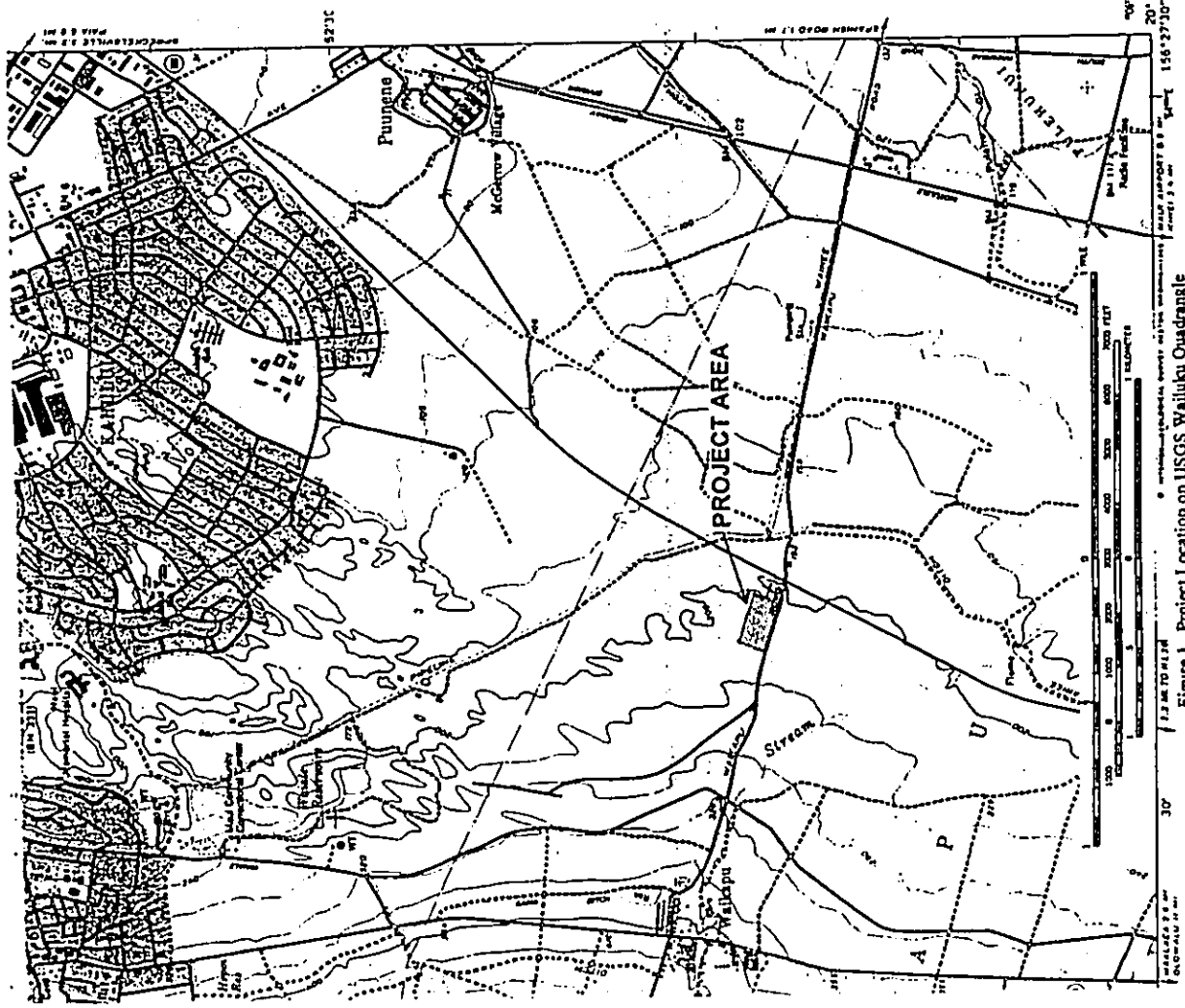


Figure 1. Project Location on USGS Wailuku Quadrangle

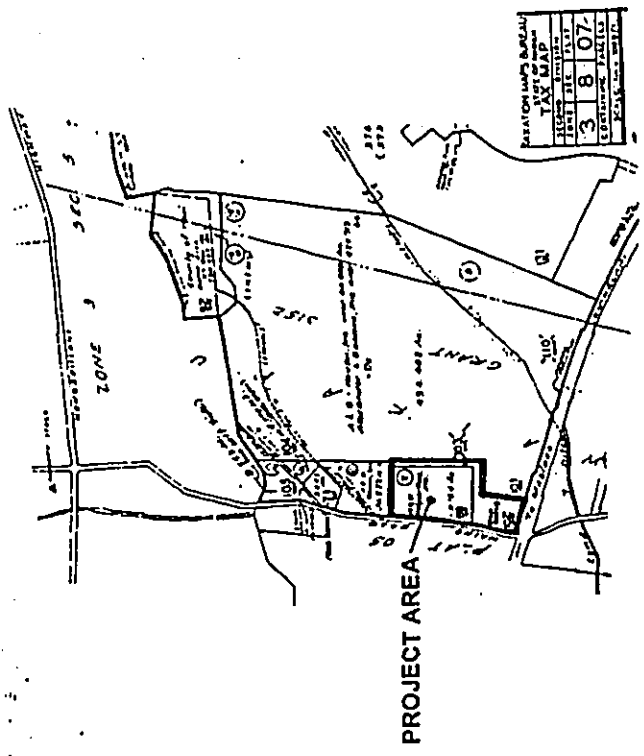


Figure 2. Project Area on Portion of Tax Map 3-8-07



Figure 3. Overview of Northern Section, West Portion of Project Area to West

HISTORICAL BACKGROUND

The areas adjacent to streams and valleys of West Maui are known to have been settled relatively early in the prehistoric period (Kirch 1974), eventually supporting large populations which became centers of socio-agricultural development and political power (Handy and Handy 1972, Kirch 1984). The history of the project area is generally described in reference to the old 'okana or land division named Na Wai Eha, as excerpted below:

The old 'okana (land division) named Na Wai Eha (Na Wai Eha means "The Four Streams") comprised the four West Maui and drain the eastward watershed of Pu'u Kukui and the ridges radiating northeastward, eastward, and southeastward from it. Two of the great valleys, Waie'e and Waiehu, open toward the ocean and their streams empty into it. Wailuku is partly landbound, but its stream flows into Kahului Bay, which has been eroded by the ocean out of what was formerly the stream mouth. Waikapu is landbound. The waters of its great stream, now utilized for irrigating a great acreage of sugar cane, formerly was diverted into lo'i and its overflow was dissipated on the dry plains of the broad isthmus between West and East Maui (Handy and Handy 1972:496).

A number of legends and oral traditions concerning Waikapu *ahupua'a* have been recorded. Among these was a story describing the origin and meaning of the name Waikapu. It was said that in ancient times a great conch shell (*pu*) was hidden in a cave on the south side of the stream, about a mile inland. Hence the name Wai-ka-pu "Water-of-the-conch" (Handy and Handy 1972:497,498). Another account places the cave in the valley, a mile or more above the village. The conch was heard in the valley frequently, but never witnessed by the public. A dog named Puapualanena coveted the conch and finally succeeded in stealing it, after which, its sound was not heard again.

Oral traditions also recount a number of battles which took place in the region. Among these, Fomander's (1969:153) account of the battle of the Waikapu Common or the "Ahulau ka piipi i Kakanilua" is generally credited as the oldest historic reference to the region. An excerpt from this account describes the battle taking place in the sand hills southeast of Wailuku, possibly in the vicinity of the present project:

...The detachment or regiment known as the Alapa, mustering 800 men, was selected for this hazardous expedition, and with high courage they started across the isthmus of Kamaoao, now known as the Waikapu Common, determined, as the legend says, "to drink the waters of Wailuku that day." ...Little did this gallant troop apprehend the terrible fate that awaited them...Kahekili distributed his forces in various directions on the Wailuku side of the common, and fell upon the Hawaii corps of arms as it was entering among the sandhills south-east of Kalua, near Wailuku. After one of the most sanguinary battles recorded in Hawaiian legends...the gallant and devoted Alapa was literally annihilated; only two out of the 800 escaped alive to tell Kalamitopuu of this Hawaiian Balacava (Fomander 1969:153).

Seafarers visiting Maui in the early 1800's provided several descriptions of the region. The reader is referred to Smith's (1991: Appendix A, in Brisbin et al. 1991) noteworthy summary of historic references to Waikapu for a more complete treatment of the subject. That the valleys of Wailuku and Waikapu supported substantial populations in the 17th century is attested by the following traveler's account which, in passing, also provides an alternative derivation of the name Waikapu:



Figure 4. Overview of Central Portion of Project Area to Southeast, Note Gravel Paving

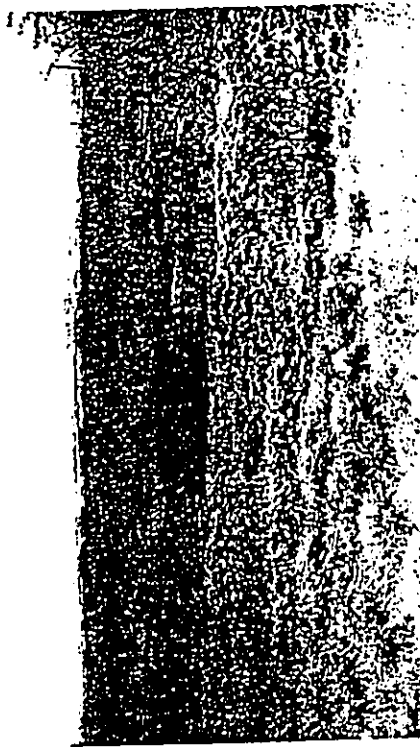


Figure 5. Overview of East Portion of Project Area to Northeast

The first village of any note on the way to Wai-lu-ku is Wai-kapu. It contains a population of about 500. Here the forces of Kamehameha the Great once assembled for battle at the sounding of the conch shell. Hence the name, Wai-kapu (water of the conch or trumpet) (Bates 1854:309).

Sugarcane cultivation was introduced to the region relatively early in the historic period by a Spaniard named Antoni Catalina who made cane syrup at Waikapu in 1828, marking the beginning of the sugar industry in the Waialua District. The Waikapu plantation was started by James Louzada who sent his first sugar to market in 1863. After several changes in ownership, the plantation passed into the control of Waialua Sugar Company in 1894 (Maui News, February 3, 1926). Claus Spreckles was awarded a portion of Waialua *ohupua* by King Kalakaua in 1882 and established the Hawaiian Commercial and Sugar Company. These lands passed into the control of Alexander and Baldwin (A&B) in 1926.

During the Great Mahele of 1848, the entire *ohupua* of Waialua (LCA 7731, Apana 23) was awarded to Princess Ruth Ke'elikolani, great-granddaughter of Kamehameha I and Kamamalu. Numerous smaller LCAs were awarded in Waikapu *ohupua* but none appear to have been located within the present project area. For a discussion of these awards, the reader is referred to Smith (in Brisbin et al. 1991:A). An 1885 map by F.S. Dodge shows that the present project area was held by the Waikapu Sugar Company, within Grant 3152, awarded to H. Cromwell. These lands too eventually passed into the control of A&B.

PREVIOUS ARCHAEOLOGY

Prior to the 1970's, in spite of its social and political significance, Maui remained less intensively studied than either O'ahu or Hawaii and no intensive studies had been undertaken in the traditional population centers in the valleys of West Maui (Kirch 1983:136). Emory, who conducted an inventory of archaeological sites in Haleakala Crater in 1921, and Walker, who recorded prominent sites in 1931, are generally considered to be the earliest of the "modern" archaeologists to undertake survey of prominent sites on Maui. Other than the data gathering work by Sterling during the 1960s and 70s, archaeological research on Maui really did not gain momentum until the early 1970s, with the advent of large scale resort development and the establishment of community master plans. During and subsequent to the 1970's, resort and urban development generated a number of contract archaeology reports for various coastal regions of Maui. For a brief summary and synthesis of these reports, the reader is referred to Kirch (1985). Any number of the more recent reports will provide an updated review archaeological work completed during the 1990s. A brief review of recent studies in the immediate vicinity are presented below:

In Waialua *ohupua*, in areas north of the current project locality, recent development has generated several archaeological reports from the Waialua Sand Hills area in connection with the 1000 acre Maui Lani development. The reader is referred to Rotunno-Hazuka (et al. 1994) for a list summarizing these investigations, year completed, and location of each study. Although no surface structural remains have been recorded in the Waialua Sand Hills province, a large number of human burials have been recorded in the area. A complex of human burials was identified in an exposed section of a former sand borrow pit, designated Site 50-50-04-2797 (Rotunno-Hazuka et al. 1994). In 1995, a subsurface sampling phase in which 95 backhoe trenches were excavated in pre-selected locations in a 300+ acre proposed development area resulted in the discovery of six new burials in three separate localities. A predictability model for burial location was tested, but the results showed that the placement of burials in the dune area was inconsistent, if not random (Pantaleo and Sinoto 1995). Monitoring procedures, ongoing since 1996, during construction of a golf course and residential subdivisions have encountered more burials and shed

new light on burial practices as well as the traditional utilization of the Waialua Sand Hills. The additional data indicates that promontories may have been favored for the interment of solitary burials, but that multiple burials have so far all appeared in geographical association with the original complex at Site 2797. Some kind of territorial boundaries may be influencing the location of the multiple burials (Sinoto et al. Pending).

Human skeletal remains were also identified at the Maui Homeless Shelter construction site which has been designated Site 50-50-04-2916 (Donham 1992). A number of burials have also been encountered during the installation of a sewer line along Waiale Road and construction of the low income housing project. Multiple burials, along with other cultural remains, have been discovered in connection with the widening of Lower Main Street (Spear et al. 1998).

West of the present project area, multiple burials have been identified on the property of Maui Trucking. The Waiko sand borrow, near the Waialua Agribusiness baseyard on Waiale Road has been undergoing monitoring during sand mining activities with negative results so far. An inventory survey conducted along Waiale Road encountered no cultural remains (Titchenal 1995). The Ameron and Hawaiian Cement borrow sites, located to the northwest of the current project area have both produced a limited number of human remains.

In Waikapu *ohupua*, recent studies undertaken in connection with golf course and resort construction have documented agricultural and residential complexes on the upland slopes adjacent to Waikapu Valley (Brisbin et al. 1991). In addition to lending credence to early historic reports of large populations occupying the upland regions, research indicates extensive and intensive agricultural development of this area in late prehistoric and perhaps into early historic times (Brisbin et al. 1991:7).

SETTLEMENT PATTERN

Based on the foregoing historic and archaeological indicators, it seems probable that the lower coastal valleys of Waialua and Waikapu *ohupua* were settled early; fostered an increasingly stratified, agriculturally-oriented society; and sustained an expanding population into the late prehistoric period, at which time population growth generated the establishment of extensive agricultural complexes in the upland valleys of west Maui. These populations appear to have been centralized in either coastal or upland regions with less productive areas, such as the Waialua Sand Hills, left unsettled.

These population centers are characterized by extensive terraces and pondfield agricultural systems with dispersed, rather than centralized, residential structures throughout and on the margins of these agricultural complexes. Additionally, religious structures were significant components of both coastal and upland population centers.

SITE EXPECTABILITY

Traditional land use and the nature of those cultural manifestations most likely to be encountered, are dependent on the major physiography of the current project area; the sand dunes. The major portions of the Waialua Sand Hills appear to have remained unsettled by Native Hawaiian populations. It seems likely, however, that populations occupied, or in other ways utilized, the coastal margins of the sand hills complex. Recent investigations associated with the widening of Lower Main Street encountered unspecified structural rock alignments and a possible midden component (Spear et al. 1998). To date, evidence indicates that the interior and southern margins of the sand hills complex supported no human settlement. However, recent results of archaeological studies and oral traditions suggest that other activities such as human interment and warfare took place in the Waialua Sand Hills area.

The tangible and significant common element of investigations near the southern periphery of the sand hills, was the utilization of this region by native populations for interment of the dead. Many of the previously recorded burials occur in the coastal margins and around the periphery of the dunes, but more recently, isolated and multiple burials have been regularly encountered throughout the region. Thus, the potential for human burials is present, however the degree of surface alteration in the subject area may minimize the potential for intact remains in primary context.

METHODOLOGY

Archaeological and historical background research was undertaken to determine the nature of potential cultural resources in the project area. This research was conducted at the State Historic Preservation Division library of the Department of Land and Natural Resources, the Hawaii State Library, and the Hamilton Library at the University of Hawaii, all in Honolulu. Additional research was undertaken at the Maui Community College Library archives.

The initial surface survey of the project area revealed no significant surface cultural manifestations. The ensuing subsurface testing, conducted to determine the presence/absence of buried cultural remains, was guided by the following stipulation imposed on the client's permit extension application by a Maui County regulatory agency:

...Archaeological subsurface survey work shall be conducted on the prominent dune features within the project area...*(emphasis ours)*

Following confirmation, by the State Historic Preservation Division, of our interpretation of this stipulation that testing was being limited to prominent knolls; subsurface testing was implemented. Backhoe trenching was conducted, using a Komatsu PC40 tracked backhoe, at eight selected localities to determine the presence or absence of buried cultural features or human remains. The trenches were located with the criteria of testing potentially sensitive areas considered most likely to contain subsurface cultural deposits while at the same time, providing a representative sample of the entire project area.

Trench locations were preselected during the initial surface survey and excavations were monitored. Trench positions were plotted by compass and tape on the project area map. A stratigraphic profile of a representative column on a sidewall was recorded for each trench. A color photographic record, in 35mm format, was obtained for each trench and soil colors where described in reference to the Munsell color designations. All procedures followed generally accepted methods and standards. All research, field notes, maps, and photographs generated in connection to the project will be deposited at the Archaeological Services Hawaii office in Waiuku. During the current fieldwork, no artifacts or samples were collected.

SURVEY RESULTS

During the initial walk-through survey, which encompassed the total project area, no surface cultural remains were encountered. Localities with potential subsurface cultural sensitivity were identified for subsurface testing. These primarily consisted of areas with topographic characteristics that indicated the possible presence of remnant sand dunes. These localities underwent subsurface sampling through backhoe trenching during the ensuing testing phase. A total of 8 backhoe trenches were excavated (Fig. 6). No cultural remains were identified in the project area during subsurface testing. The eight backhoe trenches were located from west to east

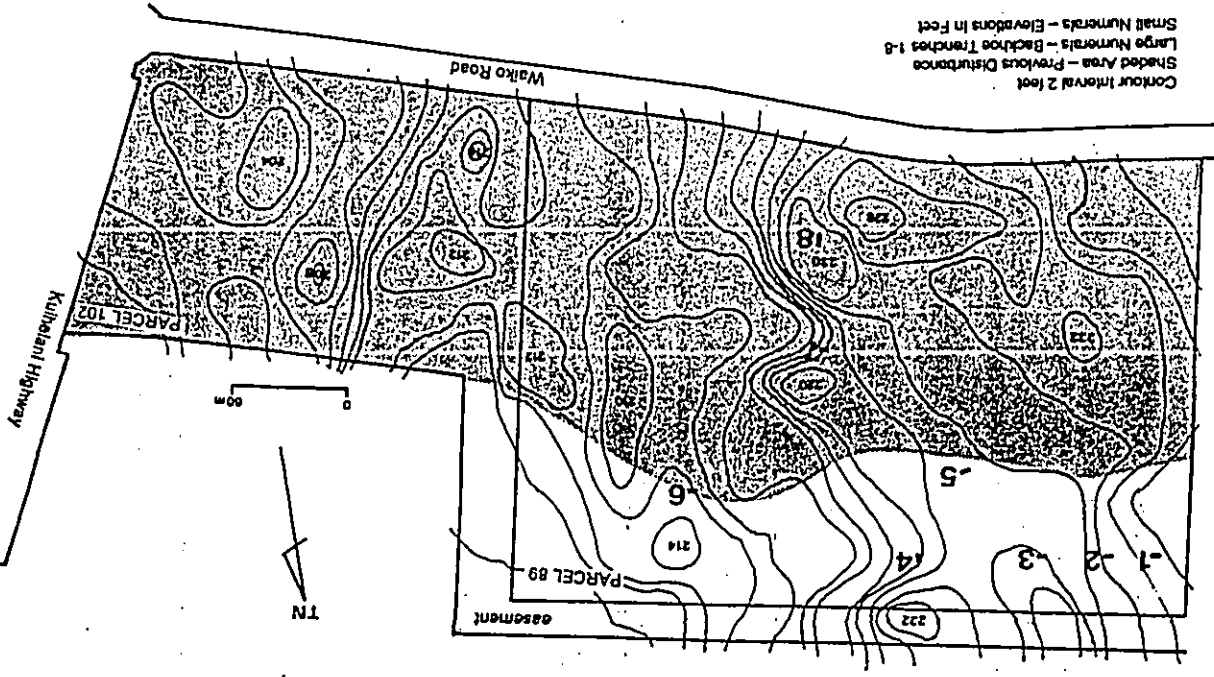


Figure 6. Map of Project Area Showing Backhoe Trench Locations

beginning with BHT-1 on the west and BHT-8 on the east within the project area. Table 1 below presents the dimensions and stratigraphic information for each trench.

Table 1. Backhoe Trench Descriptions

BHT	LENGTH	WIDTH	DEPTH	ORIENT.	SAND	LITHIFIED	COBBLES	LOAM	CULTURAL
1	9.2m	.70m	1.4m	90	all	top .70m	none	none	no
2	6.0m	.70m	2.1m	100	top 2.0m	top 1.0m	at 2.0m	below 2.0m	no
3	7.5m	.70m	2.0m	102	top 1.5m	below 1.5m	none	pockets	no
4	7.3m	.80m	2.5m	160	2.4m	none	at 2.5m	at 2.5m	no
5	3.00m	.70m	2.25m	90	top 2.0m	none	at 2.1m	at 2.1m	no
6	4.0m	.75m	2.5m	65	to 2.3m	none	1.0m/2.3m	1.0m/2.3m	no
7	3.0m	.80m	2.4m	80	all	none	none	none	no
8	3.6m	.75m	2.3m	30	all	none	mixed	mixed	no

Representative stratigraphic columns are illustrated on Figure 7 and photographs of each trench are presented as Figures 8-15. In all trenches, the major soil matrices were identical with only incidental variations based on the presence or absence of lenses of alluvial materials. The basic stratigraphic sequence consisted of overburden and three layers as follows:

- Overburden - organic detritus in silty sand matrix, or eolianite, or gravel
- Layer I - 10YR 8/3 light yellowish brown - lithified sand or
- 10YR 6/3 pale brown - loose sand
- Layer II - 10YR 7/4 light yellowish brown - loose sand
- Layer IIIa - 10YR 5/3 brown - loose silty sand
- Layer IIIb - 10YR 4/4 dark yellowish brown - sandy loam with cobbles
- Fill - 10YR 5/4 yellowish brown - sand/loam mixture with cobbles and debris

Slight variations in color occurred due to the presence or absence of roots and if the sand was lithified or loose.

DISCUSSION

No cultural components, midden, or artifacts were encountered in any of the backhoe trenches or exposed on the surface. Thus, the negative results of the current procedures support the settlement trend indicated by previous studies in the area. No evidence of traditional Hawaiian or historic period habitation or other intensive sedentary utilization of the southern periphery of the sand hill was obtained during the current inventory survey. However, simple evidence of the extent and nature of the previous ground alterations in the area was revealed through the subsurface testing. Backhoe Trench 5 was located in an area that was gravel paved, probably modified for the drive-in theater development that was never completed. Trenches 7 and 8, which were located on the highest, most prominent knolls, exhibited fill to the bottom of the excavations. These knolls were large push piles, most likely created during the clearing, grubbing, and grading of the drive-in area. Roughly 75% of the area appears to have been previously disturbed.

The northern portions of the project area, where Trenches 1-6 were located, appears to be less disturbed than the southern half. The possible presence of isolated human burials cannot yet be completely discounted in this area. Appropriate mitigation measures should be implemented to minimize the potential adverse impacts during initial development activities.

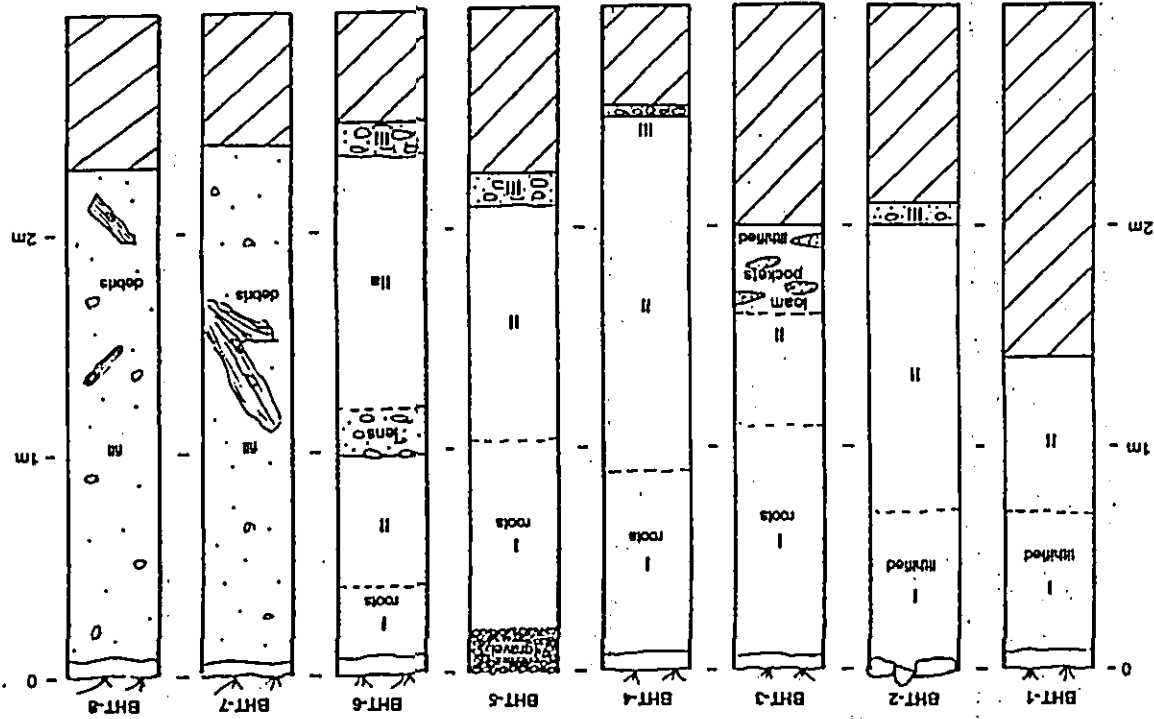


Figure 7. Representative Stratigraphic Columns from Backhoe Trenches 1-8

RECEIVED AS FOLLOWS



Figure 9. Backhoe Trench 2, View to East

13



Figure 8. Backhoe Trench 1, View to West

12

RECEIVED AS FOLLOWS



Figure 11. Backhoe Trench 4, View to North

15

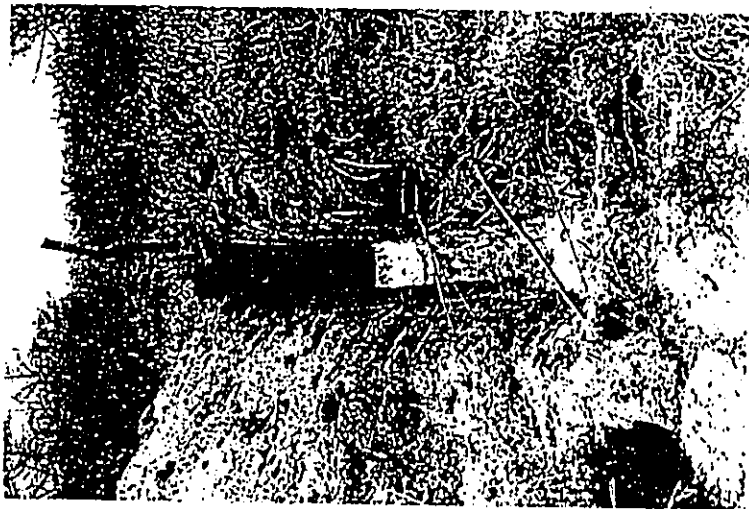


Figure 10. Backhoe Trench 3, View to East

14

RECEIVED AS FOLLOWS



Figure 13. Backhoe Trench 6, View to East



Figure 12. Backhoe Trench 5, View to West

RECEIVED AS FOLLOWS



Figure 15. Backhoe Trench 8, View to North



Figure 14. Backhoe Trench 7, View to West

RECOMMENDATIONS

The results of the current inventory procedures were negative and no further archaeological procedures are warranted prior to commencement of development activities. However, based on the results of various earlier studies in the neighboring areas, the potential for isolated, undocumented human burials exists in portions of the project area. Thus, the implementation of archaeological monitoring during development-related, ground-altering activities appears to be a prudent and justified course of action. Monitoring should be more intensive in the northern sections of the project area which exhibits less previous disturbance. The objectives and appropriate scope of monitoring shall be included in a monitoring plan to be prepared and submitted to the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources for approval.

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ARCHAEOLOGICAL MONITORING PLAN
FOR THE PROPOSED
INDUSTRIAL PARK DEVELOPMENT
WAIKAPU, WAILUKU, MAUI ISLAND
TMK 3-8-07:89 & POR 102

for:

Fong Construction Co., Ltd.
495 Hukilike Street
Kahului, Maui, HI 96732

by:

Aki Sinoto
and
Jeffrey Pantalone

September 2000

Aki Sinoto Consulting
2333 Kapiolani Blvd., No. 2704
Honolulu, Hawaii 96826

INTRODUCTION

At the request of Fong Construction Co., Ltd. of Kahului, Aki Sinoto Consulting of Honolulu in association with Archaeological Services Hawaii of Wailuku, proposes to undertake archaeological monitoring services in conjunction with the proposed development of an industrial park in a c. 30 acre parcel of land (TMK3-8-07:89 & por 102). This property is located in Waikapu ahupua'a, Wailuku District, Maui Island. It is located north of Waiko Road near its intersection with Kuhelani Highway (Fig. 1).

PREVIOUS ARCHAEOLOGY

An archaeological inventory survey was recently completed within the proposed project area (Sinoto et al. 2000). While no cultural remains were encountered during the surface survey as well as the ensuing subsurface testing procedure, based on the recorded occurrence of human burials in the surrounding areas, archaeological monitoring during construction has been recommended.

EXPECTABILITY OF SUBSURFACE REMAINS

Although no archaeological remains of any significance have been recorded within the current project area, solitary and multiple human burials have been reported by other projects in the general vicinity. In view of the fact that structural or other occupational features are not likely to be found in the province of the current project area, the remains that may most likely be encountered during monitoring would be traditional Hawaii human burials.

MONITORING PLAN

The construction plans call for mass excavation and grading over much of the project area. Cuts and fills ranging from 1 to 6 feet are indicated on the preliminary grading plans. All construction-related excavation will be monitored in accordance to State Historic Preservation Regulations contained in Chapter 6E of the Hawaii Revised Statutes. However, the northern portions of the project area which exhibited less ground disturbance will be more intensively monitored (Fig.2).

Prior to commencement of construction and monitoring activities, a coordination meeting shall be held with representatives of all pertinent parties. The procedures to be followed for monitoring, authority of the monitor to halt work in the immediate vicinity of a discovery, and the kinds of features the archaeologist is interested in will be discussed.

All construction-related excavation work shall be initially monitored by one full-time monitor per each piece of excavating equipment, until the nature and extent of subsurface cultural sensitivity and the contingent appropriate scoping can be determined. Following this initial period, the appropriate scope of monitoring, whether full-time, part-time, spot check, or on call, shall be determined and implemented. If grubbed material is planned to be taken off-site, to the extent feasible, all inspections shall be completed within the project area prior to transporting. At least one Maui resident archaeologist will be assigned to this project to ensure timely response and overall efficiency.

If any significant remains are encountered during the course of monitoring, all construction activities in the immediate area shall be temporarily halted until the monitor can record and mitigate the remains or determine if additional procedures are needed. All archaeological methods, standards, and techniques for recording and collection of data will be followed.

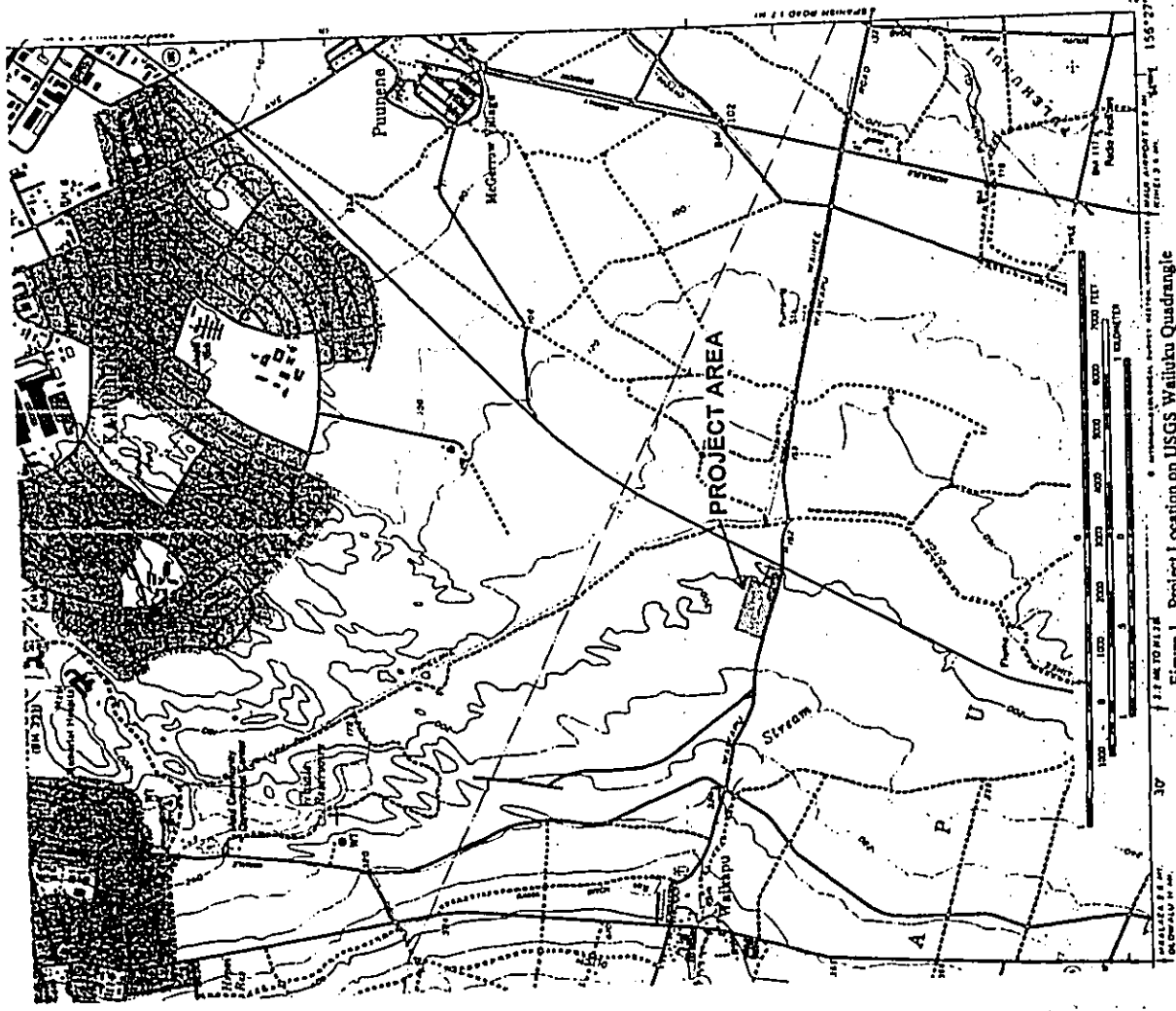


Figure 1. Project Location on USGS Wailuku Quadrangle

Representative stratigraphic profiles shall be regularly recorded and any depositional anomalies shall also be documented. Photographic record of monitoring activities will be retained. No additional data recovery procedures shall be implemented without prior approval by the State Historic Preservation Division and consent of the Owner.

Should any human remains be inadvertently discovered during the course of this undertaking, all construction activities shall be halted in the immediate vicinity. The Owner shall be consulted to assess the possibility of avoiding the findings. Whenever possible, avoidance shall be implemented. If possible, without further disturbance to the remains, the determination of the temporal and ethnic origins of the burial shall be attempted. If following these procedures, the remains are determined to be or suspected to be Native Hawaiian, measures shall be taken to ensure temporary *in situ* protection of the remains. The State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources shall be contacted and a decision shall be made in coordination with the Maui and Lana'i Islands Burial Council (MLIBC) regarding *in situ* preservation or removal and reinterment. A burial treatment plan shall be prepared for approval by SHPD and the MLIBC.

Following the field phase of this project, all necessary laboratory procedures shall be undertaken. This may include; processing, cataloging, and analysis of artifacts; analysis of any collected samples as warranted; and outside consultant analysis of radiocarbon samples. The collected data shall be synthesized and compiled into a final report.

All records, notes, photographs, and maps shall be archived at the facilities of Archaeological Services Hawaii in Wailuku. The final disposition of artifactual and sample materials shall be determined in coordination with the landowner.

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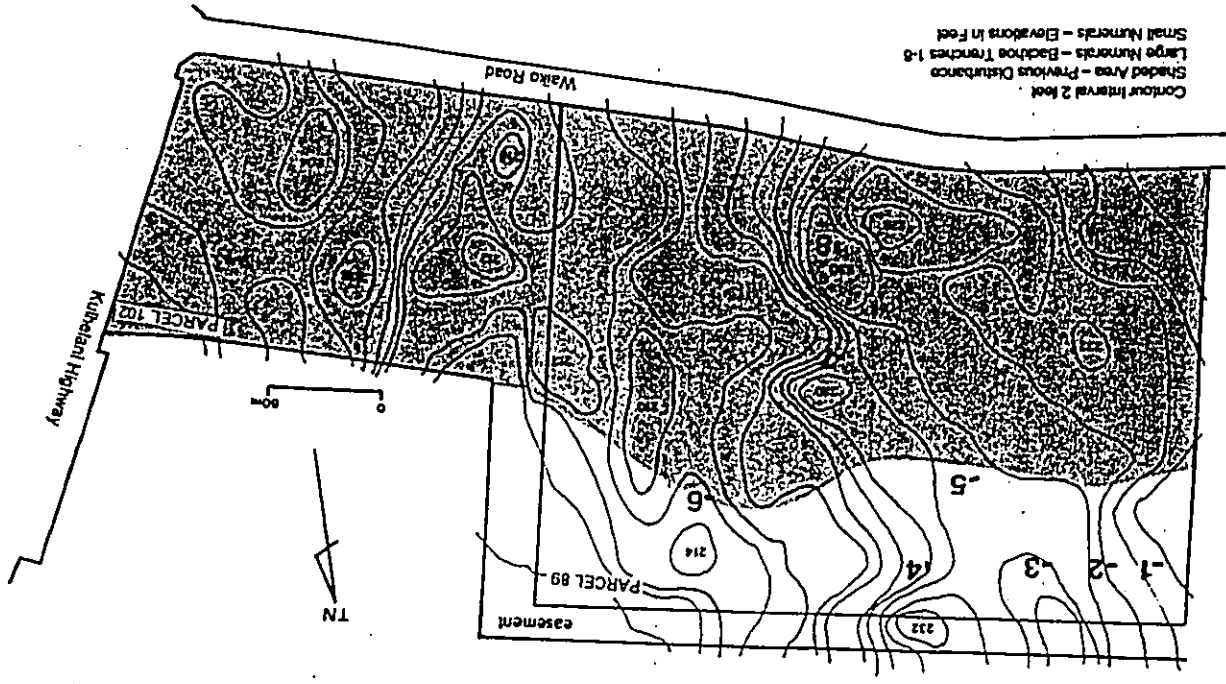


Figure 2. Plan of Project Area Showing Area of Previous Disturbance

Appendix G

***Phase I Environmental
Site Assessment***



**Environmental Site Assessment:
Phase I Investigation**



Subject Site:
WAIKO BASEYARD, LLC
Waiko Road, Waikapu
Hawaii 96793
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Conducted and Compiled by:
Vuich Environmental Consultants, Inc.
VEC Project Number #0305-610
June 27, 2003

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Consultants, Inc.

Environmental Site Assessment:
Phase I Investigation



Property: **WAIKO BASEYARD, LLC**
Waiko Road, Waikapu
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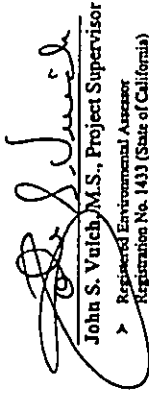
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I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been prepared by the investigator under direct supervision and provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances.


Jeffrey E. Kermode, Site Investigator

- > B.Tech. (Environmental Engineering)
- > B.A. Geography
- > Lead-Based Paint Inspector (EPA Accredited Course)
EPA Certification No. HI-01-0920045008
- > Asbestos Building Inspector (AHERA Accredited Course)
State of Hawaii Certification No. HIASB-0351

6/30/03
Date


John S. Vulch, M.S., Project Supervisor

- > Registered Environmental Assessor
Registration No. 1433 (State of California)

6/30/03
Date

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Executive Summary

Introduction

This Phase I Environmental Site Assessment (ESA) has been prepared for Mr. Ryan Harada of Central Pacific Bank and was conducted pursuant to Valich Environmental Consultants, Inc.'s (VEC's) written proposal and contract accepted by Mr. Harada on May 14, 2003. This investigation and report format follows the guidelines of the American Society of Testing and Materials (ASTM) Publication E1527-00.

Site Description

The subject site is located on the north side of East Waiko Road just west of Kūihelani Highway in the community of Waikapu, Maui, Hawaii. The property consists of one (1) parcel of land, irregular in shape, measuring approximately 23 acres in total area. The site is further described on the Tax Maps of the State of Hawaii as Division 2, Zone 3, Section 8, Plat 7, Parcel 89. Waikapu is situated on the western center edge of the Kahului Isthmus near the east edge of West Maui and is located approximately 2.5 miles south of the community of Wailuku. (See Figure 1, Appendix A and Tax Map, Appendix B). Property access is from E. Waiko Road and from the western adjacent property (Fong Construction Co.).

The western half of the property has been cleared of vegetation and graded. Very limited portions of this area have been paved. The eastern portion of the property remains undeveloped vegetated land.

A large area of the property (center and western portion) is leased by six (6) separate tenants that use the land mainly as construction baseyards (Fong Construction Co. and A-1 Rockwall Co.); vehicle storage and dismantling (Alii Towing and Bravo Auto Dismantler); container storage (DHX and Island Movers); and limited sand stockpiling (Fong Construction Co.).

East Waiko Road bounds the subject site to the south, beyond which is agricultural land (active and fallow sugarcane). Industrial land use and undeveloped land comprises the western adjacent property. Undeveloped vegetated land is located to the north and east. (See Figure 2, Appendix A).

Records Review

The purpose of a records review is to obtain and review records that will help identify *recognized environmental conditions* in connection with the subject property. The services of Environmental Data Resources, Inc. (EDR), were utilized to compile the database listings. (See Appendix B).

The initial EDR report did not record any listings for the subject or adjacent properties. However, VEC supplied additional information to EDR on the subject site and nearby properties that resulted in EDR producing amended reports located in Appendix B. The amended records review indicate that two (2) risk sites are located near, however are not adjacent to, the subject site. Brewer Environmental and Maui Scrap Metal Co. are listed in the amended reports and are located within a 1/2-mile of the subject site's western property boundary.

The above listed neighboring properties listed within the designated radial radius distances have or have had the ability impact to the subject property due to their current status, distance and/or geographic position in relationship to the subject property. The main concern would be the potential negative impact to the groundwater and surface soils from both sites.

Site Reconnaissance

A site investigation focuses on obtaining information indicating the likelihood of identifying physical *recognized environmental conditions* in connection with the property and assessing the subject property in relation to surrounding land uses and natural surface features. It includes a physical inspection of the real property and any on-site facilities.

On May 15 2003, VEC personnel, Mr. Jeffrey Kermode, conducted an overall site inspection of the subject site. Accessible areas of the property were visually and physically inspected. Approximately 20% percent of the

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Disclaimer

This document contains the results of services performed on this Project by Valich Environmental Consultants, Inc. (VEC) pursuant to Agreement. The results represent the application of a variety of scientific and analytical disciplines which have been rendered using the standard of care, skill, and diligence normally provided by professionals in the performance of similar services under similar circumstances.

VEC assessments are intended to reduce, but not eliminate, uncertainty regarding recognized environmental conditions in connection with the Subject Site, as conducted within reasonable limits of time and cost. A general consensus of EPA's guidance on landowner liability is that *no environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property.*

The use of this document and the results reported are limited to the services performed and areas examined as described in this document and no inferences are intended with respect to anything not described herein.

VEC is not responsible for conditions or consequences arising from relevant data, facts, and information that were concealed, missing, withheld, not fully disclosed, or not reasonably available at the time these services were performed. VEC is not responsible for any indirect, incidental, or consequential damages of any nature arising from any cause.

VEC has no beneficial economic interest in the Project other than as an independent professional organization performing the agreed services. VEC's warranties are as described above and there are no other warranties of any kind, expressed or implied, regarding the services.

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subject site's total surface soils were not observable due to the subject site's building structure, equipment storage, sand stockpiling and paved surface areas. Inspection by the VEC investigator was limited in the Ahihi Towing derelict vehicle storage area due to the unknown placement of several pit bull guard dogs.

The following are significant observations of field conditions: (See Site Plan, Figure 2)

- Limited vehicle dismantling and repair work is conducted on-site. These operations generate moderate quantities of regulated waste items (waste oil, solvent, batteries, coolant);
- Limited soil staining was noted in the Bravo Auto Dismantler site in the vehicle parts storage area and at the base of a 55-gallon waste oil drum;
- One (1) wash basin is located in the Bravo Auto Dismantler site;
- Significant derelict vehicle storage is located on-site;
- Two (2) 55-gallon drums and three (3) 5-gallon drums containing waste oil were identified on-site. Soil staining was noted in the area of these drums. Improperly stored 5-gallon containers of petroleum product were also noted with underlying surface soil staining;
- Approximately twenty-eight (28) intact and one (1) broken asbestos-containing (transite) pipes (12' lengths, 8" & 12" diameters) are stored on-site;
- Several above-ground tanks (water and former fuel tanks) were noted on-site. No associated soil staining or petroleum odors were noted;
- One (1) large, poly-lined water reservoir (empty) and an associated groundwater well are located on-site;
- An undetermined amount of solid waste dumping has taken place on the subject site, including regulated items such as automobile tires;
- Large earthen mounds were noted on the subject site (central to eastern portion of the property);
- Significant sand/fill stockpiling activity is being conducted on-site;
- Above-ground fuel storage tanks (diesel) are located on the western adjacent property.

Conclusions

Recognized environmental conditions, as defined by ASTM Standard E1527-00, are the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. Recognized environmental conditions are described with regard to (1) the nature and extent of the environmental condition, (2) potential or actual environmental threat, (3) potential for transport (migration) of any environmental conditions, and (4) consideration for further investigation. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

VEC has performed this Phase I Environmental Site Assessment in conformance with the scope and limitations of the ASTM Practice E 1527-00 for the subject property located on East Waiko Road, Wailuku (Wailuku), Maui, HI, 96793 [TMK Map No. (2)-3-8-07:089], the property. Any exceptions to or deletions from, this practice are described in Section 1.4, Limitations and Exceptions, of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the property, except for the following:

- Database Listings (See Section 4.0 & EDR Report, Appendix B).

The subject site is not listed. The listed nearby sites were reviewed for environmental concerns relative to the subject site. It is possible that the listed sites that are in close proximity to the subject site have had or could have an environmental impact on the subject property. Groundwater and surface soil quality on the subject site may have been degraded over time due to the migration of pollutants from these sites, however, it is

unlikely that contaminant levels derived from these sources would be above regulated levels due to the distance from the subject site (approximately 0.5 miles).

- Current and Historic Use or Storage of Hazardous and Regulated Substances (See Section 5.2.2, 5.3.1 & 5.3.2).

There is no evidence of any historic misuse or significant spills of hazardous or regulated substances on the subject property except for the surface soil staining noted in the section below. Some of the subject property's tenants store, generate and/or use hazardous or regulated substances and wastes. These items should be managed more effectively to avoid any future releases onto the surface soils of the subject site.

Sugarcane agriculture has been actively occurring on the southern adjacent property for several decades. While the use of pesticides and herbicides on an adjacent property does not necessarily result in an adverse impact to the environmental condition of the subject site, it is possible (yet unlikely) for residual amounts of these substances to accumulate to concentrations that present a potential threat to human health or the environment. Soil and groundwater sampling and laboratory testing would provide additional information to evaluate potential environmental effects from these agricultural activities. There is, however, no regulatory requirement to conduct this sampling.

- Surface Soil Staining (See Section 5.3.1 & 5.5.2)

Six (6) areas of surface soil staining (up to approximately 25 ft² of surface area for each location) were noted by VEC during the site inspection. The source of petroleum contamination is from the improper management and handling of product or waste oil storage or from heavy equipment leakage. The areas of petroleum-impacted soil should be excavated and properly managed (disposed of). Clearance soil testing could be conducted to ensure all contamination has been removed. More effective product and waste oil management and the implementation of spill protection should be undertaken to eliminate the ability for contaminants to impact the subject site in the future.

- Wastewater Management (See 5.5.5)

All wastewater created on-site should be connected to the County's wastewater system or contained on-site and allowed to evaporate. Wastewater should not be allowed to migrate off-site or negatively impact the subject site's surface soils.

In order to minimize the potential for regulatory profiling of the subject site, property management may consider implementing conservative, proactive environmental policies. These policies might include written environmental protection contracts with any industrial or special-use commercial tenants and posted notices regarding any use, storage and handling of hazardous substances and/or petroleum product. Special attention should be addressed to wastewater (possibly containing contaminants) originating from the washbasin in the Bravo Auto Dismantler site that could impact the surface soils or enter nearby drainage systems.

The concerns listed below may not be considered recognized environmental conditions by ASTM definition, however, they may be considered regulated under other environmental laws and ordinances and may present a potential liability to the property owner.

- Surface Waters and Area Aquifer Protection (See Section 5.5.5)

The western portion of the subject site recently underwent extensive land grubbing and grading activity to allow for the on-site baseyard activity. The developer and property owner should be aware of the potential for contaminants to run off-site and into nearby watercourses. Products of concern relating to any future development project or land clearing activity would be earthen material (silt), paints, oils, antifreezes and other fluids from automobile or on-site machinery, or leaks from on-site stocked items.

Future land clearing of greater than one (1) acre will likely require both a County of Maui grading/grubbing permit and a National Pollution Discharge Elimination System (NPDES) General Permit (State of Hawaii, Department of Health).

- **Building Materials Management:** (See Section 5.6.1 & 5.6.3)

The age of the one (1) on-site building structure (located in the Bravo Auto Dismantler area) is unknown, however, it appears to be at least twenty (20) years old. It is, therefore, possible that some of the building materials may contain asbestos or lead paint and pose a concern to the subject property owner for any future planned renovation/demolition activities.

All worker safety and waste management concerns regarding the above-noted materials should be thoroughly addressed and undertaken during any future demolition/renovation activities.

- **Solid Waste Management:** (See Section 5.5.4 & 5.6.1)

A limited amount of historical dumping and storage activity (construction and miscellaneous debris) and derelict vehicle storage is evident on the subject property. Some of the materials were regulated items (derelict automobiles and parts; automobile batteries and tires; asbestos piping) that require proper management and disposal procedures. Any waste disposal should be in a permitted solid waste landfill or recycled in a manner that complies with all local, state, and federal regulations as applicable to the specific waste type.

Due to some heavily vegetated areas on the subject property, the entire subject site was not visibly inspected. Therefore, it is important to note that if additional clearing of the property commences and large amounts of construction debris or unidentifiable substances (containers) are discovered, proper waste identification, testing and applicable waste handling/disposal procedures are followed.

- **Groundwater Well** (See Section 5.5.6)

One (1) groundwater well is located on the property near the north-central portion of the subject site that was installed to supply water for the on-site reservoir (fire management requirement). Currently, the well water is used for limited dust control. A Pump Installation Report for the well located on-site should be submitted to the State Department of Land and Natural Resources (DLNR) in a timely manner in order to avoid any State violations in the near future. Typically the State requires this information 60 days upon completion of the well drilling.

The conclusions stated above should not be construed to mean that any regulatory agency would have the same opinion as this author, nor is any implication proposed therefrom.

The results of this environmental assessment are intended for general reference purposes only and are not intended as legal advice. The advice of legal counsel should be sought in regard to individual facts, circumstances and interpretation of environmental liability.

Environmental Site Assessment

Phase I Investigation

1.0 INTRODUCTION

A Phase I Environmental Site Assessment (ESA) is conducted to determine if a site may be contaminated with hazardous or toxic substances or wastes resulting from current or past site activities, unauthorized dumping or disposal, or migration of contaminants from adjacent or nearby properties. Its goal is to identify *recognized environmental conditions* on a property that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products. These release conditions apply to structures on the property as well as the soil, groundwater, or surface water of the property. The American Society of Testing and Materials (ASTM) Standard 1527-00, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, is used to "...define good commercial and customary practices for conducting an environmental site assessment of a parcel of commercial real estate".

1.1 Purpose

The study objectives are to characterize the environmental setting of the subject property, to identify any obvious activity of environmental concern that may have occurred at or near the site, and to evaluate potential migration pathways for any identified contaminants. It may also address any activities that affect future considerations for potential environmental impairment to the property.

Another function of this Phase I ESA is to conduct an *appropriate environmental inquiry* in response to the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, its amendments, and similar state and local regulations. An ESA "appropriate inquiry" may provide the buyer, receiver, or lender making a loan secured by the subject real property with a basis to qualify for the *innocent landowner defense* should any legal action be initiated for environmental impairment to the property.

This Phase I Environmental Site Assessment (ESA) has been prepared for Mr. Ryan Harada of Central Pacific Bank and was conducted pursuant to Vutch Environmental Consultants, Inc.'s (VEC's) written proposal and contract accepted by Mr. Harada on May 14, 2003.

There were no other additional services requested of VEC by the Client.

The assessment of *recognized environmental conditions* relies on: 1) sources of actual knowledge, 2) thorough appropriate inquiry, 3) reviewing reasonably ascertainable documents and records, and 4) conducting a visual and olfactory reconnaissance. In conducting this ESA, VEC has relied on the truthfulness of its inquiry sources and the validity of reviewed records. If obvious indications or VEC actual knowledge contradicted the reported/reviewed information sources, it has been so stated in the appropriate sections of this report.

1.4 Limitations and Exceptions

The investigation performed for this report is the component of an *appropriate inquiry* as to the potential for contamination to exist or have occurred at this site. It is also the basis of an *appropriate inquiry* into the presence or likely presence, release or threatened release, of hazardous substances and petroleum products at this real property. This Phase I Environmental Site Assessment was prepared according to guidelines presented in the American Society of Testing and Materials (ASTM E-1527-00) Document entitled *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*.

Since no ESA can entirely eliminate uncertainty regarding the potential for *recognized environmental conditions* in connection with a property, the limiting intent of this investigation is to reduce the uncertainty to an appropriate level. Minimal requirements for the Phase I ESA include a review of historical records, a review of files and databases compiled by regulatory agencies, interviews with current owners and/or occupants of the property, and a field reconnaissance of the subject site and adjacent areas.

This ESA also takes into consideration the evaluation of other substances and products that are or may be interpreted as excluded under CERCLA. Commonly, these substances are of concern in commercial real estate transactions under current custom and usage and may include, but are not limited to, Radon, Lead-in-Drinking Water and Special Environmental Resources. Where appropriate, VEC has considered environmental concerns of other federal, state, and local regulations.

Some database resources developed for Maui County are in their infancy or are not cross-referenced in a manner as to be readily discernible. The Maui County Fire Department (MCFD) maintains material in a database format from 1995 to the present. Prior to 1995, material is maintained in hard copy format. VEC requests information from MCFD by fax and may also verbally discuss the subject site.

Databases and records utilized for this investigation were limited to those that are reasonably ascertainable; that is, they had to be publicly available, obtainable from its source within reasonable time and cost constraints, and practically reviewable with regard to volume, sorting, and organization. Additionally, the services of *Environmental Data Resources, Inc. (EDR)* were utilized to compile the environmental database listings. (See Appendix B).

1.5 Special Terms and Conditions

As a standard practice, a confidential client privilege was initiated by VEC for the work performed and contents of this report. VEC shall ensure that its officers, employees, agents, and independent contractors do not disclose this report or any information contained therein to any person without the proper knowledge and written consent from the Client (or as otherwise required by law). VEC shall ensure that each of its officers, employees, agents, and independent contractors understand and obey these requirements.

The information and opinions provided herein are intended as background data and planning guidance to interested parties. This should not be construed to mean that any regulatory agency would have the same opinion as VEC, nor is any implication proposed.

VEC has performed this study in a competent and professional manner. Since there may be hidden or unknown conditions that may be missed during this inspection, VEC cannot warrant the actual site conditions described in this report.



2.0 SITE AND REGIONAL DESCRIPTION

Refer to Figure 1, Regional Setting Map, in Appendix A for a depiction of the general site setting of the subject site in relation to topographic features. Also depicted are the projected groundwater flows, regional surface water flows, and locations of other significant physical features or structures.

2.1 Location and Description

The subject site is located on the north side of East Waiko Road located between Kuliheheli Highway and Honoapiʻilani Highway in the community of Waikapu, Maui, Hawaii. The site is further described on the Tax Maps of the State of Hawaii as Division 2, Zone 3, Section 8, Plat 7, Parcel 89. Waikapu is situated on the western center edge of the Kahului Isthmus near the east edge of the West Maui and is located approximately 2.5 miles south of the community of Waikuku. (See Figure 1, Appendix A, and Tax Map, Appendix B). Property access is from E. Waiko Road and from the western adjacent property (Fong Construction Co.).

2.2 Site and Vicinity General Characteristics

The property consists of one (1) parcel of land, irregular in shape, measuring approximately 23 acres in total area.

The western half and central portion of the property has been cleared of vegetation and graded. Very limited sections of this area have been paved (asphalt). The eastern portion of the property remains undeveloped vegetated land.

The western half and central portion of the property is leased by six (6) separate tenants that use the land mainly as construction baseyards to store construction materials and heavy equipment (Fong Construction Co. and A-1 Rockwall Co.); derelict vehicle storage and dismantling (Alii Towing and Bravo Auto Dismantler); container storage (DHX and Island Movers); and limited sand/fill stockpiling (Fong Construction Co.).

East Waiko Road bounds the subject site to the south, beyond which is agricultural land (active and fallow sugarcane). Industrial land use and undeveloped land comprises the western adjacent property. Undeveloped vegetated land is located to the north and east. (See Figure 2, Appendix A).

Waikapu Stream is located approximately 2,000 feet southwest of the subject property's southern boundary.

2.3 Surrounding Properties and Infrastructure

Post and wire fencing is located along the south, west and northern property boundaries. Metal fencing also surrounds one (1) of the on-site businesses (Bravo Auto Dismantler). One (1) main graded and compacted access road enters onto the center of the property from the southern boundary (E. Waiko Road). A second access road originates from the western adjacent property (Fong Construction Co.).

Only one (1) small building structure (approx. 250 ft²) is located on-site and is used by Bravo Auto Dismantler as an office area. This structure does not have a proper building foundation (temporary) and is of wood construction (painted) with a wood shingled roof. The interior area is finished with painted drywall walls and carpet flooring. There is no record of the building structure with the Maui County Property Tax Records for the building was likely brought onto the site.

Limited asphalt-paved surfaces are located in the vehicle maintenance/dismantling areas of both Alii Towing and Bravo Auto Dismantler. The remainder of the property consists of earthen surfaces (graded and natural with vegetative cover).

A poly-lined water reservoir and a groundwater well and pump are also located on-site.

See Figure 2 and Photos 1 through 12, Appendix A.

2.4 Current Use of the Property

Six (6) commercial/industrial business operations occupy the subject site and are as follows:

- Fong Construction Co. – Equipment baseyard, water reservoir and sand/fill stockpiling;
- A-1 Rockwall Co. – Equipment baseyard;
- Alii Towing – Derelict vehicle storage and vehicle dismantling;
- Bravo Auto Dismantler – Derelict vehicle storage, dismantling and repair;
- DHX – Container/trailer storage;
- Island Movers – Container/trailer storage.

2.5 Current Uses of the Adjoining Properties

The current uses of the adjoining properties as observed by the investigator during the site reconnaissance are as follows (see Figure 2, Site Plan, in Appendix A):

- North Adjoining Property: Undeveloped, vegetated land.
- East Adjoining Property: Undeveloped, vegetated land. Horse stable further to the east.
- South Adjoining Property: Agricultural land and fallow land (Sugarcane).
- West Adjoining Property: Construction Baseyard (Fong Construction Co. and undeveloped vegetated land).



End of Section

3.0 USER PROVIDED INFORMATION

As a standard of practice, the following information was requested from the Client during the preliminary phases of this investigation:

- Title records and knowledge of environmental liens;
- Personal, specialized knowledge or experience in regard to *recognized environmental conditions* concerning the property; and
- If applicable, actual knowledge of a significant, low purchase price for the property, and explanation for the lower price.

The purpose of this information is to help identify the possibility of *recognized environmental conditions* in connection with the property. These tasks do not require the technical expertise of an environmental professional and are generally not performed by environmental professionals performing the Phase I ESA. VEC submits a Preliminary Environmental Investigation questionnaire to the Client for this information. The client did not complete this questionnaire, however, a similar questionnaire from Central Pacific Bank was completed and submitted to VEC by the client. The completed questionnaire is attached in Appendix B.

According to information provided by the Client in the Preliminary Environmental Investigation questionnaire or by interviews conducted by VEC, the property owner is not aware of any environmental liens, proceedings, or investigations against the subject property as of the date of this ESA.



Lead #30454

4.0 RECORDS REVIEW

The purpose of a records review is to obtain and review records that will help identify *recognized environmental conditions* in connection with the subject property. The service of Environmental Data Resources, Inc. (EDR) was utilized to compile the database listings.

4.1 Standard Environmental Record Sources

The subject property and properties within the minimum search distances were reviewed from the following record sources (see below). Risk sites, if any, that may be located on adjacent properties or within close proximity to the subject site are described. Refer to Appendix B, EDR Radius Map Report (and amended reports), for a complete listing and description of all sites located within the designated search distances, details, and government agency database release dates.

The EDR Report bases the location of the listed risk sites on longitude/latitude information provided by the respective government agency. VEC confirms the locations of risk sites within close proximity to the subject site during the site visit. When the VEC site visit contradicts the EDR Report, it has been so stated.

The initial EDR report did not record any listings for the subject or adjacent properties. However, VEC supplied additional information to EDR on the subject site and nearby properties that resulted in EDR producing amended reports located in Appendix B. The amended records review indicate that two (2) risk sites are located within a 1/4-mile of the subject site. These sites are Brewer Environmental and Maui Scrap Metal. The former Maui County Waikapu Dump is located approximately 1-mile from the subject site and was, therefore, not listed in any of the amended EDR reports due to the relative distance to the subject site.

Federal Database Listings

- ▼ **National Priorities List (NPL or Superfund) and Proposed NPL, EPA.** The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program.
 - The EDR database report indicates no listings within the one-mile search radius of the subject site.
- ▼ **Comprehensive Environmental Response, Compensation and Liability Information System List (CERCLIS), EPA.** The CERCLIS list contains data on potentially hazardous waste sites that have been reported to EPA by states, municipalities, private companies and private persons, pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites that are either proposed to or on the NPL and sites, which are in the screening and assessment phase for possible inclusion on the NPL.
 - The EDR Report indicates no listings within the one-mile search radius of the subject site.
- ▼ **CERCLIS - No Further Remedial Action Planned (NFRAP), EPA.** NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.
 - The subject site is not listed. The former Maui County Waikapu Dump is located northwest of the subject site (approximately 1 mile, however, greater than the required 1/4-mile search radial distance for a CERCLIS (NFRAP) site. Therefore, this site was not included in the amended EDR report.
- ▼ **Corrective Action Report (CORRACTS), EPA.** The CORRACTS report lists hazardous waste handlers with RCRA corrective action activity.

- The EDR Report indicates no listings within the one-mile search radius of the subject site.
 - ▼ **Resource Conservation and Recovery Information System (RCRIS), EPA/NTIS, RCRIIS** includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).
 - The EDR Report indicates no listings within the 1/2-mile search radius of the subject site, which treat, store, and/or dispose of hazardous waste (TSD).
 - The EDR Report indicates no listings within the 1/2-mile search radius of the subject site, which generate at least 1,000 kg/month of non-acutely hazardous waste or 1.0 kg/month of acutely hazardous waste (Lg. Quan. Gen. - LQG).
 - The subject site is not listed. The amended EDR Report indicates one (1) listing within the 1/2-mile search radius of the subject site (Maui Scrap Metal Co. - Waiko Road, Waiuku HI) that generates less than 1,000 kg/month of non-acutely hazardous waste (Sm. Quan. Gen. - SQG). This facility is also noted as having a violation ("Generator - All Requirements (Oversight)"). The date of violation determined was 03/05/1986. The actual date of achieved compliance was 01/19/1996. See amended EDR Report, Appendix B.
 - ▼ **Emergency Response Notification System (ERNS), EPA/NTIS**. Records and stores information on reported releases of oil and hazardous substances.
 - The subject site is not listed.
- State of Hawaii Database Listings*
- ▼ **Sites List (SHWS), DOH**. A list of facilities, sites, or areas in which the Office of Hazard Evaluation and Emergency Response (HEER) has an interest, has investigated or may investigate under HRS 128D (includes CERCLIS sites).
 - The subject site is not listed.
 - The EDR Report indicates no listings within the 1-mile search radius of the subject site. See, however, CERCLIS (NFRAP) listing above.
 - ▼ **Permitted Landfills in the State of Hawaii (SWF/LF), DOH**. An inventory of solid waste disposal facilities or landfills in the State of Hawaii. These may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.
 - The EDR Report indicates no listings within the 1/2-mile search radius of the subject site. See CERCLIS (NFRAP) listing above.
 - ▼ **Leaking Underground Storage Tank (LUST) database, DOH**. An inventory of reported leaking underground storage tank incidents.
 - The subject site is not listed.
 - ▼ **Underground Storage Tank (UST) database, DOH**. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with DOH for administering the UST program.
 - The subject site is not listed.
 - The EDR Report indicates no other listings within the 1/4 mile search radius of the subject site.

- #### 4.2 Additional Environmental Record Sources
- The subject property and properties within the minimum search distances were reviewed from the following record sources. Those adjacent properties within close proximity to the subject site are described. Refer to Appendix B, EDR Radius Map Report, for a complete listing and description of all sites located within the designated search distances, details, and database release dates.
- Federal Database Listings*
- ▼ **Superfund (CERCLA) Consent Decrees (CONSENT), EPA Regional Offices**. Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites.
 - The EDR Report indicates no listings within the one-mile search radius of the subject site.
 - ▼ **Records of Decisions (ROD), EPA**. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.
 - The EDR Report indicates no listings within the one-mile search radius of the subject site.
 - ▼ **National Priority List Deletions (De-listed NPL), EPA**. A list of sites that have been deleted from the NPL where no further response is appropriate.
 - The EDR Report indicates no listings within the one-mile search radius of the subject site.
 - ▼ **Facility Index System/Facility Identification Initiative Program Summary Report (FINDS), EPA**. Contains both facility information and 'pointers' to other sources that contain more detail.
 - The subject site is not listed.
 - ▼ **Hazardous Materials Information Reporting System (HMIRS), DOT**. A list of hazardous material spill incidents reported to DOT.
 - The subject site is not listed.
 - ▼ **Material Licensing Tracking System (MLTS), Nuclear Regulatory Commission (NRC)**. A list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements.
 - The subject site is not listed.
 - ▼ **Mines Master Index File (MINES), Department of Labor, Mine Safety and Health Administration**. Contains both facility information and 'pointers' to other sources that contain more detail.
 - The EDR Report indicates no listings within the 1/2-mile search radius of the subject site.
 - ▼ **Federal Superfund Liens (NPL Liens), EPA**. A list of properties whereby the EPA has filed liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability.
 - The subject site is not listed.
 - ▼ **PCB Activity Database System (PADS)**. Identifies generators, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify EPA of such activities.
 - The subject site is not listed.
 - ▼ **RCRA Administrative Action Tracking System (RAATS), EPA**. A historical archived database containing records on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by EPA. The database was discontinued on September 30, 1995.

- The subject site is not listed.
- ▼ **Toxic Chemical Release Inventory System (TRIS), EPA.** A list of facilities which release toxic chemicals to the air, water, and land in reportable quantities under SARA Title III, Section 313.
- The subject site is not listed.
- Brewer Environmental Industries, is listed in the Toxic Chemical Release Inventory System (TRIS).
- ▼ **Toxic Substances Control Act (TSCA), EPA.** Identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list.
- The subject site is not listed.

Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA)/TSCA Tracking System (FTTS INSP and FTTS), EPA – Office of Prevention, Pesticides and Toxic Substances. FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA, and Emergency Planning and Community Right-to-Know Act (EPCRA).

- The subject site is not listed.

State of Hawaii Database Listings

- ▼ **Release Notifications (SPILLS), DOH.** Releases of hazardous substances to the environment reported to the HEER Office. The following databases are included in the HEER Spill List:

Release Notification Report: a compilation of releases reported to HEER.

Hawaii Emergency Planning and Community Right-to-Know Act (HEPCRA): a list of facilities that have submitted Tier II and Form Rs as a reporting requirement.

- The subject site is not listed.
- Brewer Environmental located approximately 1/2-mile west/northwest from the subject site is listed as storing bulk quantities of regulated and toxic substances such as Ammonia, Sulfuric Acid, Sodium Hydroxide, Paraquat, Chlorine, Calcium Hypochlorite, Methyl Bromide, Ammonia Hydroxide and Fenamiphos.
- ▼ **Registered Wells and Dry Wells, DLNR.** See Section 5.5.6. There is one (1) registered well listed for the subject property (DLNR Well #5129-02). (10/99 DLNR data).
- ▼ **Air Quality Permit, DOH.** Current activities conducted on-site do not require an air quality permit. Dust control measures should be continually employed during sand stockpiling and removal activity to avoid possible citations. Limited dust suppression watering and wind fences were being utilized on-site during the sand stockpiling/removal activity as observed by VEC.
- ▼ **Stormwater Discharge (NPDES) Permit, DOH.** Any disturbance to land that is greater than one (1) acre now requires a NPDES permit. Future land clearing or grading activity will likely require NPDES permit with the State of Hawaii (Clean Water Branch).

County and Other Database Listings

Other local records of environmental interest that were reviewed or considered for review by VEC included:

- ▼ **Fire Department, County of Maui.** The Maui County Fire Department (MCFD) maintains file material that is not on a database. MCFD was contacted for an inquiry on the subject property but, to date, has not received a response. (See Appendix B). However, the EDR report (amended) indicates that a nearby property (Maui Scrap Metal Co.) is listed in the LOCAL database as being the site of a tire pile fire on 10/16/98. No further action was granted. See amended EDR Report, Appendix B.

- ▼ **Former Manufactured Gas (Coal Gas) Sites.** EDR provides exclusive information regarding the existence and location of Coal Gas sites.

- The EDR Report indicates no listings within the one-mile search radius.

- ▼ **Grading/Grubbing Permit, County of Maui.** Current activities conducted on-site do not require a Grading/Grubbing permit. According to the Department of Development Services Administration, the subject site had a mass grading permit for the on-site activities conducted in year 2000. Future clearing/grading activity will likely require obtaining another Grading/Grubbing Permit.

- ▼ **Hazardous Waste Disposal Documents.** VEC did not review any hazardous waste disposal documents. VEC was informed by the tenants (Alii Towing and Bravo Auto Dismantler) that generate waste oil and other regulated items that they have not had to recycle these items yet but intend to in the appropriate manner when their drums are full.

- ▼ **Maui Electric Company.** Maintains records on county power transformers regarding PCB-containing equipment and equipment maintenance.

- Refer to Section 5.3.7 for a listing of any pole and/or pad-mounted transformers located on the property.

- ▼ **Other Environmental Reports.** Environmental site assessment reports that were previously completed by VEC in close proximity to the subject site were reviewed.

- ▼ **Planning & Zoning, County of Maui.** According to the Maui County Department of Planning, the subject site's zoning is "AG (Agricultural District)" and is not within the boundaries of the Special Management Area (SMA).

- ▼ **Property Tax Office, County of Maui.** The Maui County Property Tax Office maintains records of past ownership, maps, sketches, or other information as it pertains to the subject property. (See also Section 7.1). The property owner is listed as Consolidated Baseyards, LLC.

- ▼ **Wastewater Discharge Permit, County of Maui.** VEC did not identify any wastewater discharge permits registered to the subject property.

4.3 Physical Setting Source(s)

The following sources were reviewed for physical setting information (refer to Section 7.0 for a complete listing):

- Atlas of Hawaii
- Civil Defense Tsunami Evacuation Map
- FEMA National Flood Insurance Rate Map
- Geologic and Topographic Map
- Groundwater Map and Water Quality Plan
- U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, HI
- U.S. Geological Survey, 7 1/2 Minute Topographic Map

These data sources were used to provide information regarding physical characteristics of the subject site and surrounding area. This information is typically used in analysis of potential geological trends, which might impact environmental conditions of the subject site.

4.4 Historical Use Information on the Property and Adjoining Properties

The following historical data sources were reviewed for this report (refer to Section 7.0 for a complete listing):

- Aerial Photographs
- Department of Planning and Zoning, Maui County
- Maui County Fire Department (Fire Prevention Bureau / Hazardous Materials Division)
- Maui County Real Property Tax Records
- Maui Remembers: A Local History by Gail Bartholomew
- Personal Interviews
- Sanborn Maps (no available coverage)
- State of Hawaii, Department of Health, Environmental Management Division
- Environmental Data Resources, Inc. (EDR)

Historic Aerial Photographs

A series of aerial photographs, which covered the subject property and surrounding area, were examined. See Figure 2, Site Plan, for clarification of specific locations.

Date	Historical Aerial Photograph Analysis: Aerial Photo Analysts
12/20/50	SS: Only a portion of the subject property is visible in this photo. Appears to be undeveloped vegetated land. N: Undeveloped vegetated land. E: Only a portion of property is visible in this photo. Appears to be undeveloped vegetated land. S: Not visible on this aerial photo. W: Only a portion of property is visible in this photo. Appears to be undeveloped vegetated land. RG: Mostly undeveloped land. East Waiko Road is visible and agricultural activity is mainly situated to the west and northwest.
6/02/64	SS: Undeveloped vegetated land. Possible limited road network located near the southern property boundary adjacent to East Waiko Road. N: Undeveloped vegetated land. E: Undeveloped vegetated land. Possible limited road network located near the southern property boundary adjacent to East Waiko Road. S: East Waiko Road, beyond which is undeveloped vegetated land and some land clearing (tree harvesting). W: Undeveloped vegetated land. Possible limited road network located near the southern property boundary adjacent to East Waiko Road. RG: Mostly undeveloped land with significant agricultural activity located further to the east, west and south.
1/30/77	SS: Property appears to be partially cleared of heavy vegetation. Road networks are visible. Type of activity unknown. N: No significant change except for additional small road networks. E: Remains heavily vegetated with limited road networks. S: Agricultural activity appears to have begun. W: No significant change. RG: Increased agricultural activity to the east, south and west. Maui County Landfill (former dump) appears to be operational which is located northwest of the subject property. Kuhelani Highway is also visible to the east of the subject property.
9/11/85	SS: Northern portion of the property appears to remain heavily vegetated with limited road networks. The southern portion of the property appears to be almost completely cleared of vegetation. Road networks with material storage and/or possible dumping is noted on the sides of the road networks. N: No significant change. E, S: No significant change. W: No significant change. RG: No significant change.
10/08/90	SS: Previous clearing and storage and dumping are no longer visible. Appears to be mostly vegetated again with minor road networks noted. One (1) small building structure is visible on the western property boundary and/or immediately on the western adjacent property. NE: No significant change. S: No significant change. W: Fong Construction Company Baseyard is visible. RG: No significant change. Significant increase in residential development to the west in Waikuku Heights.

SS Subject Site
N North Adjoining Property
E East Adjoining Property
S South Adjoining Property

W West Adjoining Property
RG Regional Area



Est. 1973

VEC did not observe any features on aerial photographs examined that would suggest the presence of significant vegetation stress, soil staining, or bulk storage of chemicals such as drums or tanks. However, limited possible dumping was noted in the 1985 aerial photo.

5.0 SITE RECONNAISSANCE

Information regarding the stormwater flow, property layout, physical characteristics, and adjoining property conditions are presented in Figure 2, Site Plan, and the site photographs. (See Appendix A).

5.1 Methodology and Limiting Conditions

A site investigation focuses on obtaining information indicating the likelihood of identifying recognized environmental conditions in connection with the property and assessing the subject property in relation to surrounding land uses and natural surface features. It includes a physical inspection of the real property and any on-site building structures.

On May 15, 2003, VEC personnel, Mr. Jeffrey Kermode, conducted an overall site inspection of the subject site. The method used to observe the subject property included: (1) walking the entire perimeter of the subject property, (2) thoroughly inspecting all areas of observed releases and regulated material storage areas; (3) traversing several sections of the undeveloped vegetated land, and (4) inspecting the on-site building structure. The property boundaries were not clearly defined, and the VEC investigator made estimates based on the property TMK map and from information provided by the property owner.

Certain physical obstructions limited the investigator from total property observations of native surface soils. Approximately 20% percent of the subject site's total surface soils were not observable due to the subject site's building structure, equipment storage, sand stockpiling and paved surface areas. Inspection by the VEC investigator was limited in the Alii Towing derelict vehicle storage area due to the placement of several pit bull guard dogs.

Any environmental conditions reported here are not intended to include minimal conditions that 1) generally do not present a material risk of harm to public health or the environment and 2) generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

5.2 General Site Setting

5.2.1 Current and Past Uses(s) of the Property

Current Uses

The property is currently owned by Consolidated Baseyard, LLC. Just over half of the property is cleared and graded. The remainder of the property is undeveloped vegetated land. Six (6) separate businesses operate on the subject site. See Section 2.3 for a listing of operating companies. VEC did not identify any current uses that are likely to involve the use, treatment, storage, disposal, or generation of hazardous substances or petroleum products on the subject property, except for the following:

- > *Fong Construction Co.* (Heavy equipment storage and construction baseyard) - Limited quantities of regulated petroleum-based items are stored on-site. Leakage of petroleum product from heavy equipment was noted. Asbestos-containing piping is stored on-site.
- > *A-1 Rockwall Co.* (Construction baseyard) - stores limited quantities of waste oil and other petroleum-based fluids on-site. Waste oil was not stored effectively.
- > *Alii Towing* (Derelict vehicle storage and vehicle dismantling) - stores/generates limited quantities of waste oil and petroleum-based fluids on-site. This business has been operational for only three (3) months according to the manager.

- > *Bravo Auto Dismantler* (Derelict vehicle storage, dismantling and repair) - stores/generates limited quantities of waste oil, petroleum-based fluids and vehicle batteries on-site. This business has been operational for only six (6) months according to the manager.

See also Section 5.3.1 for a more extensive listing of regulated products stored and/or used on-site. Information presented here represents those items visually or physically observed or identified in the interviews or records review.

Past Uses

Historically, the land was owned by A&B Properties and was undeveloped vegetated land. According to Mr. Henry Fong, Consolidated Baseyard LLC's representative, the property was at one time partially cleared to create a drive-in theater, however, apparently the project was never completed. Maui Property Tax Office records list the property leased to Consolidated Amusement Co. from A&B Properties in the 1970's and 1980's.

The property was partially graded and cleared approximately two (2) years ago to provide for its current baseyard storage yard space.

The knowledge of past uses of the property was primarily made from aerial photographs and interviews. Topographic maps and the Hawaii Atlas provided limited regional information.

5.2.2 Current and Past Uses(s) of the Adjoining Properties and Surrounding Area

VEC has researched current uses of adjoining properties and at its discretion, past uses of the adjoining properties and the surrounding areas. Information presented here represents those items visually or physically observed or identified in the interviews or records review. The information is described herein as items that may indicate recognized environmental conditions with adjoining properties and those conditions that may indicate a high probability of migration of hazardous substances or petroleum products to the subject property.

Adjoining Property	Period	Land/Property Use	Concerns	Comments
North of Subject Site	Past	Undeveloped vegetated land	Unauthorized dumping of hazardous/regulated materials.	There is no indication of unauthorized dumping.
	Present	Undeveloped vegetated land	Unauthorized dumping of hazardous/regulated materials.	There is no indication of unauthorized dumping.
East of subject site	Past	Undeveloped vegetated land	Unauthorized dumping of hazardous/regulated materials.	There is no indication of unauthorized dumping.
	Present	Undeveloped vegetated land. Horse stable further to the east.	Unauthorized dumping of hazardous/regulated materials.	There is no indication of unauthorized dumping.

South of subject site	Past	Undeveloped vegetated land. Agricultural (sugarcane).	Pesticide application on crops leading to soil and groundwater contamination.	Sugarcane cultivation has been active for several decades with continued operations to date. Historically, there may have been the use of agricultural pest control chemicals and fertilizers, which has been long recognized by the U.S. Environmental Protection Agency (EPA) for contributing to the potential contamination of surface soils and groundwater systems. Most agricultural chemical concerns typically arise when bulk (bulk strength) products leak or are spilled onto soils. However, it is possible that chemicals in long-term use remain at, or above, regulated levels. This could have an impact on the water quality underlying the subject property, however, it is unlikely that the chemicals underlying the subject property would be above regulated levels.
	Present	Agricultural and fallow land.	Pesticide application on crops leading to soil and groundwater contamination.	See above description.
West of subject site	Past	Undeveloped vegetated land.	Unauthorized dumping of hazardous/regulated materials.	There is no indication of unauthorized dumping.
	Present	Fong Construction Company Baseyard	Storage of regulated materials and above-ground diesel fuel tanks.	No significant releases have been reported at the site concerning the above-ground diesel storage tanks.

The development of past uses of the adjoining properties was primarily made from interviews, VEC site reconnaissance, Maui County records, and aerial photographs. Topographic maps and the Hawaii Atlas provided limited regional information.

5.2.3 Topography

The subject site lies on the western center edge of the Kahului Isthmus near the east edge of West Maui. The isthmus is situated between the West Maui Mountains and the dormant Haleakala Volcano.

Locally, the average elevation is approximately 230 feet above mean sea level and is characterized by east-northeasterly trending slopes of approximately three (3) percent.

The nearest prominent natural feature is Waikapu Stream located approximately 2,000 feet southwest of the subject site.

5.2.4 Geology and Soils

The West Maui Volcanics have been divided into three series. The oldest series are the Wailuku Volcanics, which are the basaltic flows that built the bulk of the West-Maui island shield. The Honolua Volcanic Series overlies the Wailuku Volcanics and consists of thin, discontinuous andesitic and trachytic flows, domes and pyroclastic deposits. After a long period of erosion, renewal activity included the flows and cones of the Lahaina Volcanic Series.

According to the U.S. Department of Agriculture, the following soil series underlies the subject site:

- Puuone sand, 7 to 30 percent slopes (PZUE). Puuone Series soil includes overly drained sandy soil derived from coral and seashells. They tend to be moderately to steeply sloping. Specifically, PZUE soil occurs on sand hills near the ocean. In a representative profile, the surface layer is about 20 inches thick, consisting of grayish-brown, calcareous sand. At depth, this material becomes cemented

Permeability is rapid (6.3 to 20 inches per hour) above the cemented layer, and slow (less than 0.06 inches per hour) within the cemented layer. This soil is described as having a low corrosivity for uncoated steel and concrete. Runoff is slow, and the hazard of wind erosion is moderate to severe.

Other common, surface geologic phenomena investigated in an environmental site assessment are faults, landslides, rock falls, earthquake zones and volcanic eruptions. In 1992, the USGS reevaluated the seismic hazards for the State of Hawaii, and Maui County was classified as Zone 2B. This indicates that in any given year within a 50-year period (average building life span) there is a 10% chance that 1/5 the force of gravity (ground acceleration) during an earthquake will be exceeded.

After examination of the relevant data, it has been determined by VEC that these geologic phenomena are not a factor to the subject site. However, it should be noted that this is not an investigation for geological hazards.

5.2.5 Hydrology

The subject site area has an annual average rainfall of approximately 20 inches. The average temperature range from the annual high to the annual low is 82 degrees and 65 degrees Fahrenheit, respectively. The pre-development vegetation zones within this temperature and rainfall range are characterized as Kiawe and lowland shrubs and Lantana-koa haole shrubs.

On-site drainage is generally directed from the higher property elevations of the western boundary to the lower elevations of the eastern boundary. (See Site Plan, Figure 2).

The Civil Defense Tsunami Evacuation Maps indicates that the subject site is not in the Tsunami reach zone. The nearest shoreline is approximately 3.0 miles to the north-northeast.

The pertinent Federal Insurance Rate Map (FEMA FIRM MAP #15003 0190 D dated map revised on March 16, 1995) depicts the area as minimal flooding (Zone C).

5.2.6 Hydrogeology

As with all islands of the United States, Maui is regulated by the Coastal Zone Management Act of the Clean Water Act. These two designations require protective comprehensive plans for groundwater management and limit the extent of certain types of development and land use. One important management criterion is the disposal of wastewaters. The Water Resource Management Department of Hawaii has designated the groundwater management area as the *Kahului Aquifer System* within the *Central Aquifer Sector*. The groundwater underlying the subject site is defined as follows:

	Unconfined basal aquifer comprised of sand and marine sediments deposited by erosion and biogenic processes.	Currently Used	Ecologically Important	Low	Implacable	High
Upper	Unconfined basal aquifer occurring in horizontally extensive lens (Pak)	Currently Used	Ecologically Important	Low	Implacable	Moderate

The following are descriptions of the aquifer classification codes, according to Water Quality Plan of 1992:

Aquifer Type Hydrogeology (basal, high level, unconfined, confined, or confined/unconfined): basal - freshwater in contact with seawater, high level - freshwater not in contact with seawater, unconfined - water table is the upper surface of the saturated aquifer, confined - aquifer is bounded by impermeable or poorly permeable formations; and confined or unconfined - the actual condition is uncertain.

Aquifer Type Geology: flank, dike, flank/dike, perched, dike/perched, and sedimentary.

Development Stage – currently used, potential use, no potential use: Aquifers are differentiated according to those already being used (currently used), those with potential utility (potential use), and those having no potential developability.

Utility – drinking, ecologically important, neither: Identifies aquifers by use.

Salinity – fresh, low, moderate, high, and seawater: The gradation of groundwater from fresh to seawater is a feature of all basal aquifers in Hawaii. The upper limit of the standard for drinking water is 250 mg/l Chlorine (Cl) (fresh) and true seawater has a chloride content of 18,980 mg/l.

Uniqueness – irreplaceable and replaceable: The classes irreplaceable and replaceable are direct EPA derivatives. Virtually all potable water in the state of Hawaii should be considered irreplaceable over the long term.

Vulnerability to Contamination – high, moderate, low, none: Because of the geographical limits of resources, interconnection among groundwater sources and the relatively rapid time of groundwater travel, aquifers can be described as being either vulnerable or not vulnerable to contamination.

The estimated depth to the basal groundwater is projected to be approximately 225 feet below the ground surface, depending on the position on the subject site. The projected groundwater flow is expected to follow the general slope of the underlying volcanic flows and be in an easterly direction.

A groundwater well is located on-site. VEC requested information on the well from the property owner including water quality testing results. To date VEC has not received this requested information.

5.2.7 Potable Water Supply and Sewage Disposal System

The on-site groundwater well provides the water supply for the subject site. VEC was unable to obtain the water quality testing information from the property owner to determine if the water was potable. No sewage disposal system is located on-site. A portable toilet facility (Porta-Potty) is set up for the on-site tenants.

6.3 Interior and Exterior Observations

5.3.1 Hazardous/Regulated Substances and Petroleum Products in Connection with Identified Uses

The following hazardous substances or regulated materials currently used on-site, as part of a production process, or otherwise directly related to on-site operations, as visually or physically observed during the site visit or identified from interviews or records review, are as follows:

Alii Towing Co. (Derelict vehicle storage) – generates and stores waste oil and other vehicle fluids from their limited vehicle dismantling activities conducted on-site. One (1) 55-gallon drum of waste oil was noted by VEC. (See Photos 8, Appendix A, for a view of the derelict vehicle storage area). The above-noted petroleum products have impacted the underlying surface soils. According to the business manager, the limited amount of coolant collected is reused in their forklift. Well over one hundred (100) derelict vehicles are located in this area. These vehicles may be removed off-site in the near future and may require the removal of vehicle fluids and batteries. If this takes place, a significant quantity of regulated materials will be generated on-site. The property owner should ensure all regulated items are being managed properly by the tenant at all times.

Bravo Auto Dismantler (Derelict vehicle storage and repair) – stores limited quantities of waste oil, batteries and other vehicle fluids on-site. Regulated items are to be managed on an as-needed basis. Ineffective waste oil management was identified by VEC during the site reconnaissance. (See Photos 13 thru 18, Appendix A). The above-noted petroleum products have impacted the underlying surface soils. Vehicle batteries should be palletized and covered and recycled regularly by a certified recycler.

Fong Construction Co. (Heavy equipment storage and construction baseyard) – improperly stores limited quantities (two (2), 5-gallon containers) of solvent and hydraulic oil and one (1) automobile battery on-site. (See Photo 20, Appendix A). The above-noted petroleum products have impacted the underlying surface soils. Leakage from heavy equipment stored on-site was also noted by VEC. (See Photo 22, Appendix A).

A-1 Rockwall Co. (Construction baseyard) – improperly stores limited quantities of waste oil and petroleum-based fluids on-site. These products have impacted the underlying surface soils. (See Photo 19, Appendix A).

The above-listed operations also store small amounts of household size containers of disinfectant cleaners, detergents, paints, and thinners, gasoline, oils, pesticide products, etc.

For the above-listed tenants storing containers/drums of regulated substances on-site, these drums should be properly managed in order to avoid unnecessary releases onto the underlying surface soils or into any nearby drainage systems.

VEC recommends the following management procedures be followed at facilities storing drums/containers:

- Drums containing hazardous or regulated waste/product should be stored in an area with underlying secondary containment. This may include concrete ground surfaces with retaining berms or similar spill control protection. Drum storage should be located in an area (preferably covered) that will be protected from accidental machinery or vehicular impact;
- Any product filling should be done in the containment area. If this is not possible, proper spill kits should be nearby to handle any spilled product. Spills should be cleaned up immediately and any contaminated soil or absorbent material disposed of properly;
- All drums/containers should be properly labeled with product identification and inventoried. Materials Safety Data Sheets (MSDS) should be available on each product inventoried;
- Drums with no remaining free product should be disposed of according to County regulations. Drums to be re-used and temporarily stored on-site should be empty, clean and labeled "Empty".
- Vehicle batteries should be stored off the ground surface (on pallets) and on a paved surface. The batteries should be under cover.

Spills and leaks from drums or machinery during the on-site operations should be kept to a minimum with proper product management and employee awareness. This will assist in minimizing the potential for soil contamination and even possible surface or groundwater contamination.

5.3.2 Hazardous/Regulated Substances and Petroleum Products/Containers (not in connection with identified current uses).

VEC did not identify any hazardous/regulated substances and/or petroleum products that are not in connection with identified current uses as visually and physically observed on the property at the time of the site visit except for the following:

Fong Construction Co. – Several former above-ground fuel storage tanks were located on-site. All tanks were empty with no noticeable petroleum odors or related surface soil staining.

There is no evidence of any historic misuse, improper bulk storage, or significant spills of hazardous or regulated substances on the subject property other than what was noted in Section 5.3.1.

5.3.3 Unidentified Substance Containers

VEC did not observe any unidentified substances suspected of being hazardous/regulating substances or petroleum products as visually and physically observed on the property at the time of the site reconnaissance.

5.3.4 Storage Tanks

No operational aboveground or underground fuel storage tanks (UST's) were noted on-site nor is the site listed in the database listings.

Several possible former aboveground fuel storage tanks were noted by VEC during the site inspection. All of the tanks were empty and no related petroleum odors were noted.

One (1) operational water holding tank was located on-site and is used for dust suppression activities. (See Photo 12, Appendix A).

5.3.5 Odors

Besides odors emanating from the containers previously noted above (Section 5.3.1), the only petroleum-like odors noted by VEC were from the areas of limited surface soil staining located on-site. (See Section 5.5.2 and Figure 2, Appendix B for surface soil staining locations).

5.3.6 Pools of Liquid

The investigator did not observe any pools or sumps of liquids likely to be hazardous substances or petroleum products to the extent visually and/or physically observed on the subject property at the time of the site visit or from interviews or records review.

A water reservoir is located on-site, however, was not operational at the time of the site visit. (See Photo 11, Appendix A).

5.3.7 Indications of PCBs

Pole or pad-mounted transformers numbered 7777 or above are considered to be non-PCB containing by the Maui Electric Company. No pole or pad-mounted transformers were identified on the property.

Background Information:

Polychlorinated biphenyls (PCBs) are a group of manufactured organic chemicals that contain 209 individual chlorinated chemicals (known as congeners) and were introduced in 1929. PCBs have been used widely as coolants and lubricants in transformers, capacitors, and other electrical equipment. Products containing PCBs are old fluorescent lighting fixtures, electrical appliances containing PCB capacitors, old microscope oil, and hydraulic fluids.

The manufacture of PCBs stopped in the United States in 1977 because of evidence that they build up in the environment and cause harmful effects. The distribution in commerce of PCB containing items was banned in 1979 (40 CFR 761.20). The EPA aggressively enforces regulations concerning PCB manufacturing, use, distribution, release and disposal under the Toxic Substance Control Act (TSCA). This federal agency extensively regulates the use, servicing, and disposal of PCBs in electrical equipment by enforcing marking, notification, inspection, and record keeping requirements.

5.4.1 Heating and Cooling Systems of On-site Building Structures

Only one (1) small building structure is located on-site (Bravo Auto Dismantler). No cooling system for this structure was noted by VEC.

5.4.2 Stains and Corrosion

No significant signs of stains or corrosion were noted in the interior of the building structure.

5.4.3 Indoor Wastewater Drains, Sumps and Grease Interceptors

No floor drains, sumps or interceptors were observed within the structure located on-site.

5.5 Exterior Observations

5.5.1 Pits, Ponds, and Lagoons

There were no areas identified as any man-made or natural depressions that are, or would have been, likely to hold waste liquids or sludges from industrial operations or other activities. See also Section 5.3.6.

5.5.2 Stained Soil or Pavement

Approximately six (6) areas of petroleum surface soil and/or pavement staining were noted on the subject property. The locations noted were as follows:

Fong Construction Co. - Surface soil staining was noted in the northwest corner of the subject site where one (1) drum of solvent and one (1) drum of hydraulic oil were improperly stored (See Photo 20, Appendix A).

A-1 Rockwell Co. - Surface soil staining was noted at the base of three (3) improperly stored containers of waste oil. (See Photo 19, Appendix A).

Bravo Auto Dismantler - Surface soil staining was noted where waste oil was being improperly managed and where dismantled vehicle parts were being stored. (See Photos 13 through 15, Appendix A).

Alii Towing - Limited surface soil staining was noted near a 55-gallon waste oil drum and near the edge of the paved surface in the vicinity of the vehicle maintenance area.

(See also Figure 2 located in Appendix A for the above-noted soil stained locations).

The vertical extent of the petroleum contamination is unknown. In the event of a significant release (>25 gallons), the State of Hawaii is to be notified.

5.5.3 Stressed Vegetation

There were no areas of stressed vegetation identified on the subject property at the time of the site visit that are, or would have been, likely caused from something other than insufficient water (or flooding).

5.5.4 Solid Waste

The following indications of solid waste dumping or mounds of unknown content were observed on the subject property during the site reconnaissance:

> Several earthen mounds were noted in the central and eastern portion of the subject site. These mounds were grass covered and appeared to have been the result of the previous land grubbing/grading activity. Smaller mounds further to the east appeared to be natural. The inner contents of the earthen mounds are unknown, however, they most likely only consist of earthen material from land clearing activities. If excessive construction debris or any unidentifiable containers are uncovered from these mounds, proper waste management and handling should be undertaken.

> Miscellaneous debris dumping, including asphalt, wood, metal and vegetation debris were located to the east of the on-site water reservoir. (See Photo # 26). The inner contents of the dumped materials are unknown.

- > One (1) area of significant dumping of automobile tires (regulated item) is located on-site east of the water reservoir. (See Photo #24).
- > Limited dumping was noted in the undeveloped, vegetated area of the subject site and included household trash and one (1) derelict vehicle. (See Photo # 25).

Historical on-site disposal practices are unknown. A 1985 aerial photograph showed possible limited dumping, however, these areas have since been graded. (See Section 4.4).

5.5.5 Wastewater or Stormwater - Discharge Drains, Dry Wells, Drainageways, and Retention Basins
 No stormwater discharge drains, drywells or retention basins were identified during the site reconnaissance. However, the mechanics working at Bravo Auto Dismantler wash up at an on-site wash basin that drains onto the surface soils. All tenants should be aware of the importance of limiting potential products of concern (including waste oils, coolants, degreasers and cleaners) from migrating off-site or impacting the surface soils of the subject site.

The closest natural drainage system is Waikapu Stream located 2,000 feet southwest of the subject site. Currently, the County of Maui has a Wastewater Pretreatment Ordinance that requires any business that introduces oils, solvents, sand, etc. into the wastewater stream to pre-treat the wastewater before it is introduced into the county system. This ordinance covers businesses that conduct on-site automobile maintenance. Currently the County does not enforce this ordinance for the automotive-related industry, however, enforcement will likely occur within the next two (2) years. Enforcement of this ordinance may affect the management of the wastewaters originating from any vehicle servicing activity located on-site if the property's wastewater discharge lines are connected to the County system in the future.

Best management practices should be implemented at all times during the sand stockpiling operation to ensure sediment is not carried off-site by stormwater flows.

Any future grubbing or grading activity that may take place on the subject site (especially if > 1 acre of soil disturbance), both a Maui County Grading Permit and a Department of Health, Clean Water Branch, NPDES (National Pollutant Discharge Elimination System) permit will likely be required.

5.5.6 Wells

From VEC's observations and database search, one (1) production groundwater well is located on the subject site. The well is registered with the Department of Land and Natural Resources (DLNR) as Well # 5129-02. DLNR informed VEC that to date, the State has not received a Pump Installation Report. These reports are required by the State sixty (60) days after installation is complete.

No other registered wells are located near the subject site.

5.5.7 Septic and Cesspool Systems

This site is not connected to the county's wastewater sewer system.

The property owner's representative was not aware of the existence of any current or historic cesspool or septic systems located on-site.

VEC noted one (1) portable toilet system (Porta-Potty) being used on-site.

5.5.8 Non-Scappa Consignments

The concerns listed below are not normally considered relevant under CERCLA, however, may be considered regulated under other environmental laws and ordinances and may present a potential liability to the property owner.

5.6.1 Asbestos-Containing Materials (ACM)

Current OSHA regulations for occupational exposure to asbestos hazards require commercial building owners to presume all thermal system insulation, sprayed or textured surfacing materials and asphaltic and vinyl flooring installed in buildings constructed before 1981 to contain ACM. The original construction date of the on-site commercial structure is unknown, however, it appears to be greater than twenty years old. It is possible that some of the building components may be asbestos-containing.

During the site inspection, AHERA-certified building inspector Jeffrey Kermode performed a visual survey for suspect asbestos-containing building materials (ACMs). The survey consisted of a reconnaissance of the single on-site building structure and was limited in scope in the contract. The site inspection did not include any entry into crawl spaces or plenums. Areas of stored materials and discarded debris were also inspected. The following listing of suspected ACM's was compiled from site assessment notes and does not constitute a comprehensive building inspection under EPA/AHERA protocol:

- Drywall tape and mud;
- Possible tar paper located beneath the roofing material;
- Twenty-eight (28) asbestos-containing transite pipes were being stored on-site by Fong Construction Co. Pipe lengths were 12' and the diameters were 8" and 12". Some of the pipes were broken. (See Photo #23).

Background Information:

Asbestos was widely used in building materials and in fire retardant applications up through the 1980s. Asbestos use in the United States did not start to decline until the EPA banned the spray-applied materials during 1973-1978. Further restrictions on U.S. manufactured asbestos products continued into the 1990s. The EPA ban rule and phase-out of all asbestos-containing materials (ACMs) was to be implemented in stages from 1990 to 1997, but the rule was overturned in federal court.

Asbestos is a known health hazard causing progressive lung scarring and cancer. Asbestos related conditions usually develop within 15 to 40 years after exposure. Exposed smokers have an increased risk factor of 50 to 90 times that of the non-smoking population.

State and federal rules have established standards for the use and control of ACM. These standards apply to worker protection, notification procedures, renovation/demolition activities, and construction debris (waste) management.

Under the EPA's Asbestos Hazard Emergency Response Act (AHERA), 40CFR763, asbestos-containing material (ACM) is defined as any substance whose asbestos content exceeds one percent (1%) of the total volume as determined by Polarized Light Microscopy (PLM) analysis. Building inspector training, sampling procedures and laboratory analysis are also addressed under this rule. Some aspects of this rule have been extended to public and commercial buildings. The Hawaii Administrative Rules 11-502 have essentially adopted EPA's AHERA standard.

Current OSHA regulations for occupational exposure to asbestos hazards require commercial building owners to presume all thermal system insulation, sprayed or textured surfacing materials and asphaltic and vinyl flooring installed in buildings constructed before 1981 to contain ACM. The Federal Occupational Safety and Health Act (OSHA) Construction Standard for Asbestos requires that building owners communicate any potential or actual asbestos hazards (29CFR1926.1101(k)). Owner/Operators must inform in-house employees and any outside contractor (workers) who apply or bid for work in or adjacent to areas known or presumed to contain asbestos. Included asbestos materials are Thermal system insulation (TSI), sprayed or trowelled-on surfacing materials, and asphalt or vinyl flooring material installed prior to

- > One (1) area of significant dumping of automobile tires (regulated item) is located on-site east of the water reservoir. (See Photo #24).
- > Limited dumping was noted in the undeveloped, vegetated area of the subject site and included household trash and one (1) derelict vehicle. (See Photo # 25).

Historical on-site disposal practices are unknown. A 1985 aerial photograph showed possible limited dumping, however, these areas have since been graded. (See Section 4.4).

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 No stormwater discharge drains, drywells or retention basins were identified during the site reconnaissance. However, the mechanics working at Bravo Auto Dismantler wash up at an on-site wash basin that drains onto the surface soils. All tenants should be aware of the importance of limiting potential products of concern (including waste oils, coolants, degreasers and cleaners) from migrating off-site or impacting the surface soils of the subject site.

The closest natural drainage system is Waikapu Stream located 2,000 feet southwest of the subject site. Currently, the County of Maui has a Wastewater Pretreatment Ordinance that requires any business that introduces oils, solvents, sand, etc. into the wastewater stream to pre-treat the wastewater before it is introduced into the county system. This ordinance covers businesses that conduct on-site automobile maintenance. Currently the County does not enforce this ordinance for the automotive-related industry, however, enforcement will likely occur within the next two (2) years. Enforcement of this ordinance may affect the management of the wastewaters originating from any vehicle servicing activity located on-site if the property's wastewater discharge lines are connected to the County system in the future.

Best management practices should be implemented at all times during the sand stockpiling operation to ensure sediment is not carried off-site by stormwater flows.

Any future grubbing or grading activity that may take place on the subject site (especially if > 1 acre of soil disturbance), both a Maui County Grading Permit and a Department of Health, Clean Water Branch, NPDES (National Pollutant Discharge Elimination System) permit will likely be required.

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5.5.7 Septic and Cesspool Systems

This site is not connected to the county's wastewater sewer system.

The property owner's representative was not aware of the existence of any current or historic cesspool or septic systems located on-site.

VEC noted one (1) portable toilet system (Porta-Potty) being used on-site.

5.5.8 Non-Scappa Consignments

The concerns listed below are not normally considered relevant under CERCLA, however, may be considered regulated under other environmental laws and ordinances and may present a potential liability to the property owner.

1981. Hawaii Occupational Safety and Health (HIOSH) under HAR 12-141.1 has adopted the federal standard.

Under EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) 40CFR Part 61, are requirements for renovation and demolition work involving ACM.

5.6.2 Radon

VEC did not identify any man-made products on the subject property that are known or suspected to emit radioactive decay elements.

Background Information:

Radon is a colorless and odorless radioactive gas that can produce health effects such as cellular injury. Radon gas can occur in the natural environment as concentrations from certain rocks and geologic conditions have a high radon-emanation potential.

These surface rock types are not known to occur in Hawaii. It is possible that increased concentrations of Radon could occur in regions where geologic fault and volcanic rift zones may release gases from deeper earth sources. However, the State of Hawaii, Department of Health (DOH) has not addressed concerns for any significant levels of gas to occur anywhere in Hawaii. This was based on the 1992 and 1996 DOH investigations conducted in elementary schools throughout the State.

5.6.3 Lead-Based Paint

Due to the older construction date of the on-site structure, the interior and exterior painted surfaces of the structure could contain paint with measurable levels of lead. This is not a concern if the paint is left undisturbed or is event painted over. However, it does become a concern for the building owner/manager if renovation or demolition work is undertaken that will disturb the painted surfaces.

Background Information:

Lead is a metal element in pure form but is found in other chemical compounds used within manufactured and formulated products. Among these are pipe solder, paint and other coatings and water pipes - items commonly found in older buildings and homes.

Lead becomes toxic to the human body even in low levels by chronic over exposure. The exposure may occur by breathing dust, eating dust (on food, tobacco, fingers, or eating paint chips (children)). Lead poisoning affects the brain and central nervous system, especially susceptible are young children. Lead is also known to impact kidney and liver functions.

The EPA/HUD defines lead-based paint as paint or other coatings containing lead equal to or in excess of 0.5% lead by weight or 1.0 mg/cm². The prevalence of lead-based paint in housing built before 1940 is especially high according to research conducted by the U.S. Department of Housing and Urban Development (HUD). After 1940, its use diminished until 1972 when U.S. manufactured housing paint became regulated at 0.5 percent lead by weight and "banned" in 1978; this means that paint could not be manufactured and sold for housing use if it contained lead above the U.S. Consumer Products Safety Commission's (CC) 0.06 percent by weight. The "ban" provided a basis for using the cut-off date of 1978 when disclosing the possibility of lead-containing paint in sales and rentals of housing units.

Any detected lead-level in paint below HUD and the CPSC's criteria remains an environmental concern under the U.S. Occupational Safety and Health Administration's (OSHA) Lead Standard for Construction Workers, 29CFR1926.62 and the HIOSH equivalent, HAR 12-148.1. Communication of lead-levels in paint is required for worker safety, when conducting renovation or demolition, and for construction debris (waste) management.

5.6.4 Lead in Drinking Water

The subject property is not served by the Maui County Municipal Water System at this time. VEC was not provided records of groundwater testing from the well conducted at this site.

5.6.5 Ecological Resources, Endangered Species, Cultural and Historic Resources, and Wetlands

There are no known wetlands, critical habitats, or threatened and endangered species designated for the subject site.

5.6.6 Indoor Air Quality

VEC did not identify any building surfaces that had characteristics that resembled possible mold contamination at the time of the site visit. VEC did not observe any mold related odors. However, it should be noted that mold-contaminated surfaces may be located in interstitial wall spaces, and thus, would not be visually identified during the site investigation.

Background Information:

Indoor air quality (IAQ) problems primarily result from indoor pollution sources that release gases or airborne particles. The term "Sick Building Syndrome" (SBS) is used to describe situations in which building occupants experience acute health and discomfort effects that appear to be linked to time spent in a building and may be localized in a particular room or zone or may be widespread throughout the building. Frequently, problems result when a building is operated or maintained in a manner that is inconsistent with its original design or prescribed operating procedures or as a result of poor building design or occupant activities.

Sources of indoor air contaminants can originate from within the building or be drawn in from the outdoors. The following causes contribute to IAQ problems:

1. *Inadequate ventilation* - As a result of the oil embargo in 1973, national energy conservation measures called for a reduction in the amount of outdoor air provided for ventilation. In many cases the reduced outdoor air ventilation rates were found to be inadequate to maintain the health and comfort of building occupants. Potential air pollutant sources in ventilation or heating, ventilating, or air-conditioning (HVAC) systems include, but are not limited to: dust or dirt in ductwork; microbiological growth (i.e. mold, mildew, or bacteria); improper use of biocides, sealants, and cleaning compounds; improper venting of combustion products; and refrigerant leakage. Inadequate ventilation may increase the concentrations of these indoor air contaminants.
2. *Biological contaminants* - Bacteria, molds, pollen and viruses are types of biological contaminants. These contaminants may breed in stagnant water that has accumulated in ducts, humidifiers and drain pans, or where water has collected on ceiling tiles, carpeting, or insulation. Surfaces exposed to high humid conditions with limited air movement may also be subject to microbiological contamination.
3. *Chemical contaminants from indoor sources* - Most indoor air pollution comes from sources inside the building. Potential air pollutant sources of indoor chemical contaminants include, but are not limited to: adhesives, carpeting, upholstery, manufactured wood products, pesticides, combustion products (i.e. carbon monoxide, carbon dioxide, and nitrogen oxides), and cleaning agents emitting volatile organic compounds (VOCs). Tobacco smoke contributes high levels of VOCs, other toxic compounds, and respirable particulate matter. Research has shown that some VOCs can cause chronic and acute health effects at high concentrations, and some are known carcinogens.
4. *Chemical contaminants from outdoor sources* - The outdoor air that enters a building can be a source of indoor air pollution. Potential air pollutant sources of outdoor chemical contaminants include, but are not limited to: motor vehicle exhausts; plumbing vents; combustion products (i.e. carbon

monoxide, carbon dioxide, and nitrogen oxides); and building exhausts (i.e. bathrooms and kitchens). These contaminants can enter the building through poorly located air intake vents, windows, and other openings.

Indicators of SBS or IAQ related health problems include, but are not limited to, headache, eye, nose, or throat irritation, dry cough, dry or itchy skin, dizziness or nausea, fatigue, and sensitivity to odors. Most complaints or symptoms are relieved soon after leaving the building.

5.6.7 High Voltage Transmission Lines

High voltage overhead power lines were located on the subject site. These lines may produce moderate electromagnetic fields (EMF). This concern is not expected to significantly impact the subject site at this time, however, these lines should be addressed during the development of future buildings, especially any possible residential properties.

5.6.8 Arsenic-Containing Substances

VEC did not identify any suspect arsenic-containing building materials or waste materials at the time of the site visit.

Background Information

Arsenic, like several other heavy metals, tends to accumulate in the body. Ingestion of a small dose may seemingly exert no adverse effect at all, while ingestion of multiple small doses could cause death. In lesser amounts, arsenic-containing compounds cause other health problems, like mottling of the skin, skin lesions, nervous disorder, and severe, irreversible liver damage. Arsenic is a human carcinogen, causing skin tumors when ingested and lung tumors when inhaled.

Arsenic-containing compounds were once used as components of some inorganic pesticides. In the 1940s, these pesticides were used to control insects and rodents.

To protect against exposure to high arsenic concentrations, OSHA requires workers to use air-purifying respirators and to wear protective clothing in areas where airborne arsenic compounds are known to exist.

The Resource Conservation and Recovery Act (RCRA), Subtitle C lists arsenic and arsenic-containing compounds as a hazardous waste. Therefore, construction/demolition debris (waste) management should be conducted in accordance with all Federal, State, and Local regulations. This typically requires waste segregation into construction material and dust/debris waste. Sampling using the Toxicity Leach Characteristic Procedure (TCLP) for arsenic is required for hazardous waste determination.



6.0 FINDINGS, OPINIONS, AND CONCLUSIONS

6.1 Recognized Environmental Conditions

Recognized environmental conditions, as defined by ASTM Standard E1527-00, are the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. *Recognized environmental conditions* are described with regard to (1) the nature and extent of the environmental condition, (2) potential or actual environmental threat, (3) potential for transport (migration) of any environmental conditions, and (4) consideration for further investigation. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

VEC has performed this Phase I Environmental Site Assessment in conformance with the scope and limitations of the ASTM Practice E 1527 for the subject property, located on East Waiko Road, Wailuku (Waikapu), Maui, HI, 96793 [TMK Map No. (2)-3-8-07:089], the property. Any exceptions to or deletions from, this practice are described in Section 1.4, Limitations and Exceptions, of this report. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the property, except for the following:

6.1.1 Database Listings (See Section 4.0 & EDR Report, Appendix B)

Findings/Concerns:

The subject site is not listed.

The listed nearby sites were reviewed for environmental concerns relative to the subject site.

Opinions and Conclusions:

It is possible that the listed sites that are in close proximity to the subject site have had or could have an environmental impact on the subject property. These listed sites, Maui Scrap Metal Co. and Brewer Environmental, and unlisted sites (Maui County Waikapu Dump) located at a further distance from the subject site have, over time, likely contributed to an overall slight degradation of the quality of the region's surface soils, surface waters and ground water. Groundwater and surface soil quality on the subject site may have been degraded over time due to the migration of pollutants from these sites, however, it is unlikely that contaminant levels derived from these sources would be above regulated levels due to the distance (1/2 mile or greater) separating these sites from the subject site.

6.1.2 Current and Historic Use or Storage of Hazardous and Regulated Substances (See Section 5.2.2, 5.3.1 and 5.3.3)

Findings/Concerns:

There is no evidence of any historic misuse or significant spills of hazardous or regulated substances on the subject property except for the areas of noted surface soil staining. (See Section 6.1.3 below).

Some of the subject property's tenants store, generate and/or use hazardous or regulated substances and wastes. Transmission oil, waste oil, solvents, other automobile fluids and vehicle batteries were the main regulated items noted.

Sugarcane agriculture had been actively occurring adjacent to the subject site for several decades and continues to date and has been associated with the application of pesticides and fertilizers.

Opinions and Conclusions:

The above-noted regulated items should be properly managed to avoid any future releases onto the surface soils of the subject site. All drums should be properly secured, positioned and labeled to avoid any future release. VEC has outlined management procedures in Section 5.3.1 that should be followed at facilities storing drums/containers.

While the use of pesticides and herbicides adjacent to the property does not necessarily result in adverse impacts to the environmental condition of the site, it is possible (yet unlikely) for residual amounts of these substances to accumulate to concentrations that present a potential threat to human health or the environment. Soil and groundwater sampling and laboratory testing would provide additional information to evaluate potential environmental effects from these agricultural activities. There is, however, no regulatory requirement to conduct this sampling.

6.1.3 Surface Soil Staining (See Section 5.3.1 and 5.5.2)

Findings/Concerns:

Six (6) areas of surface soil staining (up to approximately 25 ft² of surface area for each location) were noted by VEC during the site inspection. The source of petroleum contamination is from the improper management and handling of product or waste oil storage or from heavy equipment leakage.

Opinions and Conclusions:

The areas of petroleum-impacted soil should be excavated and properly managed as per State and County regulations. Clearance soil testing could be conducted to ensure all contamination has been effectively removed. If the contamination extends to beyond the immediate upper surface soil layers (and the releases appear to be greater than 25 gallons), then sampling, State (DOH) notification and documentation should be conducted along with proper waste management. More effective product and waste oil management and the implementation of spill protection should be undertaken to eliminate the ability for contaminants to impact the subject site's surface soils in the future.

6.1.4 Wastewater and Stormwater Management (See Section 5.5.5)

Findings/Concerns:

All wastewater created on-site should be connected to the County's wastewater system or contained on-site and allowed to evaporate. Wastewater should not be allowed to migrate off-site or negatively impact the subject site's surface soils with possible petroleum-based contaminants.

Opinions and Conclusions:

In order to minimize the potential for regulatory profiling of the subject site, property management may consider implementing conservative, proactive environmental policies. These policies might include written environmental protection contracts with any industrial or special-use commercial tenants and posted notices regarding any use, storage and handling of hazardous substances and/or petroleum product. Special attention should be addressed to wastewater (possibly containing contaminants) originating from the washbasin in the Bravo Auto Dismantler site that could impact the subject site's surface soils or enter nearby drainage systems. Incorporating best management practices such as using only biodegradable, non-toxic soaps and degreasers will reduce the possibility of negatively impacting the site's surface soils.

Any future wastewater connections (with the County) may be regulated in the near future by the County (Title 14 - Pretreatment Ordinance) and could require the treatment of the wastewater prior to discharging to the County's system.

6.2 Other Environmental Concerns

The concerns listed below may not be considered *recognized environmental conditions* by ASTM definition. However, they may be considered regulated under other environmental laws and ordinances and may present a potential liability to the property owner.

6.2.1 Surface Waters and Area Aquifer Protection (See Section 5.5.5)

Findings/Concerns:

The western portion of the subject site underwent extensive land grubbing and grading activity. For any future grubbing and grading planned for the subject site, the property owner should be aware of the potential for contaminants to run off-site and into nearby watercourses. Products of concern relating to any future development activity would be earthen material (silt), paints, oils, antifreezes and other fluids from automobile or on-site machinery, or leaks from on-site stocked items.

Opinions and Conclusions:

Construction managers and developers of any future on-site development activities should consider implementing conservative, proactive environmental policies during the development planning phase.

Future land clearing projects will likely require a County of Maui grading/grubbing permit and if the size of a project exceeds greater than 1 acre of soil disturbance, the developer will also require a National Pollution Discharge Elimination System (NPDES) General Permit (State of Hawaii, Department of Health, Clean Water Branch).

6.2.2 Building Materials' Management (See Section 5.6.1 and 5.6.3)

Findings/Concerns:

The age of the one (1) on-site building structure (located in the Bravo Auto Dismantler area) is unknown, however, it appears to be at least twenty (20) years old. It is, therefore, possible that some of the building materials may contain asbestos or lead paint and pose a concern to the subject property owner for any future planned renovation/demolition activities.

Opinions and Conclusions:

Suspect materials should be sampled prior to renovation or demolition activities being conducted.

All worker safety and waste management concerns regarding the above-noted materials should be thoroughly addressed and undertaken during any future demolition or renovation activities.

6.2.3 Solid Waste Management (See Section 5.5.4 & 5.6.1)

Findings/Concerns:

A limited amount of historical dumping and storage activity (construction and miscellaneous debris) and derelict vehicle storage is evident on the subject property. Some of the materials identified were regulated items (derelict automobiles and parts; automobile batteries and tires; and asbestos piping).

Due to some heavily vegetated areas on the subject property, the entire subject site was not visibly inspected.

Opinions and Conclusions:

The above-mentioned items require proper material/waste management and/or disposal procedures. Any waste disposal should be in a permitted solid waste landfill or recycled in a manner that complies with all local, state, and federal regulations as applicable to the specific waste type.

It is important to note that if additional clearing of the property commences and significant amounts of construction debris or unidentifiable substances (containers) are discovered, proper waste identification, testing and applicable waste handling/disposal procedures are followed in accordance with federal, state, and local regulations.

6.2.4 Groundwater Well (See Section 5.5.6.)

Findings/Concerns:

One (1) groundwater well is located on the property near the north-central portion of the subject site that was installed to supply water for the on-site reservoir (fire management requirement). Currently the well water is used for limited dust control. A Pump Installation Report for this well is required by the State Department of Land and Natural Resources (DLNR). To date, this report has not been received by the State.

Opinions and Conclusions:

The Pump Installation Report should be submitted to the State in a timely manner in order to avoid any State violations in the near future. Typically the State requires this information 60 days upon completion of the well drilling.



End of Section

The conditions stated above should not be construed to mean that any regulatory agency would have the same opinion as this author, nor is any implication proposed therefrom.

The results of this environmental assessment are intended for general reference purposes only and are not intended as legal advice. The advice of legal counsel should be sought in regard to individual facts, circumstances and interpretation of environmental liability.

7.0 REFERENCES

7.1 Published References

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16. U.S. Environmental Protection Agency, Office of Air and Radiation et al., Indoor Air Facts No. 4 (revised) Sick Building Syndrome, April 1991.
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7.2 Map and Other References

1. Environmental Data Resources, Inc., "The EDR Radius Map Report", March 20 & 28, 2003.
2. Federal Emergency Management Agency, "Flood Insurance Rate Map", Number 150003 0190D, March 16, 1995.
3. R.M. Towill Corporation, Aerial Photographs, Honolulu, Hawaii.
4. Air Survey Hawaii, Inc. Aerial Photographs, Honolulu, Hawaii.
5. Sanborn Maps (Not available for this area).
6. U.S. Geological Survey, "Wailuku Quadrangle", 7.5 Minute Series, Topographic Map, 1992.
7. Environmental Assessment Checklist & Hazardous Waste Report to Lender Report. Completed by Consolidated Baseyard Manager for Central Pacific Bank. (See Appendix B).

7.3 Record of Personal Communications

Table 3.0. List of personal interviews conducted by VEC.

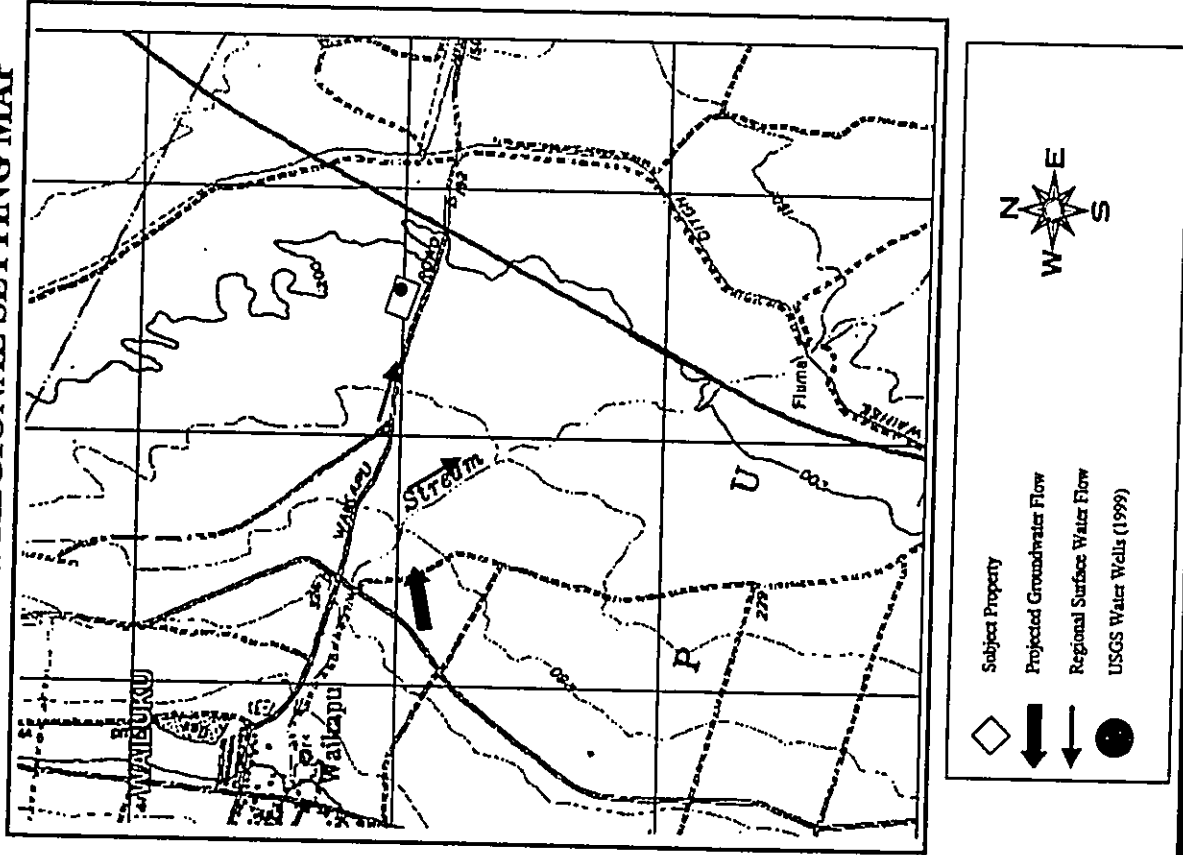
Date	Interviewee	Title & Organization	Address	Phone Number
5/15/03	Mr. Henry Fong	Consolidated Baseyards, LLC, Representative	495 Hukuike Street, Ste.#4 Kahului, Maui HI 96732	(808) 264-1945
5/15/03	Mr. Roderick Fong	Consolidated Baseyards, LLC, Manager	495 Hukuike Street, Ste.#4 Kahului, Maui HI 96732	(808) 264-2067
5/15/03	Marcelo	Owner, Bravo Auto Dismantler	Consolidated Baseyards 345 Waiko Road Waikapu, Maui	(808) 276-0992
5/15/03	Yard Manager	All Towing	Consolidated Baseyards 345 Waiko Road Waikapu, Maui	-
5/22/03	Mr. Charfie Ice	DLNR, Water Resources Management Division	1151 Punchbowl Street Room 227 Honolulu, HI	(808) 587-0214
5/22/03	Mr. Eric Jabco	State Department of Health, Clean Water Branch	919 Ala Moana Blvd. Rm 301 Honolulu, HI	(808) 586-4309
5/22/03	Staff Worker	Maui County, Development Services Administration	250 S. High Street Wailuku, HI 96793	(808) 270-7250



Appendix A:

Maps, Plans, and Photographs

FIGURE 1: REGIONAL SETTING MAP



VEC Project # 0305-610

Confidential and Privileged

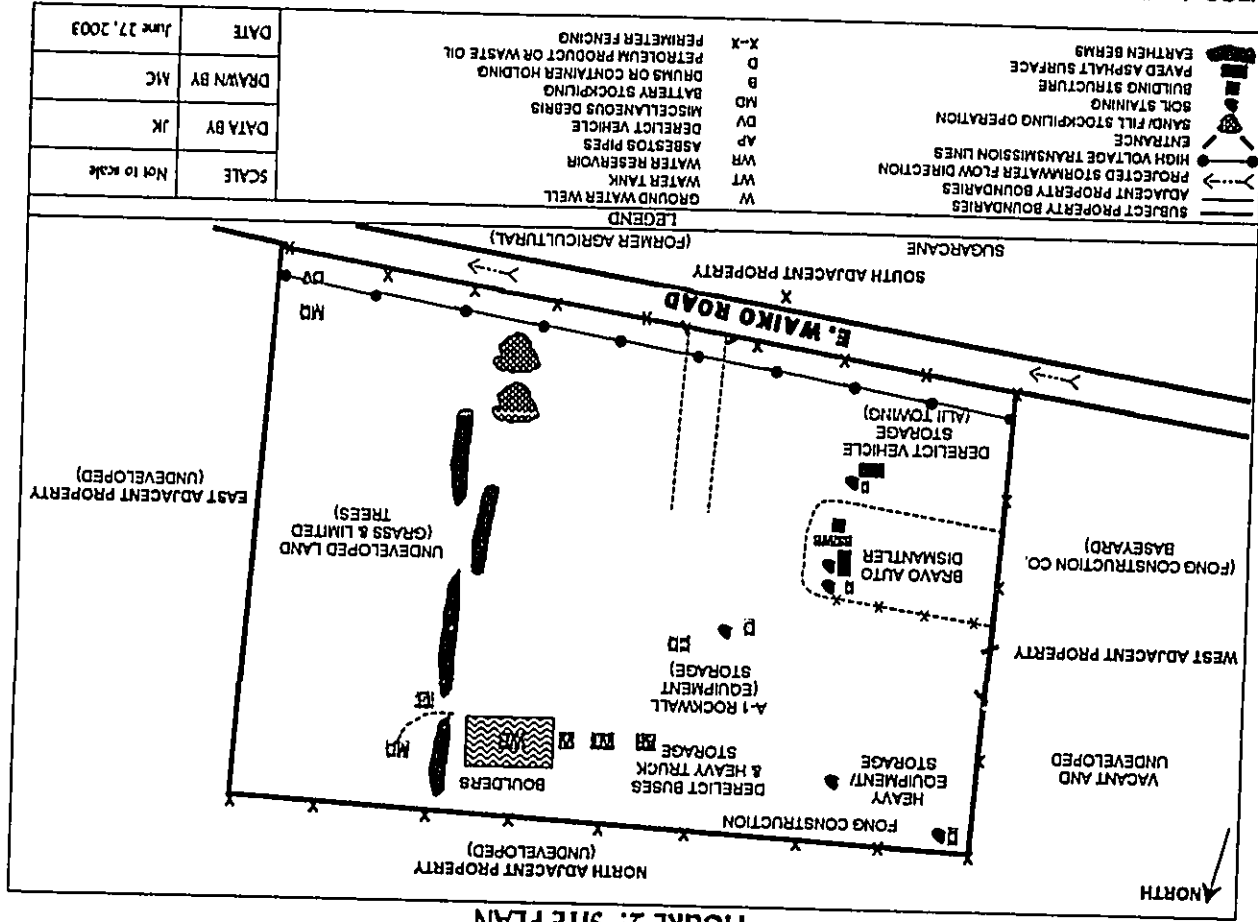


FIGURE 2: SITE PLAN

Confidential and Privileged

VEC Project # 0305-610

VEC Project # 0305-610

Confidential and Privileged

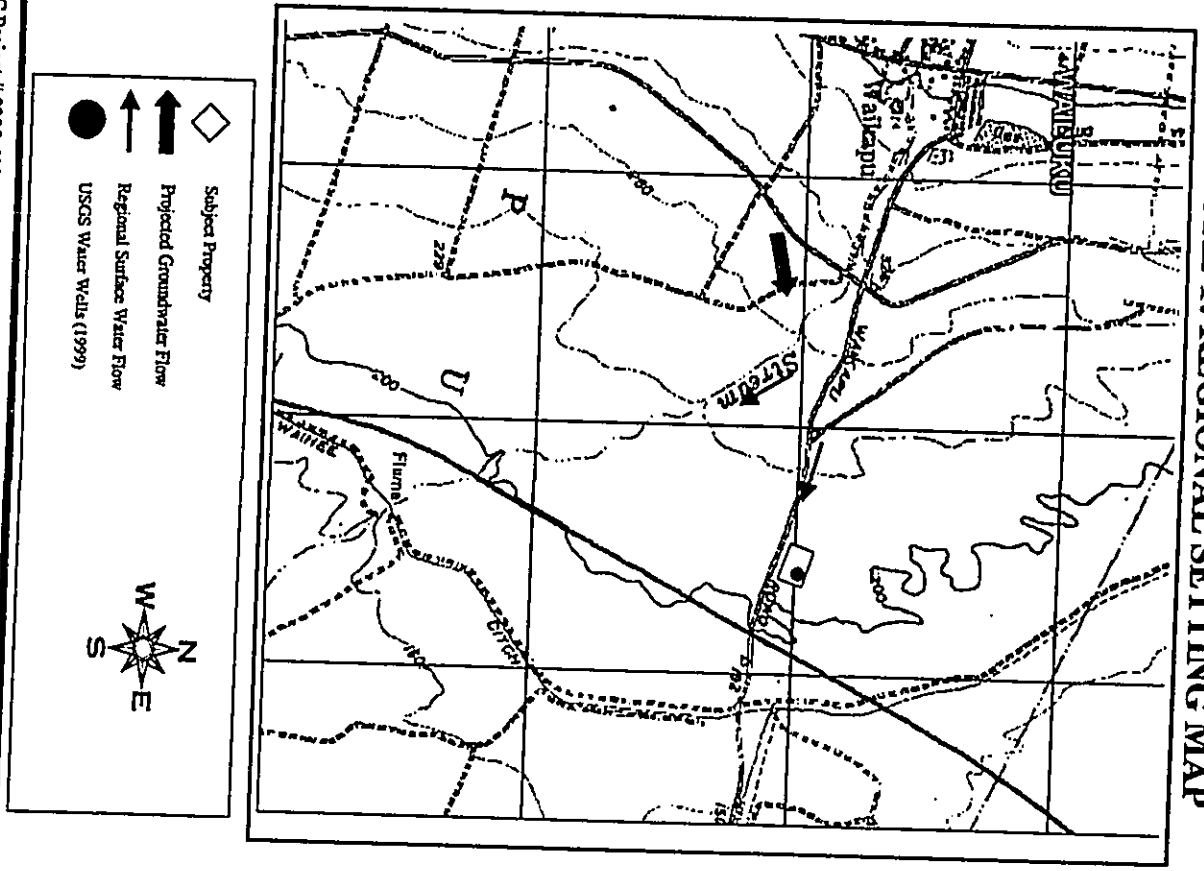
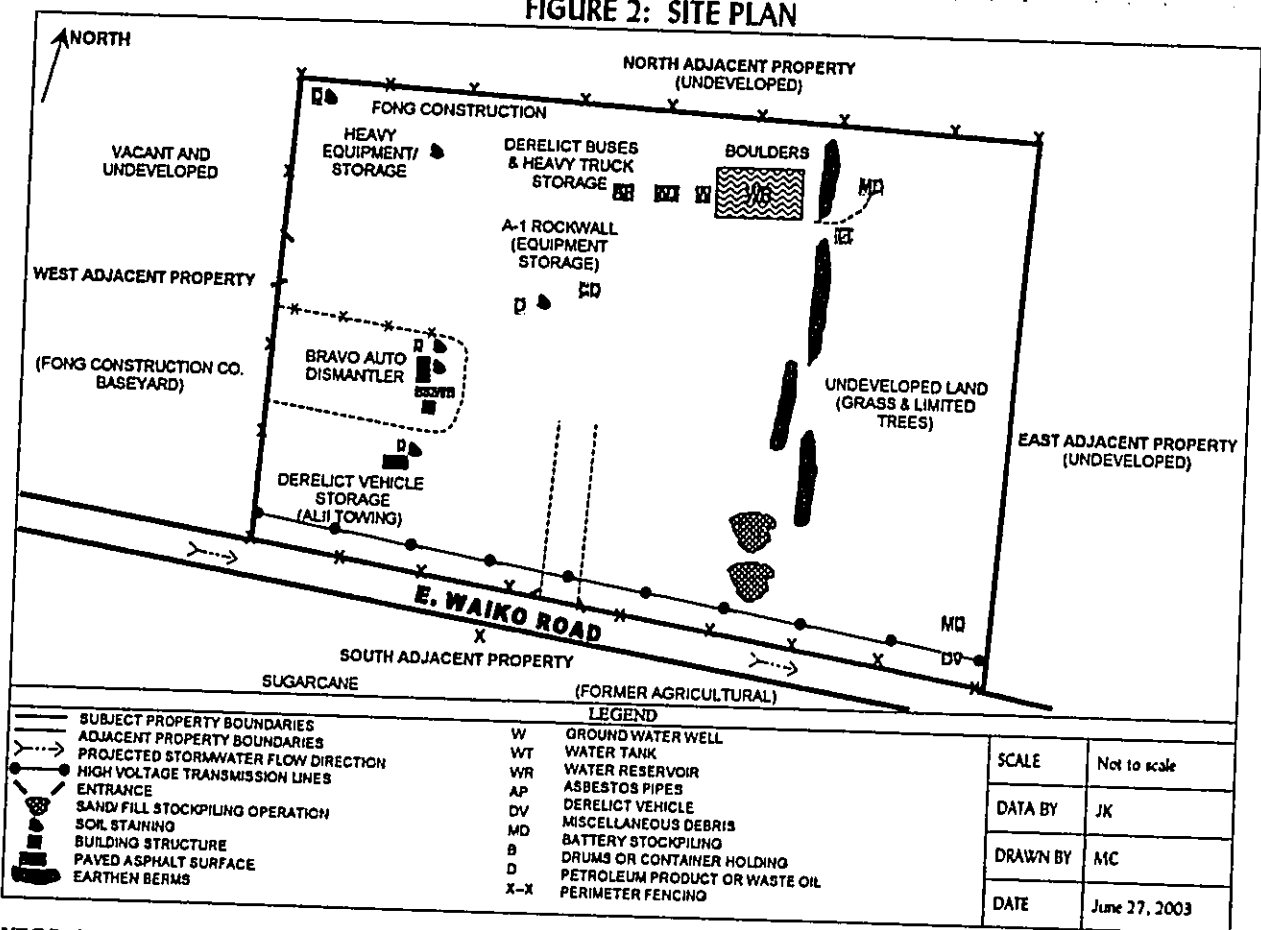


FIGURE 1: REGIONAL SETTING MAP

FIGURE 2: SITE PLAN



VEC Project # 0305-610

Confidential and Privileged

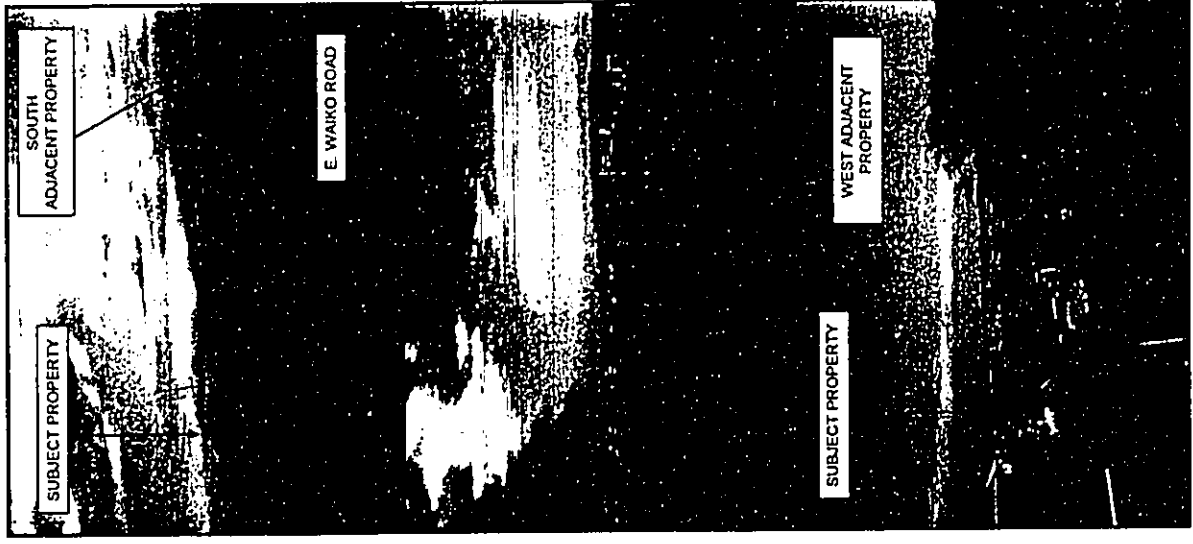


PHOTO 1
 Easterly view along the subject property's southern boundary (East Waiko Road).

PHOTO 2
 Main entrance onto the subject property from East Waiko Road.

PHOTO 3
 Southerly view along the subject property's western boundary.

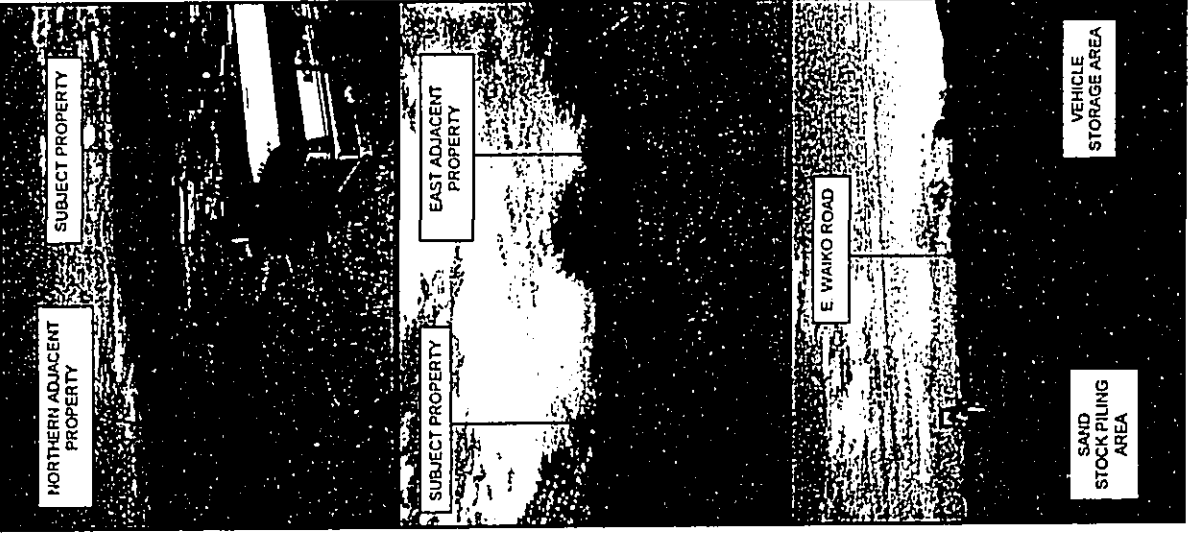


PHOTO 4
 Easterly view along the subject property's northern boundary (post and wire fence line).

PHOTO 5
 Northerly view along the subject property's eastern boundary.

PHOTO 6
 Southerly view along the subject property's main access road onto the central portion of the property.

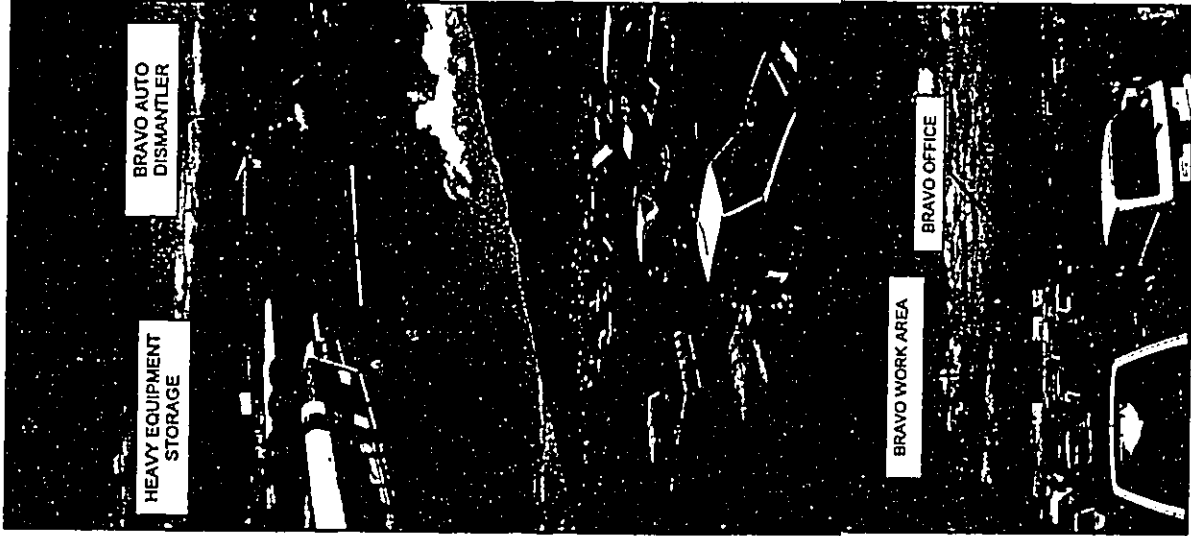


PHOTO 7

Southeasterly view of the northwest storage area of the subject site

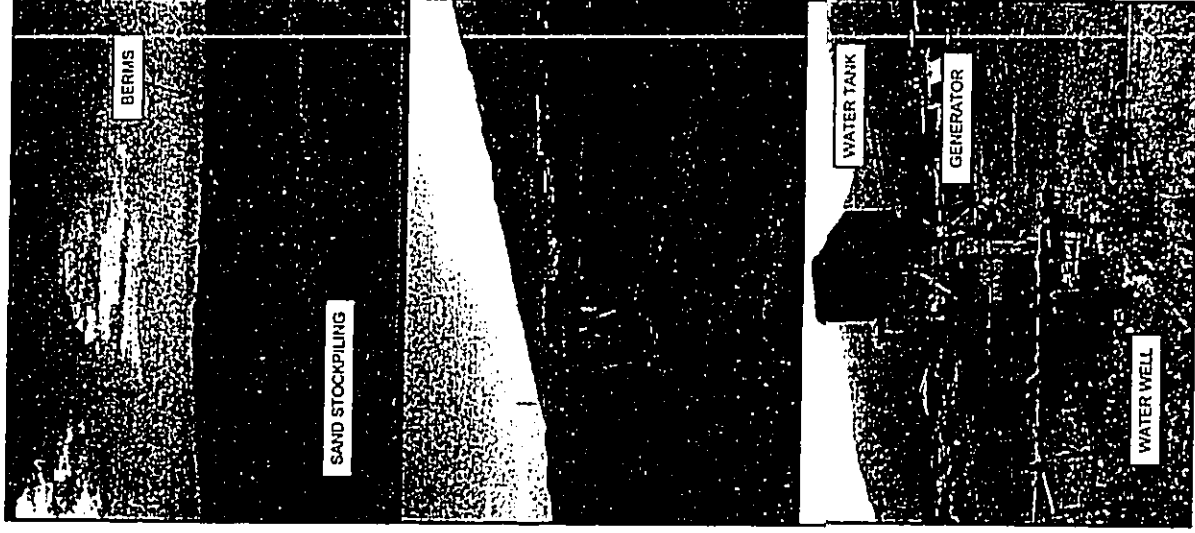


PHOTO 10

Sand stockpile area and earthen berms located along the central and eastern portion of the subject property

PHOTO 8

Derelict vehicle storage area located in the southwestern portion of the subject property (Alii Towing)

PHOTO 11

Water reservoir located near the northeastern property boundary of the subject site. This reservoir is not in use at this time and was constructed for fire management purposes

PHOTO 9

Easterly view within the Bravo Auto Dismantler yard. Derelict vehicle storage and limited vehicle dismantling and repair activity takes place in this area

PHOTO 12

Groundwater well, generator and water tank located on site

RECEIVED AS FOLLOWS

PHOTO 13

Inadequate storage of waste oil located in the Bravo Auto Dismantler area. Limited surface soil staining was associated with this drum.

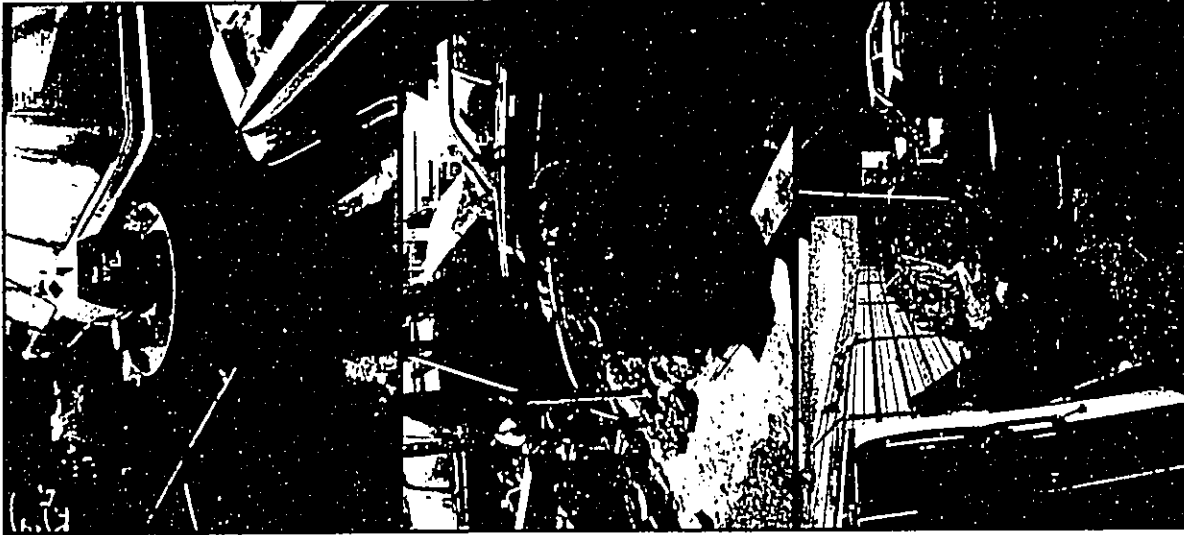


PHOTO 14

Automobile parts located in the Bravo Auto Dismantler area. These parts are located on top of the surface soil which can result in soil contamination. Limited evidence of surface soil staining was noted in these areas.



PHOTO 16

Battery storage located in the Bravo Auto Dismantler area.

PHOTO 17

Inappropriate use of a vehicle battery located in the Bravo Auto Dismantler area

PHOTO 15

Vehicle parts storage located off of the paved surface area on the adjacent surface soils. Limited surface soil staining was noted in this area.

PHOTO 18

Wash basin located in the vehicle repair/dismantling area of the Bravo Auto Dismantler operation.

VEC PROJECT #0305-610

Confidential and Privileged

VEC PROJECT #0305-610

Confidential and Privileged

RECEIVED AS FOLLOWS

PHOTO 19

Inadequate storage of waste oil located in the construction baseyard area for A-1 Rockwall, Inc. located on the subject property. Surface soil staining was noted in the vicinity of these open top 5-gallon containers of waste oil.

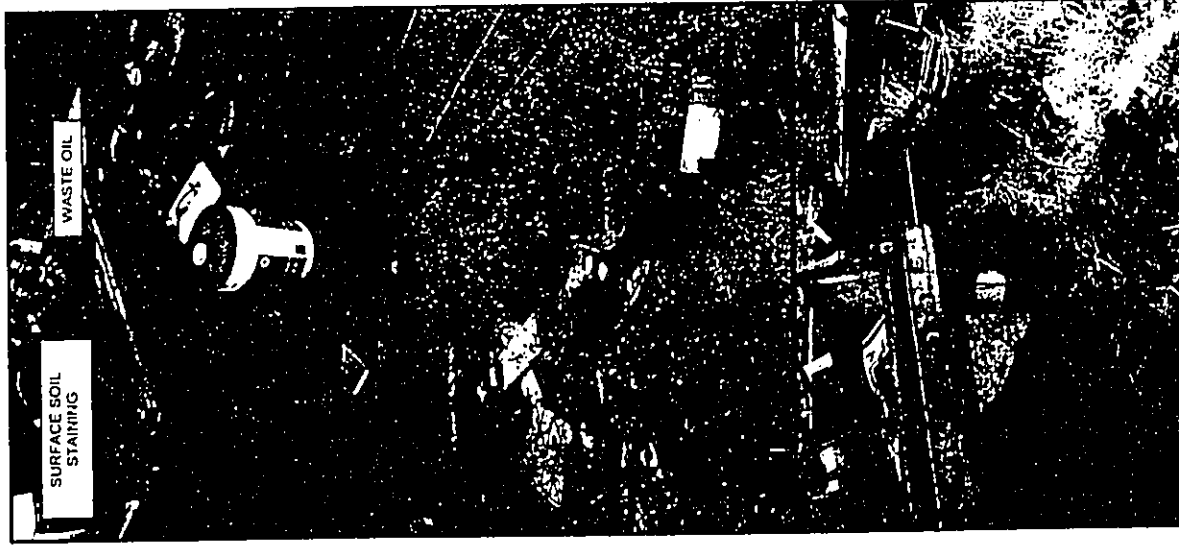


PHOTO 20

Inappropriate storage of petroleum product (solvent and hydraulic oil) and a vehicle battery in the northwest corner of the subject property (Fong Construction Co.). Limited soil staining was noted in this area related to these containers.

PHOTO 21

Two (2) fifty-five (55) gallon drums with unknown contents used to support vehicle. No surface soil staining was noted in this area, however, a liquid product may be contained within these drums

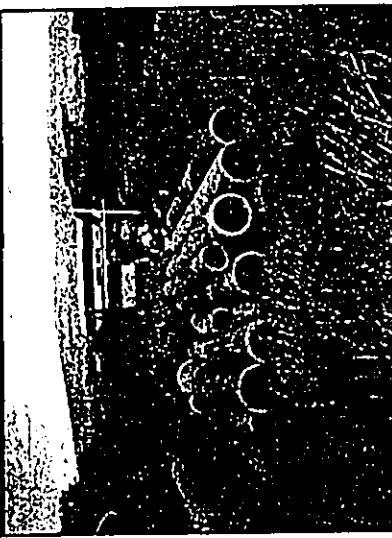


PHOTO 22

Petroleum staining/leakage from heavy equipment stored on the subject property (Fong Construction Co.)

PHOTO 23

Asbestos-containing transite pipes stored on the subject property (Fong Construction Co.)

PHOTO 24

Solid waste dumping on the subject property including regulated items (vehicle tires).



PHOTO 25

Solid waste dumping noted in the southeast corner of the subject property under a heavily vegetated area.

PHOTO 26

Solid waste dumping noted in the northeast corner of the subject property. Materials identified were mainly asphalt concrete and other construction debris. No regulated items were noted.

Appendix B:

Regulatory Records Documentation Site Specific Documentation

RECEIVED AS FOLLOWS



EDR FieldCheck™ Report

Consolidated Baseyard
Walko Rd
Waluku, HI 96732

Inquiry Number: 0980872.1s

May 20, 2003

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-8802
Internet: www.edrmet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary.....	ES1
Overview Map.....	2
Detail Map.....	3
Map Findings Summary.....	4
Map Findings.....	5
Orphan Summary.....	6
Government Records Searched/Data Currency Tracking.....	GR-1

GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Important Information about The EDR FieldCheck(TM) Report

This is The EDR FieldCheck (TM) Report. Through its continuing emphasis in online technological advancements, EDR has developed the FieldCheck (TM) system, which enables EDR's customers to make certain on-site inspections to the field and had contained information that would otherwise require a site visit. The FieldCheck (TM) system is designed to provide the user with a comprehensive overview of the site's status. As a result, the user and site owner can make more informed decisions about the site's status. As a result, the user and site owner can make more informed decisions about the site's status. As a result, the user and site owner can make more informed decisions about the site's status.

Disclaimer and Treatment Notice

This report contains information obtained from a variety of public and other sources. NO WARRANTY EXPRESSED OR IMPLIED IS MADE BY EDR FOR THE ACCURACY, COMPLETENESS, OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH INFORMATION, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. IN ADDITION, THIS REPORT HAS BEEN ADOPTED BY VARIOUS ENVIRONMENTAL AGENCIES AND REGULATORY AGENCIES. ALL INFORMATION HAS NOT BEEN VERIFIED BY EDR AND EDR, THEREFORE, ASSUMES NO RESPONSIBILITY FOR SUCH INFORMATION. ALL INFORMATION IS ASSUMED TO BE THE PROPERTY OF THE USER. IN NO EVENT SHALL EDR BE LIABLE TO ANYONE, WHETHER ARISING IN CONTRACT OR TORT, FOR DAMAGES OF ANY KIND, INCLUDING WITHOUT LIMITATION, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.

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EXECUTIVE SUMMARY

All the request of VIJICH ENVIRONMENTAL, a search of the environmental records covering the area detailed herein was conducted by Environmental Data Resources, Inc. (EDR). This report was derived from the results of such search, which, as conducted by EDR, met the governmental search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances were per ASTM standard or custom distances requested by the user.

NOTE: ALL MAPS AND TEXT INCLUDED HEREIN MAY HAVE BEEN MODIFIED BY VIJICH ENVIRONMENTAL BASED ON SITE VISITS, INDEPENDENT DATA VERIFICATION AND/OR OTHER ACTIONS TAKEN OR DECISIONS MADE BY VIJICH ENVIRONMENTAL. EDR HAS NOT TAKEN ANY ACTION TO VERIFY ANY OF SUCH MODIFICATIONS, AND THIS REPORT AND THE FINDINGS SET FORTH HEREIN MUST BE READ IN LIGHT OF THIS FACT. VIJICH ENVIRONMENTAL SHOULD BE CONTACTED FOR INFORMATION CONCERNING ALL SUCH MODIFICATIONS.

TARGET PROPERTY INFORMATION

ADDRESS

WAIKOU RD
WAILUKU, HI 96732

COORDINATES

Latitude (North): 20.850600 - 20° 51' 2.2"
Longitude (West): 158.489000 - 158° 29' 20.4"
Universal Transverse Mercator: Zone 4
UTM X (Meters): 781291.0
UTM Y (Meters): 2307315.8
Elevation: 228 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property: 2420159-G4 WAILUKU, HI
Source: USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No sites were found in an online review and analysis by VIJICH ENVIRONMENTAL of EDR's search of available ("reasonably ascertainable") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

- FEDERAL ASTM STANDARD**
- NPL..... National Priority List
 - Proposed NPL..... Proposed National Priority List Sites
 - CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System

EXECUTIVE SUMMARY

- CERCLIS No Further Remedial Action Planned
- Corrective Action Report
- Resource Conservation and Recovery Information System
- Resource Conservation and Recovery Information System
- Resource Conservation and Recovery Information System
- Emergency Response Notification System

STATE ASTM STANDARD

- SHWS..... Sites List
- SWTLF..... Permitted Landfills in the State of Hawaii
- UST..... Leaking Underground Storage Tank Database
- UST..... Underground Storage Tank Database

FEDERAL ASTM SUPPLEMENTAL

- CONSENT..... Superfund (CERCLA) Consent Decree
- ROD..... Records Of Decision
- Designated NPL..... National Priority List Deletions
- FINDS..... Facility Index System/Identification Initiative Program Summary Report
- HMIRS..... Hazardous Materials Information Reporting System
- MLTS..... Material Licensing Tracking System
- MINES..... Mines Master Index File
- NPL Liens..... Federal Superfund Liens
- PADS..... PCB Activity Database System
- POD..... Department of Defense Sites
- RAATS..... RCRA Administrative Action Tracking System
- TRIS..... Toxic Chemical Release Inventory System
- TSCA..... Toxic Substances Control Act
- SSTS..... Section 7 Tracking Systems
- FTTS..... FIFRA/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

- SPILLS..... Release Notifications

EDR PROPRIETARY HISTORICAL DATABASES

- Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

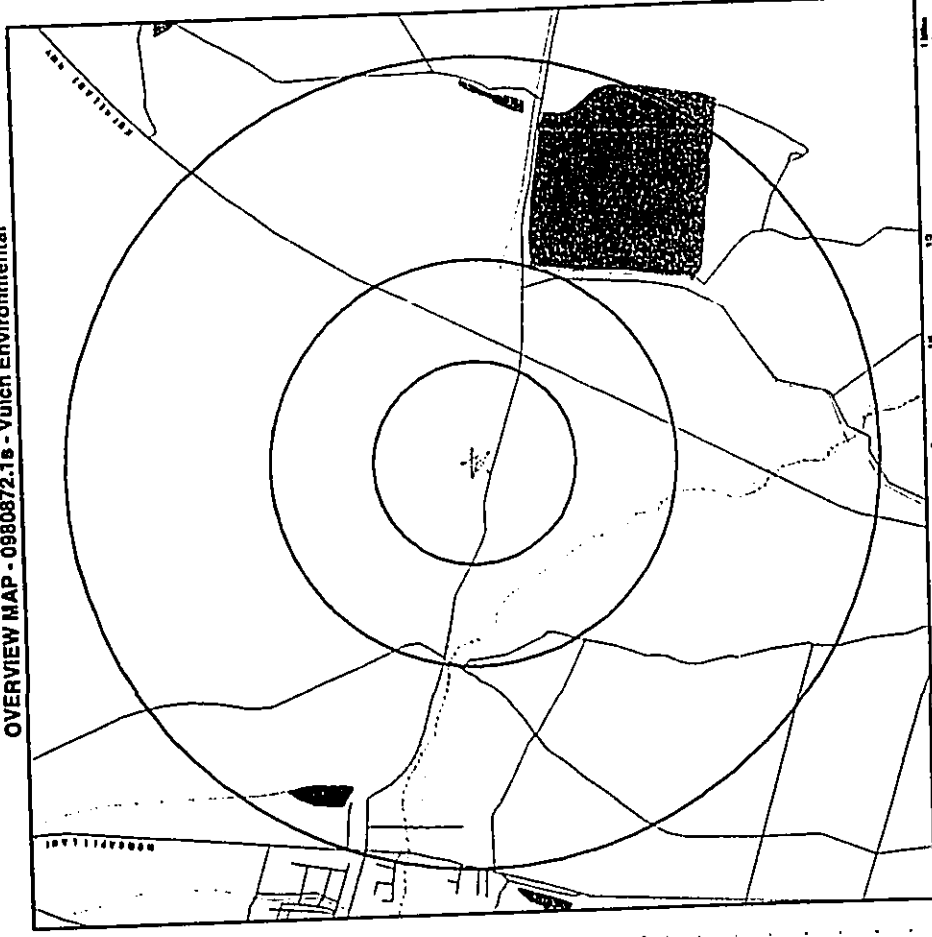
Surrounding sites were not identified.
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
SMILE'S AUTO SPECIALISTS	SHWS
KANAWA POND EAST	CERC-NFRAP, SHWS
E & E BLACK CONTRACTORS	SHWS
RAINBOW HAULING	SHWS, SPILLS
HOBSON AVENUE AREA	SHWS
MAUI PALMS HOTEL UST	SHWS
ALEXANDER AND BALDWIN DUMP SITE	SHWS
MAUI MEAT FACILITY-FORMER	SHWS
KALAMAILA LANDFILL	SHWS
MAALAEA POWER PLANT	SWFALF, SHWS
SELLAND CONSTRUCTION, INC., KIHEI B	SHWS
KALAPAPA LANDFILL	SWFALF, SHWS
BEN FRANKLIN STORES PROPERTY	SHWS
LAWAI LANDFILL (LF-0056-98)	SHWS
KAHOOLAWE ISLAND	SHWS
OLOWALU TRANSFER STATION	SHWS
PICRIC ACID AT MAUI COMMUNITY COLLE	SHWS
PICRIC ACID AT MAUI MEMORIAL HOSPIT	SHWS
WAALE ASH PILE	CERCUS
KAHOOLAWE ISLAND	SWFALF
HAWAIIAN COMMERCIAL & SUGAR CO.,	SWFALF
KAKAMAILA LANDFILL	SWFALF
KALIUKOI LANDFILL	SWFALF
MAUNALO A LANDFILL	SWFALF, SPILLS
MOLOWAI LANDFILL (NAUWA LF-0030-	SWFALF
CENTRAL MAUI LF, PHASE I&II LF-0034	SWFALF
MAALEA CAD LF	SWFALF
CENTRAL MAUI LF PHASE IV	LUJST, UST
DAVID PICO CESSPOOL DIGGING	UST
PAUA SEWER PUMP STATION	UST
KIHEI WWTP	UST
WAKIO BASEYARD LLC	RCRIS-SOG, FINDS, SPILLS
BREWER 21 GALLON SODIUM HYDROXIDE S	RCRIS-SOG
MAUI ELEC- MAALAEA GEN STATION	

OVERVIEW MAP - 0980872.1s - Vulich Environmental

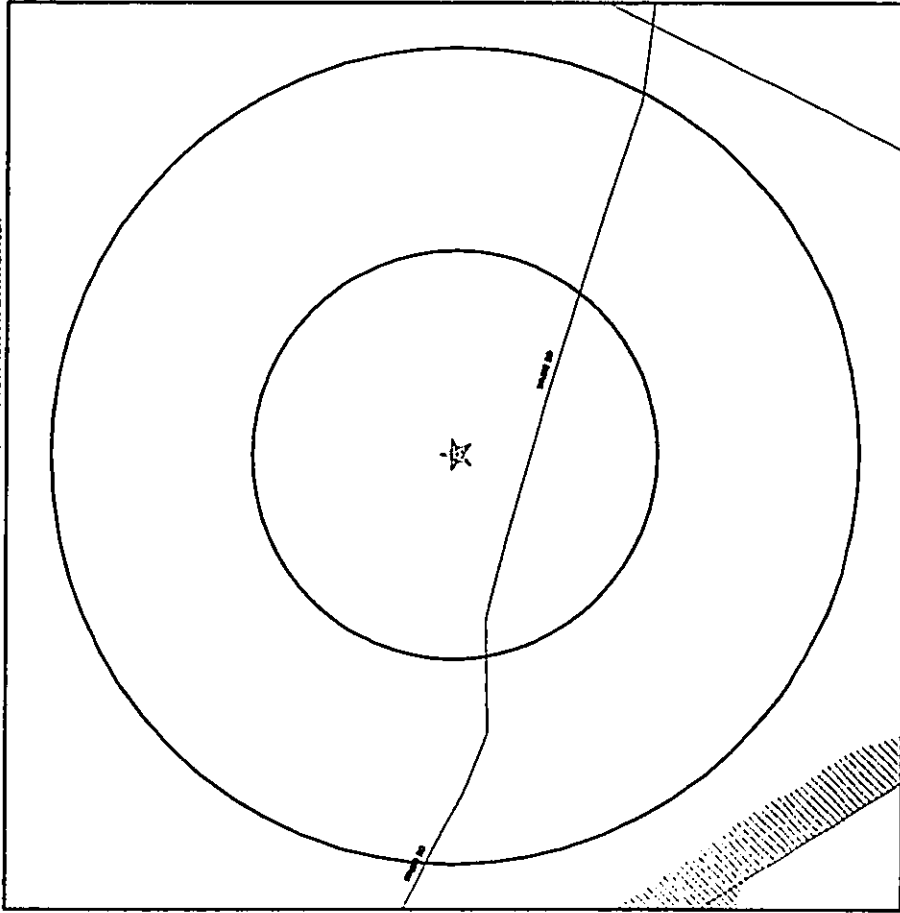


- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- A Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Dept. Delisted Sites
- N Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Wetlands

TARGET PROPERTY:
 Consolidated Baseyard
 Waiho Rd
 Wailuku HI 96732
 CITY/STATE/ZIP:
 201.6506.7156.4890
 LAT/LONG:

CUSTOMER:
 Vulich Environmental
 CONTACT:
 Messy Cashen
 INQUIRY #:
 0980872.1s
 DATE:
 May 20, 2003 7:54 pm

DETAIL MAP - 0980872.1s - Vulch Environmental



- Target Property
- Areas of concern higher than or equal to the target property
- Areas of concern lower than the target property
- Coal Qualification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

TARGET PROPERTY:
 Consolidated Baseyard
 Waldo Rd
 WILLOWH 96732
 CITY/STATE/ZIP:
 LATHROP, OR 97138-4890

CUSTOMER: Vulch Environmental
 CONTACT: Mandy Cashen
 INQUIRY #: 0980872.1s
 DATE: May 20, 2003 7:54 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Picked
FEDERAL ASTM STANDARD								
NPL		1,000	0	0	0	0	NR	0
Proposed NPL		1,000	0	0	0	0	NR	0
CERCLIS		0,500	0	0	0	0	NR	0
CERC-NFRAP		0,250	0	0	NR	NR	NR	0
CORRACTS		1,000	0	0	0	0	NR	0
RCRIS-TSD		0,500	0	0	0	0	NR	0
RCRIS Lg. Quan. Gen.		0,250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0,250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
SHMS		1,000	0	0	0	0	NR	0
State Landfill		0,500	0	0	0	0	NR	0
LUST		0,500	0	0	0	0	NR	0
UST		0,250	0	0	NR	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1,000	0	0	0	0	NR	0
ROD		1,000	0	0	0	0	NR	0
Defined NPL		1,000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		TP	NR	NR	NR	NR	NR	0
NPL Liens		0,250	0	0	0	0	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
DDO		TP	NR	NR	NR	NR	NR	0
RAATS		0,500	0	0	0	0	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSIS		TP	NR	NR	NR	NR	NR	0
FTIS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
SPILLS		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1,000	0	0	0	0	NR	0

NOTES:
 TP = Target Property
 NR = Not Requested at this Search Distance
 Sites may be listed in more than one database

Map ID
 Direction
 Distance
 Distance (ft.)
 Elevation

MAP FINDINGS

EDR ID Number
 EPA ID Number
 Database(s)
 Site

Coal Gas Site Search: No sites were found in a search of Real Property Scan's ENVIRONMENTAL database.

NO SITES FOUND

City	EDR ID	Site Name	Site Address	Zip	Database(s)
KANAWHA	100818053	SMALL'S AUTO SPECIALTIES	MAULA PLACE	96132	SHWS
KANAWHA	1001117518	KANAWHA POND EAST	MAULA PLACE	96132	CERCARRAP, SHWS
KANAWHA	100881852	E & B BLACK CONTRACTORS	MAULA PL	96132	SHWS
KANAWHA	100855852	RANDROW HALLING	MAULA PL	96132	SHWS, SPILLS
KANAWHA	910453250	HOBSON AVENUE AREA	HOBSON AVE	96132	SHWS
KANAWHA	910453250	MAUI PALMS HOTEL UST	150 KANAWHA AVE	96132	SHWS
KANAWHA	100043246	BRYNER 21 TALLON SODUM HYDROXIDE S	2910 KANAWHA BLVD RD, KANAWHA	96132	RPRS-500, TRND, SPILLS
KANAWHA	1001202788	DAVID PICO CESSPOOL DITCHING	OLD HALEKULA HWY	96132	UST
KANAWHA	1001032388	ALEXANDER AND BALDWIN DUMP SITE	WAPA AVE	96132	SHWS
KANAWHA	1001222223	PANA GEMER PLANT STATION	PANA RD/MAA HWY	96132	UST
KANAWHA	9104532329	MAUI BEAT FACILITY-ORIENT	401 2ND ST	96132	SHWS
KANAWHA	9104532329	KANAWHA LANDFILL	SOUTH HOLE/AL KANAWHA	96132	SHWS
KANAWHA	9104532329	KANAWHA POWER PLANT	N HOHI ROAD	96132	SHWS
KANAWHA	100044448	KANAWHA ISLAND	LAT 20 27 30, LONG 158 37 30	96132	CRSUS
KANAWHA	100444894	MAUI ELEC MAALAEA GEN STATION	3 MI NW HOHI HWY 30	96132	RPRS-500
KANAWHA	910453250	CELLAND CONSTRUCTION, INC, KHEI B	OHAMA ROAD BASE YARD	96132	SHWS
KANAWHA	100123805	KHEI WWTP	440 WETLEVAHO RD/PRUVA HWY	96132	UST
KANAWHA	910782975	KANAWHA COMMERCIAL & SUVAR CO.	FIELD 7191, WAILUKU	96132	SHWS
KANAWHA	910782953	KANAWHA LANDFILL	KULUAPAPA WOLOKA	96132	SHWS
KANAWHA	1000160100	KULUAPAPA LANDFILL	KULUAPAPA WOLOKA	96132	SHWS
KANAWHA	910782954	KALUKOKI LANDFILL	KALUKOKI ROAD MAALAEA	96132	SHWS
KANAWHA	910453204	BEH FRANKLIN STORES PROPERTY	KALUKOKI WOLOKA	96132	SHWS, SHWS
KANAWHA	100072484	LAWA LANDFILL (F-0050-90)	LAWA	96132	SHWS, SHWS
KANAWHA	910782956	MAALAEA LANDFILL	MAALAEA MAUI	96132	SHWS
KANAWHA	910782941	MOKOIA LANDFILL PHASE 1 F-0030	PUNENE, MAUI	96132	SHWS, SPILLS
KANAWHA	910782952	CENTRAL MAUI LF, PHASE 1B LF-0034	PUNENE, MAUI	96132	SHWS
KANAWHA	910782974	CENTRAL MAUI LF, PHASE 1F	PUNENE	96132	SHWS
KANAWHA	910453222	KANAWHA ISLAND	KANAWHA ISLAND	96132	SHWS
KANAWHA	1000435082	OLOWALI TRANSFER STATION	OLOWALI	96132	SHWS
OLOWALI	910453498	PCEIC ACID AT MAUI MEMORIAL HOSPIT	MAUI	96132	SHWS
WAILUKU	910453231	WALDE ASH PLE	WALDE STREET	96132	UST
WAILUKU	1002222207	WAKO BASEYARD LLC	255-B EAST WAKO ROAD	96132	UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List

Source: EPA

Telephone: N/A

National Priority List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon cleanup for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 01/29/03

Date Made Active at EDR: 03/04/03

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 02/04/03

Elapsed ASTM days: 29

Date of Last EDR Contact: 05/09/03

NPL Site Boundaries

Source: EPA

Telephone: 202-564-7333

EPA's Environmental Photographic Interpretation Center (EPIC)

EPA Region 1

Telephone: 617-416-1143

EPA Region 3

Telephone: 215-614-5416

EPA Region 4

Telephone: 404-662-8033

EPA Region 6

Telephone: 214-655-6659

EPA Region 8

Telephone: 303-312-8774

Proposed NPL: Proposed National Priority List Sites

Source: EPA

Telephone: N/A

Date of Government Version: 01/29/03

Date Made Active at EDR: 03/04/03

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 02/04/03

Elapsed ASTM days: 29

Date of Last EDR Contact: 05/09/03

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

Source: EPA

Telephone: 703-415-0223

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 03/18/03

Date Made Active at EDR: 04/08/03

Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 03/24/03

Elapsed ASTM days: 15

Date of Last EDR Contact: 03/24/03

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Source: EPA

Telephone: 703-415-0223

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended burden to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. The policy change is part of the EPA's Brownfields Redevelopment Program to help sites, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/18/03

Date Made Active at EDR: 04/08/03

Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 03/24/03

Elapsed ASTM days: 15

Date of Last EDR Contact: 03/24/03

Source: EPA

Telephone: 800-424-9346

CORRECTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/31/03

Date Made Active at EDR: 05/08/03

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 04/07/03

Elapsed ASTM days: 31

Date of Last EDR Contact: 03/18/03

RCRS: Resource Conservation and Recovery Information System

Source: EPA/AMTIS

Telephone: 800-424-9346

Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/09/02

Date Made Active at EDR: 10/26/02

Database Release Frequency: Varies

Date of Data Arrival at EDR: 09/24/02

Elapsed ASTM days: 34

Date of Last EDR Contact: 04/18/03

ERNS: Emergency Response Notification System

Source: National Response Center, United States Coast Guard

Telephone: 202-260-2142

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/01

Date Made Active at EDR: 07/15/02

Database Release Frequency: Annually

Date of Data Arrival at EDR: 07/02/02

Elapsed ASTM days: 13

Date of Last EDR Contact: 04/28/03

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System

Source: EPA/AMTIS

Telephone: 800-424-9346

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99

Database Release Frequency: Biennially

Date of Last EDR Contact: 03/17/03

Date of Next Scheduled EDR Contact: 06/16/03

CONSENT: Superfund (CERCLA) Consent Decree

Source: EPA Regional Offices

Telephone: Varies

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A

Database Release Frequency: Varies

Date of Last EDR Contact: N/A

Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision

Source: EPA

Telephone: 703-415-0223

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/06/03
 Database Release Frequency: Annually
 Date of Last EDR Contact: 04/07/03
 Date of Next Scheduled EDR Contact: 07/07/03

DELISTED NPL: National Priority List Deletions
 Source: EPA
 Telephone: N/A
 The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delist sites from the NPL. In accordance with 40 CFR 300.425 (e), sites may be delisted from the NPL where no further response is appropriate.
 Date of Government Version: 01/29/03
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 05/05/03
 Date of Next Scheduled EDR Contact: 08/04/03

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
 Source: EPA
 Telephone: N/A
 Facility Index System, FINDS contains both facility information and "pointers" to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), ARS (Aerometric Information Retrieval System), DOCKET (Environment Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).
 Date of Government Version: 01/14/03
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 04/07/03
 Date of Next Scheduled EDR Contact: 07/07/03

HMRIS: Hazardous Materials Information Reporting System
 Source: U.S. Department of Transportation
 Telephone: 202-366-4555
 Hazardous Materials Incident Report System, HMRIS contains hazardous material spill incidents reported to DOT.
 Date of Government Version: 11/20/02
 Database Release Frequency: Annually
 Date of Last EDR Contact: 04/25/03
 Date of Next Scheduled EDR Contact: 07/21/03

MLTS: Material Licensing Tracking System
 Source: Nuclear Regulatory Commission
 Telephone: 301-415-7189
 MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.
 Date of Government Version: 01/15/03
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 04/07/03
 Date of Next Scheduled EDR Contact: 07/07/03

MINES: Mines Master Index File
 Source: Department of Labor, Mine Safety and Health Administration
 Telephone: 303-231-5959
 Date of Government Version: 03/11/03
 Database Release Frequency: Semi-Annually
 Date of Last EDR Contact: 03/11/03
 Date of Next Scheduled EDR Contact: 06/30/03

NPL UENS: Federal Superfund Sites
 Source: EPA
 Telephone: 205-564-4267
 Federal Superfund Sites. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to delist general real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA completes a listing of listed Superfund Sites.
 Date of Last EDR Contact: 04/15/03
 Date of Next Scheduled EDR Contact: 06/23/03

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/01
 Database Release Frequency: No Update Planned
 Date of Last EDR Contact: 02/27/03
 Date of Next Scheduled EDR Contact: 05/26/03

PAOS: PCB Activity Database System
 Source: EPA
 Telephone: 202-564-3387
 PCB Activity Database, PAOS identifies operations, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify the EPA of such activities.
 Date of Government Version: 12/12/02
 Database Release Frequency: Annually
 Date of Last EDR Contact: 05/12/03
 Date of Next Scheduled EDR Contact: 08/11/03

POD: Department of Defense Sites
 Source: USGS
 Telephone: 703-648-5920
 This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 810 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.
 Date of Government Version: 10/01/02
 Database Release Frequency: Semi-Annually
 Date of Last EDR Contact: 05/12/03
 Date of Next Scheduled EDR Contact: 06/11/03

RAATS: RCRA Administrative Action Tracking System
 Source: EPA
 Telephone: 202-564-1104
 RCRA Administrative Action Tracking System, RAATS contains records based on enforcement actions issued under RCRA pertaining to major releases of hazardous air pollutants and accidents brought by the EPA. For administrative purposes since February 30, 1995, data entry in the RAATS database is discontinued. EPA will retain a copy of the database historical records. It was necessary to terminate RAATS because a decrease in agency responses made it impossible to continue to update the information contained in the database.
 Date of Government Version: 04/17/95
 Database Release Frequency: No Update Planned
 Date of Last EDR Contact: 03/10/03
 Date of Next Scheduled EDR Contact: 05/09/03

TRIS: Toxic Chemical Release Inventory System
 Source: EPA
 Telephone: 202-260-1531
 Toxic Release Inventory System, TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.
 Date of Government Version: 12/31/00
 Database Release Frequency: Annually
 Date of Last EDR Contact: 03/25/03
 Date of Next Scheduled EDR Contact: 06/23/03

TSCA: Toxic Substances Control Act
 Source: EPA
 Telephone: 202-260-5321
 Toxic Substances Control Act, TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.
 Date of Government Version: 12/31/99
 Database Release Frequency: Every 4 Years
 Date of Last EDR Contact: 03/05/03
 Date of Next Scheduled EDR Contact: 06/29/03

FTIS INS/P: FIFRA/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
 Source: EPA
 Telephone: 202-564-2501
 Date of Government Version: 04/15/03
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 05/21/03
 Date of Next Scheduled EDR Contact: 06/23/03

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

8578: Section 7 Tracking System
Source: EPA
Telephone: 202-564-6008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (R2 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.
Date of Government Version: 12/1/00
Date of Last EDR Contact: 04/23/03
Database Release Frequency: Annually
Date of Next Scheduled EDR Contact: 07/21/03

FFTS: FIFRA/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FFTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.
Date of Government Version: 04/15/03
Date of Last EDR Contact: 03/24/03
Database Release Frequency: Quarterly
Date of Next Scheduled EDR Contact: 06/23/03

STATE OF HAWAII ASTM STANDARD RECORDS

SHWS: Site List
Source: Department of Health
Telephone: 808-598-4249
Facilities, sites or areas in which the Office of Hazard Evaluation and Emergency Response has an interest, has investigated or may investigate under HRS 128D (includes CERCLIS sites).
Date of Government Version: 07/12/01
Date Made Active at EDR: 10/18/01
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 03/26/03

SWFLF: Permitted Landfills in the State of Hawaii

Source: Department of Health
Telephone: 808-598-4245
Solid Waste Facilities/Landfill Sites. SWFLF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 6004 criteria for solid waste landfills or disposal sites.
Date of Government Version: 05/03/99
Date Made Active at EDR: 05/25/99
Database Release Frequency: Varies
Date of Last EDR Contact: 05/01/03

LUST: Leaking Underground Storage Tank Database

Source: Department of Health
Telephone: 808-598-4228
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.
Date of Government Version: 01/01/03
Date Made Active at EDR: 03/12/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 03/31/03

UST: Underground Storage Tank Database

Source: Department of Health
Telephone: 808-598-4228
Regulated Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/03
Date Made Active at EDR: 03/06/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 03/21/03

STATE OF HAWAII ASTM SUPPLEMENTAL RECORDS
SPILLS: Release Notifications
Source: Department of Health
Telephone: 808-598-4249
Release of hazardous substances to the environment reported to the Office of Hazard Evaluation and Emergency Response since 1988.
Date of Last EDR Contact: 03/26/03
Date of Next Scheduled EDR Contact: 06/23/03

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

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OTHER DATABASES

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands in location data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: PennWell Corporation
Telephone: (800) 833-8377
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospital:

Source: American Hospital Association, Inc.
Telephone: 312-230-5901
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospital.
Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-785-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-4248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWRI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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EDR Environmental
Data
Resources, Inc.

EDR Site Report™

BREWER ENVIRONMENTAL INDUSTRIES
275 E. WAIKO RD.
WAILUKU, HI 96793

Inquiry Number:

May 28, 2003

**The Source
For Environmental
Risk Management
Data**

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

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

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The EDR-Site Report™ is a comprehensive presentation of government filings on a facility identified in a search of over 4 million government records from more than 600 federal, state and local environmental databases. The report is divided into three sections:

- Section 1: Facility Summary Page 3
Summary of facility filings including a review of the following areas: waste management, waste disposal, multi-media issues, and Superfund liability.
- Section 2: Facility Detail Reports Page 4
All available detailed information from databases where sites are identified.
- Section 3: Databases Searched and Update Information Page 5
Name, source, update dates, contact phone number and description of each of the databases searched for this report

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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SECTION 1: FACILITY SUMMARY

AREA	FACILITY	FACILITY 1
		FACILITY 1 ENVIRONMENTAL INDUSTRIES L.L.C. 213 E. WARD RD WALKER, LA 70779 EPA ID: LA0000000000 EPA ID: LA0000000000
WASTE MANAGEMENT	Facility permits hazardous waste (RCRA)	NO
	Facility reports or disposes of hazardous waste (RCRA)	NO
	Facility has received Notices of Violation (RCRA/SDWA)	NO
	Facility has been subject to RCRA inspections above DQATS	NO
	Facility has been subject to corrective actions (CORRECT)	NO
	Facility handles PCBs (PCB)	NO
	Facility uses radioactive materials (MLTS)	NO
	Facility operates regulated aboveground storage tanks (AST)	NO
	Facility (subsites) regulated underground storage tanks (UST)	NO
	Facility has reported leaking underground storage tank incidents (LUST)	NO
	Facility has reported emergency releases to the soil (ER/S)	NO
	Facility has reported hazardous material incidents to DOT (HMETS)	NO
WASTE DISPOSAL	Facility is a Superfund Site (SFL)	NO
	Facility has known or suspected abandoned, inactive or uncontrolled hazardous waste site (CERCLIS)	NO
	Facility has a reported Superfund Lien on it (LENS)	NO
	Facility has disposed of solid waste on-site (SW/ALS)	NO
	Facility has disposed of solid waste off-site (SW/OFS)	NO
HAZARDOUS	Facility has basic chemicals and has notified EPA under SARA Title III, Section 313 (TRIS)	NO
	Facility produces pesticides and has notified EPA under Section 7 of FIFRA (SSTIS)	NO
	Facility manufactures or imports toxic chemicals on the TSCA list (TSCA)	NO
	Facility has inventories under TSCA, TSCA or EPCRA (TTIN)	NO
	Facility is listed in EPA's index system (FRMS)	YES - P4
	Facility is listed in a county/local unique database (LOCAL)	NO
POTENTIAL SUPERFUND LIABILITY	Facility has a list of potentially responsible parties (PRP)	NO
TOTAL (YES)		1

SECTION 2: FACILITY DETAIL REPORTS

MULTIMEDIA

Facility is listed in EPA's index system
DATABASE: Facility Index System (FIRDS)

BREWER ENVIRONMENTAL INDUSTRIES LLC.
 275 E. WABCO RD.
 WAUKUKI, HI 96783
 EDR ID #1005977419

This site is listed in the Federal FIRDS database. The FIRDS database may contain references to records from government databases included elsewhere in the report. Please note: the FIRDS database may also contain references to out of date records formerly associated with the file.

EPA-ID: 11000496448
EPA Records Indicate Facility is Listed in:
 Facility Registry System (FRS)
System ID: 11000496448
Facility Name: BREWER ENVIRONMENTAL INDUSTRIES LLC.
Facility Address: 275 E. WABCO RD.
 WAUKUKI, HI 96783
DUNS Number: Not reported
US Fed Gov Facility: Not reported
Indian Tribal Land: Not reported
Sic Code(s): Not reported
Data Reported to Government: 200206151539

EPA-ID: 11000496448
EPA Records Indicate Facility is Listed in:
 Toxic Chemical Release Inventory System (TRIS)
System ID: 9679JBRVWZ75EW
Facility Name: BREWER ENVIRONMENTAL IND. LLC
Facility Address: 275 E. WABCO RD.
 WAUKUKI, HI 96783
DUNS Number: Not reported
US Fed Gov Facility: Not reported
Indian Tribal Land: Not reported
Sic Code(s): 2873
Data Reported to Government: 200203231159

SECTION 3: DATABASES SEARCHED AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

Elapsed ASTM days: Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

WASTE MANAGEMENT

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/RTIS
Telephone: 800-424-9348
 RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).
Date of Government Version: 09/09/2002
Database Release Frequency: Varies
Date of Last EDR Contact: 04/16/2003
Date of Next Scheduled Update: 06/23/2003

BRS: Biennial Reporting System
Source: EPA/RTIS
Telephone: 800-424-9348
 The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.
Date of Government Version: 12/31/1999
Database Release Frequency: Biennially
Date of Last EDR Contact: 03/17/2003
Date of Next Scheduled Update: 06/16/2003

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-664-1104
 RCRA Administrative Action Tracking System, RAATS contains records based on enforcement actions issued under RCRA pertaining to major violations and includes administrative and civil actions brought by the EPA. For administrative actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because the database in agency resources made it impossible to continue to update the information contained in the database.
Date of Government Version: 04/17/1995
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 03/10/2003
Date of Next Scheduled Update: 06/09/2003

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9348
 CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.
Date of Government Version: 03/12/2003
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 03/10/2003
Date of Next Scheduled Update: 06/09/2003

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3087
 PCB Activity Database, PADS identifies generators, transporters, commercial stores and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.
Date of Government Version: 12/12/2002
Database Release Frequency: Annually
Date of Last EDR Contact: 05/12/2003
Date of Next Scheduled Update: 08/11/2003

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
 MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 licenses for the use of radioactive materials and related activities subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.
Date of Government Version: 01/16/2003
Database Release Frequency: Quarterly
Date of Last EDR Contact: 04/07/2003
Date of Next Scheduled Update: 07/07/2003

SECTION 3: DATABASES SEARCHED AND UPDATE DATES
...Continued...

SECTION 3: DATABASES SEARCHED AND UPDATE DATES
...Continued...

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
 Source: EPA, RD-413-0223
 Telephone: 202-260-1331
 CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by state, municipal, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Section 112 of the Clean Air Act (CAA). CERCLIS contains information on sites which are in the screening and assessment phase for possible inclusion on the NPL.
 Date of Data Arrival at EDR: 03/16/2003
 Date Made Active at EDR: 04/06/2003
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 03/24/2003

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
 Source: EPA
 Telephone: 703-413-0223
 At of Action CERCLIS NFRAP sites designated "No Further Remedial Action Planned" (NFRAP) have been found, contamination was removed such that the need for the site to be placed on the NPL. CERCLIS NFRAP sites may be sites where, following an initial investigation, no contamination or the contamination was not serious enough to require Federal Superfund action or to be redesignated. EPA has removed approximately 23,000 NFRAP sites from the CERCLIS database. The NFRAP program is a voluntary program that encourages private citizens to promote economic redevelopment of unproductive urban sites.
 Date of Government Version: 03/16/2003
 Date Made Active at EDR: 04/06/2003
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 03/24/2003

NPL LIENS: Federal Superfund Liens
 Source: EPA
 Telephone: 404-664-4397
 This database contains information on Superfund Liens. Under the authority granted by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property is subject to notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.
 Date of Government Version: 10/15/1991
 Date Made Active at EDR: 03/06/1994
 Database Release Frequency: No Update Planned
 Date of Last EDR Contact: 02/27/2003

HI SHYNS:
HI SHYFLF: Permitted Landfills in the State of Hawaii
 Source: U.S. Department of Health
 Telephone: 808-508-4276
 Solid Waste Facilities/Landfill Sites. SHYFLF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Dependency on the state depends on whether active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.
 Date of Government Version: 05/03/1999
 Database Release Frequency: Varies
 Date of Last EDR Contact: 05/01/2003

MUTIMEDIA:
TRIS: Toxic Chemical Release Inventory System
 Source: EPA
 Telephone: 202-260-1331
 TRIS is a database that contains information on toxic chemical releases from point and non-point water and land in reportable quantities under SARA Title III Sect on 313.
 Date of Government Version: 12/31/2000
 Database Release Frequency: Annually
 Date of Last EDR Contact: 06/23/2003

HI UST: Underground Storage Tank Database
 Source: Department of Health
 Telephone: 808-508-4276
 Storage Tanks USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.
 Date of Last EDR Contact: 03/17/2003
 Date of Next Scheduled Update: 06/30/2003
 Database Release Frequency: Semi-Annually

HI LUJST: Leaking Underground Storage Tank Database
 Source: Department of Health
 Telephone: 808-508-4276
 Leaking Underground Storage Tank Incidents. Not all states maintain these records, and the information stored varies by state.
 Date of Government Version: 01/01/2003
 Database Release Frequency: Semi-Annually
 Date of Last EDR Contact: 03/17/2003
 Date of Next Scheduled Update: 06/30/2003

ERNS: Emergency Response Notification System
 Source: National Response Center, United States Coast Guard
 Telephone: 202-260-1331
 ERNS is a database that contains information on reported releases of oil and hazardous substances.
 Date of Government Version: 12/17/2001
 Database Release Frequency: Annually
 Date of Last EDR Contact: 04/28/2003
 Date of Next Scheduled Update: 07/28/2003

HURIS: Hazardous Materials Information Reporting System
 Source: U.S. Department of Transportation
 Telephone: 202-366-4333
 HURIS is a database that contains information on reported releases of hazardous materials spill incidents reported to DOT.
 Date of Government Version: 11/07/2002
 Database Release Frequency: Annually
 Date of Last EDR Contact: 04/25/2003
 Date of Next Scheduled Update: 07/21/2003

WASTE DISPOSAL:
NPL: National Priority List
 Source: EPA
 Telephone: Not reported
 The National Priority List (NPL) is a subset of CERCLIS and identifies over 1,200 sites for priority clean-up under the Superfund Program. All sites on the NPL are managed under the Superfund program. EPA provides polygon coordinates for each site to the Environmental Response System (ERS) and regional EPA offices.
 Date of Government Version: 01/29/2003
 Date Made Active at EDR: 03/04/2003
 Database Release Frequency: Semi-Annually
 Date of Data Arrival at EDR: 02/04/2003
 Date of Last EDR Contact: 05/09/2003

PROPOSED NPL: Proposed National Priority List Sites
 Source: EPA
 Telephone: Not reported
 Date of Government Version: 01/29/2003
 Date Made Active at EDR: 03/04/2003
 Database Release Frequency: Semi-Annually
 Date of Data Arrival at EDR: 05/04/2003
 Date of Last EDR Contact: 05/05/2003

DELISTED NPL: National Priority List Deletions
 Source: EPA
 Telephone: Not reported
 The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to determine if a site on the NPL, in accordance with 40 CFR 300.423 (4), sites may be deleted from the NPL where no further response is appropriate.
 Date of Government Version: 01/29/2003
 Date Made Active at EDR: 03/04/2003
 Database Release Frequency: Quarterly
 Date of Data Arrival at EDR: 02/04/2003
 Date of Last EDR Contact: 05/05/2003

SECTION 3: DATABASES SEARCHED AND UPDATE DATES
 ...Continued...

857E: Section 7 Tracking System
 Source: EPA
 Telephone: 202-564-6008
 Description: Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the type and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.
 Date of Government Version: 12/31/2000
 Date of Last EDR Contact: 04/23/2003
 Database Release Frequency: Annually
 Date of Next Scheduled Update: 07/21/2003

TSCA: Toxic Substances Control Act
 Source: EPA
 Telephone: 202-260-5321
 Description: Toxic Substances Control Act, TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substances Inventory list. It includes data on the production volume of these substances by plant site.
 Date of Government Version: 12/31/1998
 Date of Last EDR Contact: 03/06/2003
 Database Release Frequency: N/A
 Date of Next Scheduled Update: 06/09/2003

FTS: FTIR/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
 Source: EPA/Office of Prevention, Pesticides and Toxic Substances
 Telephone: 202-564-2501
 Description: FTIR/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA and TSCA (Community Injuring and Community Pesticide-Use Act). It maintains currency. EDR contacts the Agency on a quarterly basis.
 Date of Government Version: 04/15/2003
 Date of Last EDR Contact: 03/24/2003
 Database Release Frequency: Quarterly
 Date of Next Scheduled Update: 06/21/2003

FTS IRSP: FTIR/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
 Source: EPA
 Telephone: 202-564-2501
 Date of Government Version: 04/15/2003
 Date of Last EDR Contact: 06/24/2003
 Database Release Frequency: Quarterly
 Date of Next Scheduled Update: 06/23/2003

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
 Source: EPA
 Telephone: Not reported
 Description: FINDS contains both facility information and "pointers" to other sources that contain more detail. EDR includes the following FINDS databases in the report: PCS (Permit Compliance System), AQS (Air Quality Information System), DOCKET (Enforcement Docket used to manage the enforcement process), UGDOCKET (Underground Docket System used to track criminal enforcement actions for all environmental statutes), FTIS (Federal Facility Information System), STATE (State Environmental Laws and Statutes), and PAOS (PCB Activity Data System).
 Date of Government Version: 01/14/2003
 Date of Last EDR Contact: 04/07/2003
 Database Release Frequency: Quarterly
 Date of Next Scheduled Update: 07/07/2003

RI SPILLS: Release Notifications
 Source: Department of the Interior
 Telephone: 808-595-4219
 Description: Release Notifications System (RNS) tracks releases of hazardous substances to the environment reported to the Office of Hazard Evaluation and Emergency Response since 1998.
 Date of Government Version: 09/01/2000
 Date of Last EDR Contact: 03/26/2003
 Database Release Frequency: Varies
 Date of Next Scheduled Update: 05/21/2003

GA SPILLS: Spills Information
 Source: Department of Natural Resources
 Telephone: 404-656-6700
 Description: Spills Information System (SIS) tracks releases of hazardous materials, spills or releases.
 Date of Government Version: 04/29/2003
 Date of Last EDR Contact: 04/29/2003
 Database Release Frequency: Quarterly
 Date of Next Scheduled Update: 07/29/2003

SECTION 3: DATABASES SEARCHED AND UPDATE DATES
 ...Continued...

GA MCHSE: Non-Hazardous Site Inventory
 Source: RockwellOut Associates, Inc.
 Telephone: 770-426-1100
 Description: This list, known as the MCHSE, EDR in 1998 and contains property listings that have reported contamination of soil or groundwater under the Georgia Hazardous Site Inventory (GHSI). The GHSI is a list of sites placed on the Georgia Priority list (Hazardous Site Inventory or HSI) because their hazard evaluation scores did not exceed the threshold levels established for sites posing an imminent threat to health or the environment. Disclaimer provided by RockwellOut Associates: "The database information has been taken from the records of the GHSI, which are maintained by other entities. While reasonable steps have been taken to insure the accuracy of the data, RockwellOut Associates does not warrant the accuracy of the information made for the actual existence of pollution at any site. The data does not constitute a legal opinion."
 Date of Government Version: 01/14/2003
 Date of Last EDR Contact: 04/07/2003
 Database Release Frequency: Annually
 Date of Next Scheduled Update: 07/07/2003

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. (C) Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.
 The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan, Inc. While reasonable steps have been taken to insure the accuracy of the data, Real Property Scan does not warrant the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

POTENTIAL SUPERFUND LIABILITY

PRP: Potentially Responsible Parties
 Source: EPA
 Telephone: 202-564-6064
 Description: A listing of verified Potentially Responsible Parties
 Date of Government Version: 04/14/2003
 Date of Last EDR Contact: 04/07/2003
 Database Release Frequency: Quarterly
 Date of Next Scheduled Update: 07/07/2003



EDR Site Report™

MAUI SCRAP METAL CO.
1791 WAIJUNU RD.
WAILUKU, HI 96793

Inquiry Number:

May 28, 2003

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

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

TABLE OF CONTENTS

The EDR-Site Report™ is a comprehensive presentation of government filings on a facility identified in a search of over 4 million government records from more than 600 federal, state and local environmental databases. The report is divided into three sections:

- Section 1: Facility Summary Page 3
Summary of facility filings including a review of the following areas: waste management, waste disposal, multi-media issues, and Superfund liability.
- Section 2: Facility Detail Reports Page 4
All available detailed information from databases where sites are identified.
- Section 3: Databases Searched and Update Information Page 7
Name, source, update dates, contact phone number and description of each of the databases searched for this report.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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SECTION 1: FACILITY SUMMARY

AREA	FACILITY	YES - #	NO
WASTE MANAGEMENT	FACILITY 1 MAUI SCRAP METAL CO. 1791 WAHAI RD. WAILUKU, HI 96793 EPA ID # 100245009 EPA # 4005678324	YES - #4	NO
Facility generates hazardous waste (RCRS)		NO	NO
Facility treats, stores, or disposes of hazardous waste on-site (RCRS/TSDF)		YES - #5	NO
Facility has received Notices of Violations (NOV)		NO	NO
Facility has been subject to RCRA administrative actions (PAA)		NO	NO
Facility has been subject to corrective actions (CORRECT)		NO	NO
Facility handles PCBs (PACS)		NO	NO
Facility uses radioactive materials (MTR)		NO	NO
Facility manages regional aboveground storage tanks (AST)		NO	NO
Facility manages regional underground storage tanks (UST)		NO	NO
Facility has reported leaking underground storage tank incidents (LUST)		NO	NO
Facility has reported emergency releases to the soil (EDRES) or CRI (Pipes)		NO	NO
WASTE DISPOSAL		NO	NO
Facility is a Superfund site (NPL)		NO	NO
Facility has a known or suspected abandoned, inactive or uncontrolled hazardous waste site (CERCLIS)		NO	NO
Facility has a reported Superfund site on (SLENS)		NO	NO
Facility is listed as a solid hazardous waste site (SHWST)		NO	NO
Facility has disposed of solid waste on-site (SWALF)		NO	NO
MSWDFWA		NO	NO
Facility uses toxic chemicals and has notified EPA under SQIA Title III, Section 313 (TRIS)		NO	NO
Facility produces pesticides and has notified EPA under Section 7 of FIFRA (PSTIS)		NO	NO
Facility manufactures or imports toxic chemicals on the TSCA list (TSCA)		NO	NO
Facility has inspections under FIFRA, TSCA or EPCRA (PTIS)		NO	NO
Facility is listed in EPA's Hotlist system (FROG)		YES - #4	NO
Facility is listed in a county/local unique database (LOCAL)		NO	NO
POTENTIAL SUPERFUND LIABILITY		NO	NO
Facility has a list of potentially responsible parties (PRP)		NO	NO
TOTAL (YES)		3	

SECTION 2: FACILITY DETAIL REPORTS

WASTE MANAGEMENT
Facility generates hazardous waste
DATABASE: Resource Conservation and Recovery Information System (RCRIS)

MAUI SCRAP METAL CO.
1791 WAHAI RD.
WAILUKU, HI 96793
EPA ID # 100245009

MAUI SCRAP METAL CO.
1791 WAHAI RD.
WAILUKU, HI 96793

PO BOX 1172
WAILUKU, HI 96793

ENVIRONMENTAL MANAGER, EMPLOYER MANAGER
(808) 244-0317

FID0578324
Not reported
Not reported

No longer generating hazardous waste, out of business. Small Quantity Generator

Handler:
- generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 2000 kg of hazardous waste at any time
- generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

5093, SCRAP AND WASTE MATERIALS
5093, SCRAP AND WASTE MATERIALS

Private

MAUI SCRAP METAL CO. INC.
PO BOX 1172
WAILUKU, HI 96793
(808) 244-0317

Facility Name:
Mailing Address:
Contact:
EPA-ID:
Bank Date:
Bank Status:
Classification:
Description:
SIC Code(s):
Legal Status:
Owner:

SECTION 2: FACILITY DETAIL REPORTS

...Continued...

WASTE MANAGEMENT

Facility Has Received Notices of Violations

DATABASE: Resource Conservation and Recovery Information System (RCRIS)

MAUR SCRAP METAL CO.
1781 WARDEN RD.
WALLING, MI 48793
EDR ID #11000245009

Regulation Violated:
Area of Violation:
Date Action Determined:
Actual Date Achieved Compliance:

262.10-12A
GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
03/31/1996
01/18/1996

Enforcement Action:
Enforcement Action Date:

WRITTEN INFORMAL
09/19/1995

COMPLIANCE AND ENFORCEMENT SUMMARY

Responsible Agency:

Compliance Evaluation Inspection
Sampling Inspection
Compliance Evaluation Inspection

State

Evaluation Date: 01/19/1996
Evaluation Date: 03/05/1998
Evaluation Date: 03/05/1998

SECTION 2: FACILITY DETAIL REPORTS

...Continued...

MULTIMEDIA

Facility is listed in EPA's Index system

DATABASE: Facility Index System (FINDS)

MAUR SCRAP METAL CO.
1781 WARDEN RD.
WALLING, MI 48793
EDR ID #11000245009

This site is listed in the Federal FINDS database. The FINDS database may contain references to records from government agencies included in this report. Please note: the FINDS database may also contain references to out of date records formerly associated with the site.

EPA-ID:

110005723066

EPA Records indicate Facility is Listed In:

Facility Registry System (FRS)

System ID:
Facility Name:
Facility Address:

110005723066
MAUR SCRAP METAL CO.
1781 WARDEN RD.
WALLING, MI 48793

DUNS Number:
US Fed Gov Facility:
Superfund Land:
Data Reported to Government:

Not reported
Not reported
Not reported
200102111952

EPA-ID:

110005723066

EPA Records indicate Facility is Listed In:

Resource Conservation and Recovery Act Information System (RCRAINFO)

System ID:
Facility Name:
Facility Address:

110005723066
MAUR SCRAP METAL CO.
1781 WARDEN RD.
WALLING, MI 48793

DUNS Number:
US Fed Gov Facility:
Superfund Land:
Sic Code(s):
Data Reported to Government:

Not reported
Not reported
Not reported
200102111952

SECTION 3: DATABASES SEARCHED AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

Elapsed ASTM days: Provides information that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

WASTE MANAGEMENT

RCRDS: Resource Conservation and Recovery Information System

Source: EPA/NTIS

Telephone: 800-424-6348

RCRDS includes selective information on sites under RCRA, CERCLA, and other hazardous waste disposal, treatment, storage, and disposal facilities (TSDFs).

Date of Government Version: 08/09/2002

Database Release Frequency: Varies

Date of Last EDR Contact: 04/18/2003

Date of Next Scheduled Update: 06/23/2003

BRS: Biennial Reporting System

Source: EPA/NTIS

Telephone: 800-424-6348

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS data is divided into two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/1999

Database Release Frequency: Biennially

Date of Last EDR Contact: 03/17/2003

Date of Next Scheduled Update: 06/16/2003

RAATS: RCRA Administrative Action Tracking System

Source: EPA/NTIS

Telephone: 202-564-4104

RCRA Administrative Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administrative actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because of the large volume of agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995

Database Release Frequency: No Update Planned

Date of Last EDR Contact: 03/10/2003

Date of Next Scheduled Update: 05/09/2003

CORRACTE: Corrective Action Report

Source: EPA

Telephone: 800-424-6348

CORRACTE identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/17/2003

Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 03/10/2003

Date of Next Scheduled Update: 06/09/2003

PADS: PCB Activity Database System

Source: EPA

Telephone: 202-564-3087

PCB Activity Database. PADS identifies generators, transporters, commercial stores and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/12/2002

Database Release Frequency: Annually

Date of Last EDR Contact: 05/12/2003

Date of Next Scheduled Update: 06/11/2003

MLTS: Material Licensing Tracking System

Source: Nuclear Regulatory Commission

Telephone: 301-415-7169

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 radioactive materials and radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/16/2003

Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/07/2003

Date of Next Scheduled Update: 07/07/2003

SECTION 3: DATABASES SEARCHED AND UPDATE DATES

...Continued...

HI LUST: Underground Storage Tank Database

Source: Department of Energy

Telephone: 800-368-4228

Reported Underground Storage Tanks (USTs) are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the USA department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/01/2003

Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 03/31/2003

Date of Next Scheduled Update: 06/30/2003

HI LUST: Leaking Underground Storage Tank Database

Source: Department of Energy

Telephone: 800-368-4228

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information is shared varies by state.

Date of Government Version: 01/01/2003

Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 03/31/2003

Date of Next Scheduled Update: 06/30/2003

ERNS: Emergency Response Notification System

Source: U.S. Department of Homeland Security

Telephone: 202-280-2532

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2001

Database Release Frequency: Annually

Date of Last EDR Contact: 04/28/2003

Date of Next Scheduled Update: 07/21/2003

HMRIS: Hazardous Materials Information Reporting System

Source: U.S. Department of Transportation

Telephone: 202-366-4555

Hazardous Materials Incident Report System. HMRIS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 11/02/2002

Database Release Frequency: Annually

Date of Last EDR Contact: 04/25/2003

Date of Next Scheduled Update: 07/21/2003

WASTE DISPOSAL

NPL: National Priority List

Source: EPA

Telephone: Not reported

National Priority List. The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The NPL is updated annually by EPA. As such, EDR provides priority coverage for over 1,000 NPL sites located at sites produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 01/09/2003

Data Made Active at EDR: 03/04/2003

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 02/04/2003

Elapsed ASTM Days: 28

Date of Last EDR Contact: 05/09/2003

PROPOSED NPL: Proposed National Priority List Sites

Source: EPA

Telephone: Not reported

Date of Data Arrival at EDR: 02/04/2003

Elapsed ASTM Days: 28

Date of Last EDR Contact: 05/05/2003

DELISTED NPL: National Priority List Deletions

Source: EPA

Telephone: Not reported

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425 (h), sites may be deleted from the NPL when no further response is appropriate.

Date of Government Version: 01/09/2003

Data Made Active at EDR: 03/04/2003

Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 02/04/2003

Elapsed ASTM Days: 28

Date of Last EDR Contact: 05/05/2003

SECTION 3: DATABASES SEARCHED AND UPDATE DATES

...Continued...

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
 Source: EPA
 Telephone: 703-413-0223
 CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by
 States, municipalities, private companies and private persons. Pursuant to Section 103 of the Comprehensive
 Emergency Response, Compensation and Liability Act (CERCLA), CERCLIS contains information on sites
 listed on the National Priorities List (NPL) and sites which are in the screening
 and assessment phase for possible inclusion on the NPL.
 Date of Government Version: 03/19/2003 Date of Data Arrival at EDR: 03/24/2003
 Date Made Active at EDR: 04/06/2003
 Database Release Frequency: Quarterly Date of Next Scheduled Update: 03/24/2003

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
 Source: EPA
 Telephone: 703-413-0223
 As of February 1993, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been
 removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination
 was found, contamination was removed quickly without the need for the site to be placed on the NPL,
 or the contamination was not serious enough to require Federal Superfund action or RFP, consolidation,
 or final removal action. CERCLIS NFRAP sites will be transferred to the Superfund program
 if they are found to be contaminated. CERCLIS NFRAP sites are also used to monitor sites
 investigated in the future. This policy change is part of the EPA's Brownfields Redevelopment Program
 to help cities, states, private investors and affected citizens to promote economic redevelopment of
 unproductive urban sites.
 Date of Government Version: 03/19/2003 Date of Last EDR Contact: 03/24/2003
 Database Release Frequency: Quarterly Date of Next Scheduled Update: 06/23/2003

NPL: Federal Superfund Sites
 Source: EPA
 Telephone: 202-564-4287
 Federal Superfund Sites. Under the authority granted the USEPA by the Comprehensive Environmental Response,
 Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against
 real property in order to recover remedial action expenditures or when the property owner receives
 notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.
 Date of Government Version: 10/15/1991 Date of Data Arrival at EDR: 02/02/1994
 Date Made Active at EDR: 03/01/1994
 Database Release Frequency: No Update Planned Date of Last EDR Contact: 02/77/2003

HS: SHWIS

HS: SHWIS: Remedial Landfills in the State of Hawaii
 Source: Hawaii Health
 Telephone: 808-586-4213
 Solid Waste Facilities/Landfill Sites. SHWIS type records typically contain an inventory of solid
 waste disposal facilities or landfills in a particular state. Depending on the state, these may be
 active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria
 for solid waste landfills or disposal sites.
 Date of Government Version: 05/03/1999 Date of Last EDR Contact: 05/03/2003
 Database Release Frequency: Varies Date of Next Scheduled Update: 07/28/2003

MULTIMEDIA

TRIS: Toxic Chemical Release Inventory System
 Source: EPA
 Telephone: 202-564-1531
 TRIS is a Comprehensive Environmental Response System. TRIS identifies facilities which release toxic chemicals to the air,
 water and land in reportable quantities under SARA Title III Section 313.
 Date of Government Version: 12/31/2000 Date of Last EDR Contact: 03/25/2003
 Database Release Frequency: Annually Date of Next Scheduled Update: 06/23/2003

SECTION 3: DATABASES SEARCHED AND UPDATE DATES

...Continued...

RSTS: Section 7 Tracking Systems
 Source: EPA
 Telephone: 202-564-5008
 Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 839) requires
 manufacturers of pesticides to submit reports to the Environmental Protection
 Agency by March 1st of each year. Each report must contain information on the use of
 active ingredients and devices being produced, and those having been produced and sold or distributed
 in the past year.
 Date of Government Version: 12/31/2000 Date of Last EDR Contact: 04/23/2003
 Database Release Frequency: Annually Date of Next Scheduled Update: 07/21/2003

TSCA: Toxic Substances Control Act
 Source: EPA
 Telephone: 202-564-5321
 Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included
 on the TSCA Chemical Substances Inventory list. It includes data on the production volume of these substances
 by plant site.
 Date of Government Version: 12/31/1998 Date of Last EDR Contact: 03/09/2003
 Database Release Frequency: NA Date of Next Scheduled Update: 06/09/2003

FTTS: FIFRA/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
 Source: EPA
 Telephone: 202-564-5321
 FTTS tracks administrative cases and pesticide endorsement actions and compliance activities related
 to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency,
 EDR contacts the Agency on a quarterly basis.
 Date of Government Version: 04/15/2003 Date of Last EDR Contact: 03/24/2003
 Database Release Frequency: Quarterly Date of Next Scheduled Update: 06/23/2003

FTTS INSP: FIFRA/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
 Source: EPA
 Telephone: 202-564-2301
 Date of Government Version: 04/15/2003 Date of Last EDR Contact: 06/24/2003
 Database Release Frequency: Quarterly Date of Next Scheduled Update: 06/23/2003

FINDS: Facility Index System/Facility Identification Inclusive Program Summary Report
 Source: EPA
 Telephone: Not reported
 Facility Index System. FINDS contains both facility information and pointers to other sources that
 contain information on facilities. EDR includes the following FINDS categories in the report: PCS (Permit Compliance
 System) MRS (Major Release System) RFS (Risk Reduction System) RFS (Risk Reduction System) RFS (Risk Reduction System)
 and track information on end use and environmental cases for all environmental statutes. FINDS (Facility
 Index System) (Facility Index System) (Facility Index System) (Facility Index System) (Facility Index System)
 Underground Injection Control, C-DOCKET (Criminal Docket System) used to track criminal enforcement
 actions for all environmental statutes. FFS (Facility Information System), STATE (State
 Environmental Laws and Statutes), and PAUS (PCB Activity Data System).
 Date of Government Version: 01/14/2003 Date of Last EDR Contact: 04/07/2003
 Database Release Frequency: Quarterly Date of Next Scheduled Update: 07/07/2003

HS: SHWIS: Release Notifications
 Source: Hawaii Health
 Telephone: 808-586-4219
 Release of Hazardous Substances to the Environment reports to the Office of Hazard Evaluation and
 Emergency Response since 1988.
 Date of Government Version: 09/01/2000 Date of Last EDR Contact: 03/26/2003
 Database Release Frequency: Varies Date of Next Scheduled Update: 05/23/2003

GA: SPILLS: Spills Information
 Source: Department of Natural Resources
 Telephone: 404-455-6500
 Oil or Hazardous Material Spills or Releases.
 Date of Government Version: 04/28/2003 Date of Last EDR Contact: 04/23/2003
 Database Release Frequency: Quarterly Date of Next Scheduled Update: 07/26/2003

SECTION 3: DATABASES SEARCHED AND UPDATE DATES
 ...Continued...

04. NON-HSI: Non-Hazardous Site Inventory
 Source: Real McDuff Associates, Inc.
 Telephone: Not Reported
 This list was obtained by EDR in 1998 and contains property listings that have reported contamination of their property. It is based on the Superfund Site Registry Act (SRA). These sites were not placed on the Geographic Priority List (Hazardous Site Inventory or HSI) because their hazard evaluation score did not exceed the threshold levels established for sites posing an imminent threat to human or the environment. Disclaimer provided by Real McDuff Associates - The database information has been obtained from publicly available sources produced by other entities. While restoration steps have been taken to ensure the accuracy of the data, Real McDuff Associates does not warrant the accuracy of the information in this report. This data does not constitute a legal opinion.
 Date of Government Version: 01/11/2003
 Database Release Frequency: Annually
 Date of Last EDR Contact: 04/07/2003
 Date of Next Scheduled Update: 07/07/2003

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. (C) Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan, Inc. While every effort has been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of contamination at any site. This report does not constitute a legal opinion.

POTENTIAL SUPERFUND LIABILITY
PRP: Potentially Responsible Parties
 Source: EDR
 Telephone: 202-554-0064
 A listing of verified Potentially Responsible Parties
 Date of Government Version: 01/11/2003
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 04/07/2003
 Date of Next Scheduled Update: 07/07/2003

EDR Site Report™

MAUI SCRAP METAL TIRE PILE FIRE
WAIKO RD
WAIKAPU, HI 96793

Inquiry Number:
May 28, 2003



**The Source
 For Environmental
 Risk Management
 Data**

3530 Post Road
 Southport, Connecticut 06490
Nationwide Customer Service
 Telephone: 1-800-352-0050
 Fax: 1-800-231-6802
 Internet: www.edrmet.com

TABLE OF CONTENTS

The EDR-Site Report™ is a comprehensive presentation of government filings on a facility identified in a search of over 4 million government records from more than 600 federal, state and local environmental databases. The report is divided into three sections:

- Section 1: Facility Summary Page 3
Summary of facility filings including a review of the following areas: waste management, waste disposal, multi-media issues, and Superfund liability.
- Section 2: Facility Detail Reports Page 4
All available detailed information from databases where sites are identified.
- Section 3: Databases Searched and Update Information Page 6
Name, source, update dates, contact phone number and description of each of the databases searched for this report.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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SECTION 1: FACILITY SUMMARY

AREA	FACILITY	FACILITY 1 MAJISCAP METAL TIRE PILE FIRE WASO NO. 148873 WASO NO. 148874 EPA ID # 1510220445
WASTE MANAGEMENT	Facility generated hazardous waste (RCRS)	NO
Facility treated, stored, or disposed of hazardous waste on-site (RCRQUT02)		NO
Facility has received notices of violations (RCRSP/NOI notice) (PLATS)		NO
Facility has been subject to RCRA administrative actions (CORRECT)		NO
Facility has been subject to corrective actions (CORRECT)		NO
Facility handles PCBs (PLADS)		NO
Facility uses radioactive materials (MLTS)		NO
Facility manages regulated above-ground storage tanks (AST)		NO
Facility manages regulated underground storage tanks (UST)		NO
Facility has reported leaking underground storage tank incidents (LUST)		NO
Facility has reported emergency releases to the soil (ER/S)		NO
Facility has reported hazardous material incidents to DOT (HAZRS)		NO
WASTE DISPOSAL	Facility is a Superfund Site (NPL)	NO
Facility has a history of historical, abandoned, inactive or unrecorded hazardous waste sites (CEXCLS)		NO
Facility has a reported Superfund Lien on Title (LIEC)		NO
Facility is listed as a state hazardous waste site (SHWS)		NO
Facility has disposed of solid waste on-site (SHWAL)		NO
MLA, TSD/DA Facility has a Title 46 record and has notified EPA under Section 7 of FIFRA (SFTS)		NO
Facility produces pesticides and has notified EPA under Section 7 of FIFRA (SFTS)		NO
Facility manufactures or imports toxic chemicals on the TSCA list (TSCA)		NO
Facility manufactures or imports toxic chemicals on the TSCA list (TSCA)		NO
Facility has inspections under FFR, TSCA or EPCRA (FTIS)		NO
Facility is listed in EPA's Model System (FNC5)		NO
Facility is listed in a court/epa/unfco database (LOCAL)	YES - 04	
POTENTIAL SUPERFUND LIABILITY	Facility has a list of potentially responsible parties (PRP)	NO
TOTAL (YES)		1

SECTION 2: FACILITY DETAIL REPORTS

SECTION 2: FACILITY DETAIL REPORTS

...Continued...

MULTIMEDIA

Facility is listed in a county/local unique database

DATABASE: State/County (LOCAL)

MAUI SCRAP METAL TIRE PILE FIRE
 WAIKO RD
 WAIKAPU, HI 96793
 EDRI ID #S10528445

Disease: HI SPILLS

HI SPILLS
 Reported Date: 10/17/98
 Case Number: 19991017-1530
 Incident Description: The Fire fire on 10/16/98
 Cause: unknown
 Substances: Not reported
 Quantity: Not reported
 Release Method: Not reported
 Responsible Party: Not reported
 Category: Not reported
 Soil Type: Not reported
 Reported By: Maui Fire Dept Mike Cummings
 Reporting Agency: Maui Fire Dept
 EPCAS Number: Not reported
 Respondor: Not reported

Investigators were on the scene; air monitoring conducted by Maui Fire

Initial Response: Not reported
 Response Date: Not reported
 Response Time: Not reported
 Duration: Not reported
 Incident Date: 10/16/98 2:17:53 PM
 Start Date: Not reported
 End Date: Not reported
 Emergency Response: No
 Initial Site Screening Team Rank: No Further Action
 Priority: Not reported
 Comments: Not reported
 File Section: Not reported
 Type: Not reported
 Department 1: Not reported
 Department 2: Not reported
 Department 3: Not reported
 Cost Recovery: Not reported
 Official Notification: Not reported
 Written Report: Not reported
 Confirmation Number: Not reported
 Responsible Party: Not reported
 Manifest Document Number: Not reported
 Units: Not reported
 Standard Cause: Not reported
 Unofficial Quantity: Not reported
 Zoning: Not reported
 Within Notification: None
 Written Notification: None
 Incident And Substandard: Not reported
 Verdict: Not reported
 Verification of source: Not reported
 Potential Quantity Amount: Not reported
 Potential Quantity Unit: Not reported
 Verification of source: Not reported
 Responsible Party Name: Not reported
 RP Address: Not reported
 RP Contact: Not reported
 RP Phone Number: Not reported
 Verified OIRP: Not reported
 Responsible Party ID: Not reported
 Contractor Amount: Not reported
 Personnel Amount: Not reported
 Other Amount: Not reported
 Total Amount: Not reported
 Miscellaneous Amount: Not reported
 Federal Project Number: Not reported

Pollution Removal Funding Auth: Not reported
 Authorization Date: Not reported
 Authorization Calling: Not reported
 Total Environment Restoring Response Fund: 0

SECTION 3: DATABASES SEARCHED AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

Elapsed ASTM days: Provides confirmation that the report meets or exceeds the 90-day updating requirement of the ASTM standard.

WASTE MANAGEMENT

RCRIS: Resource Conservation and Recovery Information System
 Source: EPA
 Telephone: 800-424-9348
 RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).
 Date of Government Version: 09/09/2002
 Database Release Frequency: Varies
 Date of Last EDR Contact: 04/18/2003
 Date of Next Scheduled Update: 06/23/2003

BRS: Biennial Reporting System
 Source: EPA/ASTS
 Telephone: 800-424-9348
 The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.
 Date of Government Version: 12/01/1999
 Database Release Frequency: Biennially
 Date of Last EDR Contact: 03/17/2003
 Date of Next Scheduled Update: 08/16/2003

RAATS: RCRA Administrative Action Tracking System
 Source: EPA
 Telephone: 202-564-1104
 RCRA Administrative Action Tracking System, RAATS contains records based on enforcement actions issued by EPA. For administrative actions, RAATS includes information on the status of the action. RAATS is discontinued because a decrease in agency resources made it impossible to continue to update the information contained in the database.
 Date of Government Version: 04/17/1995
 Database Release Frequency: No Update Planned
 Date of Last EDR Contact: 03/17/2003
 Date of Next Scheduled Update: 08/08/2003

CORRACTS: Corrective Action Report
 Source: EPA
 Telephone: 800-424-9348
 CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.
 Date of Government Version: 03/31/2003
 Database Release Frequency: Semi-Annually
 Date of Last EDR Contact: 03/10/2003
 Date of Next Scheduled Update: 06/09/2003

PADS: PCB Activity Database System
 Source: EPA
 Telephone: 202-564-2817
 PADS identifies generators, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify the EPA of such activities.
 Date of Government Version: 12/12/2002
 Database Release Frequency: Annually
 Date of Last EDR Contact: 05/12/2003
 Date of Next Scheduled Update: 06/11/2003

MLTS: Material Licensing Tracking System
 Source: Nuclear Regulatory Commission
 Telephone: 301-415-1000
 MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.
 Date of Government Version: 01/16/2003
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 04/07/2003
 Date of Next Scheduled Update: 07/07/2003

SECTION 3: DATABASES SEARCHED AND UPDATE DATES

..Continued..

H UST: Underground Storage Tank Database
 Source: Department of Health
 Telephone: 800-568-4228
 Registered Underground Storage Tanks (USTs) are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.
 Date of Government Version: 01/01/2003
 Database Release Frequency: Semi-Annually
 Date of Last EDR Contact: 02/11/2003
 Date of Next Scheduled Update: 06/30/2003

H LUST: Leaking Underground Storage Tank Database
 Source: Department of Health
 Telephone: 800-568-4228
 Leaking Underground Storage Tank Incident Reports, LUST records contain an inventory of reported leaking storage tank incidents. Not all states maintain these records, and the information stored varies by state.
 Date of Government Version: 01/01/2003
 Database Release Frequency: Semi-Annually
 Date of Last EDR Contact: 03/17/2003
 Date of Next Scheduled Update: 06/30/2003

ERNS: Emergency Response Notification System
 Source: National Response Center, United States Coast Guard
 Telephone: 202-260-2142
 Emergency Response Notification System, ERNS records and stores information on reported releases of oil and hazardous substances.
 Date of Government Version: 12/31/2001
 Database Release Frequency: Annually
 Date of Last EDR Contact: 04/29/2003
 Date of Next Scheduled Update: 07/28/2003

HMRIS: Hazardous Materials Information Reporting System
 Source: U.S. Department of Transportation
 Telephone: 202-368-4555
 Hazardous Materials Incident Report System, HMRIS contains hazardous material spill incidents reported to DOT.
 Date of Government Version: 11/06/2002
 Database Release Frequency: Annually
 Date of Last EDR Contact: 04/25/2003
 Date of Next Scheduled Update: 07/21/2003

WASTE DISPOSAL
NPL: National Priority List
 Source: EPA
 Telephone: Not reported
 National Priority List (Superfund). The NPL is a subset of CERCLUS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites are not necessarily listed on the As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.
 Date of Government Version: 01/29/2003
 Date Made Active at EDR: 03/04/2003
 Date of Last EDR Contact: 05/09/2003
 Date of Next Scheduled Update: 05/09/2003

PROPOSED NPL: Proposed National Priority List Sites
 Source: EPA
 Telephone: Not reported
 Date of Government Version: 01/29/2003
 Date Made Active at EDR: 03/04/2003
 Database Release Frequency: Semi-Annually
 Date of Data Arrival at EDR: 02/04/2003
 Date of Last EDR Contact: 05/05/2003

DELETED NPL: National Priority List Deletions
 Source: EPA
 Telephone: Not reported
 The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.423 (f), sites may be deleted from the NPL where no further response is appropriate.
 Date of Government Version: 01/29/2003
 Date Made Active at EDR: 03/04/2003
 Database Release Frequency: Quarterly
 Date of Data Arrival at EDR: 02/04/2003
 Date of Last EDR Contact: 05/05/2003

SECTION 3: DATABASES SEARCHED AND UPDATE DATES
 ...Continued...

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
 Source: EPA
 Telephone: 703-613-0223
 CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by state, local, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.
 Date of Government Version: 03/19/2003
 Date Made Active at EDR: 04/02/2003
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 03/24/2003
 Elapsed ASTM Days: 15
 Date of Next Scheduled Update: 03/24/2003

CERCLIS/NFRAP: CERCLIS No Further Remedial Action Planned
 Source: EPA
 Telephone: 703-613-0223
 As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination or the level of contamination was removed quickly without the need for a site to be placed on the NPL. CERCLIS sites that are removed from CERCLIS are tracked in NFRAP. NFRAP requires Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites from CERCLIS. CERCLIS does not track the status of these properties and has archived them as historical records in EPA's Superfund Registry. CERCLIS investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.
 Date of Government Version: 03/19/2003
 Date Made Active at EDR: 04/02/2003
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 03/24/2003
 Date of Next Scheduled Update: 03/24/2003

NPL LIENS: Federal Superfund Liens
 Source: EPA
 Telephone: 202-564-4267
 Federal Superfund Liens, Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against non-Federal parties in order to ensure that the necessary remedial action expenditures or when the property owner notifies notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.
 Date of Government Version: 10/15/1991
 Date Made Active at EDR: 03/20/1994
 Database Release Frequency: No Update Planned
 Date of Last EDR Contact: 02/27/1994
 Elapsed ASTM Days: 24
 Date of Next Scheduled Update: 02/27/2003

HI SHWS:

HI BNFALF: Permitted Landfills in the State of Hawaii
 Source: Department of Health
 Telephone: 808-566-4245
 Solid Waste Facilities Landfill Sites. BNFALF type records typically contain an inventory of solid waste facilities and their status in a particular state. Depending on the state, these may be active or inactive facilities or closed facilities that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.
 Date of Government Version: 05/03/1999
 Date Made Active at EDR: 05/03/1999
 Database Release Frequency: Varies
 Date of Last EDR Contact: 05/01/2003
 Date of Next Scheduled Update: 07/28/2003

MULTIMEDIA

TRIS: Toxic Chemical Release Inventory System
 Source: EPA
 Telephone: 202-260-1531
 Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.
 Date of Government Version: 12/01/2000
 Database Release Frequency: Annually
 Date of Last EDR Contact: 03/25/2003
 Date of Next Scheduled Update: 05/23/2003

SECTION 3: DATABASES SEARCHED AND UPDATE DATES
 ...Continued...

SSTS: Section 7 Tracking Systems
 Source: EPA
 Telephone: 202-564-5008
 Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (FIFRA), requires manufacturers and pesticide-producing establishments to submit a report to the Environmental Protection Agency each year. Each establishment must report the types and amounts of pesticides, active ingredients, and devices being produced, and those having been produced and sold or distributed in the past year.
 Date of Government Version: 12/17/2000
 Database Release Frequency: Annually
 Date of Last EDR Contact: 04/23/2003
 Date of Next Scheduled Update: 07/21/2003

TSCA: Toxic Substances Control Act
 Source: EPA
 Telephone: 202-564-5521
 Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.
 Date of Government Version: 12/31/1999
 Database Release Frequency: N/A
 Date of Last EDR Contact: 03/06/2003
 Date of Next Scheduled Update: 06/09/2003

FTS: FIFRA/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act/TSCA (Toxic Substances Control Act))
 Source: EPA
 Telephone: 202-564-2501
 FTS tracks the sales and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA. FTS is used for compliance planning and Community Right-to-Know Act. To maintain currency, EDR contacts the Agency on a quarterly basis.
 Date of Government Version: 04/15/2003
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 03/24/2003
 Date of Next Scheduled Update: 06/23/2003

FTS MSP: FIFRA/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act/TSCA (Toxic Substances Control Act))
 Source: EPA
 Telephone: 202-564-2501
 Date of Government Version: 04/15/2003
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 06/24/2003
 Date of Next Scheduled Update: 06/23/2003

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
 Source: EPA
 Telephone: Not reported
 Facility Index System. FINDS contains both facility information and "pointers" to other sources (air system), AIRS (National Air Quality Information System), DOCKET (Enforcement Docket) and track information on child labor, OSHA (Occupational Safety and Health Administration), Underground Injection Control, C-DOCKET (Central Docket Information System), FURS (Federal Enforcement Reporting System), FFS (Federal Facility Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).
 Date of Government Version: 01/14/2003
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 04/07/2003
 Date of Next Scheduled Update: 07/07/2003

HI SPILLS: Release Notifications
 Source: Department of Health
 Telephone: 808-566-4249
 Releases of hazardous substances to the environment reported to the Office of Hazard Evaluation and Emergency Response since 1994.
 Date of Government Version: 09/01/2000
 Database Release Frequency: Varies
 Date of Last EDR Contact: 03/25/2003
 Date of Next Scheduled Update: 06/23/2003

QA SPILLS: Spills Information
 Source: Department of Natural Resources
 Telephone: 404-656-6905
 Oil or Hazardous Material Spills or Releases.
 Date of Government Version: 04/29/2003
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 04/29/2003
 Date of Next Scheduled Update: 07/28/2003

SECTION 3: DATABASES SEARCHED AND UPDATE DATES

... Continued...

GA, Non-Hazardous Site Inventory
 Prepared by EDR Associates, Inc.
 Telephone: 770-381-1111

The list was obtained by EDR in 1998 and contains property listings that have reported construction of soil or groundwater under the Georgia Hazardous Site Response Act (HSRA). These sites were not placed on the Georgia Priority List (Hazardous Site Inventory or HSI) because their hazard evaluation scores did not exceed the threshold levels established for sites posing an imminent threat to health or the environment. The information was obtained from publicly available sources. While every effort has been made to ensure the accuracy of the data, EDR does not guarantee the accuracy of the data. No claim is made for the actual existence of pollution at any site. This data does not constitute a legal opinion.

Date of Government Vendor: 01/14/2003
 Database Release Frequency: Annually

Date of Last EDR Contact: 04/07/2003
 Date of Next Scheduled Update: 07/07/2003

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. © Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

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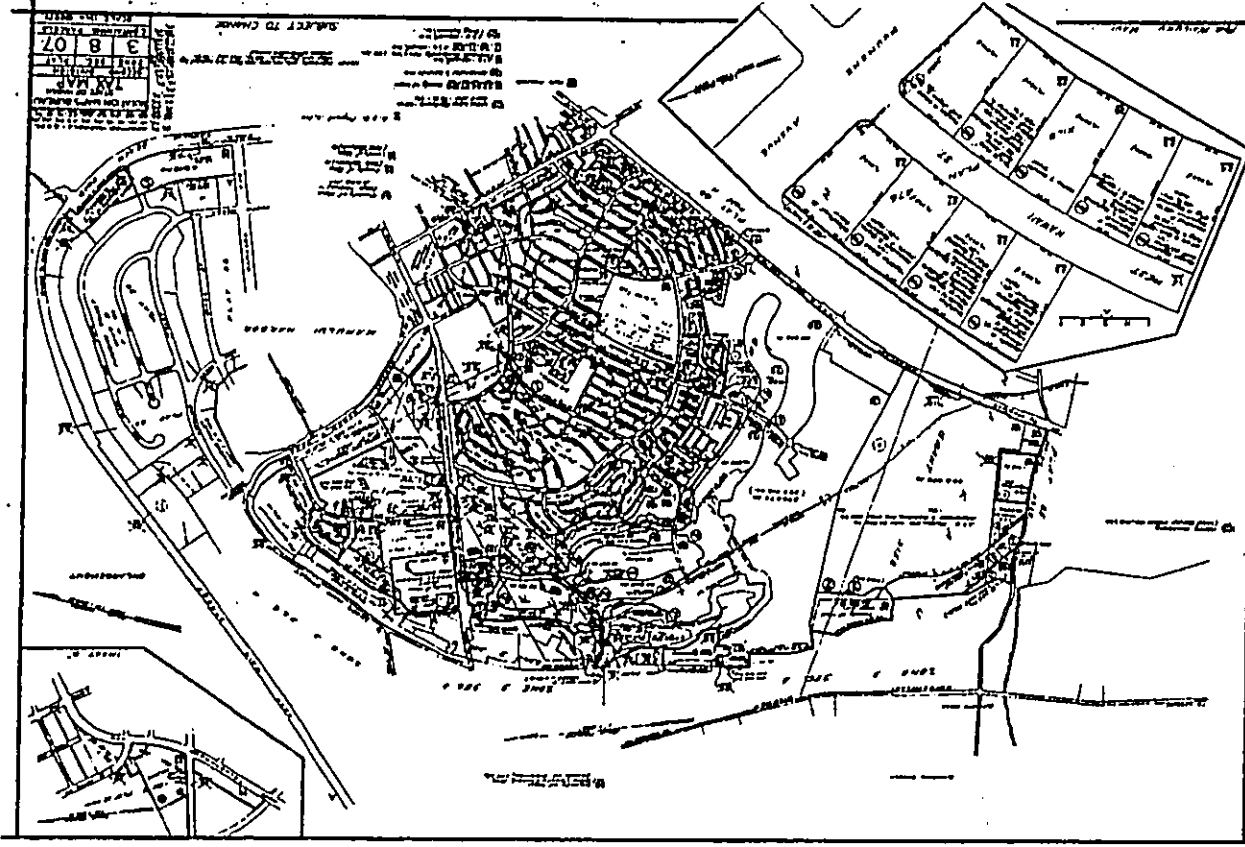
The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to ensure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of scores at any site. This report does not constitute a legal opinion.

POTENTIAL SUPERFUND LIABILITY

PRP: Potentially Responsible Parties
 Source: EPA
 Telephone: 202-554-6064

Date of Government Vendor: 04/14/2003
 Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/07/2003
 Date of Next Scheduled Update: 07/07/2003



REQUEST FOR PUBLIC RECORDS

Date: May 15, 2003

To: State of Hawaii
Department of Health
Environmental Management Division
919 Ala Moana Boulevard, Room 309
Honolulu, HI 96814

Attn: Clean Air Branch
Phone: (808) 586-4200
Fax: (808) 586-5800

From: Name of Requestor: Massy Cashen



Company: Vuich Environmental Consultants
1498 Lower Main Street, Suite C
Wailuku, HI 96793
Phone: (808) 249-2777
Fax: (808) 249-2778

We are requesting a search for any past or pending environmental permits, licenses, citations, or other information pertaining to the site(s) described below.

SITE INFORMATION:

Project Number: 0305-610
Tax Map Key No.: (2)-3-8-7:89
Address: Waiako Road, Maui, Hawaii
Current Owner: Consolidated Baseyard, LLC
Former Owner: N.A.
Current Occupant: Multi-tenant
Type of Business: Commercial

COPY

REQUEST FOR PUBLIC RECORDS

Date: May 15, 2003

To: State of Hawaii
Department of Health
Environmental Management Division
919 Ala Moana Boulevard, Room 301
Honolulu, HI 96814

Attn: Clean Water Branch
Phone: (808) 586-4309

From: Name of Requestor: Massy Cashen



Company: Vuich Environmental Consultants
1498 Lower Main Street, Suite C
Wailuku, HI 96793
Phone: (808) 249-2777
Fax: (808) 249-2778

We are requesting a search for any past or pending environmental permits, licenses, citations, or other information pertaining to the site(s) described below.

SITE INFORMATION:

Project Number: 0305-610
Tax Map Key No.: (2)-3-8-7:89
Address: Waiako Road, Maui, Hawaii
Current Owner: Consolidated Baseyard, LLC
Former Owner: N.A.
Current Occupant: Multi-tenant
Type of Business: Commercial

COPY

REQUEST FOR PUBLIC RECORDS

Date: May 15, 2003
To: State of Hawaii
Department of Health
Environmental Management Division
919 Ala Moana Boulevard, Room 206
Honolulu, HI 96814
Attn: Office of Hazard Evaluation & Emergency Response (HEER)
Phone: (808) 586-4249
From: Name of Requestor: Massy Cashen

COPY

Company: Vuich Environmental Consultants
1498 Lower Main Street, Suite C
Wailuku, HI 96793
Phone: (808) 249-2777
Fax: (808) 249-2778

We are requesting a search for any past or pending environmental permits, licenses, citations, or other information pertaining to the site(s) described below.

SITE INFORMATION:

Project Number: 0305-610
Tax Map Key No.: (2)-3-8-7:89
Address: Waiko Road, Maui, Hawaii
Current Owner: Consolidated Baseyard, LLC
Former Owner: N.A.
Current Occupant: Multi-tenant
Type of Business: Commercial

REQUEST FOR PUBLIC RECORDS

Date: May 15, 2003
To: State of Hawaii
Department of Health
Environmental Management Division
919 Ala Moana Boulevard, Room 308
Honolulu, HI 96814
Attn: Safe Drinking Water Branch
Phone: (808) 586-4258
Fax: (808) 586-4370
From: Name of Requestor: Massy Cashen

COPY

Company: Vuich Environmental Consultants
1498 Lower Main Street, Suite C
Wailuku, HI 96793
Phone: (808) 249-2777
Fax: (808) 249-2778

We are requesting a search for any past or pending environmental permits, licenses, citations, or other information pertaining to the site(s) described below.

SITE INFORMATION:

Project Number: 0305-610
Tax Map Key No.: (2)-3-8-7:89
Address: Waiko Road, Maui, Hawaii
Current Owner: Consolidated Baseyard, LLC
Former Owner: N.A.
Current Occupant: Multi-tenant
Type of Business: Commercial


REQUEST FOR PUBLIC RECORDS

Date: May 15, 2003

To: State of Hawaii
Department of Health
Environmental Management Division
919 Ala Moana Boulevard, Room 212
Honolulu, HI 96814

Attn: Solid & Hazardous Waste Branch
Phone: (808) 586-4226

From: Name of Requestor: Massy Cashen


Company: Vuich Environmental Consultants
1498 Lower Main Street, Suite C
Wailuku, HI 96793
Phone: (808) 249-2777
Fax: (808) 249-2778

We are requesting a search for any past or pending environmental permits, licenses, citations, or other information pertaining to the site(s) described below.

SITE INFORMATION:

Project Number: 0305-610
Tax Map Key No.: (2)-3-8-7:89
Address: Walko Road, Maui, Hawaii
Current Owner: Consolidated Baseyard, LLC
Former Owner: N.A.
Current Occupant: Multi-tenant
Type of Business: Commercial


REQUEST FOR PUBLIC RECORDS

Date: May 15, 2003

To: State of Hawaii
Department of Health
Environmental Management Division
919 Ala Moana Boulevard, Room 203
Honolulu, HI 96814

Attn: Wastewater Branch
Phone: (808) 586-4294

From: Name of Requestor: Massy Cashen


Company: Vuich Environmental Consultants
1498 Lower Main Street, Suite C
Wailuku, HI 96793
Phone: (808) 249-2777
Fax: (808) 249-2778

We are requesting a search for any past or pending environmental permits, licenses, citations, or other information pertaining to the site(s) described below.

SITE INFORMATION:

Project Number: 0305-610
Tax Map Key No.: (2)-3-8-7:89
Address: Walko Road, Maui, Hawaii
Current Owner: Consolidated Baseyard, LLC
Former Owner: N.A.
Current Occupant: Multi-tenant
Type of Business: Commercial

COPY

COPY



May 15, 2003

Maui County Fire Department
Hazardous Materials Division
Attn: Capt. James Kline
200 Dairy Road
Kahului, Hawaii 96732

FAXED 877 Date:

RE: Request for Public Records for Vulich Environmental Consultants (VEC)

Dear Capt. Murray:

VEC is requesting any past or present information of environmental concern pertaining to the subject site and adjacent sites from the Maui County Fire Department's database. This could include information on environmental releases (spills), permits, citations, inspections, etc.

SITE INFORMATION:

Project Number: 0305-610
TMK: (2)-3-8-7:89
Address: Waiko Road, Maui, Hawaii
Current Owner: Consolidated Baseyard, LLC
Former Owner: N.A.
Current Tenant: Multi-tenant
CERCLIS: Subject site is not on CERCLIS list, date 12/13/02
ERNS: Subject site is not on ERNS list, date 12/31/01

Thank you for your assistance.
Sincerely yours,

Mandy Cashen

Attachment: TMK map

Maui (Corporate) Office: 1498 Lower Main Street, Suite C, Waikuku, Hawaii 96793 • (808) 249-2777 Phone / (808) 249-2778 Fax
Oahu Office: 650 Kalia Street, Unit 3, Honolulu, Hawaii 96819 • (808) 836-1611 Phone / (808) 836-6299 Fax
Internet Site: (800) 572-1165 • www.vulichenvironmental.com



May 15, 2003

Maui County Fire Department
Fire Prevention Bureau
Attn: Capt. Neal Bai
21 Kinipopo Street
Waikuku, Hawaii 96793

FAXED 877 Date:

RE: Request for Public Records for Vulich Environmental Consultants (VEC)

Dear Capt. Bai:

VEC is requesting any past or present information of environmental concern pertaining to the subject site and adjacent sites from the Maui County Fire Department's database. This could include information on environmental releases (spills), permits, citations, inspections, etc.

SITE INFORMATION:

Project Number: 0305-610
TMK: (2)-3-8-7:89
Address: Waiko Road, Maui, Hawaii
Current Owner: Consolidated Baseyard, LLC
Former Owner: N.A.
Current Tenant: Multi-tenant
CERCLIS: Subject site is not on CERCLIS list, date 12/13/02
ERNS: Subject site is not on ERNS list, date 12/31/01

Thank you for your assistance.
Sincerely yours,

Mandy Cashen

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ENVIRONMENTAL ASSESSMENT CHECKLIST
Facility Information

Facility Name: Ag Property w/Industrial previously Telephone: 877-6501
Facility Owner: Consolidated Bayside, LLC Telephone: 877-6501
Address: 8081 Hwy 11, Waikanae, Maui, Hawaii
Describe the Current Use of the Facility: 1/2 of property is agricultural undeveloped pasture & 1/2 was level graded 2 years ago and used as a storage yard for business vehicles, equipment and materials
Date Current Owner Took Title: June 2000 Total Acreage: 2.3
Number of Buildings: 0 Number of Employees: 0
Prior Facility Owner: A & B Properties, Inc. Telephone: 877-6523
Address: P.O. Box 156, Kahului, Hawaii 96732
Describe the Prior Use of the Facility: Undeveloped agricultural pasture property

HAZARDOUS MATERIALS, STORAGE, AND DISPOSAL

(Answer each question with a "Yes" or "No". When an explanation is needed, write in a number as a part of the question's answer, and then attach a written numbered comment.)

- Are drums of chemicals, pesticides, solvents, cleaning fluids, or other potentially hazardous materials stored on the site? NO
- If so, is there any evidence of spills, leaks, or discharges into the ground from the drums? NA
- Are there any areas at the site where the ground is eroded or where there is dead or stressed vegetation? NO
- Does the facility generate hazardous wastes as a part of its operations? No
- If yes, does it have an EPA ID number? NA If so what is the number? NA
- Does it appear that the facility is properly disposing of its waste products? YES
- Are there any pits, ponds, lagoons, or other potential dumping sites on the property? No
- If so, are these designed to keep hazardous waste from seeping into the underground water table? NA
- Does there appear to be any radioactive material on site? No
- Has the facility ever received a notice of violation or other similar claim from a regulatory agency for improper hazardous materials storage or disposal on the site? No

- If the facility has received such a notice, have all issues related to the notice been satisfactorily corrected? NA
- Has the facility ever received a notification letter from the EPA or a state agency about involvement or potential involvement in a Superfund site cleanup on this site or in an off-site location? No
- Is the facility free of any current or pending legal action of any kind related to hazardous materials, waste, storage, or disposal? Yes
- Were the facilities on the property constructed prior to 1979 (when asbestos uses as insulation was banned)? NA - No Building
- Has an asbestos survey of the facility been conducted? No
- If yes, did the survey find the buildings to be free of asbestos-containing materials? NA
- Does a walk-through of the property reveal any evidence of insulation, fire proofing, or building materials that may contain asbestos? NO (Inspection boiler, pipes, and ducts for asbestos insulation. Inspect ceilings, walls, floors, pipes, etc., as well as roofing materials for asbestos-containing materials.)
- If yes, does the suspicious material appear to be crumbling, flaking, damaged, or broken? NA
- Have radon tests ever been performed at the property? No
- If yes, were they EPA approved tests? NA
- If yes to 19, were the results below the 4 picocuries per liter limit established by the EPA? NA
- If no to 19, is there any evidence that this property or surrounding properties might have elevated radon levels? No
- If yes to 21, have radon reduction systems (or other remedial measures) been implemented? NA
- Does the facility appear to be free of sources of air emissions that have chemical odors, fumes, or smokes? YES
- Have there been any complaints or claims filed by any workers at the property for any environmental health reasons? No
- Has the drinking water at the property been tested? No - County Water If yes, is it within acceptable EPA standards? NA

27. Have there been previous problems with below standard drinking water at the facility?
No

28. Have there been any problems with below standard drinking water at the locations adjacent to the facility? No

Underground Storage Tanks

29. Does the property contain underground storage tanks? No

30. If underground storage tanks exist on the property, have the proper registration forms been submitted to the appropriate state regulatory agencies? NA

31. If underground storage tanks exist on the property, have there been incidences of leaks, spills, or discharges? NA

32. If underground storage tanks exist on the property, are leak detection equipment or secondary containment systems installed on the tanks? NA

33. If underground storage tanks exist on the property, have they been tested for leaks? NA

34. If underground storage tanks exist on the property, is there a program in place to upgrade the tanks to meet the EPA's standards? NA

Polychlorinated Biphenyls (PCBs)

35. Does the facility contain any equipment, such as transformers or capacitors, that may contain PCBs? No

36. If PCB-containing electrical equipment is present at the property, is it marked with yellow PCB labels? NA

37. If PCB-containing electrical equipment is present at the property, is there evidence of leaks or spills on the ground adjacent to the equipment? NA

Environmental Hazards on Adjacent Properties

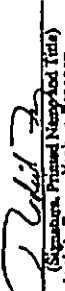
38. Do adjacent properties appear to be free of any improper storage or dumping of hazardous waste, drums, or other containers that could affect this property? Yes

39. Are there any landfills, dumps, or other waste disposal facilities located on adjacent properties? No-Not Adjacent, Closed County Landfill a mile (5,000) away

40. Are any of the following located on adjacent properties: gas stations, chemical plants, bulk storage tanks, or manufacturing plants? No

CHECKLIST CERTIFICATION

This is to certify that the undersigned, on the date indicated below, did an environmental inspection of the above-named facility, and the results of the inspection are as indicated on this checklist (and the assembled notes that accompany it) to the best of my knowledge and belief.


(Signature, Printed Name and Title)
Rodrick Fong, Member/Manager

03/06/03
Date

Consolidated Basyaris, LLC
(Company)

HAZARDOUS WASTE REPORT TO LENDER
(Borrower's Hazardous Waste Report)

Seller Name: Ma-Ro Finance
Business Name: Consolidated Baseyards, LLC
Property Name: Consolidated Baseyards
Property Address: Maikua Road, Maikua, Maui, Hawaii
Tax Map Key: 3-8-07189

In conjunction with our analysis of your loan request, please complete this questionnaire and return a signed copy to us.

1. When did you acquire the property?
a. Bought land in 2000 (year) and built the building in (year).
b. Bought building in (year).

2. Please provide us with the following names, addresses, and telephone numbers.
Former Owner (and/or building)
Name: A & B Properties, Inc.
Address: P.O. Box 156, Kahului, Hawaii 96732
Telephone: 877-5523

Building Architect
Name: None
Address:
Telephone:

Soils Engineer
Name: None
Address:
Telephone:

3. Describe all prior uses of the building and land of which you have knowledge (e.g. agricultural land, building occupied by an auto parts distributor, multi-tenant industrial occupancy, etc.)
Agricultural land

4. Do you have any reason to believe that asbestos was in the past or currently is present in any form in, on, or about the property?
No

5. The following are situations that pose a higher risk of contamination. Check if present on the site or in the subject building.
 Drums or other containers stored on site Stored materials
 Stored electrical transformers Above-ground tanks.

If any of these items are checked, explain details and exact location.

6. Do any current occupants of the property use, handle, or store any toxic* or dangerous substances?
 Yes X No X If "yes", please explain.

7. The following types of hazards may pose a toxic* substance. Check if they are present in the property:
 Bldg. cleaning agent
 Chemical spill
 Fuel/wood refuse
 Laundry/dry cleaning
 Laboratories
 Metal oils
 Pesticides
 Vehicle fluids
X Wood preservative

8. Is there now or has there been in the past any underground tanks or pipelines (other than water, sewer, and natural gas utility lines) on the property?
 Yes X No X If "yes", please explain.

9. Please list the names and addresses of businesses which border the property on all sides.
East: John Duarte - Home Court

West: FOR Construction Co. - Equipment & Materials storage yard

From: A & B Properties, Inc. - Agricultural ranch land
To: Valuku Agribusiness - Agricultural sugar cane land

Appendix C:

Qualifications of Environmental Professionals

10. To the best of your knowledge, have any of those advising businesses or land owners been involved in any matter described in Questions 4 through 7?

Yes No

* As used herein, "advising business" shall be interpreted broadly to include but not limited to, advisors designated in hazardous waste Resource Conservation and Recovery Act, 42 U.S.C. para 9601, EPCRA, the Federal Water Pollution Control Act, 33 U.S.C. para 1357, the Clean Air Act, 42 U.S.C. para 2001, EPCRA, or the Comprehensive Environmental Response Compensation and Liability Act of 1980, 42 U.S.C. para 9601, EPCRA, and a shall be interpreted to include, but not limited to, any substance which either release into the environment and upon exposure, ingestion, inhalation, or absorption, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be expected to cause death, disease, behavior abnormalities, cancer and/or genetic abnormalities.

As the present owner of the property or as an officer or a general partner of the present owner of the property (or the duly authorized representative of each owner), I am familiar with all of the operations presently conducted on the property, have made a diligent inquiry into the former uses of the property, and hereby certify to read for the benefit of Central Pacific Bank that to the best of my knowledge, the information disclosed above is true and correct.

Seller:

By: _____ Date: _____
In _____

Buyer: Consolidated Backyards, LLC

By:  Date: 03/04/03
In Robert Hargreaves

Page 3 of 3



STATEMENT OF QUALIFICATIONS

for

Jeffrey E. Kermode, B.A., B. Tech.

- Company Position** Environmental Projects and Operations Manager
- Responsibilities and Duties:**
 - Phase I & II Environmental Site Assessments/Investigations
 - Phase III Remediation Projects
 - Underground Storage Tank (UST) Closures
 - Asbestos Inspections, Air Monitoring and Supervision of Removal
 - Lead-Based Paint Inspections, Risk Assessments and Supervision of Removal
 - Indoor Air Quality Investigations
 - Site Safety Officer for Sampling/Remediation Projects
- Experience:**
 - Soil and Groundwater Investigations/Remediation
 - UST Removal and Proper Closure
 - Hazardous Materials Management
 - Asbestos and Lead-Based Paint Projects (Inspections, Monitoring, Removal)
 - Indoor Air Quality Sampling for Particulate and Microbiological Contaminants
 - Wetland Delineation
 - Erosion Control and Pollution Prevention Planning and Implementation for Large Scale Construction Projects
 - Environmental Report Writing and Compilation
 - Conducted On-Site Oil Spill Response Training Courses, Assessed Clients' Response Preparedness, and Assisted in the Development of Oil Spill Contingency Plans
 - Oil Spill Clean-Up Operations
 - Pelagic and Coastal Fisheries Research as a Scientific Observer
- Training & Education**
 - Bachelor of Technology, Environmental Engineering, B.C.I.T. Burnaby, B.C., 1999
 - Bachelor of Arts, Geography, University of B.C., Vancouver, Canada, 1989
 - AHERA (Asbestos Hazard Emergency Response Act) Inspector for Asbestos, US EPA Certified
 - AHERA Asbestos Contractor Supervisor, US EPA Certified
 - AHERA Project Monitor for Asbestos, US EPA Certified
 - OSHA HAZWOPER Certification (40 Hr)
 - On-Scene Incident Commander Certification (24 Hr), US EPA Certified
 - Lead-Based Paint Inspector, US EPA Certified
 - Lead-Based Paint Risk Assessor, US EPA Certified
 - Lead-Based Paint Contractor Supervisor, US EPA Certified

Rev. 10-01

Main Office: 1498 Lower Main Street, Suite C, Waiuku, Hawaii 96793 • (808) 249-2777 Phone (808) 249-2778 Fax
Oahu Office: 650 Kakaui Street, Unit 3, Honolulu, Hawaii 96819 • (808) 835-1611 Phone • (808) 836-6299 Fax
Inter-Island: (800) 572-1165 • www.vuichenvironmental.com



JOHN S. VUICH
1498 Lower Main Street, Suite C
Waiuku, HI 96793
(808) 249-2777

STATEMENT OF QUALIFICATIONS

M. S. Geological Engineering, University of Arizona
B. S. Geological Engineering, University of Arizona
Registered Geologist (California)
Certified Environmental Assessor (California)
Certified Environmental Manager (Nevada)

AREAS OF EXPERTISE

- ENVIRONMENTAL**
 - Site Assessments, Phase I, II, III Investigations
 - Underground Storage Tank Closure
 - Asbestos Inspection and Monitoring, Management Planning, and Abatement Project Design and Removal
 - Lead-Containing Paint Surveys and Inspections, and Disturbance Design and Removal
 - Site Characterization for Remedial Investigations
 - Facility Operation Compliance Audits-ISO 14000 Audits
 - Soils/Groundwater Remediation
 - Hazardous Waste Management
 - Risk Assessment Investigations
 - RCRA Compliance and Closure Projects
 - Expert Witness/Litigation Support
 - Industrial Hygiene Qualified/Competent Person
 - Mold/Fungi Sampling, Remediation and Abatement Design and Removal
- GEOLOGICAL**
 - Hydrogeology
 - Geologic Hazards Analysis
 - Landuse Planning
 - Subsurface Excavations and Drilling Investigations and Sampling
- MANAGEMENT**
 - Program Director - Project Management
 - Client - Agency Liaison
 - Field Supervision - Administrative Supervisor

Rev. 2/02

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Inter-Island: (800) 572-1165 • www.vuichenvironmental.com

RELEVANT EXPERIENCE

Owner-Director • Vulch Environmental Consultants, Inc.
Pukalani, Hawaii and Tucson, Arizona • (March, 1994 - Present)
Consulting services and project management for property transfers, sampling and site characterization plans, hazardous and toxic waste management, underground storage tanks, regulatory compliance, landfill sites, site remediation and closure plans, permit applications, litigation support, feasibility planning and contingency and emergency response plans.

Director • CEO Haztech Enviro-Systems
Tucson, AZ • July 1988 - February 1994
Founder of professional environmental engineering and geological consulting firm. Services included site assessments, site contamination characterizations, facility audits, RCRA closure investigations and hazardous/regulator waste management, remediation projects, and asbestos surveys. Prepared regulatory documentation and permitting for Federal, State and local regulatory agencies on all projects. Supervised professional, technical, sales and administrative/clerical staff.

Project Engineer • Hazchem Environmental Services
Tucson, AZ • March 1987 - June 1988
Performed and supervised RCRA remedial projects and waste management projects.

Independent Consultant Geologist
Laguna Hills, CA and Tucson, AZ • 1982 - 1987
Conducted geological investigations in western United States and Mexico. Performed geochemical sampling and geologic mapping. Prepared technical reports for clients and regulatory agencies.

Environmental/Geotechnical Section Supervisor • TRW: Systems Engineering
Redondo Beach, CA • 1978 - 1981
Directed environmental project management for Department of Defense and Department of Energy related projects in Western U.S. Project, including site selection, planning and environmental impact statements. Supervised staff consisting of geologists and environmental scientists.

Assistant Geologist • Arizona Geological Survey
Tucson, AZ • 1972-1978
Participated in environmental impact studies, geologic hazards analysis, landuse planning. Author of several landuse planning technical publications.

Project Geologist and Staff Geologist • Various Geological Consulting & Mining Companies
Southwestern United States • 1968-1972
Performed geochemical sampling, subsurface investigations including drilling, mineral property valuation and geologic mapping. Prepared geologic reports and maps.

Appendix D:

Acronyms and Abbreviations

Abbreviation	Definition
AST	Aboveground Storage Tank
AHERA	(Federal) Asbestos Hazard Emergency Response Act
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BLM	Bureau of Land Management
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAA	Clean Air Act: Regulates Air Quality
CAMU	Corrective Action management Unit
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act: Federal Superfund for Cleanup of Environmental Contamination (1980, 1988)
CERCLIS	CERCLA Information System (data base)
CESQG	Conditionally Exempt SQG: Hazardous Waste Generator less than 100 kg/mo.
C.F.R.	Code of Federal Regulations: National Standard Regulations
COLIWASA	Composite Liquid Waste Sampler
CRC	Chlorofluorocarbon
CMU	Concrete Masonry Unit
CWA	Clean Water Act: Regulates Water Quality (1972, 1987)
CZMA	Coastal Zone Management Act
DLNR	Department of Land and Natural Resources
DOT	Department of Transportation: Administers hazardous waste Containers-Marking-Labeling-Placarding and Transportation Procedures
DOH	Department Of Health (State Of Hawaii)
DRASTIC	EPA Standardized System for Evaluating Groundwater Pollution Potential Using Hydrogeologic Settings
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency: Administers CERCLA, RCRA and SARA
FID	Flame Ionization Detector
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act: Regulates Pesticides (1972, 1988)
FSP	Field Sampling Plan
FWPCA	Federal Water Pollution Control Act
HAP	Hazardous Air Pollutant
HCS	(OSHA) Hazard Communication Standard
HSWA	(Federal) Hazardous and Solid Waste Amendments of 1984
LEL	Lower Explosive Limit
LQG	Large Quantity Generators: Hazardous Waste Generator in Excess of 100 kg/mo.
LUST	Leaking Underground Storage Tank
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MSDS	Material Safety Data Sheets: Hazard Information Required for Chemical Substances by OSHA
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants (Under CAA Regulations)
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&M	Operating and Maintenance
OCS	Outer Continental Shelf
OSHA	Occupational Safety and Health Act: Established Hazard Communication Program and Employee Right-to-Know Law (1970)
OVA	Organic Vapor Analyzer
PCB	Polychlorinated Biphenyls: Toxic Substance Used in Electric-Device Cooling
PCM	Picocuries Per Liter
PEL	Permissible Airborne Exposure Level

Appendix H

***Preliminary
Engineering Report***

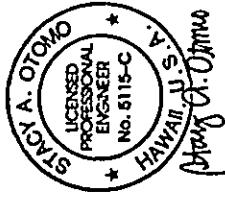
TABLE OF CONTENTS

**PRELIMINARY ENGINEERING REPORT
FOR
CONSOLIDATED BASEYARDS**

Waikapu, Waialuku, Maui, Hawaii
T.M.K.: (2) 3-8-007: 089

Prepared For:

Consolidated Baseyards, L.L.C.
33 Lono Avenue, Suite 450A
Kahului, Maui, Hawaii



Prepared By:



August 2004

1.0 INTRODUCTION

2.0 EXISTING INFRASTRUCTURE

- 2.1 ROADWAYS
- 2.2 DRAINAGE
- 2.3 SEWER
- 2.4 WATER
- 2.5 ELECTRIC AND TELEPHONE

3.0 ANTICIPATED INFRASTRUCTURE IMPROVEMENTS

- 3.1 ROADWAYS
- 3.2 DRAINAGE
- 3.3 SEWER
- 3.4 WATER
- 3.5 ELECTRIC AND TELEPHONE

**PRELIMINARY ENGINEERING REPORT
FOR
CONSOLIDATED BASEYARDS
T.M.K.: (2) 3-8-007: 089**

1.0 INTRODUCTION

The purpose of this report is to provide information on the existing infrastructure which will be servicing the proposed project. It will also evaluate the adequacy of the existing infrastructure and anticipated improvements which may be required for the proposed project.

The subject parcel is identified as T.M.K.: (2) 3-8-007: 089, and encompasses an area of 23.164 acres. It is also known as Lots 2-A, 2-B and 2-C of the Kopaa Subdivision No. 2. It is bordered by undeveloped land to the north, a cattle feed lot to the east, Waiko Road to the south, and a roadway leading to the Campaign Recycle Maui Composting Center to the west.

The proposed project consists of developing thirty-five industrial lots, ranging in size from 10,375 square feet to 85,502 square feet. Proposed improvements include paved roadways, concrete curb, gutter and sidewalk, private water system, and landscaping. Underground water, sewer, drainage, electrical, and telephone systems will also be constructed.

2.0 EXISTING INFRASTRUCTURE

2.1 ROADWAYS

Honoapiilani Highway is located approximately 4,200 feet west of the project site. It is a two lane undivided State Highway which runs in the north-south direction into Wailuku town. The speed limit ranges between 30 and 55 miles per hour (mph) in the vicinity of Waikapu. There is an existing left turn pocket into Waiko Road.

Kuihelani Highway is located approximately 600 feet east of the project site. It is a two way, four-lane State arterial highway which also runs in north-south direction. The posted speed limit on Kuihelani Highway varies between 30 and 55 mph. Traffic signals were recently installed at the Kuihelani Highway-Waiko Road intersection. The southern terminus of Kuihelani Highway is its intersection with Honoapiilani Highway.

Waiko Road is a two-lane County collector roadway that connects Honoapiilani Highway and Kuihelani Highway. The posted speed limit on Waiko

Road is 20 mph. Immediately east of Honoapiilani Highway, Waiko Road provides access to a residential community. Further east, Waiko Road provides access to industrial and livestock land uses. There is a weight limit of 10,000 pounds from vehicles entering and exiting Waiko Road near Honoapiilani Highway.

Waiale Road is a two-lane cane haul road running north from Waiko Road. It turns into Lower Main Street near Kaahumanu Avenue. The section of Waiale Road from Waiko Road to Kuikahi Drive is gated at its intersection with Kuikahi Drive. The segment from Kuikahi Drive to Lower Main Street is paved and used as a collector road.

Access to the project site will be from Waiko Road.

2.2 DRAINAGE

The parcel slopes down in the southwest to northeast direction ranging in elevation from approximately 246 feet to 208 feet above mean sea level, with an average slope of approximately 3.0%.

According to the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August, 1972)," prepared by the United States Department of Agriculture Soil Conservation Service, the soil within the project site is classified as Puuone sand (PZUE). It is characterized as having rapid permeability above the cemented layer, slow runoff and a moderate to severe wind erosion hazard.

Presently, onsite surface runoff sheet flows across the project site in a southwest to northeast direction. The runoff eventually sheet flows onto Kuihelani Highway, where the highway drainage facilities intercept the runoff and diversifies it to a designated outlet.

It is estimated that the present 50-year, 1-hour runoff from the project site is 19.1 cfs.

2.3 SEWER

There is an existing 8-inch sewerline crossing East Waiko Road, approximately 3,200 feet west of the project site. Said 8-inch sewerline is located east of Makai Waikapu Village and connects to the existing sewer system on Waiale Road. Wastewater collected from the Waikapu area is transported to the Kahului Wastewater Treatment Plant in Naska.

2.4 WATER

Domestic water and fire flow for the Waikapu area is serviced from the 300,000 gallon Waikapu Tank, which is at elevation of 764 feet. A series of 8-inch and 12-inch lines traverse along Waiko Road from the tank to Honoapiilani Highway. To the east of Honoapiilani Highway, approximately 4,200 feet from the project site, the waterline is reduced to a 4-inch line which presently services the Makai Waikapu Village. The 4-inch waterline reduces to a 1-1/2 inch waterline east of the village.

According to the Department of Water Supply, the Waikapu Tank is at or near capacity. It is inadequate to provide storage for fire flow and domestic water for this project.

The source for this water system is the Mokuhaui wells located in Happy Valley.

2.5 ELECTRIC AND TELEPHONE

There is an existing electrical transmission system traversing inside the southern boundary of the subject property. Said system is located within an easement granted to Maui Electric Company, Ltd. An existing electrical distribution system is located approximately 1,000 feet to the west of the property on land owned by A & B Properties, Inc.

3.0 ANTICIPATED INFRASTRUCTURE IMPROVEMENTS

3.1 ROADWAYS

Access to the proposed subdivision will be from Waiko Road. From Waiko Road, there will be access directly to Honoapiilani Highway to the west and Kuihelani Highway to the east.

The interior subdivision streets will have 56 foot right-of-ways and will be improved to County standards. The cul-de-sacs will have an edge of pavement radius of 40 feet and a right-of-way radius of 50 feet. The larger traffic lanes and cul-de-sac pavement radius are to accommodate the larger fire trucks in the Central Maui district.

Waiko Road, fronting the project site, will be improved to County standards as required by the Department of Public Works and Environmental Management. The developer will be working with the County to improve the

northern (adjoining half) of Waiko Road from the project site to Kuihelani Highway.

All of the subdivision roadways will be constructed to County standards. In addition, concrete wheel chair ramps will be constructed at appropriate locations to comply with ADA standards. Appropriate striping and signage will be installed in accordance with the Department of Public Works and Environmental Management standards.

A Final Traffic Impact Analysis Report was completed for the project on January 20, 2004 by Austin, Tsutsumi & Associates, Inc., which recommends the following:

"It is recommended that the intersection of Honoapiilani Highway and Waiko Road be signalized prior to Year 2006 as a Base Year mitigative measure. Signalization at this intersection is warranted even without the traffic generated by the Project. The existing lane configurations do not need to be modified.

It is recommended that the intersection of Waiko Road and the Project access roadway be two-way stop-controlled and contain an eastbound shared through/left-turn lane, a westbound shared through/right-turn lane, and a shared southbound right-turn/left turn lane."

3.2 DRAINAGE

The post development runoff from the project will be limited to the roadway improvements and the existing vacant lot configuration. The drainage system will be designed to accommodate runoff from the roadway improvements only. It is estimated that the post development runoff will be 25.1 cfs, with an increase of 6.0 cfs over existing conditions.

Onsite runoff will be collected by catch basins located at appropriate intervals along the subdivision roadways. Drainlines from the catch basins will convey the runoff to an onsite detention basin where it will percolate into the ground or evaporate.

As each individual lot is developed, the building permit applicant will be required to construct an onsite storm disposal system to accommodate the increase in runoff from their development.

There will be no increase in runoff sheet flowing from the project site after completion of the development. This is in accordance with Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui.

Appendix I

***Preliminary
Drainage Report***

PRELIMINARY DRAINAGE REPORT

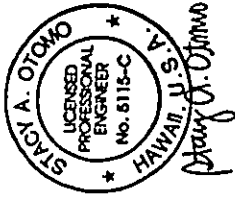
FOR

CONSOLIDATED BASEYARDS
Waikapu, Wailuku, Maui, Hawaii

T.M.K.: (2) 3-8-007: 089

Prepared For:

Consolidated Baseyards, L.L.C.
33 Lono Avenue, Suite 450A
Kahului, Maui, Hawaii



Prepared By:



August 2004

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- V. FLOOD AND TSUNAMI ZONE
- VI. PROPOSED DRAINAGE PLAN
- VII. HYDROLOGIC CALCULATIONS
- VIII. CONCLUSION
- IX. REFERENCES

EXHIBITS

- 1 Location Map
- 2 Vicinity Map
- 3 Soil Survey Map
- 4 Flood Insurance Rate Map

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**PRELIMINARY DRAINAGE REPORT
FOR
CONSOLIDATED BASEYARDS, L.L.C.
Waikapu, Waialuku, Maui, Hawaii**

where it is intercepted by the highway drainage facilities into a designated outlet.

It is estimated that the present 50-year, 1-hour runoff from the project site is 19.1 cfs.

I. INTRODUCTION

The purpose of this report is to examine both the existing and proposed drainage conditions for the proposed project.

II. SITE LOCATION AND PROJECT DESCRIPTION

The subject parcel is identified as T.M.K.: (2) 3-8-007: 089, and encompasses an area of 23.164 acres. It is also known as Lots 2-A, 2-B and 2-C of the Kopaa Subdivision No. 2.

The proposed project consists of developing thirty-five industrial lots, ranging in size from 10,375 square feet to 85,502 square feet. Proposed improvements include roadway improvements to County standards, private water system, and landscaping. Underground water, sewer, drainage, electrical, and telephone systems will also be constructed.

III. EXISTING TOPOGRAPHY AND SOIL CONDITIONS

A 12 acre portion of the project site is currently being used as a light industrial construction baseyard and the remainder is undeveloped and covered with various trees, shrubs and grass. There is a lined reservoir at the northern edge of the property. The parcel slopes down in the southwest to northeast direction ranging in elevation from approximately 246 feet to 208 feet above mean sea level, with an average slope of approximately 3.0%.

According to the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August, 1972)", prepared by the United States Department of Agriculture Soil Conservation Service, the soil within the project site is classified as Puuone sand (PZUE). It is characterized as having rapid permeability above the cemented layer, slow runoff and a moderate to severe wind erosion hazard.

IV. EXISTING DRAINAGE CONDITIONS

There are no drainage improvements within the project site. The majority of the onsite runoff sheet flows across the project and a small portion sheet flows onto Waiko Road. Said runoff eventually sheet flows onto Kuihelani Highway

V. FLOOD AND TSUNAMI ZONE

According to Panel Number 150003 0190 D of the Flood Insurance Rate Map, March 16, 1995, prepared by the United States Federal Emergency Management Agency, the project site is situated in Flood Zone C. Flood Zone C represents areas of minimal flooding.

VI. PROPOSED DRAINAGE PLAN

The post development runoff from the project will be limited to the roadway improvements and the existing vacant lot configuration. The drainage system will be designed to accommodate the runoff from the roadway improvements only. It is estimated that the post development runoff will be 25.1 cfs, with an increase of 6.0 cfs over existing conditions.

Onsite runoff will be collected by catch basins located at appropriate intervals along the subdivision roadways. Drainlines from the catch basins will convey the runoff to an onsite detention basin where it will percolate into the ground or evaporate.

As each individual lot is developed, the Owners will be required to construct an onsite storm disposal system to accommodate the increase in runoff from their development.

VII. HYDROLOGIC CALCULATIONS

The hydrologic calculations are based on the "Chapter 4 - Rules for the Design of Storm Drainage Facilities in the County of Maui," and the "Rainfall Frequency Atlas of the Hawaiian Islands," Technical Paper No. 43, U.S. Department of Commerce, Weather Bureau.

Rational Formula Used: $Q = CIA$

Where Q = rate of flow (cfs)

C = rainfall coefficient

I = rainfall intensity for a duration equal to the time of concentration (inches/hour)

A = drainage area (Acres)

See Appendix A for Hydrologic Calculations

VIII. CONCLUSION

After the construction of the project roadways, it is estimated that the 50-year storm runoff will be 25.1 cfs, with an increase of 6.0 cfs. The runoff will be intercepted by onsite curb inlet catch basins and conveyed to the proposed onsite detention basin. The detention basin will be sized to accommodate the increase in runoff from the 50-year, 1-hour storm generated from the development. There will be no increase in runoff from the project site after completion of the development. This is in accordance with Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui.

It shall be the Owner's responsibility to design and construct an onsite storm disposal system to accommodate the increase in runoff from their development. There will not be any increase in runoff from each individual lot.

Therefore, it is our professional opinion that the proposed development will not have an adverse effect on the adjoining or downstream properties.

IX. REFERENCES

- A. Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, August, 1972.
- B. Erosion and Sediment Control Guide for Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, March, 1981.
- C. Rainfall-Frequency Atlas of the Hawaiian Islands, Technical Paper No. 43, U.S. Department of Commerce, Weather Bureau, 1962.
- D. Flood Insurance Rate Maps of the County of Maui, March 1995.
- E. Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui, prepared by the Department of Public Works and Waste Management, County of Maui, 1995.

EXHIBITS

- 1 Location Map
- 2 Vicinity Map
- 3 Soil Survey Map
- 4 Flood Insurance Rate Map

Hydrologic Calculations

Purpose: Determine the increase in surface runoff from the development of the proposed project based on a 50-year storm.

A. Determine the Runoff Coefficient (C):

EXISTING CONDITIONS:	
Infiltration (Medium)	= 0.07
Relief (Flat)	= 0.00
Vegetal Cover (Good)	= 0.03
Development Type (Open)	= 0.15
C	= 0.25

DEVELOPED CONDITIONS:

Open Areas: C=0.25 (same as above)

<u>Roadway Areas</u> :	
Infiltration (Negligible)	= 0.20
Relief (Flat)	= 0.00
Vegetal Cover (None)	= 0.07
Development Type (Pavement)	= 0.55
C	= 0.65

WEIGHTED C: Open Area = 19.764 acres
 Pavement Area = 3.4 acres
 Weighted C = 0.31

B. Determine the 50-year 1-hour rainfall:

i_{50} = 2.5 inches

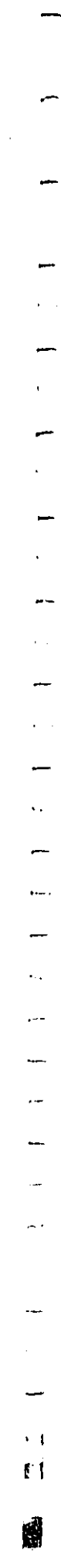
Adjust for time of concentration to compute Rainfall Intensity (I):

Existing Condition:

T_c = 35 minutes

I = 3.3 inches/hour

APPENDIX A HYDROLOGIC CALCULATIONS



Developed Condition:

$$T_c = 30 \text{ minutes}$$

$$I = 3.5 \text{ inches/hour}$$

C. Drainage Area (A) = 23.164 Acres

D. Compute the 50-year storm runoff volume (Q):

$$Q = CIA$$

Existing Conditions:

$$Q = (0.25)(3.3)(23.164)$$

$$= 19.1 \text{ cfs}$$

Developed Conditions:

$$Q = (0.31)(3.5)(23.164)$$

$$= 25.1 \text{ cfs}$$

The increase in runoff due to the proposed development is $25.1 - 19.1 = 6.0 \text{ cfs}$.

Appendix J

***Forecasted Economic
Impact Report***

ACM Consultants, Inc.

2073 Weils Street, Suite 100
Waikuku, Maui, Hawaii 96793
(808) 242-6481 • Fax: (808) 242-1652

Mr. David Ward
March 16, 2004
Page 2

March 16, 2004

Mr. David Ward
FRAMPTON & WARD, LLC
33 Lono Avenue, Suite 450-A
Kahului, Hawaii 96732

Re: Forecasted economic impact of the proposed Consolidated Baseyard Subdivision in Waikapu, District of Waikuku, Island and County of Maui

Dear Mr. Ward:

In accordance with your request, we have analyzed the proposed Consolidated Baseyard Subdivision in order to forecast the future economic impact of this proposed development on the County of Maui and the State of Hawaii. This letter is an addendum to the Market Study performed for you in December 2003, and identified as ACM Report No. 03-3113. This letter is subject to the Certification, Limiting and Contingent Conditions, and the Extraordinary Assumptions and Conditions of the original market study report.

The development of this project will generate significant expenditures by the developer of this subdivision and the secondary owners/developers of the 38 light industrial lots. These investments are expected to favorably impact the Maui economy on a broad scale, and in a multitude of ways.

- Site work and infrastructure construction for this subdivision will immediately infuse capital into the Maui economy. Numerous consultants will be involved in the initial planning stages, and the construction trades will benefit from the job creation of this project.
- Advertising for the project and marketing of the lots will benefit graphic artists, advertising companies, newspapers, real estate sales agents, escrow companies, etc.
- Individual site development will again result in additional work for engineers, architects, material suppliers, equipment rentals and sales, landscaping companies, and other related industries.
- The new buildings will not only attract existing businesses, but it should also stimulate the generation of new businesses and employment growth. This will have an indirect effect on retail businesses, restaurants and service establishments as the expanded work force purchases goods and services. This should pass through the entire community, causing a ripple effect and increase the amount of capital flowing through Maui.
- Maintenance of this subdivision and the buildings will also translate into work for maintenance companies, painting companies, real estate management and leasing groups, etc.

- Fiscal benefits of this development will include increases in real estate taxes collected by the County of Maui, and additional income tax and general excise tax inflow for the State of Hawaii.

Capital Investment and Construction Costs

Capital investment into the project development is expected to immediately stimulate various phases of the Maui economy.

Construction of the Subdivision Improvements

Construction costs for this subdivision are estimated to be \$3,500,000, inclusive of all site work, roads, utilities and landscaping. This figure also includes the cost of hiring the civil and electrical engineers, soil engineer, environmental engineer, archaeologist, real estate appraiser, traffic engineer, planner, and other consultants. Also included in this amount are the indirect costs associated with the entitlement and permitting process, and the fees assessed by the County of Maui and the State of Hawaii.

Sales of Individual Light Industrial Lots

The 38 lots will have a total net land area of about 19.70 acres or approximately 858,000 square feet of light industrial zoned land. At approximately \$18.00 per square foot, the sales of these lots are expected to generate income of about \$15,444,000. As an example of the ripple effect of this capital investment, the lot sales are expected to generate approximately \$926,600 in real estate commissions alone.

Building Construction

The individual development of the 38 lots are expected to span a period of about five to ten years. Based on the total net land area of about 858,000 square feet, and an average building-to-land ratio of 50 percent, the total building area in this subdivision is expected to be approximately 429,000 square feet. Sitework on each lot is estimated to be about \$100,000 per lot, or about \$3,800,000. Building construction costs, at \$125 per square foot (direct and indirect costs) are forecasted to be \$53,620,000.

In all, Consolidated Baseyard Subdivision is expected to infuse an anticipated \$76 million into the economy over the development term of the 38 lots. Although all the lots are expected to be sold quickly, individual project development may span 5 to 8 years, which equates to an average capital infusion of about \$9.5 million to \$15.2 million per year. This capital infusion is expected to be in the form of added employment and material costs.

Employment Creation

Subdivision Development

New job opportunities created by this development start with the construction of this subdivision, which will require site work, road construction, and the installation of utility and

drainage lines. These jobs are short-term, possibly spanning a six-month period; however, this project is estimated to require approximately 12 total work years at an average wage of \$60,000, inclusive of benefits, for a total of \$720,000.

Individual Building Construction

In addition, construction of the individual buildings on the 38 lots will again increase the demand for construction jobs for heavy equipment operators, masons, carpenters, sheet metal workers, roofers, drywall installers, plumbers, electricians and painters. These jobs would also be considered temporary in that they will last for only about six months for each building. Cumulatively, however, they will definitely add a substantial number of hours to Maui's work force over the years, and assist in maintaining employment levels. Over time, building construction is expected to require approximately 10 total work years per 12,000 square feet of light industrial structure. Based on an anticipated 429,000 square feet of building area in this subdivision, total build-out of this subdivision will equate to approximately 36 work years. Again, based on an average wage of \$60,000 annually (inclusive of benefits), this amounts to \$2,160,000 over the term of construction.

These construction projects will also affect employment demand of construction related companies such as supply houses for fixtures and materials, equipment rental and sales companies, engineers, architects, landscaping companies, trucking companies, financial institutions, and other related industries.

Ongoing Business Operations

The subject is projected to be highly industrial in the nature of its businesses, due to its location away from the commercial centers of Kahului and Waiuku. Retail and commercial businesses generally have one employee per 300 to 500 square feet of building area; however, due to the subject's strong industrial orientation, it is estimated that employment for business operations there can be estimated at one worker per 1,000 square feet of light industrial floor space. This equates to a total of about 72 jobs per year based on six-year build-out of the subdivision, a fraction of the estimated 1,187 new jobs created in Maui County annually, according to the Hawaii Workforce Informer Website. At an estimated average wage of \$24,000 per year, payroll figures are forecasted to reach nearly \$10.3 million annually, in today's dollar.

While it is acknowledged that the businesses occupying these buildings will not be entirely new companies, with new workers, Consolidated Baseyards Subdivision will provide employment opportunities for Maui residents, new arrivals, and youths reaching employment age. The subdivision is being developed based on the expanding demand for additional industrial space on Maui; therefore, the spaces vacated by companies moving to Consolidated Baseyard, will in turn be filled by expanding or newly formed companies which will also offer new employment opportunities.

Fiscal Benefits

State Income Tax

It is anticipated that the State of Hawaii will receive additional income tax revenue due to (1) the increase in employment generated by construction of this project, and the ongoing operation of Consolidated Baseyard Subdivision and (2) the profits generated by companies doing business within this development, and by the profits of businesses who benefit from doing business with these companies.

General Excise Tax

The State of Hawaii will also recognize increased revenue of 4.166 percent applied against (1) the construction cost of this new subdivision, (2) the construction costs of the individual buildings on each lot, (3) the total gross sales of companies within this subdivision, (4) the gross spending of the work force employed by companies within this development.


Real Property Tax

Land: Based on a total net land area of about 858,000 square feet, and an estimated value of approximately \$18 per square foot, the land alone would amount to an aggregate value of \$15,444,000. At an industrial tax rate of \$6.75 per \$1,000 of assessed value, this equates to an annual income of \$104,247.

Buildings: The individual lots are expected to be developed over the next 5 to 8 years, and continue to expand the tax base. As estimated earlier in this report, at an average building-to-land ratio of 50 percent, the total building area in this subdivision is expected to be approximately 429,000 square feet. Building construction costs, at \$125 per square foot (direct and indirect costs) are forecasted to be about \$53.6 million. Employing this figure as an anticipated tax assessment results in an annual income of \$361,800 once all the buildings are constructed. Since all the lots are not expected to be developed at once, this property tax income is expected to steadily increase over the build-out years.

Thank you for allowing me the opportunity to provide you with this addendum to our original market study.

Respectfully submitted,
ACM Consultants, Inc.


Gloria K. Kumibisa, MAI
Certified General Appraiser,
State of Hawaii, CGA-39
Expiration: December 31, 2004

Appendix K

***Traffic Impact
Analysis Report***

**TRAFFIC IMPACT ANALYSIS REPORT
CONSOLIDATED BASEYARDS
WAIKAPU, MAUI, HAWAII**

FINAL

January 20, 2004

Prepared for:

Consolidated Baseyards LLC
c/o Frampton & Ward LLC
33 Lono Avenue, Suite 450A
Kahului, Hawaii 96732



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**TRAFFIC IMPACT ANALYSIS REPORT
CONSOLIDATED BASEYARDS**

Waikapu, Maui, Hawaii

FINAL

Prepared for

Consolidated Baseyards LLC
c/o Frampton & Ward LLC
33 Lono Avenue, Suite 450A
Kahului, Hawaii 96732

Prepared by
Austin, Tsutsumi & Associates, Inc.
Civil Engineers • Surveyors
Honolulu • Wailuku, Hawaii

January 20, 2004

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TRAFFIC IMPACT ANALYSIS REPORT
CONSOLIDATED BASEYARDS
 Waikapu, Maui, Hawaii

I. INTRODUCTION

The report documents the findings of a traffic study conducted by Austin Tsutsumi & Associates, Inc. (ATA) to evaluate the potential traffic impacts resulting from the Consolidated Baseyards development (the Project).

A. Location

The proposed Project will be constructed in Waikapu, Maui on a 23.16-acre site adjacent to Waiko Road. More specifically, the project site is identified as Tax Map Key (TMK): 3-8-7-89. Figure 1 shows the Project location.

B. Project Description

Consolidated Baseyards, LLC proposes to construct 38 light industrial lots on now vacated industrial lands currently surrounded by industrial and agricultural land uses. The lot sizes will vary between 10,137 and 85,502 square feet. Although the project site is bordered to the south by Waiko Road, access to the individual lots will be provided via internal roadways, with one intersection on Waiko Road.

The Project is expected to be completed in two phases, with Phase I to be completed by Year 2006, and Phase II to be completed by Year 2009. Figure 2 shows the preliminary Site Plan for the proposed Project. Table 1 shows the planned land use for the Project.

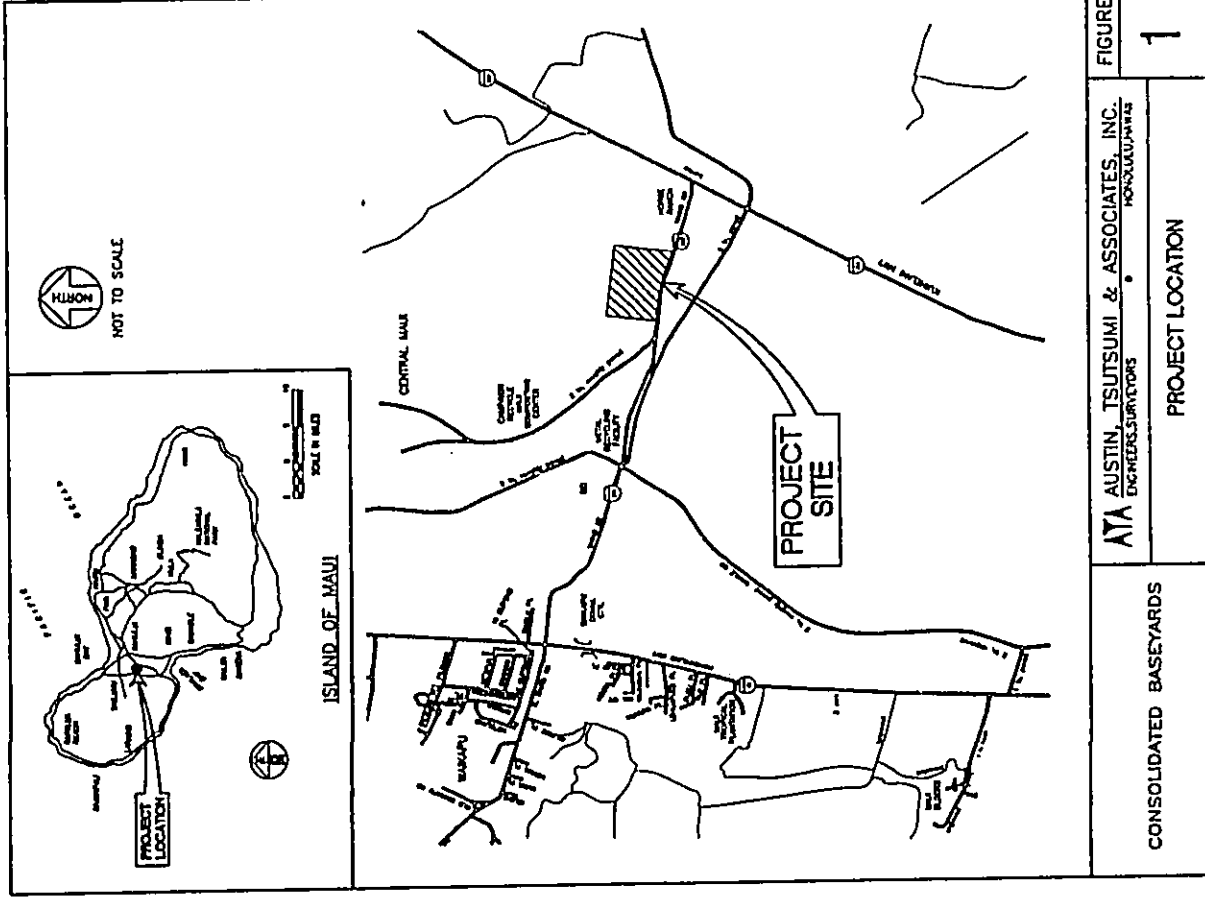


Table 1
Consolidated Baseyards Land Use

	Phase I Year 2010	Phase II Year 2018	Total
Industrial Park (Acres)	11.58	11.58	23.16
	Total Acres		23.16

The Project proposes to provide a single access on Waiko Road, located approximately 1300 feet west of its intersection with Kuihelani Highway.

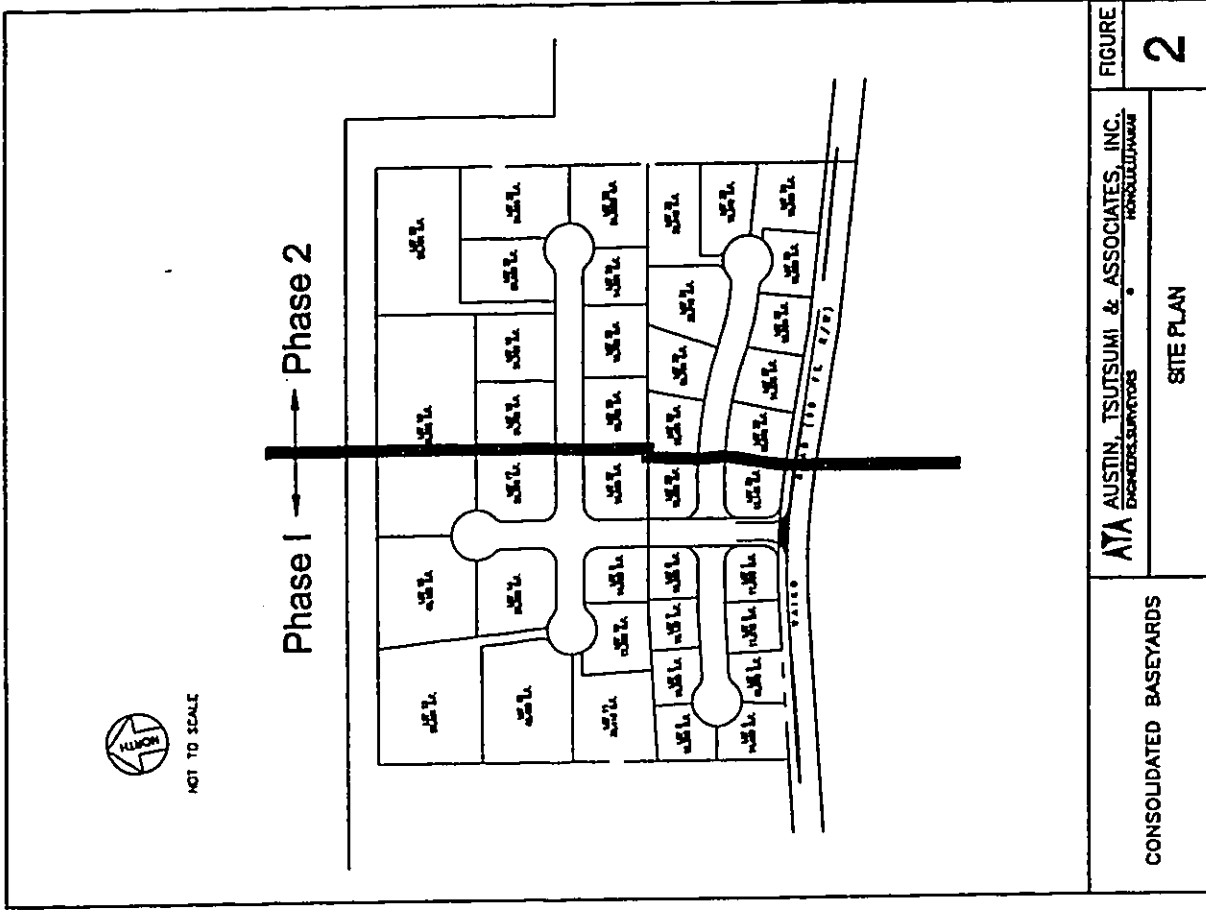
C. Study Methodology

The study will address the following:

1. Existing traffic operating conditions at the key intersections within the study area.
2. Base Year traffic projections without Project-generated traffic for the build-out years of the proposed Project (Years 2006 and 2009).
3. Trip generation and traffic assignment characteristics for the proposed Project.
4. Determination of the potential impact of Project-generated traffic on the Base Year traffic.
5. Traffic mitigation measures, as appropriate, to reduce or eliminate adverse impacts resulting from traffic generated by the proposed development.

II. EXISTING CONDITIONS

The Project is proposed to be developed on approximately 23.16 acres of vacant land near a Horse Ranch to the east, and an unnamed road leading to the Campaign Recycle Maui Composting Center to the west.



A. Land Use

Directly east of Honoapiʻilani Highway, approximately 20 single-family homes front Waiko Road. Beyond these homes, the land use along Waiko Road is characterized as industrial. The following land uses were observed along Waiko Road:

- Metal recycling facility
- Campaign Recycle Maui Composting Center
- Horse and cow farm
- Approximately 20 single-family houses
- Brewer Environmental Incorporated (BEI), which supplies agricultural and pool products to golf courses and hotels
- Via the roughly paved southern portion of Waiale Road:
 - o Chicken Farm
 - o Banana/Papaya Tree agricultural use

Residential housing and the Maui Community Correctional Center are situated north of the Project. Agricultural lands lie to the south of the Project.

B. Roadway System

The following are brief descriptions of the existing roadway network within the study area:

Kuihelani Highway is a two-way, four-lane divided State arterial highway that is oriented in the north/south direction in the vicinity of Waiko Road. The posted speed limit on Kuihelani highway varies between 30 and 55 miles per hour (mph) between its intersections with Honoapiʻilani Highway and Puunene Avenue. At the time of field counts, the highway narrowed to one lane in the northbound direction just south of Waiko Road. Here, the eastbound left-turn movement from Waiko Road received a dedicated acceleration lane onto Kuihelani Highway. Additionally, west-most northeast-bound through lane became a dedicated left-turn lane. However, this is a temporary construction configuration. Traffic signals have been constructed at Kuihelani

Highway's intersections with Waiko Road and the unnamed street located approximately 800 feet south of Waiko Road. Subsequent to the activation of these signals, Kuihelani highway will become a four-lane divided highway throughout its entire length.

The southern terminus of Kuihelani Highway is at its intersection with Honoapiʻilani Highway. The northern terminus of Kuihelani Highway is at its intersection with Puunene Avenue, where it becomes Dairy Road.

Honoapiʻilani Highway is generally a two-way, two-lane undivided State Highway oriented in the North/South direction. At Keanu Street, it becomes South High Street, which provides access to downtown Wailuku. Honoapiʻilani Highway connects Wailuku with west Maui, where it serves as the primary arterial through to Kapalua.

In the vicinity of Waikapu, the speed limit along Honoapiʻilani Highway ranges between 30 and 55 mph. Throughout the section of the highway between its intersections with Kuihelani Highway and its northern terminus, left-turn and right-turn pockets are generally provided for vehicles turning off of Honoapiʻilani Highway.

Waiko Road is a two-way, two-lane east-west County/private collector roadway that begins at Kuihelani Highway and extends westward beyond Honoapiʻilani Highway. Between Kuihelani Highway and Waiale Road, Waiko Road is primarily under County Jurisdiction. West of Waiale Road and east of the 20 houses east of Honoapiʻilani Highway, Waiko Road is primarily privately owned. Waiko Road has a posted speed limit of 20 mph in the vicinity of the proposed Project. West of Honoapiʻilani Highway, Waiko Road provides access to a residential community. East of Honoapiʻilani Highway, Waiko Road provides access to industrial/livestock/residential land uses. Note that there is a heavy vehicle restriction on Waiko road near its intersection with Honoapiʻilani Highway that prohibits vehicles weighing over 10,000 pounds from entering/exiting Waiko Road via its intersection with Honoapiʻilani Highway.

Waiale Road is a two-way, unstriped north-south roughly paved road to the north of Waiko Road. While this road currently extends northward from Waiko Road to Kaahumanu Avenue, it is currently gated shut at Kuikahi Drive. The segment of Waiale Road from approximately 500 feet north of Waiko Road to Kuikahi Drive is currently roughly paved and provides access to banana, papaya, and chicken farms. The segment of roadway north of Kuikahi drive serves as a collector road and continues northward to Lower Main Street.

C. Study Intersections

Manual turning movement traffic counts and field observations were conducted at the following study intersections on Tuesday, November 4, 2003 through Wednesday, November 5, 2003:

- Honoapiilani Highway/Waiko Road
- Waiko Road/Waiale Road
- Kuihelani Highway/Waiko Road

Based on the traffic count data collected at the study intersections, it was determined that the weekday AM peak hour of traffic occurs from 7:00 AM to 8:00 AM and the weekday PM peak hour of traffic occurs from 4:30 PM to 5:30 PM. The turning movement count data is included in Appendix A.

The study intersections are briefly described below. Figure 3 shows the existing lane configurations at these intersections.

Honoapiilani Highway/Waiko Road

Waiko Road forms an unsignalized "cross"-intersection with Honoapiilani Highway. The Waiko Road eastbound approach provides a shared through/left-turn lane and right-turn lane. The two-way stop-controlled Waiko Road westbound approach provides a single shared right-turn/through/left-turn lane. The northbound Honoapiilani Highway approach provides a shared right-turn/through lane and a dedicated left-turn lane, which provides vehicular storage for approximately three (3) to four (4) cars. The southbound Honoapiilani Highway approach provides a dedicated right-turn lane, a dedicated through lane, and a dedicated left-

turn lane. The southbound left-turn lane provides storage length for approximately four (4) to five (5) cars and the southbound right-turn lane provides storage length for approximately three (3) to four (4) cars.

Kuihelani Highway/Waiko Road

Waiko Road forms the stem of a signalized "tee"-intersection with Kuihelani Highway. Note that although the traffic signal for this intersection has been constructed, it was not in service at the time of field observations (November 4-5, 2003). Once the traffic signal has been activated, the intersection will provide two dedicated through lanes in the northbound direction and two dedicated through lanes in the southbound direction. The northbound approach will provide a left-turn lane. The southbound approach will provide a dedicated right-turn lane into Waiko Road. The eastbound Waiko Road approach will maintain its shared right-turn/left-turn lane configuration.

Waiko Road/Waiale Road

Waiale Road forms an unsignalized "cross"-intersection with Waiko Road. This intersection exhibits all-way stop control (AWSC), with a single shared lane at each approach.

D. Field Observations

During the traffic counts, it was observed that through traffic along Kuihelani Highway and Honoapiilani Highway operated at near free-flow conditions. Although Kuihelani Highway has posted speed limits of between 35 and 55 mph, vehicles were observed exceed these limits during the AM and PM peak hours of traffic. Honoapiilani Highway has a posted speed limit of 30 mph in the vicinity of Waiko Road. As with Kuihelani Highway, it was observed that vehicles generally traveled in speeds exceeding these limits.

Although Waiko Road provides sole access to housing (20 units), industrial facilities, and agriculture/farming, the majority of traffic traversing the road appears to be cut-through traffic traveling between Honoapiilani Highway and Kuihelani Highway. The majority of cut-through traffic entering Waiko Road via Honoapiilani Highway originates from the north (downtown Waiuku) and exits Waiko Road at its intersection with Kuihelani Highway, where vehicles turn left to

head in the northbound direction (Punene/Kahului/Uppcountry/Pala/Hana). Conversely, the majority of cut-through traffic entering Waiko Road via Kuihelani Highway originates from the north (Punene/Kahului/Uppcountry) and exits Waiko Road at its intersection with Honoapiilani Highway, where vehicles make a right-turn to head in the northbound direction (toward downtown Wailuku). Approximately 75% of westbound traffic traversing Waiko Road during the AM and PM peak hours of traffic appears to be cut-through traffic. Likewise, approximately 90% of eastbound traffic on Waiko Road during the AM and PM peak hours of traffic was estimated to be cut-through traffic.

At the intersection of Waiko Road and Kuihelani Highway, eastbound queues along Waiko Road were observed to be as long as three (3) vehicles for those making the left-turn during the AM and PM peak hours of traffic.

At the intersection of Waiko Road and Honoapiilani Highway, westbound queues along Waiko Road were observed to be as long as five (5) to six (6) vehicles during the AM and PM peak hours of traffic. Note that these vehicles were either making left-turns, right-turns, or going through. Due to the fact that the approach is a shared single lane, left-turning and through vehicles often obstructed vehicles turning right onto Honoapiilani Highway. Eastbound queues at this intersection seldom exceeded two (2) vehicles.

It was observed that curb ramps were under construction on the northern two curbs of the intersection of Honoapiilani Highway and Waiko Road during the observation date.

E. Existing Traffic Condition Analyses

Level of Service (LOS) is a qualitative measure used to describe the conditions of traffic flow ranging from free-flow conditions, LOS A, to congested conditions, LOS F. The 2000 Highway Capacity Manual (HCM2000) methods for calculating volume-to-capacity (v/c) ratios, delays and corresponding levels of service were utilized in this study. LOS definitions for signalized and unsignalized intersections are provided in Appendix B. It should be noted that for two-way stop-controlled (TWSC) intersections, overall unsignalized intersection LOS is no longer calculated in the HCM 2000 procedure; LOS is only calculated for the stop-sign-controlled (minor) approaches and for left-turns from the major roadway.

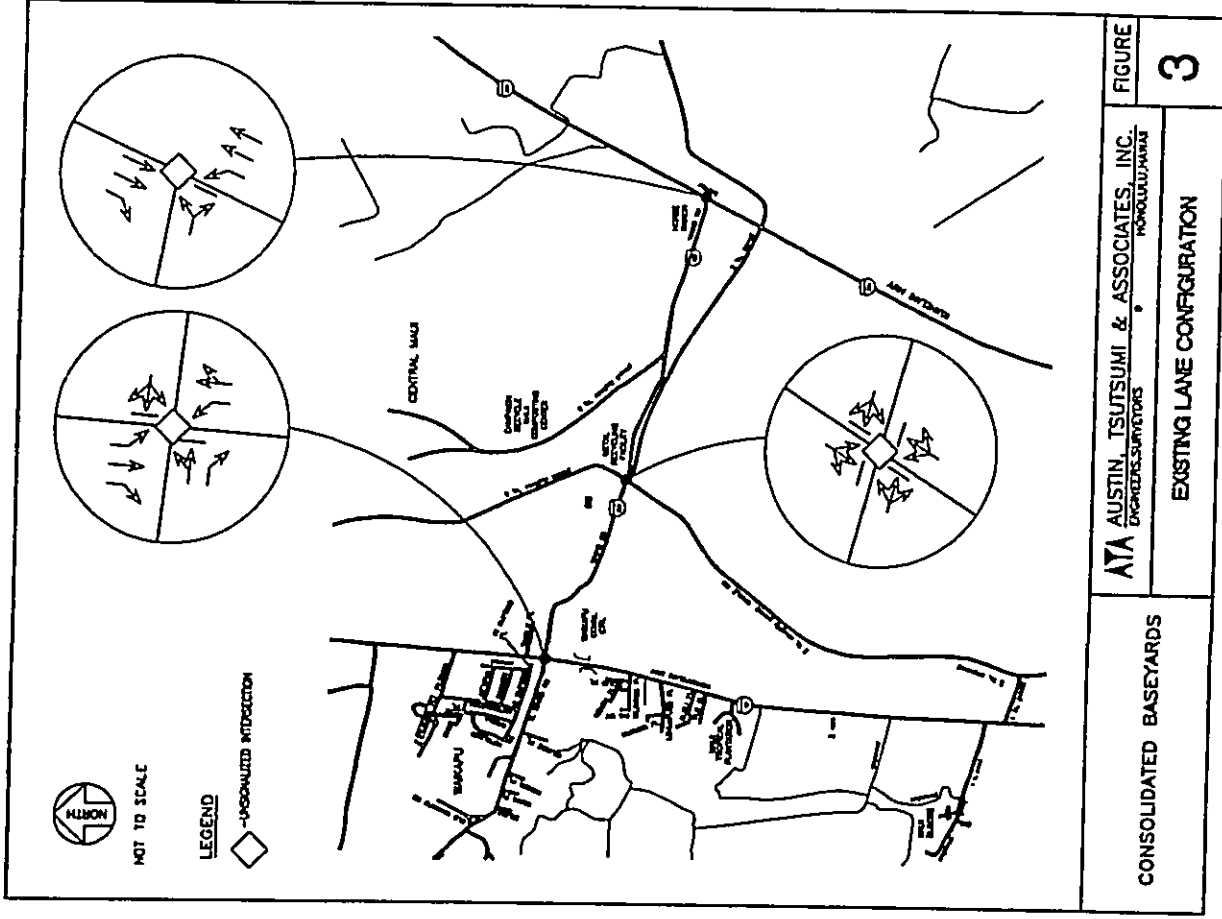


Table 2 summarizes the LOS for the existing traffic conditions within the study area.

Table 2
Existing LOS and Delay

	Existing	
	AM	PM
	LOS	Delay (Sec)
Honoapiilani Highway/Waiko Road		
NB RT/TH	--	--
NB LT	A	9
SB RT	--	--
SB TH	--	--
SB LT	A	10
EB RT	--	--
EB TH/LT	F	317.5
WB RT/TH/LT	E	35.6
OVERALL	--	--
Waiko Road/Waiale Road (or Waikapu Baseyard Access Road)		
NB RT/TH/LT	A	7.1
SB RT/TH/LT	A	7.6
EB RT/TH/LT	A	7.8
WB RT/TH/LT	A	7.7
OVERALL	A	7.7
Kulihelani Highway/Waiko Road		
NB TH	--	--
NB LT	A	8.5
SB RT	--	--
SB TH	--	--
EB RT/LT	C	24.3
OVERALL	--	--

The Honoapiilani Highway northbound and southbound left-turn movements operate at LOS A during the AM and PM peak hours of traffic.

The Waiko Road eastbound shared through/left-turn traffic operates at LOS F during the AM and PM peak hours of traffic. The Waiko Road westbound shared right-turn/left-turn movement operates at LOS E during the AM and PM peak hours of traffic.

The existing traffic volumes at this intersection (obtained from SDOT traffic counts) meet the Manual on Uniform Traffic Control Devices - Millennium Edition, (MUTCD) traffic signal four-hour warrants for the installation of a traffic signal.

Waiko Road/Waiale Road

This AWSC intersection operates at an overall LOS A during the AM and PM peak hours of traffic. Traffic on all approaches operate at LOS A during the AM and PM peak hours of traffic.

Kulihelani Highway/Waiko Road

It was observed that the traffic signal at this "tee" intersection had already been installed. However, the signal was not yet operational. Therefore this intersection was analyzed as being two-way stop-controlled for existing conditions only.

The northbound left-turn traffic operates at LOS A during the AM and PM peak hours of traffic. The eastbound shared right-turn/left-turn traffic operates at LOS C and LOS F during the AM and PM peak hours of traffic, respectively.

Figure 4 shows the existing turning movement volumes and LOS within the study area.

III. BASE YEAR TRAFFIC CONDITIONS

The methodologies used to develop base year traffic projections without Project-generated traffic are described below:

A. Background Traffic Growth

Throughout this report, "Base Year" conditions shall denote projected traffic volumes and respective analyses that do not include Project-generated traffic and associated recommended improvements. Years 2006 and 2009 were used as Base Years, as they coincide with the two phases of the Project.

Base Year traffic was derived based on the following data sources:

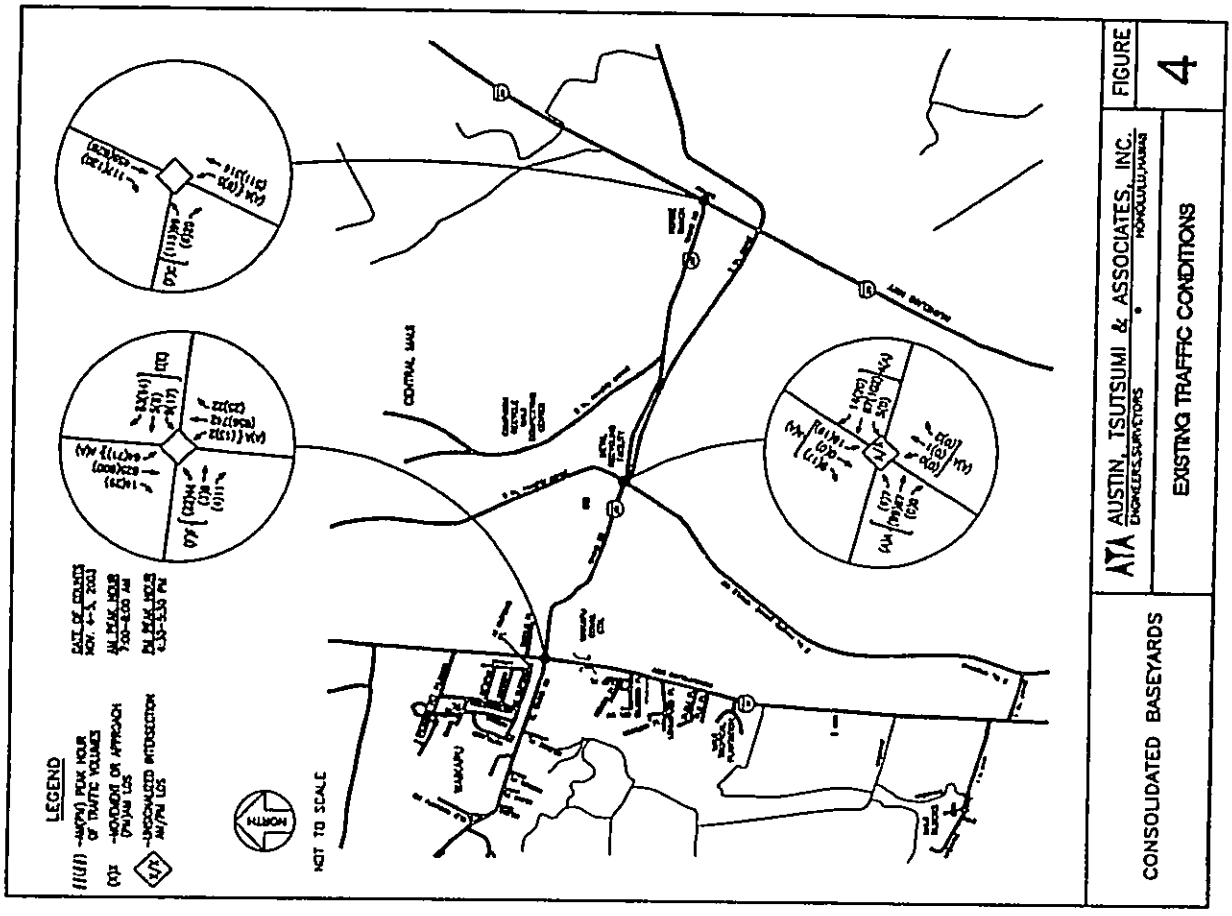
- 1997 Maui Long-Range Land Transportation Plan (MLRLTP)
- Available public Traffic Impact Assessment Reports (TIAR) for nearby known developments
- Projected units (i.e. number of single-family lots, acres, etc.) for nearby known developments for which TIAR's have not been completed

Each is described in the following sections:

1. 1997 MLRLTP

The MLRLTP is a component of the transportation planning process (as required by ISTEPA, TEA-21, and SAFETEA in order to receive federal transportation funding) in which the impacts of roadway projects are prioritized and modeled based on the existing roadway network, future roadway improvements, socioeconomic data and projections, and financial constraints.

As a basis for Base Year traffic projections, growth rates of 1 percent and 2.5 percent were calculated for Honoapiʻiani Highway and Kūhelani Highway, respectively in the vicinity of Waiko Road. These rates were derived based on future projections along the two (2) highways obtained from the MLRLTP.



2. Nearby Known Developments

Projected traffic volumes from known developments expected to be completed and occupied by Years 2006 and 2009 were also added to Base Year traffic volumes. The following are descriptions of the new/future developments near the Project that may have a significant impact on traffic operations in the study area:

Maui Lani Development is currently under construction and encompasses the region north of Papa Avenue, south of Kaahumanu Avenue, east of Honoapiʻilani Highway, and west of Kūihelani Highway. The traffic study for the Maui Lani Development was completed by Parsons Brinckerhoff Quade and Douglas in November 2002. Based on this study, this master-planned community will ultimately include single- and multi-family houses, an elementary school, a village center, a church, a community park/recreation center, a medical office/clinic, and commercial land uses. According to the November 2002 traffic study, Light Industrial land uses were also originally envisioned. However, subsequent to the November 2002 study, the Light Industrial land use was removed from the Maui Lani Development plan. Since an update to the Traffic Report for Maui Lani Development had not been published at the time of this writing, the trip generation/assignment for Maui Lani Development's Light Industrial land uses has been included in future traffic projections for Consolidated Baseyards as a conservative measure.

The final buildout of Maui Lani (beyond Year 2010) is proposed to contain 2,345 single-family detached residential units and 357 multi-family residential units.

The November 2002 traffic study reported that 573 single-family units had been constructed, which is consistent with the number of units constructed at the time of this writing. This traffic study will include traffic volumes generated and assigned by the November 2002 Maui Lani traffic study, adjusted to represent Years 2006 and 2009.

Waiko Baseyard Light Industrial Subdivision is planned to be situated north of Waiko Road and west of the existing Waiale Road. This project will include 19 light industrial lots located on 14.437 acres of land. This project proposes to extend over the existing alignment of Waiale Road near Waikapu Road. In lieu of the realignment of Waiale Road, the project proposes to use an internal project roadway to provide circulation between Waiale Road and Waiko Road. This project is expected to be completed by Year 2004. See Figure 5.

The traffic study for Waiko Baseyard Light Industrial Subdivision was completed by Parsons Brinckerhoff Quade and Douglas in 1997.

Waikapu East (Large-Lot) Subdivision No. 3 is bordered to the north by Kuikahi Drive and to the west by Honoapiʻilani Highway. The subdivision extends approximately 300 feet south of Waiko Road and 800 feet east of Waiale Road. At the time of this writing there were no development plans for most of the lots within this subdivision, with the exception of a 94.2-acre Lot to be developed by Spencer Homes, termed "Lot C."

Spencer Homes 400-unit Single-Family Affordable Housing (Lot "C" of Waikapu East Subdivision No. 3) is planned to be a 400-unit affordable single-family housing subdivision as part of Waikapu East Subdivision No. 3 (described above). Construction is scheduled to begin in late 2004, with approximately 100 homes to be constructed per year. This project is proposed to be completed by Year 2008. At the time of this writing, a TIAR was not available for this project.

Maunaleo is planned to be an 83-unit single-family housing subdivision, developed by the Stanford Carr Development Company. The 21-acre Maunaleo subdivision is situated directly north of Kuikahi Drive and west of Honoapiʻilani Highway. Construction is proposed to be completed by Year 2006. At the time of this writing, a TIAR was not available for this project. See Figure 6.

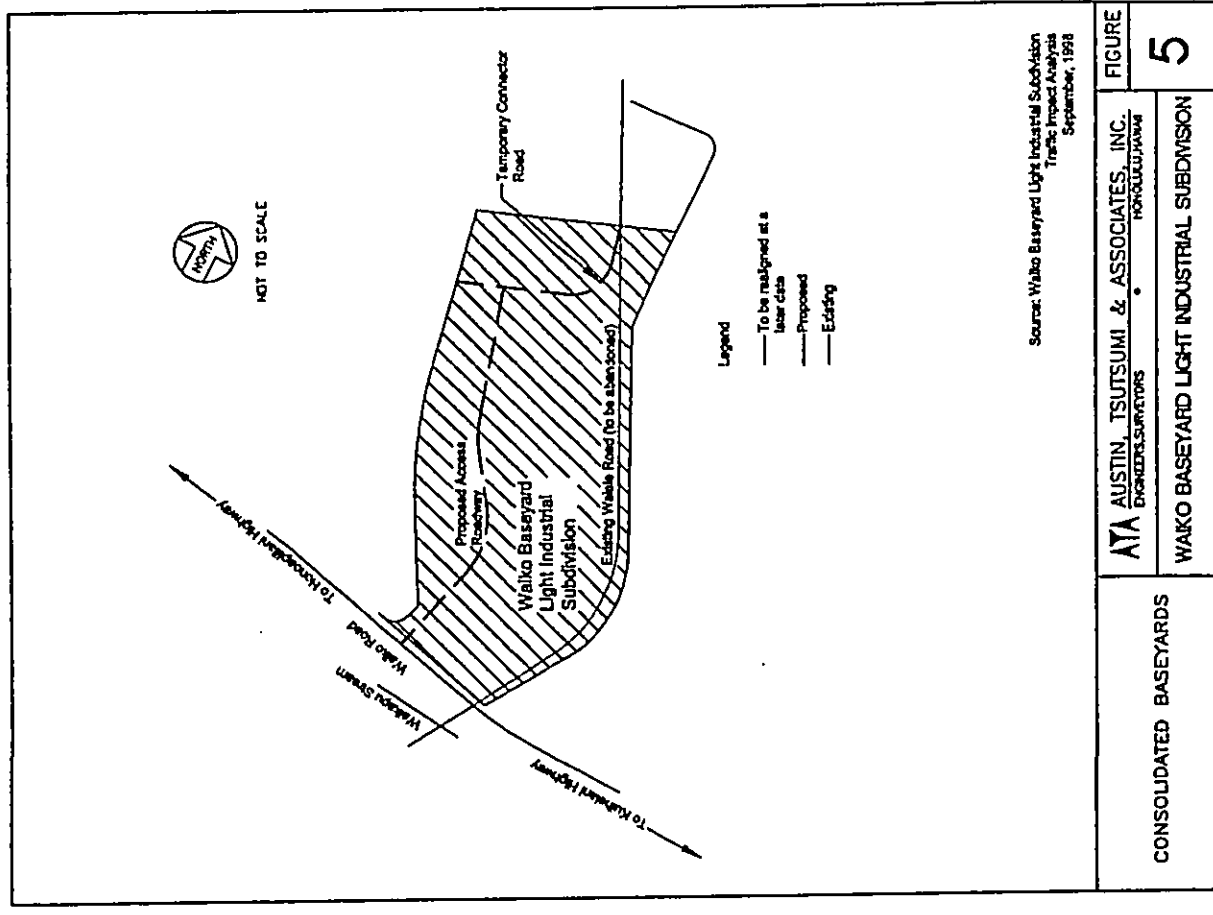
Ohia at Kehalani is planned to be a 163-unit single-family housing subdivision, developed by Towne Development of Hawaii. This project is situated directly north of Maunaloa. Construction is proposed to be completed by Year 2008. At the time of this writing, a TIAR was not available for this project. See Figure 6.

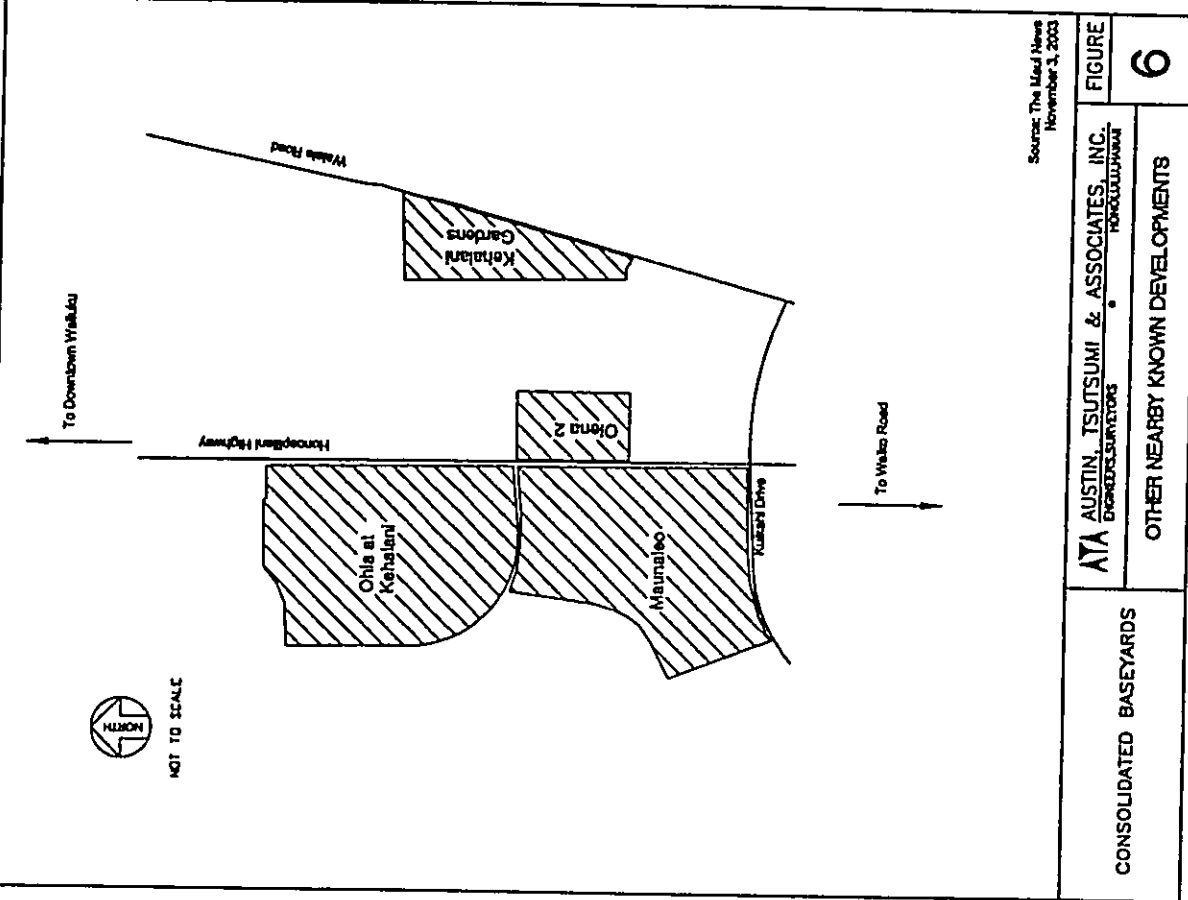
Olena 2 is planned to be a 32-unit single-family housing subdivision, developed by the Stanford Carr Development Company. This project is situated directly east of Maunaloa, across Honoapiʻiani Highway. This project is proposed to be completed by Year 2005. At the time of this writing, a TIAR was not available for this project. See Figure 6.

Kehalani Gardens is planned to be a 132-unit multi-family housing subdivision, developed by the Stanford Carr Development Company, and located west of Waiale Road and north of Kuikahi Drive. This project is proposed to be completed by Year 2008. At the time of this writing, no TIAR was available for this project. See Figure 6.

Since TIAR's for the Spencer Homes 400-unit single-family affordable housing subdivision, Maunaloa, Ohia at Kehalani, Olena 2, and Kehalani Gardens were not available at the time of this writing, the traffic generated for each project was estimated using trip rates contained within the national publication by the Institute of Transportation Engineers (ITE) Trip Generation, 7th Edition. Table 3 shows the trips rates used to estimate vehicular trips generated by the projects.

Table 4 summarizes the traffic generated by nearby known developments. It should be noted that trips generated by the Maui Lani Development and the Waiko Baseyard Light Industrial Subdivision were distributed across the roadway network based on the distributions contained in each respective TIAR. Trip distribution for other known developments without TIAR's (percent going north versus percent going south along Honoapiʻiani Highway) was based on the observed existing north/south split. For projects without TIAR's, it was assumed that 75% of the trips generated originated from or were destined for the north and that the remaining 25% originated from or were destined for the south.





Source: The Lead News
November 3, 2003

CONSOLIDATED BASEYARDS	ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC. <small>ENGINEERS/SURVEYORS</small>	FIGURE 6 OTHER NEARBY KNOWN DEVELOPMENTS
	<small>HONOLULU, HAWAII</small>	

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CIVIL ENGINEERS & SURVEYORS

Table 3
Trip Generation Rates
For Other Known Developments Without a Traffic Study

Land Use (ITE Code)	Daily Trip Rate	AM Peak Hour of Traffic		PM Peak Hour of Traffic	
		Trip Rate	% Enter	Trip Rate	% Enter
Single Family (210)	DU 9.57	a	25%	b	63%
Residential Condominium/Townhouse (230)	DU 5.86	c	17%	d	67%

- DU = Dwelling Units
- a $T = 0.70 \cdot X + 9.43$
 - b $T = \text{EXP}(0.90 \cdot \text{LN}(X) + 0.53)$
 - c $T = \text{EXP}(0.80 \cdot \text{LN}(X) + 0.26)$
 - d $T = \text{EXP}(0.82 \cdot \text{LN}(X) + 0.32)$

B. Planned Roadway Projects

Waiale Road Extension

Currently, Waiale Road begins at Lower Main Street and terminates at Waiko Road. However, the collector road is gated and only roughly paved directly south of Kuikahi Drive. According to the 1997 MLRLTP, Waiale Road will eventually be extended southward to intersect Honoapiilani Highway near Maui Tropical Plantation sometime between Years 2006 and 2020, where it would serve as a bypass of Waikapu Village. However, at the time of this writing, it was unknown when the extension would be completed.

Waikapu East (Large-Lot) Subdivision No. 3 will eventually reconstruct (and possibly realign) the segment of Waiale Road between Kuikahi Drive and Waiko Road. However, the Spencer Homes 400-unit Single Family Affordable Housing project was the only development that is in the planning stages at the time of this writing. Therefore, it is unknown whether the realignment/widening of Waiale Road near the Spencer Homes development will be extended to either Kuikahi drive or Waiko Road by Year 2009.

The Waiko Baseyard Light Industrial Subdivision plans to overlap the existing southern portion of Waiale Road (near Waiko Road), thus diverting traffic currently using Waiale Road onto its internal project roadways, which will be constructed west of the existing Waiale Road alignment. The new intersection will be analyzed as all-way stop-controlled throughout this report. See Figure 5.

C. Base Year 2006 Conditions Without Project

By Base Year 2006, it was assumed that the traffic signal at the intersection of Kūihalani Highway and Waiko Road would be operational. In addition, it was assumed that Waiko Baseyard Light Industrial Subdivision and its proposed access road would be complete.

1. Base Year 2006 Traffic Condition Analysis

Due to the introduction of Waiko Baseyard Light Industrial Subdivision, the existing Waiko Road/Waiale Road intersection will become a "tee"-intersection, with the stem of the intersection remaining as the southern leg (cane haul road). Since the southern leg (Waiale

**Table 4
 Trip Generation Summary for Other Known Developments**

Planned Developments	UNITS	AM PEAK HOUR		PM PEAK HOUR	
		IN	OUT	IN	OUT
Base Year 2006					
Maui Lani Development	See Maui Lani Development	490	565	744	715
Waiko Baseyard Light Ind.	TIAR				
Spencer Homes 400-Unit Single-Family Affordable Housing	14.4 AC	55	11	14	50
Maunaloa	200 DU	36	109	118	69
Ohia at Kēhālani	83 DU	17	51	57	34
Olona 2	163 DU	31	93	105	62
Kēhālani Gardens	32 DU	17	51	24	14
Multifamily Home	132 DU	11	54	51	25
Sub-Total Base Year 2006		657	934	1113	969
Base Year 2009					
Maui Lani Development	See Maui Lani Development	562	644	856	819
Spencer Homes 400-Unit Single-Family Affordable Housing	TIAR				
Maunaloa	200 DU	36	109	118	69
Sub-Total Base Year 2009		598	753	974	888
Total Base Years 2006 and 2009		1255	1687	2087	1857
					3944

Road) currently receives only minor volume (existing traffic counts show less than ten (10) vehicles during each peak hour of traffic, combined entering/exiting). this intersection will not be included in subsequent analyses.

Note that should the Waiko Baseyard Light Industrial Subdivision not be constructed by Year 2008, Waiale Road may retain its current alignment, in which case vehicular traffic at the Waiko Road/Waiale Road intersection would remain as is.

The following are the individual turning movements or intersections that will operate at LOSE or LOS F conditions.

Honoapiilani Highway/Waiko Road

Without a traffic signal system, the eastbound shared through/left-turn will continue to operate at LOS F during the AM and PM peak hours of traffic. The westbound shared right-turn/through/left-turn will degrade to LOS F during the AM and PM peak hours of traffic due to the decrease in acceptable gaps in traffic along Honoapiilani Highway.

2. Base Year 2006 Traffic Mitigation Measures

Honoapiilani Highway/Waiko Road

As stated in section 1.1.D, a traffic signal system is warranted at this intersection based on existing volumes. The construction of a traffic signal would decrease delays along Waiko Road in the eastbound and westbound direction. Based on this configuration, all individual turning movements at this intersection would operate at LOS C or better during the AM and PM peak hours of traffic.

Table 5 summarizes the LOS for Base Year 2006 traffic conditions with and without mitigative measures. Figure 7 shows the projected Base Year 2006 traffic volumes and LOS.

Table 5: Base Year 2006 LOS and Delay

Mitigation Measures	Existing		Base Year 2006		Base Year 2006 with Mitigative Measures	
	AM	PM	AM	PM	AM	PM
Honoapiilani Highway/Waiko Road	LOS	A	A	A	A	A
	Delay (sec)	9	9	9.3	9	10.4
	LOS	A	A	A	A	A
	Delay (sec)	3.1	3.1	3.1	3.1	3.1
	LOS	A	A	A	A	A
	Delay (sec)	7	7	9	9	10.4
	LOS	A	A	A	A	A
	Delay (sec)	4.8	4.8	10.6	10.6	10.6
	LOS	C	C	C	C	C
	Delay (sec)	22.6	22.6	23.4	23.4	25.8
OVERALL						
NB RT/TH	A	A	A	A	A	A
SB RT	A	A	A	A	A	A
SB TH	A	A	A	A	A	A
SB LT	A	A	A	A	A	A
EB RT	A	A	A	A	A	A
EB TH/LT	F	F	F	F	F	F
WB RT/TH/LT	F	F	F	F	F	F
OVERALL						
Waiko Road/Waiale Road (for Waikapu Baseyard Access Road)	LOS	A	A	A	A	A
Delay (sec)	35.8	35.8	43.9	43.9	43.9	43.9
LOS	F	F	F	F	F	F
Delay (sec)	130.8	130.8	140.3	140.3	140.3	140.3
LOS	A	A	A	A	A	A
Delay (sec)	7.6	7.6	7.6	7.6	7.6	7.6
WB RT/TH/LT	A	A	A	A	A	A
EB RT/TH/LT	A	A	A	A	A	A
OVERALL						
Kulihani Highway/Waiko Road	LOS	A	A	A	A	A
Delay (sec)	7.7	7.7	7.8	7.8	7.9	7.9
LOS	A	A	A	A	A	A
Delay (sec)	8.1	8.1	8.1	8.1	8.1	8.1
LOS	A	A	A	A	A	A
Delay (sec)	15.6	15.6	15.6	15.6	15.6	15.6
LOS	B	B	B	B	B	B
Delay (sec)	8.4	8.4	8.4	8.4	8.4	8.4
OVERALL						
EB RT/LT	C	C	C	C	C	C
SB TH	A	A	A	A	A	A
SB RT	A	A	A	A	A	A
NB LT	A	A	A	A	A	A
NB TH	A	A	A	A	A	A
OVERALL						

D. Base Year 2009 Conditions Without Project

With the Base Year 2008 mitigative measures, the overall intersection and individual turning movements at all study intersections would operate at LOS C or better during the AM and PM peak hours of traffic.

Table 6 summarizes the LOS for Base Year 2009 traffic. Figure 8 shows the projected Base Year 2009 traffic volumes and LOS.

IV. FUTURE TRAFFIC CONDITIONS WITH PROJECT

A. Trip Generation

Trip generation estimates the total number of vehicular trips produced by a given land use. Trip rates contained in the nationally published ITE Trip Generation, 7th Edition, were used to estimate the number of trips generated by the Project. Table 7 shows the trip generation rates used for the proposed development. Table 8 shows the peak hour trips generated by each of the two development phases of the Project.

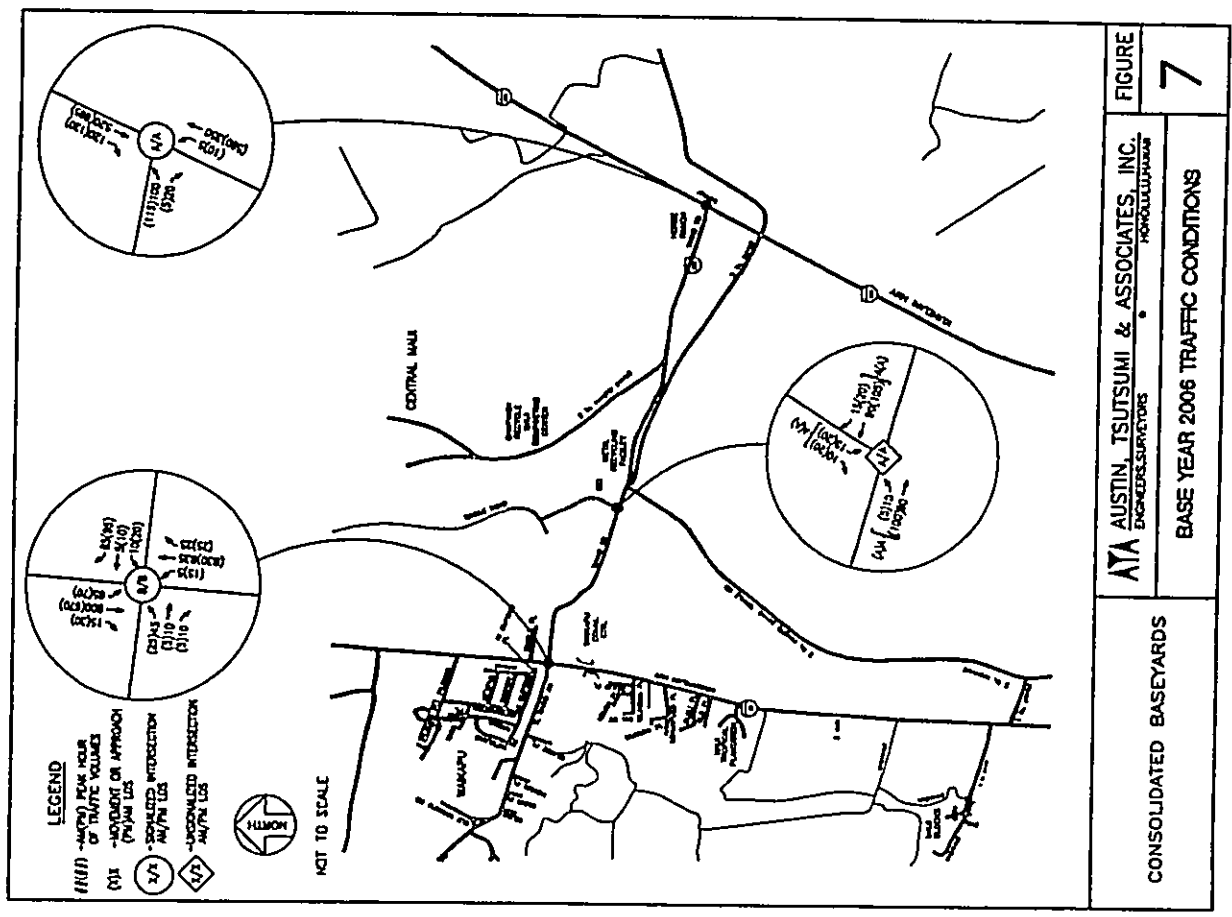
B. Trip Distribution and Assignment

Trip distribution identifies the direction of travel of trips to and from the Project site by determining the likely external origins and destinations of the Project-generated trips. The Project-generated traffic was distributed onto the roadway network based on trip distribution factors derived resident population data and field observations. These factors are shown in Table 9.

C. Year 2006 with Phase I Project-Generated Traffic

The results of the intersection analyses for traffic conditions resulting from Phase I of the Project are summarized and compared to Base Year 2006 conditions in Table 10. As mentioned earlier, Project-generated traffic will access Waiko Road via its proposed access driveway, which is located west of Kuithehant Highway.

With Phase I of Project-generated traffic and Base Year 2006 mitigative measures, the individual turning movements at all study intersection will operate at LOS C or better during the AM and PM peak hours of traffic. The intersections



overall will operate at LOS B or better during the AM and PM peak hours of traffic. The recommended lane configuration is as follows:

- Waiko Road eastbound approach: shared through/left-turn lane
- Waiko Road westbound approach: shared through/right-turn lane
- Project Access Roadway southbound approach: shared right-turn/left-turn lane

Figure 9 shows the Phase I Project-generated traffic. Figure 10 shows the projected Year 2006 traffic volumes and LOS with Phase I Project-generated traffic.

D. Year 2009 with Phases I and II Project-Generated Traffic

The results of the intersection analyses for traffic conditions resulting from Phases I and II of the Project are summarized and compared to Base Year 2009 conditions in Table 11.

With Phases I and II of Project-generated traffic and Base Year 2006 mitigative measures, the individual turning movements at all study intersections will operate at LOS C or better during the AM and PM peak hours of traffic. The intersections overall will operate at LOS B or better during the AM and PM peak hours of traffic. Figure 11 shows Phase I and II Project-generated traffic. Figure 12 shows the projected Year 2009 traffic volumes and LOS with Phases I and II Project-generated traffic.

V. CONCLUSIONS

A. Existing Conditions

Honoapiilani Highway/Waiko Road

It was observed that although the posted speed limit near Waiko Road is 30 mph, drivers often exceed this speed. Due to the high volume along the two-lane road at such speeds, vehicles originating from either the eastbound or westbound approaches of Waiko Road often have difficulty finding acceptable gaps needed to complete their desired turning/crossing maneuvers. While the eastbound approach is channelized with a shared through/left-turn lane and a

dedicated right-turn lane, the westbound approach only provides a single shared lane. Therefore, vehicles wanting to make right-turns are sometimes obstructed by left-turning and through vehicles.

Currently, the intersections of Honoapiilani Highway/Waiko Road and Kuihelani Highway/Waiko Road experience LOS E and F on the eastbound and westbound Waiko Road approaches. Note that since the Waiko Road eastbound right-turn traffic at the Honoapiilani Highway/Waiko Road Intersection has its own dedicated right-turn lane, the LOS has not been calculated.

Based on four-hour traffic signal warrants contained within the 2000 Manual on Uniform Traffic Control Devices, existing conditions at this intersection warrant the installation of a traffic signal.

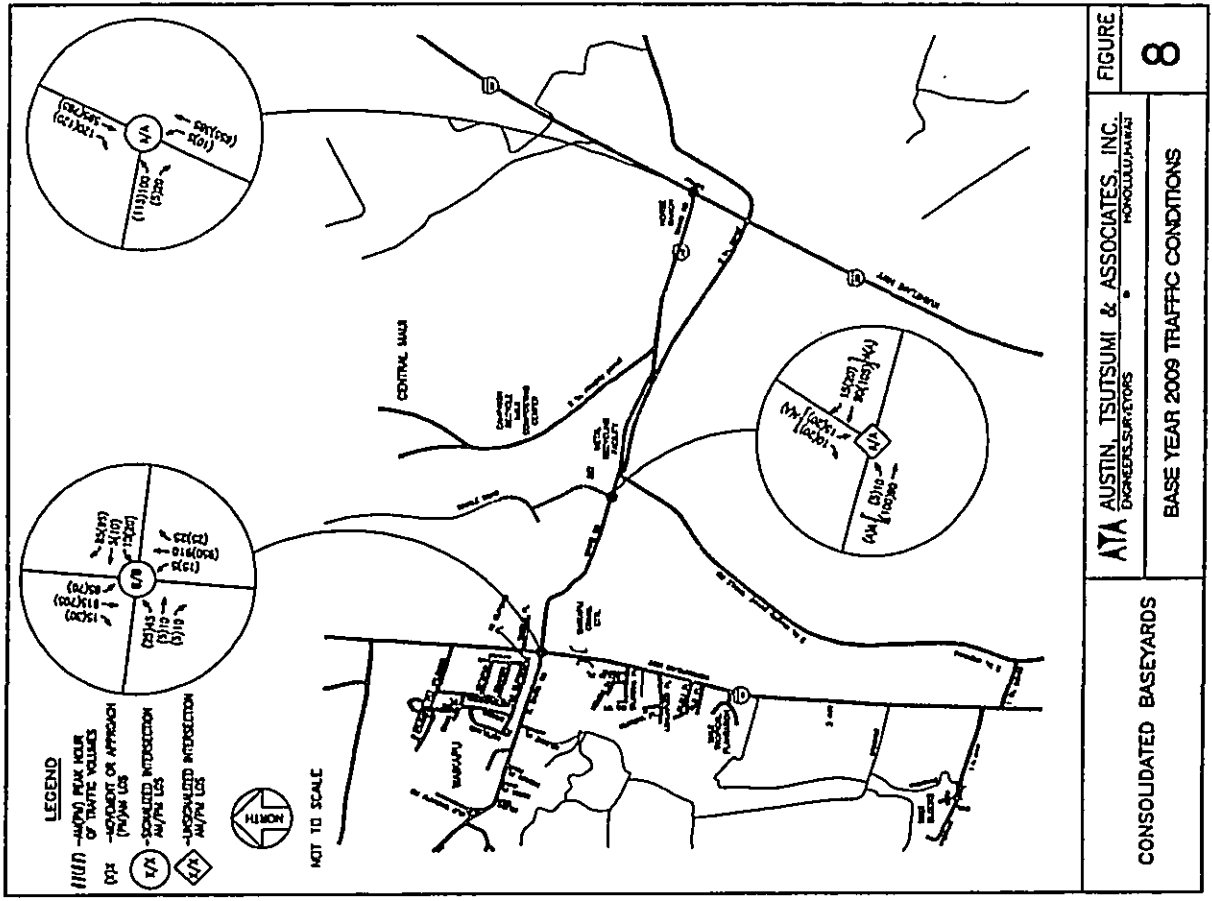
Waiko Road/Waiiale Road

The majority of the traffic experienced along Waiko Road between Honoapiilani Highway and Kuihelani Highway during the peak hours of traffic was observed to be cut-through traffic. All approaches to this all-way stop-controlled intersection currently operate at LOS A during the AM and PM peak hours of traffic. Note that there is a heavy vehicle restriction on Waiko Road near its intersection with Honoapiilani Highway that prohibits vehicles weighing over 10,000 pounds from entering/exiting Waiko Road via its intersection with Honoapiilani Highway.

Kuihelani Highway/Waiko Road

This intersection currently experiences LOS C or better on all approaches, with the exception of the eastbound shared right-turn/left-turn, which currently operates at LOS F during the PM peak hour of traffic.

However, the pending activation of the already-constructed traffic signal system at this intersection will reduce delays for the Waiko Road approach. Given this configuration, the individual turning movements and the intersection overall will operate at LOS B or better.



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FIGURE 8

CONSOLIDATED BASEYARDS

BASE YEAR 2009 TRAFFIC CONDITIONS

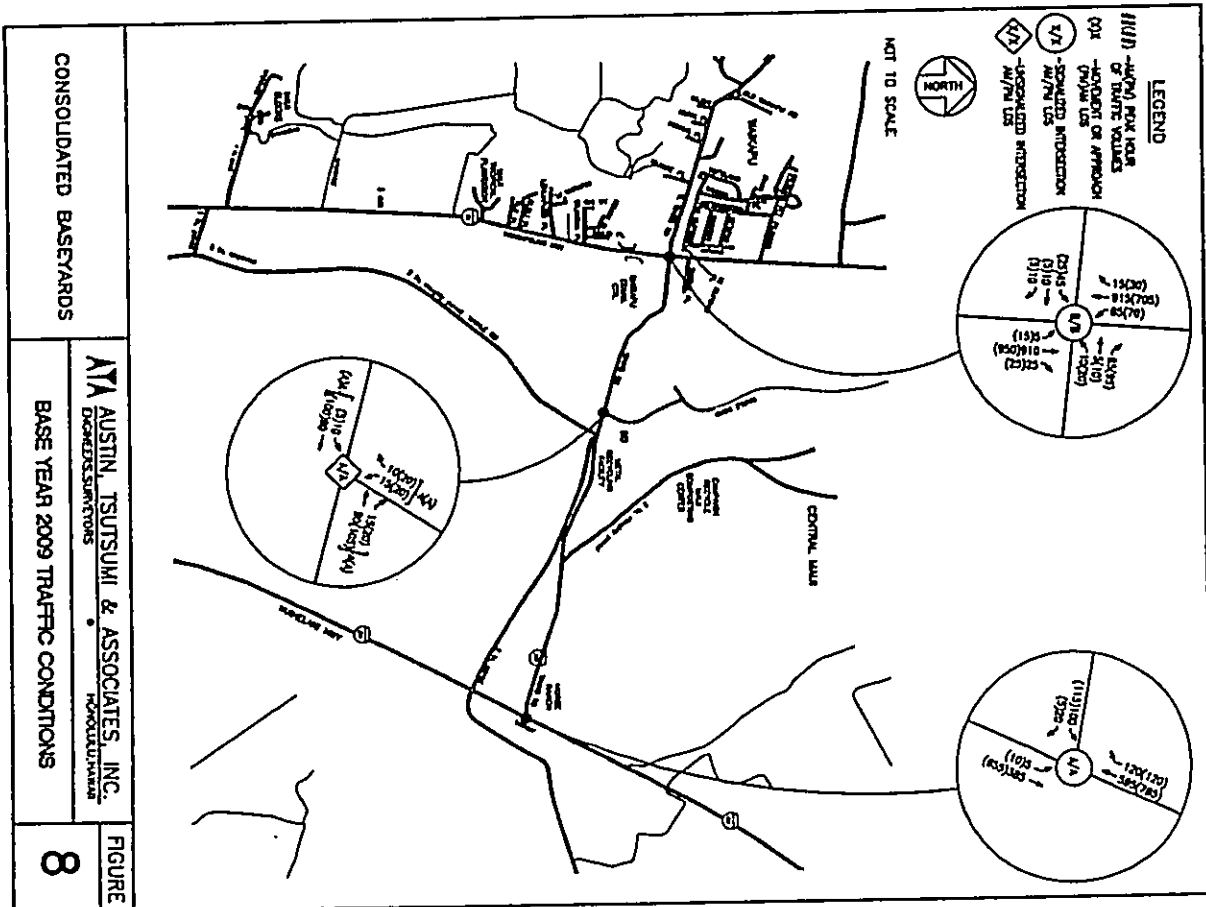
Table 6: Base Year 2009 LOS and Delay

Road/Direction	Existing		Base Year 2006		Base Year 2009	
	AM	PM	AM	PM	AM	PM
Honoapiʻiani Highway/Waikoloa Road	LOS	LOS	LOS	LOS	LOS	LOS
NB RT/TH	A	A	B	B	B	B
NB LT	A	A	A	A	A	A
SB RT	A	A	A	A	A	A
SB TH	A	A	A	A	A	A
SB LT	A	A	A	A	A	A
EB RT	F	F	C	C	C	C
EB TH/LT	F	F	C	C	C	C
WB RT/TH/LT	E	E	C	C	C	C
OVERALL	317.5	130.6	22.3	22.6	22.3	21.6
Delay (sec)	35.6	43.9	25.9	31.6	25.9	27.2
Waikoloa Road/Waiʻaleʻale Road (or Waikapu Baseyard Access Road)	LOS	LOS	LOS	LOS	LOS	LOS
NB RT/TH/LT	A	A	A	A	A	A
SB RT/TH/LT	A	A	A	A	A	A
EB RT/TH/LT	A	A	A	A	A	A
OVERALL	7.6	7.8	7.6	7.9	7.6	7.9
Delay (sec)	7.6	7.8	7.6	7.9	7.6	7.9
Kuhio/Highway/Waikoloa Road	LOS	LOS	LOS	LOS	LOS	LOS
NB TH	A	A	A	A	A	A
NB LT	A	A	A	A	A	A
SB RT	A	A	A	A	A	A
SB TH	A	A	A	A	A	A
SB LT	A	A	A	A	A	A
EB RT	A	A	A	A	A	A
EB TH	A	A	A	A	A	A
EB LT	A	A	A	A	A	A
OVERALL	24.3	97.1	15.8	17.2	16.4	18.2
Delay (sec)	24.3	97.1	15.8	17.2	16.4	18.2

Table 6: Base Year 2009 LOS and Delay

	Existing				Base Year 2006				Base Year 2009			
	AM		PM		AM		PM		AM		PM	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Honoapiilani Highway/Waiko Road												
NB RT/TH	-	-	-	-	B	10.4	B	10.3	B	12.8	B	16.9
NB LT	A	9	A	9	A	3.1	A	3.1	A	3.1	A	3.5
SB RT	-	-	-	-	A	3.1	A	3.1	A	3.1	A	3.5
SB TH	-	-	-	-	A	9	A	7	B	11.9	A	8.2
SB LT	A	10	A	9.7	A	4.5	A	4.6	A	5.6	A	14.2
EB RT	-	-	-	-	C	22.3	C	22	C	22.3	C	21.1
EB TH/LT	F	317.5	F	130.6	C	23.4	C	22.8	C	23.4	C	21.8
WB RT/TH/LT	E	35.6	E	43.9	C	25.9	C	31.8	C	25.9	C	27.2
OVERALL	-	-	-	-	B	10.8	B	10.4	B	13.1	B	14.1
Waiko Road/Walala Road (or Waikapu Baseyard Access Road)												
SB RT/TH/LT	A	7.6	A	7.6	A	7.6	A	7.6	A	7.6	A	7.6
EB RT/TH/LT	A	7.8	A	7.9	A	7.9	A	7.9	A	7.9	A	7.9
WB RT/TH/LT	A	7.7	A	7.9	A	7.8	A	7.9	A	7.8	A	7.9
OVERALL	A	7.7	A	7.8	A	7.8	A	7.9	A	7.8	A	7.9
Kuihelani Highway/Waiko Road												
NB TH	-	-	-	-	A	8.1	A	7.9	A	7.7	A	7.5
NB LT	A	8.5	A	9.2	A	7.1	A	6.2	A	6.6	A	5.7
SB RT	-	-	-	-	A	0.1	A	0.1	A	0.1	A	0.1
SB TH	-	-	-	-	A	8.8	A	6.4	A	8.5	A	8
EB RT/LT	C	24.3	F	97.1	B	15.8	B	17.2	B	16.4	B	18.2
OVERALL	-	-	-	-	A	8.4	A	8.2	A	8.2	A	8

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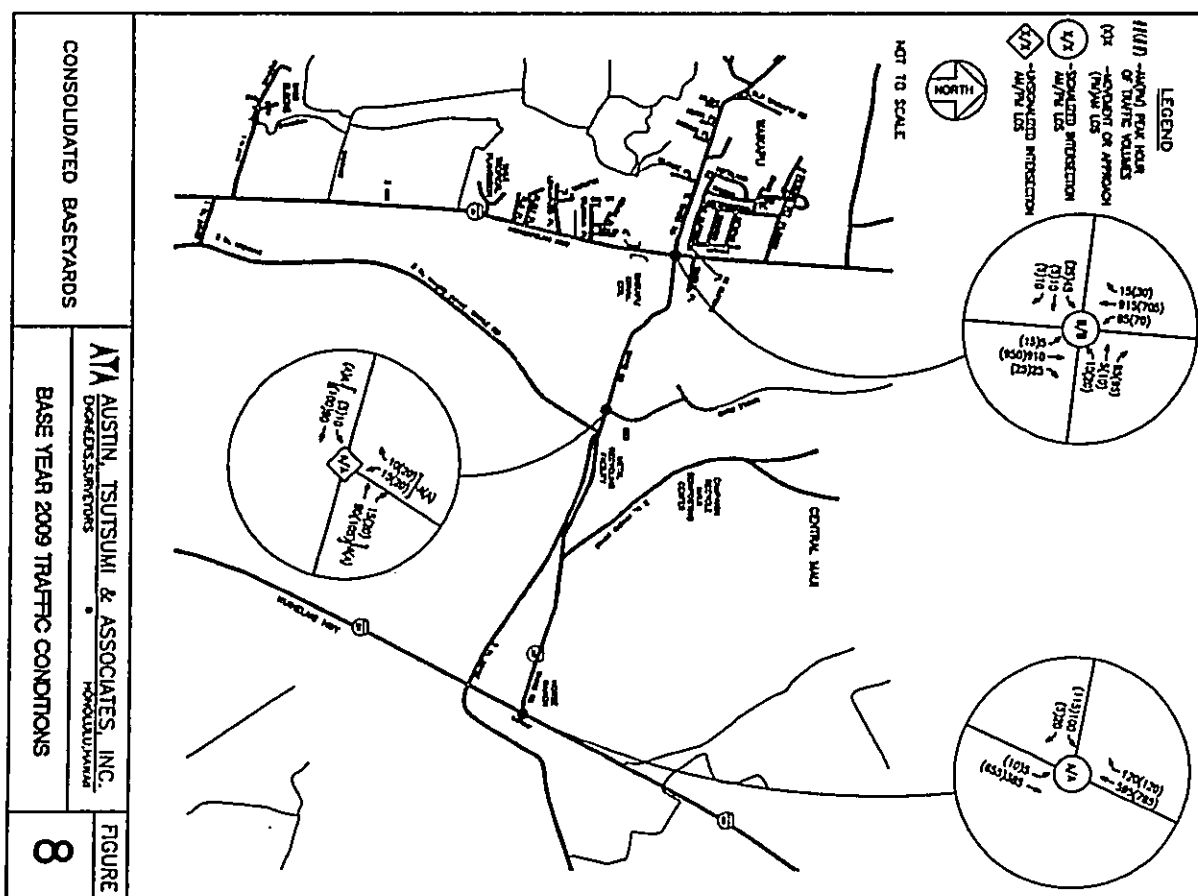


-30-

Table 8: Base Year 2009 LOS and Delay

	Existing				Base Year 2006				Base Year 2009			
	AM		PM		AM		PM		AM		PM	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Honoapiʻilani Highway/Waiko Road												
NB RT/TH	-	-	-	-	B	10.4	B	10.3	B	12.8	B	16.9
NB LT	A	9	A	9	A	3.1	A	3.1	A	3.1	A	3.5
SB RT	-	-	-	-	A	3.1	A	3.1	A	3.1	A	3.5
SB TH	-	-	-	-	A	9	A	7	B	11.9	A	8.2
SB LT	A	10	A	9.7	A	4.5	A	4.6	A	5.6	A	14.2
EB RT	-	-	-	-	C	22.3	C	22	C	22.3	C	21.1
EB TH/LT	F	317.5	F	130.8	C	23.4	C	22.6	C	23.4	C	21.6
WB RT/TH/LT	E	35.6	E	43.9	C	25.9	C	31.6	C	25.9	C	27.2
OVERALL	-	-	-	-	B	10.8	B	10.4	B	13.1	B	14.1
Waiko Road/Waiale Road (or Waikapu Baseyard Access Road)												
SB RT/TH/LT	A	7.6	A	7.6	A	7.6	A	7.6	A	7.6	A	7.6
EB RT/TH/LT	A	7.8	A	7.9	A	7.9	A	7.9	A	7.9	A	7.9
WB RT/TH/LT	A	7.7	A	7.9	A	7.8	A	7.9	A	7.8	A	7.9
OVERALL	A	7.7	A	7.8	A	7.8	A	7.9	A	7.8	A	7.9
Kuihelani Highway/Waiko Road												
NB TH	-	-	-	-	A	8.1	A	7.9	A	7.7	A	7.5
NB LT	A	8.5	A	9.2	A	7.1	A	6.2	A	6.6	A	5.7
SB RT	-	-	-	-	A	0.1	A	0.1	A	0.1	A	0.1
SB TH	-	-	-	-	A	8.8	A	8.4	A	8.5	A	8
EB RT/LT	C	24.3	F	97.1	B	15.6	B	17.2	B	16.4	B	18.2
OVERALL	-	-	-	-	A	8.4	A	8.2	A	8.2	A	8

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Table 7
Trip Generation Rates for Project

Land Use (ITE Code)	Units	Daily Trip Rate	AM Peak Hour of Traffic		PM Peak Hour of Traffic	
			Trip Rate	% Enter	Trip Rate	% Enter
Industrial Park (130)	AC	a	b	83%	c	21%

AC = Acres
 a $T = 47.94 \cdot X^{0.58534}$
 b $T = \text{EXP}(0.78 \cdot \text{LN}(X) + 2.89)$
 c $T = \text{EXP}(0.72 \cdot \text{LN}(X) + 3.14)$

Table 8
Project Land Uses and Trip Generation

Land-Use Designation	No. of Units	Trips (vpd)	AM Peak Hour of Traffic		PM Peak Hour of Traffic	
			Enter (vph)	Exit (vph)	Enter (vph)	Exit (vph)
Phase 1						
Industrial Park	11.58 AC	854	87	18	24	88
Phase 2						
Industrial Park	11.58 AC	854	86	17	23	87
Total Phases I and II	23.16 AC	1,706	173	35	47	175

vpd = vehicles per day vph = vehicles per hour
 AC = acres

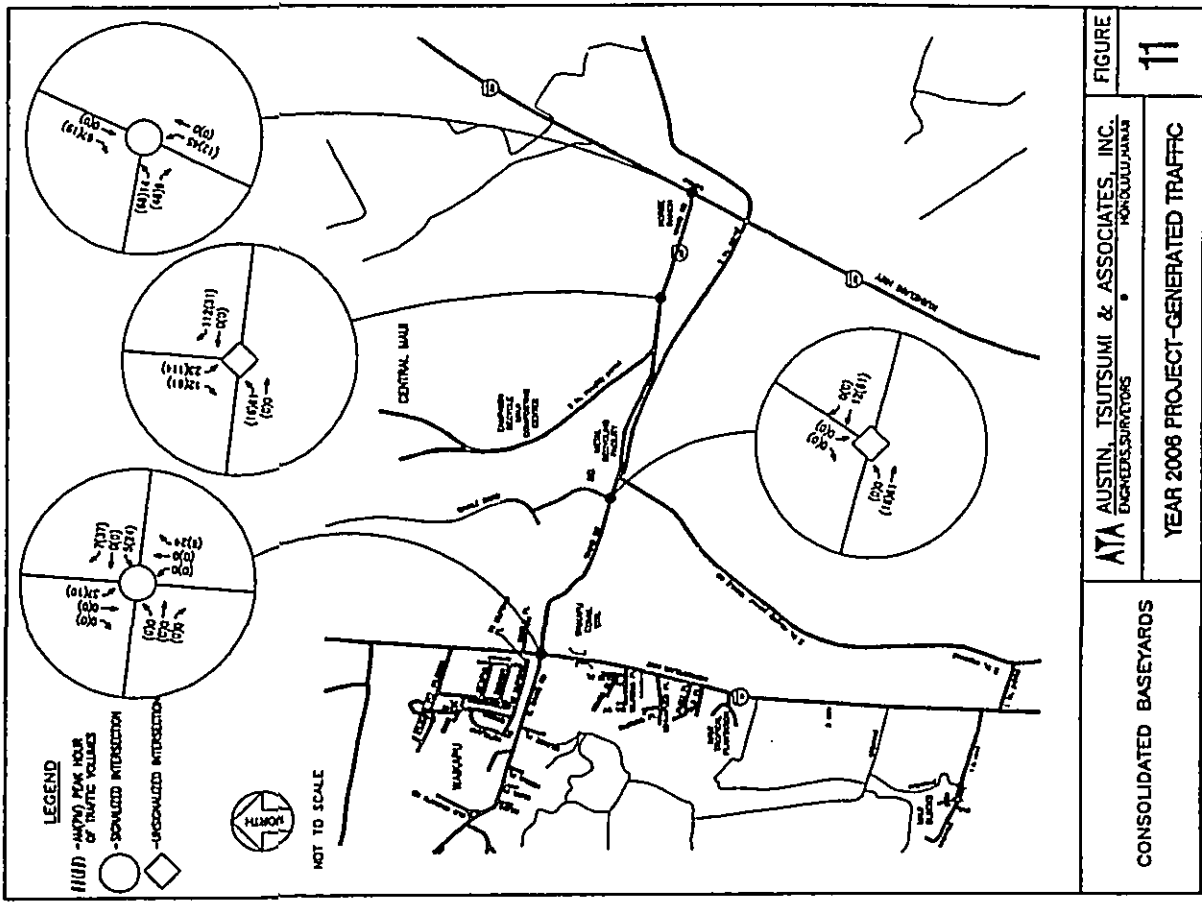
Table 9
Trip Distribution Factors

Direction (to/from)	Factor
Waiuku/Kahului via Honoapiilani Highway	21%
Waiuku/Kahului via Kuihelani Highway	39%
Maalaea/West Maui via Honoapiilani Highway	14%
Maalaea/West Maui via Kuihelani Highway	26%
Total	100%

Table 10: Year 2006 with Phase I Project-Generated Traffic LOS and Delay

Roadway	Extstng		Base Year 2006 w/ Mitigative		Year 2006 w/ Ph.I Proj.-Generated Traffic	
	AM	PM	AM	PM	AM	PM
Honoapiilani Highway/Waikoloa Road	LOS	LOS	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)
NB RT	-	-	10.3	B	10.3	B
SB RT	-	-	3.1	A	3.1	A
SB TH	-	-	3.1	A	3.1	A
SB LT	-	-	9	A	9	A
SB RT	-	-	22.3	C	22.3	C
EB RT	-	-	4.6	A	4.6	A
EB TH/LT	F	F	22.8	C	22.8	C
EB RT/H/LT	F	F	31.8	C	31.8	C
OVERALL	-	-	10.4	B	10.4	B
Waikoloa Road (or Waikapu Baseyard Access Road)	LOS	LOS	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)
NB RT	-	-	10.4	B	10.4	B
SB RT	-	-	3.1	A	3.1	A
SB TH	-	-	3.1	A	3.1	A
SB LT	-	-	9	A	9	A
SB RT	-	-	22.3	C	22.3	C
EB RT	-	-	4.6	A	4.6	A
EB TH/LT	F	F	22.8	C	22.8	C
EB RT/H/LT	F	F	31.8	C	31.8	C
OVERALL	-	-	10.8	B	10.8	B
Kuihelani Highway/Waikoloa Road	LOS	LOS	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)
NB TH	-	-	10.4	B	10.4	B
NB LT	-	-	3.1	A	3.1	A
NB RT	-	-	3.1	A	3.1	A
SB TH	-	-	3.1	A	3.1	A
SB LT	-	-	9	A	9	A
SB RT	-	-	22.3	C	22.3	C
EB RT	-	-	4.6	A	4.6	A
EB TH/LT	F	F	22.8	C	22.8	C
EB RT/H/LT	F	F	31.8	C	31.8	C
OVERALL	-	-	10.8	B	10.8	B
Project Access Road/Waikoloa Road	LOS	LOS	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)
NB TH	-	-	10.4	B	10.4	B
NB LT	-	-	3.1	A	3.1	A
NB RT	-	-	3.1	A	3.1	A
SB TH	-	-	3.1	A	3.1	A
SB LT	-	-	9	A	9	A
SB RT	-	-	22.3	C	22.3	C
EB RT	-	-	4.6	A	4.6	A
EB TH/LT	F	F	22.8	C	22.8	C
EB RT/H/LT	F	F	31.8	C	31.8	C
OVERALL	-	-	10.8	B	10.8	B

Table 10: Year 2006 with Phase I Project-Generated Traffic LOS and Delay



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ENGINEERS/SURVEYORS
HONOLULU, HAWAII

CONSOLIDATED BASEYARDS

FIGURE 11
YEAR 2006 PROJECT-GENERATED TRAFFIC

Table 11: Year 2009 with Phases I and II Project-Generated Traffic LOS and Delay

	Existing		Base Year 2009 w/Mitigative		Year 2009 w/Ph I&2 Proj-Generated Traffic	
	AM		AM		PM	
	LOS (sec)	Delay (sec)	LOS (sec)	Delay (sec)	LOS (sec)	Delay (sec)
Honoapiʻilani Highway/Waikehu Road	NB RT/TH	A	A	12.8	B	16.9
	NB LT	A	A	3.1	A	3.5
Waikehu Road/Waikehu Access Road	SB RT/TH	A	A	11.9	A	8.2
	SB LT	A	A	5.6	A	14.2
Waikehu Road/Waikehu Access Road (or Waikehu Baseyard Access Road)	SB RT/THLT	A	A	7.6	A	7.6
	WB RT/THLT	E	E	25.9	C	27.2
Kuluehāni Highway/Waikehu Road	SB RT	A	A	22.3	C	22.7
	SB TH	F	F	130.6	C	23.9
Project Access Road/Waikehu Road	SB RT/THLT	E	E	43.9	C	29.2
	SB LT	A	A	10	B	17.6
Overall	Overall	317.5	35.6	13.1	B	13.5
	Overall	7.7	7.7	7.8	A	8.1
Kuluehāni Highway/Waikehu Road	NB TH	A	A	7.7	A	8.9
	NB LT	A	A	9.2	A	7.7
Project Access Road/Waikehu Road	SB TH	A	A	0.1	A	0.2
	SB RT	A	A	0.1	A	0.1
Overall	Overall	24.3	97.1	16.4	B	18.2
	Overall	8.5	8.5	8.2	A	8.5
Waikehu Road/Waikehu Access Road	SB RT/THLT	A	A	7.8	A	7.8
	WB RT/THLT	A	A	7.9	A	8.4
Overall	Overall	7.8	7.8	7.8	A	8.5
	Overall	11.4	11.4	11.4	B	11.4
Central Mau	SB RT/THLT	A	A	7.6	A	7.6
	WB RT/THLT	A	A	7.9	A	8.4
Overall	Overall	11.3	11.3	11.3	B	11.3
	Overall	7.9	7.9	7.9	A	7.9
Waikehu Road/Waikehu Access Road	SB RT/THLT	A	A	7.6	A	7.6
	WB RT/THLT	A	A	7.9	A	8.4
Overall	Overall	11.3	11.3	11.3	B	11.3
	Overall	7.9	7.9	7.9	A	7.9

B. Base Year Without Project-Generated Traffic

Honopiihāli Highway/Waiko Road

Should a traffic signal system not be constructed at this intersection, the eastbound and westbound Waiko Road approaches will continue to experience LOS E and F conditions during the AM and PM peak hours of traffic. Note that the LOS was not calculated for the eastbound Waiko Road approach, due to the fact that a dedicated right-turn lane is provided.

As a result of signalization, the individual turning movements at this intersection will operate at LOS C or better during the AM and PM peak hours of traffic through Base Year 2009.

Waiko Road/Waialeale Road

With the construction of Waiko Baseyard Light Industrial Subdivision, the existing segment of Waialeale Road directly north of Waiko Road will need to be removed or abandoned. According to the TIAR for the Project, its internal project roadways will temporarily provide access back onto Waialeale Road north of the proposed Project.

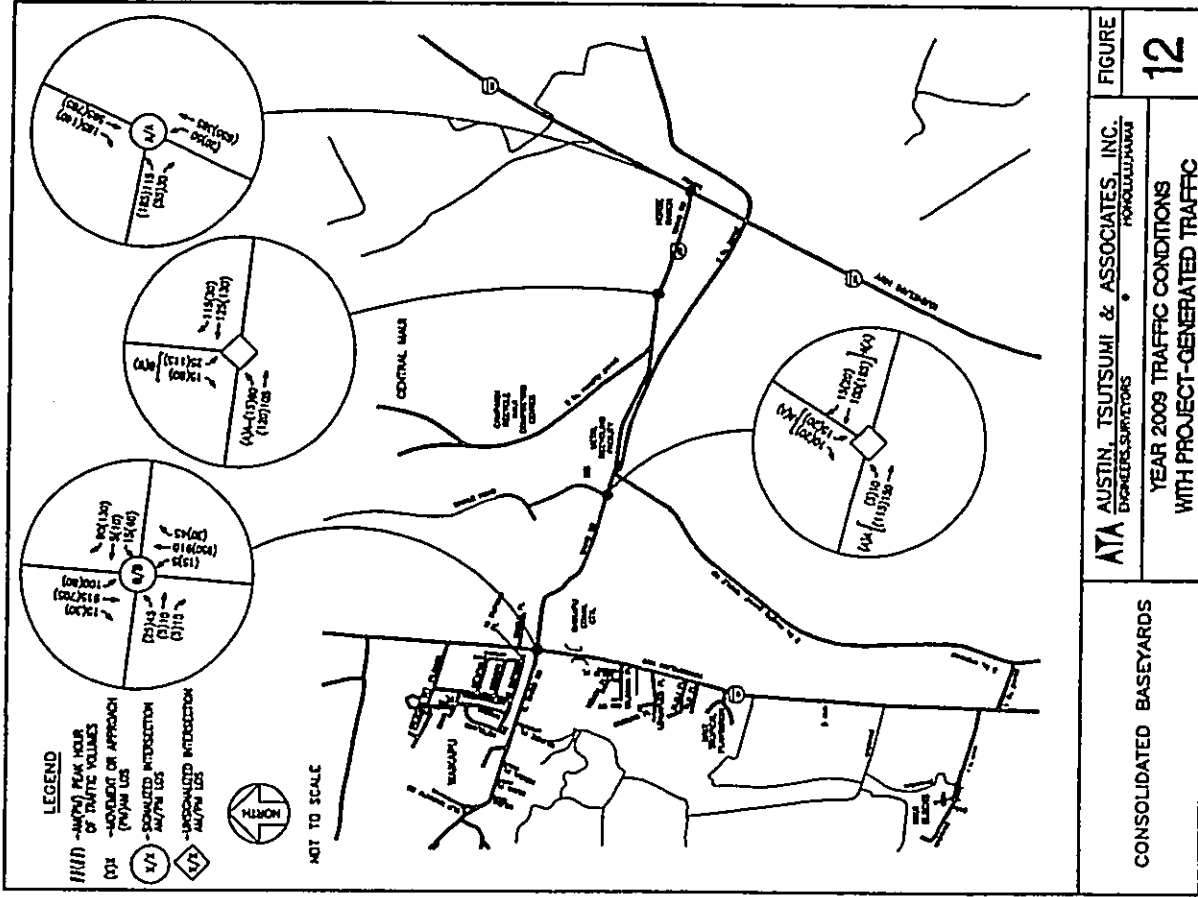
During analysis, it was assumed that this intersection operated with all-way stop-control. Traffic at this new "tee"-intersection will operate at LOS A on all approaches through Base Year 2009.

Waiko Road/Waiko Baseyard Light Industrial Subdivision

By Year 2006, it is assumed that all traffic currently using the north leg of the Waialeale Road/Waiko Road intersection will have been diverted to the Waiko Road/Waiko Baseyard Light Industrial Subdivision's access road. Given this configuration, this intersection will operate at LOS A on all approaches during the AM and PM peak hours of traffic through Base Year 2009.

Kuihela Highway/Waiko Road

With signalization, the individual turning movements at this intersection will operate at LOS B or better during the AM and PM peak hours of traffic through Base Year 2009.



ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS/SURVEYORS
HONOLULU, HAWAII

CONSOLIDATED BASEYARDS

YEAR 2009 TRAFFIC CONDITIONS WITH PROJECT-GENERATED TRAFFIC

FIGURE 12

APPENDICES

APPENDIX A

TRAFFIC COUNT DATA

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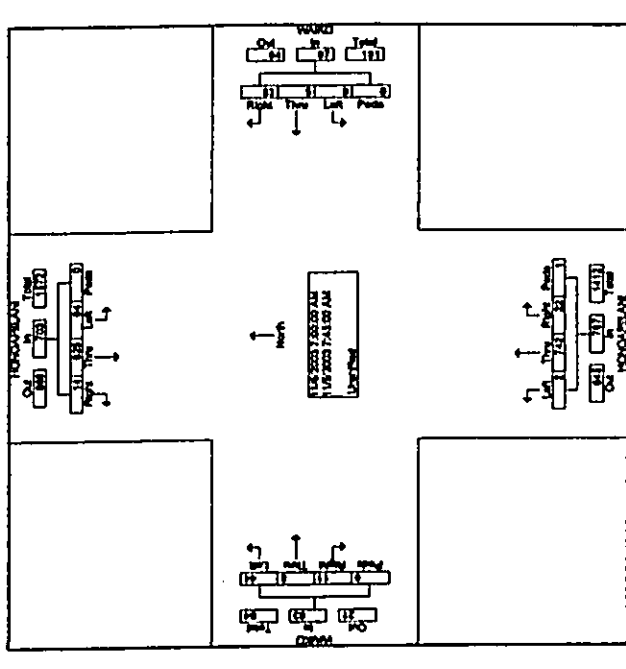
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Major Street: Honolulu Highway
 Minor Street: Wardo Road
 Time of Count: 6:30 AM - 8:30 AM
 Weather:

Start Time	HONOKUPELAN From West			WARDO From East			HONOKUPELAN From South			WARDO From West		
	Regt	Thru	Peak	Regt	Thru	Peak	Regt	Thru	Peak	Regt	Thru	Peak
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
06:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
06:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	2	155	23	1	1	10	10	106	0	116	0	13
06:50 AM	2	171	20	1	1	10	7	170	0	177	5	15
06:55 AM	5	326	53	2	2	28	17	226	0	243	8	14
07:00 AM	7	378	57	0	0	0	14	13	136	0	0	0
07:05 AM	2	148	14	0	0	0	3	2	113	0	0	0
07:10 AM	2	128	16	0	0	0	2	1	113	0	0	0
07:15 AM	2	125	18	0	0	0	2	2	122	0	1	2
07:20 AM	3	178	13	0	0	0	3	3	111	0	0	0
07:25 AM	3	173	13	0	0	0	3	3	111	0	0	0
07:30 AM	14	633	84	0	0	0	67	22	742	2	1	787
08:00 AM	3	120	21	0	0	0	24	4	131	0	1	136
08:15 AM	1	128	10	0	0	0	20	8	115	1	0	125
08:30 AM	1	119	14	0	0	0	20	8	115	1	1	125
Grand Total	23	119	148	0	0	0	187	82	124	3	2	1271
Approach %	1.7	6	8	0.0	0.0	0.0	81	4.8	8	0.2	0.2	18
Total %	0.8	41	8.1	0.0	47.0	4.7	0.3	0.8	0.0	8.7	1.8	41

Start Time	HONOKUPELAN From North			WARDO From East			HONOKUPELAN From South			WARDO From West		
	Regt	Thru	Peak	Regt	Thru	Peak	Regt	Thru	Peak	Regt	Thru	Peak
07:00 AM	14	625	64	0	0	0	83	5	9	0	87	23
07:05 AM	2	125	18	0	0	0	27	1	1	0	29	1
07:10 AM	2	125	18	0	0	0	27	1	1	0	29	1
07:15 AM	7	178	17	0	0	0	25	2	5	0	32	1
07:20 AM	7	178	17	0	0	0	25	2	5	0	32	1
07:25 AM	7	178	17	0	0	0	25	2	5	0	32	1
07:30 AM	14	625	64	0	0	0	83	5	9	0	87	23
07:35 AM	2	125	18	0	0	0	27	1	1	0	29	1
07:40 AM	2	125	18	0	0	0	27	1	1	0	29	1
07:45 AM	7	178	17	0	0	0	25	2	5	0	32	1
07:50 AM	7	178	17	0	0	0	25	2	5	0	32	1
07:55 AM	7	178	17	0	0	0	25	2	5	0	32	1
08:00 AM	14	625	64	0	0	0	83	5	9	0	87	23
Grand Total	20	84	9	0.0	0.0	0.0	85	6.2	9.0	0.0	86	0.3
Approach %	2.0	8	9	0.0	0.0	0.0	85	6.2	9.0	0.0	86	0.3
Total %	2.0	8	9	0.0	0.0	0.0	85	6.2	9.0	0.0	86	0.3



Major Street: Homocall Highway
 Minor Street: Walko Road
 Time of Count: 4:30 PM - 6:30 PM
 Weather: Sunny

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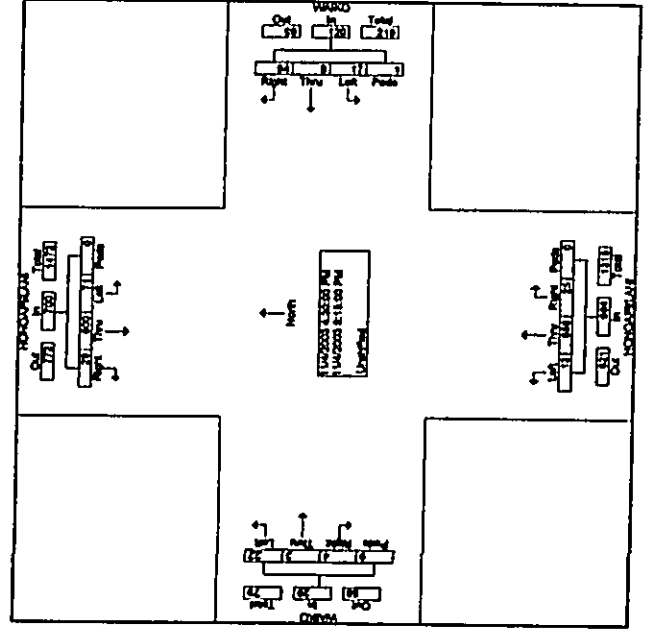
File Name: P:\Homocall\walko
 Site Code: 00000000
 Start Date: 11/04/2003
 Page No: 1

Start Time	HONOUPULUHI From North			WAIKOA From East			HONOUPULUHI From South			WAIKOA From West			Vt	
	Regt	Thru	Peak	Regt	Thru	Peak	Regt	Thru	Peak	Regt	Thru	Peak		
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
03:00 PM	3	130	8	0	141	22	4	1	0	27	4	113	1	0
03:15 PM	7	151	14	0	172	21	3	2	0	24	6	116	0	292
03:30 PM	8	109	15	0	133	34	3	8	0	40	6	106	2	376
03:45 PM	5	139	14	0	153	24	1	8	0	31	8	171	1	354
Total	24	339	51	0	601	103	10	20	0	133	21	616	5	1413
04:00 PM	10	159	19	0	168	22	4	8	0	34	6	166	1	0
04:15 PM	7	154	16	0	177	26	4	1	0	31	4	136	3	350
04:30 PM	8	163	21	0	182	21	3	2	1	27	6	207	2	443
04:45 PM	5	140	12	0	157	30	1	4	0	35	7	163	1	373
Total	30	356	68	0	364	99	12	15	1	137	23	641	12	1548
05:00 PM	9	159	23	0	181	18	2	3	0	23	4	146	3	0
05:15 PM	7	138	16	0	160	25	2	8	0	35	8	131	1	364
05:30 PM	7	134	9	0	150	18	1	9	0	28	5	142	1	343
05:45 PM	8	179	11	0	197	24	6	8	0	37	8	163	3	332
Total	31	507	60	0	565	83	10	28	0	131	25	641	8	364
Grand Total	85	177	0	1841	285	32	63	1	381	88	145	34	0	1960
Approach %	4.4	8.1	0.0	7.4	8.4	16.0	0.3	3.5	9.4	1.7	0.0	14.0	16.0	0.0
Total %	1.9	4.0	0.0	44.4	6.5	0.7	1.4	0.0	8.7	1.9	0.6	44.8	0.3	1.4

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 Site Code: 00000000
 Start Date: 11/04/2003
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Start Time	HONOUPULUHI From North			WAIKOA From East			HONOUPULUHI From South			WAIKOA From West			Vt	
	Regt	Thru	Peak	Regt	Thru	Peak	Regt	Thru	Peak	Regt	Thru	Peak		
04:30 PM	29	600	71	0	700	84	8	17	1	120	25	658	13	0
Peak	4.1	85.0	10.0	0.0	78.0	8.7	2.0	0.8	3.6	9.4	1.9	0.0	13.0	0.0
Volume	8	163	21	0	182	21	3	2	1	27	5	207	3	0
Peak Factor														
High Int. Volume	8	163	21	0	182	30	1	4	0	35	5	207	3	0
Peak Factor														



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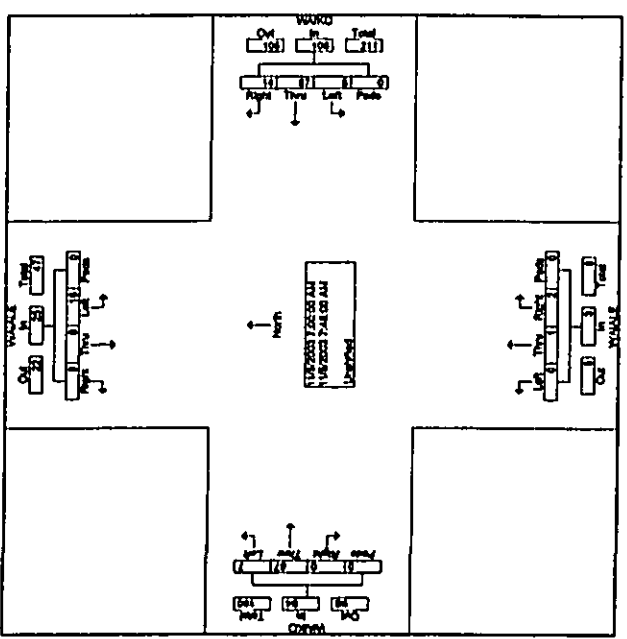
Major Street: Waialae Road
 Minor Street: Waialae Road
 Time of Count: 8:30 AM - 8:30 AM
 Weather: Sunny

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File Name : Alhewale.walko
 Site Code : 00000000
 Start Date : 11/05/2003
 Page No : 2

Start Time	WAIKALE From North			WAIKALE From South			WAIKOLE From East			WAIKOLE From West		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
06:30 AM	1	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	1	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	3	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	3	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	2	0	0	0	0	0	0	0	0	0	0	0
Total	9	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	2	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	2	0	0	0	0	0	0	0	0	0	0	0
Grand Total	15	0	0	0	0	0	0	0	0	0	0	0
Approach %	4	0	0	0	0	0	0	0	0	0	0	0
Total %	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Start Time	WAIKALE From North			WAIKALE From South			WAIKOLE From East			WAIKOLE From West		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	9	0	0	25	14	87	5	0	106	2	1	0
07:15 AM	36	0	0	64	13	82	47	0	66	33	0	0
07:30 AM	0	0	0	0	2	1	0	0	7	3	0	0
07:45 AM	3	0	0	8	5	26	1	0	32	0	1	0
Total	48	0	0	107	34	116	54	0	111	47	1	0
High Tr. Volume	36	0	0	64	13	82	47	0	66	33	0	0
High Tr. Volume Factor	0.75	0.0	0.0	0.60	0.38	0.70	0.87	0.0	0.60	0.70	0.0	0.0
Peak	3	0	0	8	5	26	1	0	32	0	1	0
Peak Factor	0.0625	0.0	0.0	0.0769	0.15625	0.390625	0.025	0.0	0.08	0.025	0.025	0.0



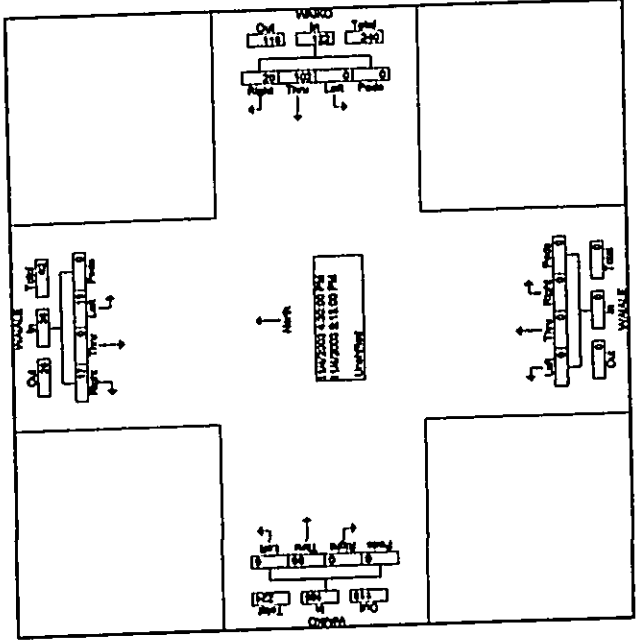
Austin, Tezabumi & Associates, Inc.
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 File Name : P:\wv\wvko
 Site Code : 00000000
 Start Date : 11/04/2003
 Page No : 2

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 File Name : P:\wv\wvko
 Site Code : 00000000
 Start Date : 11/04/2003
 Page No : 1

Major Street: Waiako Road
 Minor Street: Waiako Road
 Time of Count: 3:00 PM - 6:00 PM
 Weather: Sunny

Start Time	WAIKO From North			WAIKO From South			WAIKO From East			WAIKO From West		
	Appr	Thru	Turn	Appr	Thru	Turn	Appr	Thru	Turn	Appr	Thru	Turn
03:00 PM	4	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	1	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	5	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	4	0	0	0	0	0	0	0	0	0	0	0
Total	14	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	4	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	3	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	3	0	0	0	0	0	0	0	0	0	0	0
Total	10	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	6	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	5	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	2	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	13	0	0	0	0	0	0	0	0	0	0	0
Grand Total	37	0	0	0	0	0	0	0	0	0	0	0
Approach %	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total %	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Start Time	WAIKO From North			WAIKO From South			WAIKO From East			WAIKO From West		
	Appr	Thru	Turn	Appr	Thru	Turn	Appr	Thru	Turn	Appr	Thru	Turn
04:30 PM	17	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	47	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	2	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	6	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	72	0	0	0	0	0	0	0	0	0	0	0
Grand Total	122	0	0	0	0	0	0	0	0	0	0	0
Approach %	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total %	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Major Street: Kuhikahi Highway
 Minor Street: Waike Road
 Time of Count: 8:30 AM - 8:30 AM
 Weather: Sunny

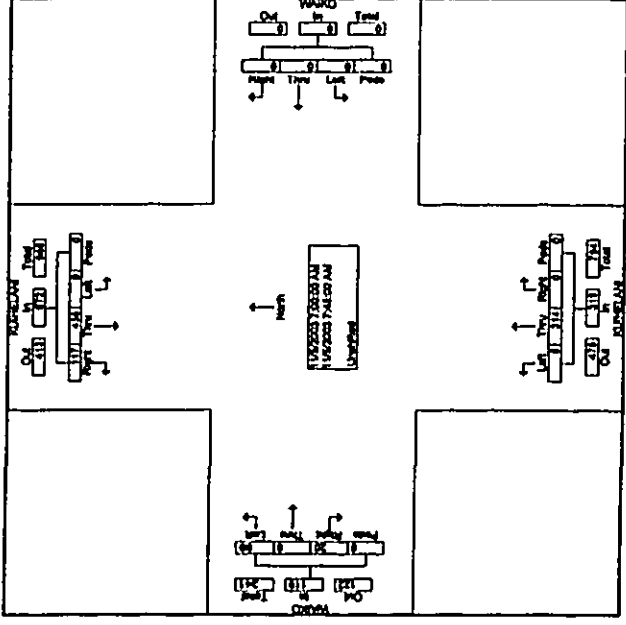
Austin, Teatsuni & Associates, Inc.
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 File Name: A:\Suburban\wako
 Site Code: 0000000
 Start Date: 11/05/2003
 Page No.: 1

Time	KUHIKAH From North			WAIKE From East			KUHIKAH From South			WAIKE From West			Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
08:30 AM	12	133	0	0	0	0	0	0	0	0	0	0	145
08:45 AM	23	125	0	0	0	0	0	0	0	0	0	0	148
Total	35	258	0	0	0	0	0	0	0	0	0	0	293
07:00 AM	25	121	0	0	0	0	0	0	0	0	0	0	146
07:15 AM	35	117	0	0	0	0	0	0	0	0	0	0	152
07:30 AM	27	113	0	0	0	0	0	0	0	0	0	0	140
07:45 AM	30	104	0	0	0	0	0	0	0	0	0	0	134
Total	117	455	0	0	0	0	0	0	0	0	0	0	572
08:00 AM	28	105	0	0	0	0	0	0	0	0	0	0	133
08:15 AM	20	103	0	0	0	0	0	0	0	0	0	0	123
Grand Total	198	921	0	0	0	0	0	0	0	0	0	0	1119
Approach %	17	82	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88.0
Total %	8.8	46.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.0

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File Name: A:\Suburban\wako
 Site Code: 0000000
 Start Date: 11/05/2003
 Page No.: 2

Time	KUHIKAH From North			WAIKE From East			KUHIKAH From South			WAIKE From West			Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	117	455	0	0	0	0	0	0	0	0	0	0	572
Volume	20	78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.0
Percent	5	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
07:30 AM	27	113	0	0	0	0	0	0	0	0	0	0	140
Volume	5	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
Percent	15	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
07:45 AM	20	99	0	0	0	0	0	0	0	0	0	0	119
Volume	8	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
Percent	20	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
08:00 AM	28	105	0	0	0	0	0	0	0	0	0	0	133
Volume	6	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0
Percent	16	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
08:15 AM	20	103	0	0	0	0	0	0	0	0	0	0	123
Volume	8	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
Percent	20	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Grand Total	198	921	0	0	0	0	0	0	0	0	0	0	1119
Approach %	17	82	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88.0
Total %	8.8	46.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.0



Audit, Teasdale & Associates, Inc.
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File Name : P:\kubehaleni_wako
Site Code : 00000000
Start Date : 11/04/2003
Page No : 1

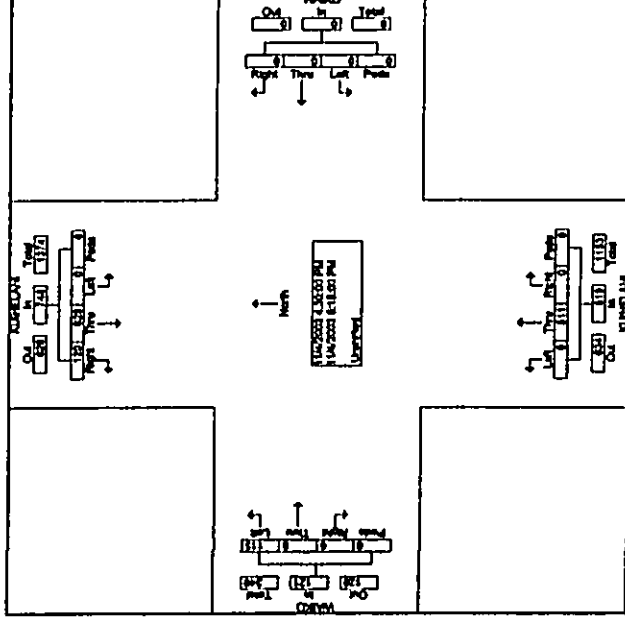
Major Street: Kubehaleni Highway
Minor Street: Wako Road
Time of Count: 3:00 PM - 6:00 PM
Weather: Sunny

Start Time	KUBELANI From North			WAKO From East			KUBELANI From South			WAKO From West		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
03:00 PM	21	140	0	0	0	0	0	117	3	14	0	17
03:15 PM	11	133	0	0	0	0	0	114	2	14	0	23
03:30 PM	25	144	0	0	0	0	0	112	3	0	18	302
03:45 PM	36	114	0	0	0	0	0	114	5	0	25	234
Total	100	540	0	0	0	0	0	478	10	4	70	74
04:00 PM	34	154	0	0	0	0	0	139	0	0	28	30
04:15 PM	36	153	0	0	0	0	0	118	2	0	17	18
04:30 PM	25	123	0	0	0	0	0	119	3	0	26	316
04:45 PM	30	159	0	0	0	0	0	124	2	0	28	29
Total	127	589	0	0	0	0	0	531	7	0	97	108
05:00 PM	32	179	0	0	0	0	0	120	1	0	36	369
05:15 PM	33	158	0	0	0	0	0	118	2	0	27	338
05:30 PM	20	148	0	0	0	0	0	134	2	0	16	300
05:45 PM	27	152	0	0	0	0	0	131	0	0	14	28
Total	112	637	0	0	0	0	0	503	5	0	102	104
Grand Total	343	177	0	0	0	0	0	181	27	1	154	14
Approach %	16	83	0.0	0.0	0.0	0.0	0.0	98	1.8	0.1	4.9	0.0
Total %	8.7	45	0.0	0.0	0.0	0.0	0.0	38	0.7	0.0	38.1	0.4

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Site Code : 00000000
Start Date : 11/04/2003
Page No : 2

Start Time	KUBELANI From North			WAKO From East			KUBELANI From South			WAKO From West		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
Volume	120	828	0	0	0	0	0	511	8	0	519	6
Percent	18	94	0	0	0	0	0	98	1	0	98	0
Peak	0	0	0	0	0	0	0	120	1	0	121	1
Peak Factor	0	0	0	0	0	0	0	0	0	0	0	0
High Int. Peak	0	0	0	0	0	0	0	0	0	0	0	0
Volume	32	179	0	0	0	0	0	139	3	0	142	4
Peak	0	0	0	0	0	0	0	0	0	0	0	0
Peak Factor	0	0	0	0	0	0	0	0	0	0	0	0
High Int. Peak	0	0	0	0	0	0	0	0	0	0	0	0
Volume	32	179	0	0	0	0	0	139	3	0	142	4
Peak	0	0	0	0	0	0	0	0	0	0	0	0
Peak Factor	0	0	0	0	0	0	0	0	0	0	0	0
High Int. Peak	0	0	0	0	0	0	0	0	0	0	0	0



APPENDIX B
LEVEL OF SERVICE CRITERIA

**LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS
(HCM 2000)**

The level of service criteria for unsignalized intersections is defined as the average total delay, in seconds per vehicle. As used here, total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position. While the criteria for level of service for two-way-stop-controlled (TWSC) and all-way-stop-controlled (AWSC) intersections are the same, procedures to calculate the average total delay may differ.

Level of Service Criteria for Two-Way Stop-Controlled Intersections

Level of Service	Average Total Delay (sec/veh)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤45
E	>35 and ≤50
F	> 50

LEVEL OF SERVICE CRITERIA FOR ALL-WAY STOP-CONTROLLED INTERSECTIONS (HCM 2000)

The all-way stop-controlled intersection is a special type of unsignalized intersection, where vehicles on all approaches are required to stop before entering the intersection. Generally, the sequence of entry into the intersection is on a "first come, first serve basis", according to order of arrival at the intersection. In theory, if vehicles arrive at two or more of the approaches at the same time, then according to the "rules of the road", the vehicle to the right is allowed to proceed first. However, it has been observed that two-lane AWSC intersections often operate on a virtual 2-phase pattern, where North-South streams alternate right-of-way with East-West streams. Multilane AWSC intersections generally operate in 4 phases, where each approach will take up a single phase. The table, shown below, identifies the Level of Service and corresponding average stopped delay for all-way stop-controlled intersections.

Level of Service Criteria for AWSC Intersections

Level of Service	Average Total Delay (sec/veh)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	> 50

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS (HCM 2000)

Level of service for signalized intersections is directly related to delay values and is assigned on that basis. Level of Service is a measure of the acceptability of delay values to motorists at a given intersection. The criteria are given in table below.

Level-of Service Criteria for Signalized Intersections

Level of Service	Control Delay per Vehicle (sec./veh.)
A	< 10.0
B	>10.0 and ≤20.0
C	>20.0 and ≤35.0
D	>35.0 and ≤55.0
E	>55.0 and ≤80.0
F	> 80.0

Delay is a complex measure, and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group or approach in question.

APPENDIX C
LEVEL OF CALCULATIONS

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APPENDIX C
LEVEL OF SERVICE CALCULATIONS

- Existing Conditions
-

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information **Site Information**

Agency: MN Jurisdiction/Date: Mn/DOT 11/11/2003

Agency or Company: ATA Major Street: Hoopeston Highway

Analysis Period/Year: AM Peak 2003 Minor Street: Waldo Road

Comment: Existing Traffic

Input Data

Line Configuration	SB	NB	EB	WB
Line 1 (Lanes)	R	TR	R	LTR
Line 2	T	L	LT	
Line 3	L			
Line 4				
Line 5				

Movement	1 (0.0)	2 (0.0)	3 (0.0)	4 (0.0)	5 (0.0)	6 (0.0)	7 (0.0)	8 (0.0)	9 (0.0)	10 (0.0)	11 (0.0)	12 (0.0)
Volume (veh/h)	64	825	14	2	742	22	44	6	11	9	5	83
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent of heavy vehicles, HV	3	3	3	3	3	3	3	3	3	3	3	3
Flow rate	71	694	16	2	824	24	49	9	12	10	6	92
Flare storage (l of vehs)												
Median storage (l of vehs)												

Signal upstream of Movement 2: _____ Movement 3: _____

Length of study period (h): 0.25

Output Data

Line / Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LDS	Approach Delay and LOS
1 R	12	0	0.000	0	0.0		0.0
EB 2 LT	58	49	1.175	5	317.5	F	
3							
1 LTR	108	222	0.486	2	35.6	E	35.6
WB 2							E
3							
SB ①	71	785	0.091	0	10.0	A	
NB ④	2	896	0.002	0	9.0	A	

W/CAP: 2.000 existing - Analysis 1 of 1

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information **Site Information**

Agency: MN Jurisdiction/Date: Mn/DOT 11/11/2003

Agency or Company: ATA Major Street: Hoopeston Highway

Analysis Period/Year: PM Peak 2003 Minor Street: Waldo Road

Comment: Existing Traffic

Input Data

Line Configuration	SB	NB	EB	WB
Line 1 (Lanes)	R	TR	R	LTR
Line 2	T	L	LT	
Line 3	L			
Line 4				
Line 5				

Movement	1 (0.0)	2 (0.0)	3 (0.0)	4 (0.0)	5 (0.0)	6 (0.0)	7 (0.0)	8 (0.0)	9 (0.0)	10 (0.0)	11 (0.0)	12 (0.0)
Volume (veh/h)	71	600	29	13	658	25	22	3	4	17	8	94
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent of heavy vehicles, HV	3	3	3	3	3	3	3	3	3	3	3	3
Flow rate	79	667	32	14	729	28	24	3	4	19	9	104
Flare storage (l of vehs)												
Median storage (l of vehs)												

Signal upstream of Movement 2: _____ Movement 3: _____

Length of study period (h): 0.25

Output Data

Line / Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LDS	Approach Delay and LOS
1 R	4	0	0.000	0	0.0		0.0
EB 2 LT	27	53	0.513	2	130.6	F	
3							
1 LTR	132	218	0.605	3	43.9	E	43.9
WB 2							E
3							
SB ①	79	850	0.093	0	9.7	A	
NB ④	14	918	0.016	0	9.0	A	

W/CAP: 2.000 existing - Exdsj PM 1 of 1

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CHAPTER 17 - AWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET													
Analysis Summary		Site Information											
General Information		Analysis Data											
Analysis	MIN	Jurisdiction	MAud	Analysis Date	12/2/2003	EB		WB		NB		SB	
Agency or Company	ATA	EB-NS Street	Waiko Road	Analysis Period/Year	2003	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Analysis Period/Year	AM Peak	NS-SB Street	Waiale Road	Comment	Existing Traffic	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR
Comment													
Lane code (Lane 1 is curb lane)													
Left-turn	7	5	0	0	10								
Through	87	87	1	0	0								
Right-turn	0	14	2	9									
Volume (veh/h)	0.90	0.90	0.90	0.90	0.90								
Peak-hour factor	6	6	6	6	6								
% Heavy vehicles													
Outputs													
Total lane flow rate (veh/h)	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2			
Departs (veh/h)	104	110	3	4.12	28	4.40							
Degree of utilization, s	4.20	4.11	0.004	2.00	0.034	2.00							
Move-up time, m (s)	0.122	0.134	2.00	2.12	2.40								
Service time, s (s)	2.00	2.00	2.12	825	778								
Capacity (veh/h)	2.20	2.11	7.7	7.1	7.8								
Delay (s) (Equation 17-55)	7.6	7.7	A	A	A								
Level of service (Exhibit 17-22)	A	A	A	A	A								
Delay (s), approach	7.8	7.7	7.1	7.1	7.8								
Level of service, approach	A	A	A	A	A								
Delay (s), intersection	7.7												A
Level of service, intersection	A												A

CHAPTER 17 - AWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET													
Analysis Summary		Site Information											
General Information		Analysis Data											
Analysis	MIN	Jurisdiction	MAud	Analysis Date	11/11/2003	EB		WB		NB		SB	
Agency or Company	ATA	EB-NS Street	Waiko Road	Analysis Period/Year	2003	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Analysis Period/Year	PM Peak	NS-SB Street	Waiale Road	Comment	Existing Traffic	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR
Comment													
Lane code (Lane 1 is curb lane)													
Left-turn	6	0	0	0	19								
Through	99	102	0	0	0								
Right-turn	0	20	0	17									
Volume (veh/h)	0.90	0.90	0.90	0.90	0.90								
Peak-hour factor	6	6	6	6	6								
% Heavy vehicles													
Outputs													
Total lane flow rate (veh/h)	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2			
Departs (veh/h)	117	136	4.12	4.37	40								
Degree of utilization, s	4.24	4.12	0.155	2.00	2.00								
Move-up time, m (s)	0.137	0.155	2.12	863	778								
Service time, s (s)	2.00	2.00	7.9	7.9	7.8								
Capacity (veh/h)	2.24	2.12	A	A	A								
Delay (s) (Equation 17-55)	837	863	A	A	A								
Level of service (Exhibit 17-22)	7.9	7.9	A	A	A								
Delay (s), approach	7.8	7.9	7.9	7.9	7.8								
Level of service, approach	A	A	A	A	A								
Delay (s), intersection	7.8												A
Level of service, intersection	A												A

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information
 Analyst: MIN Jurisdiction/Date: Mad 11/11/2003
 Agency or Company: ATA Major Street: Kuhelani Highway
 Analysis Period/Year: AM Peak 2003 Minor Street: Waikoa Road
 Comment: Existing Traffic

Input Data

Line Configuration	SB	NB	EB	WB
Line 1 (Lanes)	R	T	LR	
Line 2	T	L		
Line 3	T			
Line 4				
Line 5				

Input Data

Movement	1 (0.7)	2 (7.0)	3 (0.7)	4 (0.7)	5 (7.0)	6 (0.7)	7 (0.7)	8 (0.7)	9 (0.7)	10 (0.7)	11 (7.0)	12 (0.7)
Volume (veh/h)	455	117	5	314	99	20						
PHF	0.90	0.90	0.90	0.90	0.90	0.90						
Percent of heavy vehicles, HV	6	6	6	6	6	6						
Flow rate	508	130	6	349	110	22						
Flow storage (ft of web)												
Median storage (ft of web)												
Signal upstream of Movement 2	0.25											
Length of study period (h)	0.25											

Output Data

Line Movement	Flow Rate (veh/h)	Capacity (veh/h)	vc	Queue Length (veh)	Corrected Delay (s)	LOS	Approach Delay and LOS
1 LR	132	316	0.418	2	24.3	C	24.3
2							
3							
WB 1							
WB 2							
3							
SB 1							
NB 4	6	1029	0.005	0	8.5	A	

existing - Kuhelani Waikoa AM
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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information
 Analyst: MIN Jurisdiction/Date: Mad 12/2/2003
 Agency or Company: ATA Major Street: Kuhelani Highway
 Analysis Period/Year: PM Peak 2003 Minor Street: Waikoa Road
 Comment: Existing Traffic

Input Data

Line Configuration	SB	NB	EB	WB
Line 1 (Lanes)	R	T	LR	
Line 2	T	L		
Line 3	T			
Line 4				
Line 5				

Input Data

Movement	1 (0.7)	2 (7.0)	3 (0.7)	4 (0.7)	5 (7.0)	6 (0.7)	7 (0.7)	8 (0.7)	9 (0.7)	10 (0.7)	11 (7.0)	12 (0.7)
Volume (veh/h)	628	120	6	511	115	6						
PHF	0.90	0.90	0.90	0.90	0.90	0.90						
Percent of heavy vehicles, HV	6	6	6	6	6	6						
Flow rate	698	133	6	568	128	7						
Flow storage (ft of web)												
Median storage (ft of web)												
Signal upstream of Movement 2	0.25											
Length of study period (h)	0.25											

Output Data

Line Movement	Flow Rate (veh/h)	Capacity (veh/h)	vc	Queue Length (veh)	Corrected Delay (s)	LOS	Approach Delay and LOS
1 LR	135	156	0.865	6	97.1	F	97.1
2							
3							
WB 1							
WB 2							
3							
SB 1							
NB 4	9	868	0.010	0	9.2	A	

existing - Kuhelani Waikoa PM
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APPENDIX C
LEVEL OF SERVICE CALCULATIONS

- Base Year 2006 without Project
-

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET											
Analysis Summary						Site Information					
General Information		Analysis				Jurisdiction/Date		Misc			
		MN		ATA		12/5/2003		Honopialani Highway			
Analysis Period/Year		AM Peak		2003		Minor Street		Waiala Road			
Comment		Base Year 2006									
Input Data											
Lane Configuration		SB		NB		EB		WB			
Lane 1 (each)		R		TR		R		LTR			
Lane 2		T		L		LT					
Lane 3		L									
Lane 4											
Lane 5											
Movement		1 (0.1) 2 (0.0) 3 (0.0)		4 (0.1) 5 (0.0) 6 (0.0)		7 (0.1) 8 (0.0) 9 (0.0)		10 (0.1) 11 (0.0) 12 (0.0)			
Volume (veh/h)		85		800		15		6		635	
PHF		0.90		0.90		0.90		0.90		0.90	
Percent of heavy vehicles, HV		3		3		3		3		3	
Flow rate		72		889		17		6		928	
Flow storage (l of veh)											
Median storage (l of veh)											
Signal operation of Movement 2											
Length of study period (h)		0.25									
Output Data											
Lane Movement		Flow Rate (veh/h)		Capacity (veh/h)		v/c		Queue Length (veh)		Control Delay (s)	
1 R		11		0		0.000		0		0.0	
2 LT		61		28		2.211		7		859.7	
3											
1 LTR		111		160		0.739		4		77.0	
WB 2											
3											
SB ①		72		715		0.101		0		10.6	
NB ④		6		758		0.007		0		9.8	
LDS											
Approach Delay and LOS											
										F	
										B	
										A	

base1 - Honopialani Waiala AM
1 of 1
HICAP 12/5/03
eCatalina Engineering, Inc.

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET											
Analysis Summary						Site Information					
General Information		Analysis				Jurisdiction/Date		Misc			
		MN		ATA		12/5/2003		Honopialani Highway			
Analysis Period/Year		PM Peak		2003		Minor Street		Waiala Road			
Comment		Base Year 2006									
Input Data											
Lane Configuration		SB		NB		EB		WB			
Lane 1 (each)		R		TR		R		LTR			
Lane 2		T		L		LT					
Lane 3		L									
Lane 4											
Lane 5											
Movement		1 (0.1) 2 (0.0) 3 (0.0)		4 (0.1) 5 (0.0) 6 (0.0)		7 (0.1) 8 (0.0) 9 (0.0)		10 (0.1) 11 (0.0) 12 (0.0)			
Volume (veh/h)		70		670		30		15		830	
PHF		0.90		0.90		0.90		0.90		0.90	
Percent of heavy vehicles, HV		3		3		3		3		3	
Flow rate		78		744		33		17		922	
Flow storage (l of veh)											
Median storage (l of veh)											
Signal operation of Movement 2											
Length of study period (h)		0.25									
Output Data											
Lane Movement		Flow Rate (veh/h)		Capacity (veh/h)		v/c		Queue Length (veh)		Control Delay (s)	
1 R		6		0		0.000		0		0.0	
2 LT		34		26		1.183		4		421.0	
3											
1 LTR		139		138		1.004		7		140.3	
WB 2											
3											
SB ①		78		719		0.108		0		10.6	
NB ④		17		859		0.019		0		8.3	
LDS											
Approach Delay and LOS											
										F	
										B	
										A	

base1 - Honopialani Waiala PM
1 of 1
HICAP 12/5/03
eCatalina Engineering, Inc.

CHAPTER 17 - AWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET																
Analysis Summary																
General Information				Site Information												
Analyst	MIN	Arbitration/Date	Maul	12/5/2003												
Agency or Company	ATA	EA-WB Street	Waiko Road													
Analysis Period/Year	AM Peak	WB-SB Street	Waiko Rd or Waikapu Blvd													
Comment	Base Year 2008															
Input Data																
Lane code (Lane 1 is curb lane)	EB		WB		NB		SB		EB		WB		NB		SB	
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR
Volume (veh/h)	10	5	90	1	15	5	10	0.90	6	6	6	6	6	6	6	6
Peak-hour factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
% Heavy vehicles	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Outputs																
Total lane flow rate (veh/h)	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Departure headway, h_p (s)	112	122	4.13	4.13	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15
Degree of utilization, u	0.132	0.140	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Move-up time, m (s)	2.22	2.13	8.62	8.62	8.62	8.62	8.62	8.62	8.62	8.62	8.62	8.62	8.62	8.62	8.62	8.62
Service time, t_s (s)	6.42	7.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Capacity (veh/h)	7.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Delay (s) (Equation 17-55)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Level of service (Exhibit 17-22)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Delay (s), approach	7.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Level of service, approach	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Delay (s), intersection	7.8															
Level of service, intersection	A															

CHAPTER 17 - AWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET																
Analysis Summary																
General Information				Site Information												
Analyst	MIN	Arbitration/Date	Maul	12/5/2003												
Agency or Company	ATA	EA-WB Street	Waiko Road													
Analysis Period/Year	PM Peak	WB-SB Street	Waiko Rd or Waikapu Blvd													
Comment	Base Year 2008															
Input Data																
Lane code (Lane 1 is curb lane)	EB		WB		NB		SB		EB		WB		NB		SB	
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR
Volume (veh/h)	6	100	1	105	1	1	1	1	1	1	1	1	1	1	1	1
Peak-hour factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
% Heavy vehicles	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Outputs																
Total lane flow rate (veh/h)	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Departure headway, h_p (s)	118	140	4.26	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14
Degree of utilization, u	0.139	0.161	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Move-up time, m (s)	2.26	2.14	8.32	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58
Service time, t_s (s)	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
Capacity (veh/h)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Delay (s) (Equation 17-55)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Level of service (Exhibit 17-22)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Delay (s), approach	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
Level of service, approach	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Delay (s), intersection	7.9															
Level of service, intersection	A															

Consolidated Baseyards
AM Peak Hour of Traffic
Base Year 2006 w/o Project Traffic

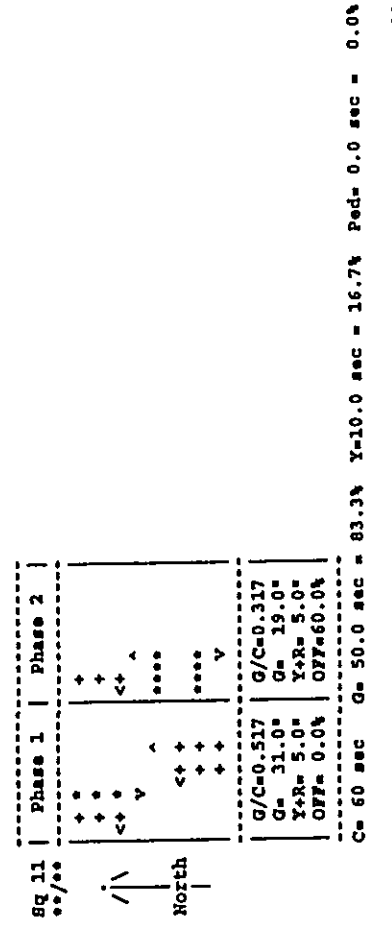
12/05/03
14:27:19

12/05/03
14:27:25

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary
Intersection Averages for Int # 0 - Kuhlhelani Highway/Waikoloa
Degree of Saturation (v/c) 0.25 Vehicle Delay 8.4 Level of Service A

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values
Intersection Parameters for Int # 0 - Kuhlhelani Highway/Waikoloa

12/05/03
14:27:19



Approach Parameters	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
MOVABLES	120	520	0	0	0	0	0	350	5	20	0	100
VOLUMES	12.0	24.0	0.0	0.0	0.0	0.0	0.0	24.0	12.0	0.0	12.0	0.0
LANES	1	2	0	0	0	0	0	2	1	0	1	0
GROUP TYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCK PERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEAK HOUR FACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVAL TYPES	3	3	3	3	3	3	3	3	3	3	3	3
ACTUATIONS	NO	NO	YES	YES	YES	YES	NO	NO	YES	NO	YES	YES
REGULARANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
MINIMUMS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUP LOSS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ENDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0	0	0	0
INITIAL QUEUE	0	0	0	0	0	0	0	0	0	0	0	0
IDEAL SAT FLOWS	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DELAY FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NET OFF FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATION FLOWS	1583	3539	0	0	0	0	0	3539	786	0	1556	0

Lane Group	Width/Lanes	Reqd	Used	G/C	Service Rate	Adj	v/c	HCM Delay	L Queue	S Model
SB Approach										
RT	12/1	0.142	1.000	1583	1583	133	0.084	0.1	A	5 ft
TH	24/2	0.195	0.517	1825	1829	578	0.316	8.8	A	147 ft
NB Approach										
8.1 λ										
TH	24/2	0.144	0.517	1825	1829	389	0.213	8.1	A	96 ft
LT	12/1	0.000	0.517	365	406	6	0.015	7.1	A	2 ft
EB Approach										
15.6 B										
RT+TH+LT	12/1	0.124	0.317	430	493	133	0.270	15.6	B	80 ft

Movement Parameters	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
SEQUENCES	11	ALL										
PERMISSIVES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
OVERLAPS	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
CYCLES	60	120										
GREEN TIMES	31.00	19.00										
YELLOW TIMES	5.00	5.00										
CRITICALS	2	11										
EXCESS	0											

Phasing Parameters

SEQUENCES 11 ALL

PERMISSIVES NO NO NO NO NO NO NO NO NO NO NO NO NO

OVERLAPS YES YES YES YES YES YES YES YES YES YES YES YES YES

CYCLES 60 120

GREEN TIMES 31.00 19.00

YELLOW TIMES 5.00 5.00

CRITICALS 2 11

EXCESS 0

LEADLAGS NONE NONE NONE

OFFSET 0.00 0.00 1

PREDTIME 0.0 0.0 0

Consolidated Baseyards
PM Peak Hour of Traffic
Base Year 2006 w/o Project Traffic

12/05/03
14:27:50

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values

Intersection Parameters for Int # 0 - Kuthelani Highway/Waiko Roa
METROAREA NONCBD
SIMULATION PERIOD 15
LEVELOFSERVICE C B
NODELOCATION 0 0
QUEUEMODELS 1 90 25 40

Approach Parameters

APPLABLES		SB	MB	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
GRABES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PROLEVELS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BIKEVOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARKINGSIDES	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
PARKVOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BUSEVOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIGHTTURNRWDs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UPSTREAMVC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Parameters

MOVLABELS	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
VOLUMES	120	695	0	0	0	0	0	580	10	0	5	0	115	0	115
WIDTHS	12.0	24.0	0.0	0.0	0.0	0.0	0.0	24.0	12.0	0.0	0.0	12.0	0.0	0.0	0.0
LANES	1	2	0	0	0	0	0	2	1	0	0	1	0	0	0
GROUPTYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCKPERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEAKHOURFACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVALTYPES	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
ACTUATIONS	NO	NO	YES	YES	YES	YES	NO	NO	YES	NO	NO	YES	YES	YES	YES
REGULARANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
HINDRNS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUPLIST	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ENDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INITIALQUEUE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IDEALSATFLOWS	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DELAYFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
STOPFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATIONFLOWS	1583	3539	0	0	0	0	0	3539	611	0	0	1573	0	0	0

Phasing Parameters

SEQUENCES	11	ALL
PERMISSIVES	NO	NO
OVERLAPS	YES	YES
CYCLES	60	120
GREENTIMES	33.00	17.00
YELLOWTIMES	5.00	5.00
CRITICALS	2	11
EXCESS	0	0

Consolidated Baseyards
PM Peak Hour of Traffic
Base Year 2006 w/o Project Traffic

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary

Intersection Averages for Int # 0 - Kuthelani Highway/Waiko Roa
Degree of Saturation (v/c) 0.34 Vehicle Delay 8.2 Level of Service A

Sq 11 Phase 1 Phase 2

+	+	
+*	+*	
<+*	<+*	
V	V	
^	^	
++*	++*	
++*	++*	
++*	++*	
++*	++*	
++*	++*	
+	+	
+	+	
+	+	

G/C=0.550 G/C=0.283
G= 33.0* G= 17.0*
Y+R= 5.0* Y+R= 5.0*
OFF= 0.0* OFF=63.3%

C= 60 sec G= 50.0 sec = 83.3% Y=10.0 sec = 16.7% Ped= 0.0 sec = 0.0%

Lane Group	Width/Lanes	Reqd	g/c	Used	Service Rate	Adj	v/c	HCY Delay	L Queue	B Model 1
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SB Approach

RT	12/1	0.142	1.000	1583	1583	133	0.084	0.1	A	5 ft
TH	24/2	0.245	0.550	1947	1947	772	0.397	8.4	*A	393 ft

NB Approach

TH	24/2	0.212	0.550	1947	1947	644	0.331	7.9	A	156 ft
LT	12/1	0.000	0.550	298	298	11	0.033	6.2	A	4 ft

EB Approach

RT+TH+LT	12/1	0.124	0.283	381	446	134	0.300	17.2	*B	84 ft
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APPENDIX C
LEVEL OF SERVICE CALCULATIONS

- Base Year 2006 with Mitigative Measures
-



Consolidated Baseyards 12/05/03
 AM Peak Hour of Traffic 14:26:58
 Base Year 2006 w/o Project Traffic and Mitigation

Consolidated Baseyards 12/05/03
 AM Peak Hour of Traffic 14:27:09
 Base Year 2006 w/o Project Traffic and Mitigation

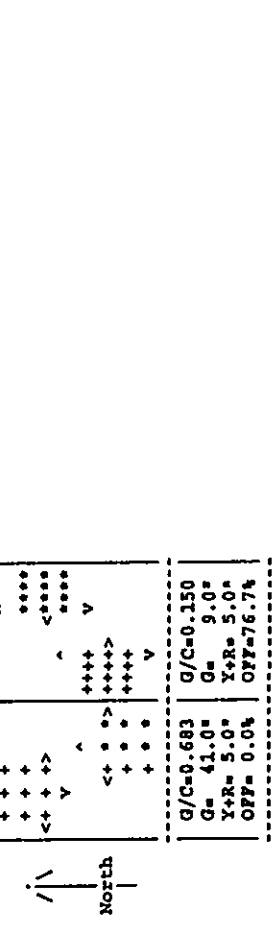
SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary

Intersection Parameters for Int # 0 - Honospilani Highway/Maiko Roa
 METROAREA NONCBD
 SIMULATION PERIOD 15
 LEVELOFSERVICE C B
 NODELOCATION 0 0
 QUEUENODELS 1 90 25 40

Intersection Averages for Int # 0 - Honospilani Highway/Maiko Roa
 Degree of Saturation (v/c) 0.68 Vehicle Delay 10.8 Level of Service B+

Approach Parameters
 RT TH LT RT TH LT RT TH LT
 GRADES 0.0 0.0 0.0 0.0 0.0 0.0
 PEDESTALS 0 0 0 0 0 0
 BIKEVOLUMES 0 0 0 0 0 0
 PARKINGSIDES NONE BOTH NONE
 PARKVOLUMES 2 2 0 2 2 0
 BUSVOLUMES 0 0 0 0 0 0
 RIGHTTURNREDS 0 0 0 0 0 0
 UPSTREAMVC 0.00 0.00 0.00 0.00 0.00 0.00



Movement Parameters

	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
MOVIELABELS	15	800	65	85	5	10	25	835	5	10	12.0	45
VOLUMES	12.0	12.0	12.0	0.0	12.0	12.0	0.0	12.0	12.0	12.0	12.0	0.0
LANES	1	1	1	0	1	1	0	1	1	1	1	0
GROUPTYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCKPERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEACHOURFACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVALTYPES	3	3	3	3	3	3	3	3	3	3	3	3
ACTIVATIONS	NO	NO	YES	YES	YES	YES	NO	NO	YES	NO	YES	YES
RECYCLANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
MINIMORS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUPLOST	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ENDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0	0	0	0
INITIALQUEUE	0	0	0	0	0	0	0	0	0	0	0	0
IDLELATTIOWS	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DELAYFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NSTOPFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATIONFLOWS	1583	1863	349	0	1416	0	0	1855	417	1409	1391	0

Phasing Parameters

SEQUENCES	ALL	NO	NO	NO	LEADLAGS	NONE	NONE
PERMISSIVES	11	NO	NO	NO	OFFSET	0.00	1
OVERLAPS	YES	YES	YES	YES	PEDTIME	0.0	0
CYCLES	60	120					
GREENTIMES	41.00	9.00					
YELLOWTIMES	5.00	5.00					
CRITICALS	8	5					
EXCESS	0						

Lane Group	Width/Lanes	Reqd	g/c	Used	Service Rate	Adj	v/c	Delay	L	Queue
SB Approach									8.5	A
RT	12/1	0.046	0.683	1075	1082	17	0.016	3.1	A	5 ft
TH	12/1	0.499	0.683	1273	1273	889	0.698	9.0	A	441 ft
LT	12/1	0.074	0.683	209	239	72	0.301	4.5	A	26 ft
NB Approach									10.4	B+
RT+TH	12/1	0.534	0.683	1267	1267	956	0.755	10.4	B+	517 ft
LT	12/1	0.000	0.683	254	285	6	0.021	3.1	A	2 ft
WB Approach									25.9	C+
RT+TH+LT	12/1	0.118	0.150	152	207	111	0.524	25.9	C+	86 ft
EB Approach									23.3	C+
RT	12/1	0.041	0.150	123	205	11	0.052	22.3	C+	9 ft
TH+LT	12/1	0.032	0.150	149	204	61	0.292	23.4	C+	45 ft

C= 60 sec G= 50.0 sec = 83.3% Y=10.0 sec = 16.7% Ped= 0.0 sec = 0.0%

Consolidated Baseyards
 PM Peak Hour of Traffic
 Base Year 2006 w/o Project Traffic and Mitigation

12/05/03
 14:27:32

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary

Intersection Parameters for Int # 0 - Honospilani Highway/Waiko Roa
 SIMULATION PERIOD NONCBD 15
 LEVELOFSERVICE C 8
 NODELOCATION 0 0
 QUEUENODELS 1 90 25 40

Intersection Averages for Int # 0 - Honospilani Highway/Waiko Roa
 Degree of Saturation (v/c) 0.64 Vehicle Delay 10.4 Level of Service B+

Approach Parameters

APPLABLES	SB	WB	NB	EB
GRADES	0.0	0.0	0.0	0.0
FEDELEVL	0	0	0	0
BIKEVOLUME	0	0	0	0
PARKINGSIDES	NONE	BOTH	NONE	BOTH
PARKVOLUME	0	2	0	2
BUSVOLUME	0	0	0	0
RIGHTTURNONREDS	0	0	0	0
UPSTREAMVC	0.00	0.00	0.00	0.00



Movement Parameters

MOVABLES	RT	TH	LT	RT	TH	LT	RT	TH	LT
VOLUMES	30	670	70	95	10	20	25	830	15
WIDTHS	12.0	12.0	12.0	0.0	12.0	12.0	0.0	12.0	12.0
LANES	1	1	1	0	1	1	0	1	1
GROUPTYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCKPERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEAKHOURFACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVALTYPES	3	3	3	3	3	3	3	3	3
ACTUATIONS	NO	YES	YES	YES	NO	YES	NO	YES	YES
REQUIREANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
MINIMUMS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUPLIST	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ENDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0
INITIALQUEUES	0	0	0	0	0	0	0	0	0
IDEALSATFLOWS	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DELAYFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NSSTOPFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATIONFLOWS	1583	1863	355	0	1400	0	0	1855	567

C=	60 sec	G=	50.0 sec	=	83.3%	Y=	10.0 sec	=	16.7%	Peds	0.0 sec	=	0.0%
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Phasing Parameters

SEQUENCES	11	ALL
PERMISSIVES	NO	NO
OVERLAPS	YES	YES
CYCLES	60	120
GREENTIMES	41.00	9.00
YELLOWTIMES	5.00	5.00
CRITICALS	8	5
EXCESS	0	0

SB Approach	6.6 A									
RT	12/1	0.065	0.683	1075	1082	33	0.030	3.1	A	10 ft
TH	12/1	0.430	0.683	1273	1273	744	0.584	7.0	A	322 ft
LT	12/1	0.170	0.683	213	243	78	0.331	4.6	A	29 ft
WB Approach	10.2 B+									
RT+TH	12/1	0.531	0.683	1267	1267	950	0.750	10.3	B+	510 ft
LT	12/1	0.000	0.683	358	388	17	0.044	3.1	A	5 ft
NB Approach	31.6 C									
RT+TH+LT	12/1	0.142	0.150	150	205	139	0.662	31.6	C	114 ft
EB Approach	22.5 C+									
RT	12/1	0.030	0.150	123	205	6	0.028	22.0	C+	5 ft
TH+LT	12/1	0.000	0.150	146	200	34	0.166	22.6	C+	24 ft



APPENDIX C
LEVEL OF SERVICE CALCULATIONS

- Base Year 2009 without Project
-

Consolidated Baseyards
PM Peak Hour of Traffic
Base Year 2009 w/o Project Traffic

12/05/03
14:28:18

Consolidated Baseyards
PM Peak Hour of Traffic
Base Year 2009 w/o Project Traffic

12/05/03
14:28:24

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary

Intersection Parameters for Int # 0 - Honospillani Highway/Waiko Roa

Intersection Averages for Int # 0 - Honospillani Highway/Waiko Roa
Degree of Saturation (v/c) 0.73 Vehicle Delay 14.1 Level of Service B+

MTROAREA NONCBD
SIMULATION PERIOD 15
LEVELOFERVICE C B
NODELOCATION 0 0
QUEUENODELS 1 90 25 40

Approach Parameters

APPLABELS	SB	MB	EB
GRADES	0.0	0.0	0.0
PEDLAVELS	0	0	0
BIKEVOLUMES	0	0	0
PARKINGSIDES	NONE	BOTH	BOTH
PARKVOLUMES	0	0	0
BUSVOLUMES	0	0	0
RIGHTTURNREDS	0	0	0
UPSTREAMVC	0.00	0.00	0.00

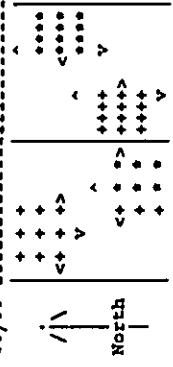
Movement Parameters

MOVLABELS	RT	TH	LT	RT	TH	LT	RT	TH	LT
VOLUMES	30	705	70	95	10	20	25	950	15
WIDTHS	12.0	12.0	12.0	0.0	12.0	12.0	0.0	12.0	12.0
LANES	1	1	1	0	1	1	0	1	1
GROUPTYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCKPERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEAKHOURFACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVALTYPES	3	3	3	3	3	3	3	3	3
ACTUATIONS	NO	NO	YES	YES	YES	YES	NO	YES	YES
REQCLEARANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
MINIMUMS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUPLIST	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ENDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0
INITIALQUEUE	0	0	0	0	0	0	0	0	0
IDEALSAVFLOWS	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DELAYFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
STOPFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATIONFLOWS	1583	1863	191	0	1406	0	0	1856	509

Phasing Parameters

SEQUENCES	11
PERMISSIVES	NO YES
OVERLAPS	YES
CYCLES	60 120
GREENTIMES	40.00 10.00
YELLOWTIMES	5.00 5.00
CRITICALS	8 5
EXCESS	0

Sq 11 Phase 1 Phase 2



G/C=0.667 G/C=0.167
G= 40.0* G= 10.0*
Y+R= 5.0* Y+R= 5.0*
OFF= 0.0* OFF=75.0*

C= 60 sec Q= 50.0 sec = 83.3% Y=10.0 sec = 16.7% Ped= 0.0 sec = 0.0%

Lane	Width/	g/c	Service Rate	Adj	HCM	L	Queue
Group	Lanes	Reqd	Used	EC (vph)	OR	Volume	v/c Delay S Model 1

SB Approach

RT	12/1	0.065	0.667	1045	1056	33	0.031	3.5	A	11 ft
TH	12/1	0.448	0.667	1240	1242	783	0.630	8.2	A	366 ft
LT	12/1	0.170	0.667	101	124	78	0.614	14.2	B+	44 ft

NB Approach

RT+TH	12/1	0.595	0.667	1235	1237	1084	0.876	16.9	*B	763 ft
LT	12/1	0.000	0.667	307	339	17	0.050	3.5	A	5 ft

MB Approach

RT+TH+LT	12/1	0.141	0.167	172	232	139	0.594	27.2	*C+	109 ft
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EB Approach

RT	12/1	0.030	0.167	147	232	6	0.026	21.1	C+	5 ft
TH+LT	12/1	0.000	0.167	174	234	34	0.144	21.6	C+	24 ft

CHAPTER 17 - AWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET												
Analysis Summary			Site Information									
General Information			Jurisdiction/Date Maul									
Agency	HN	12/5/2003	12/5/2003									
Agency or Company	ATA		Waikato Road									
Analysis Period/Year	AM Peak	2003	Waiale Rd or Waikapu Blvd									
Comment	Base Year 2009											
Input Data			EB		WB		NB		SB			
Lane code (Lane 1 is curb lane)	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR
Volume (veh/h)	10	5	5	1	15	1	15	1	1	1	1	1
Left-turn	90	90	90	1	1	1	1	1	1	1	1	1
Through	1	15	15	5	10	5	10	5	10	5	10	10
Right-turn	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Peak-hour factor	6	6	6	6	6	6	6	6	6	6	6	6
% Heavy vehicles												
Outputs			EB		WB		NB		SB			
Total lane flow rate (veh/h)	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Departure headway, h_v (s)	112	122	122	8	8	29	8	29	8	29	8	29
Field dist?	4.22	4.13	4.13	4.15	4.15	4.41	4.15	4.41	4.15	4.41	4.15	4.41
Degree of utilization, u	0.132	0.140	0.140	0.009	0.009	0.005	0.009	0.005	0.009	0.005	0.009	0.005
Make-up time, m (s)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Field dist?	2.22	2.13	2.13	2.15	2.15	2.41	2.15	2.41	2.15	2.41	2.15	2.41
Service time, t_s (s)	842	862	862	817	817	774	817	774	817	774	817	774
Capacity (veh/h)	7.9	7.8	7.8	7.2	7.2	7.6	7.2	7.6	7.2	7.6	7.2	7.6
Delay (s) (Equation 17-53)	A	A	A	A	A	A	A	A	A	A	A	A
Level of service (Equation 17-22)	7.9	7.8	7.8	7.2	7.2	7.6	7.2	7.6	7.2	7.6	7.2	7.6
Delay (s), approach	A	A	A	A	A	A	A	A	A	A	A	A
Level of service, approach	7.8											
Delay (s), intersection	A											
Level of service, intersection	A											

CHAPTER 17 - AWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET												
Analysis Summary			Site Information									
General Information			Jurisdiction/Date Maul									
Agency	HN	12/5/2003	12/5/2003									
Agency or Company	ATA		Waikato Road									
Analysis Period/Year	PM Peak	2003	Waiale Rd or Waikapu Blvd									
Comment	Base Year 2009											
Input Data			EB		WB		NB		SB			
Lane code (Lane 1 is curb lane)	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR
Volume (veh/h)	5	1	1	1	20	1	20	1	1	1	20	20
Left-turn	100	105	105	1	1	1	1	1	1	1	1	1
Through	1	20	20	1	1	1	1	1	1	1	1	1
Right-turn	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Peak-hour factor	6	6	6	6	6	6	6	6	6	6	6	6
% Heavy vehicles												
Outputs			EB		WB		NB		SB			
Total lane flow rate (veh/h)	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Departure headway, h_v (s)	116	140	140	3	3	46	3	46	3	46	3	46
Field dist?	4.26	4.14	4.14	4.19	4.19	4.38	4.19	4.38	4.19	4.38	4.19	4.38
Degree of utilization, u	0.139	0.161	0.161	0.004	0.004	0.055	0.004	0.055	0.004	0.055	0.004	0.055
Make-up time, m (s)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Field dist?	2.26	2.14	2.14	2.49	2.49	2.38	2.49	2.38	2.49	2.38	2.49	2.38
Service time, t_s (s)	832	856	856	763	763	777	763	777	763	777	763	777
Capacity (veh/h)	7.9	7.9	7.9	7.5	7.5	7.8	7.5	7.8	7.5	7.8	7.5	7.8
Delay (s) (Equation 17-53)	A	A	A	A	A	A	A	A	A	A	A	A
Level of service (Equation 17-22)	7.9	7.9	7.9	7.5	7.5	7.8	7.5	7.8	7.5	7.8	7.5	7.8
Delay (s), approach	7.9	7.9	7.9	7.5	7.5	7.8	7.5	7.8	7.5	7.8	7.5	7.8
Level of service, approach	A	A	A	A	A	A	A	A	A	A	A	A
Delay (s), intersection	7.9											
Level of service, intersection	A											

Consolidated Baseyards
AM Peak Hour of Traffic
Base Year 2009 w/o Project Traffic

12/05/03
14:28:30

Consolidated Baseyards
AM Peak Hour of Traffic
Base Year 2009 w/o Project Traffic

12/05/03
14:28:35

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values

Intersection Parameters for Int # 0 - Kuihelani Highway/Maiko Roa

METROAREA NONCBD
SIMULATION PERIOD C 15
LEVELOFSERVICE S 8
MODELLOCATION 0 0
QUEUEMODELS 1 90 25 40

Approach Parameters

APPLABELS	SB	MB	NB	EB
GRADES	0.0	0.0	0.0	0.0
PELLEVELS	0	0	0	0
BIKEVOLUMES	0	0	0	0
PARKINGSIDES	NONE	BOTH	NONE	BOTH
PARKVOLUMES	0	2	0	2
BUSEVOLUMES	0	0	0	0
RIGHTTURNORRDS	0	0	0	0
UPSTREAMVC	0.00	0.00	0.00	0.00

Movement Parameters

MOVLABELS	RT	TH	LT	RT	TH	LT	RT	TH	LT
VOLUMES	120	595	0	0	0	0	0	385	5
WIDTHS	12.0	24.0	0.0	0.0	24.0	12.0	0.0	12.0	0.0
LANES	1	2	0	0	0	2	0	2	1
GROUPTYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCKPERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEAKHOURFACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVALTYPES	3	3	3	3	3	3	3	3	3
ACTUATIONS	NO	NO	YES	YES	YES	NO	NO	YES	YES
RECCLEARANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
MINIMUMS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUPLOST	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ENDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0
INITIALQUEUE	0	0	0	0	0	0	0	0	0
IDEALSATFLWS	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DELAYFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
STOPFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATIONFLWS	1583	3539	0	0	0	0	0	3539	785

Phasing Parameters

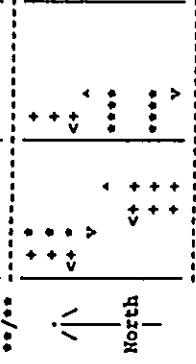
SEQUENCES	11	11
PERMISSIVES	NO	NO
OVERLAPS	YES	YES
CYCLES	60	120
GREENTIMES	32.00	18.00
YELLOWTIMES	5.00	5.00
CRITICALS	2	11
EXCESS	0	0

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary

Intersection Averages for Int # 0 - Kuihelani Highway/Maiko Roa

Degree of Saturation (v/c) 0.28 Vehicle Delay 8.2 Level of Service A

Sq 11 Phase 1 Phase 2



G/C=0.533 G/C=0.300
G= 32.0 G= 18.0
Y+R= 5.0 Y+R= 5.0
OFF= 0.0% OFF=61.7%

C= 60 sec G= 50.0 sec = 83.3% Y=10.0 sec = 16.7% Ped= 0.0 sec = 0.0%

Lane Group	Width/lanes	Reqd	g/c	Used	Service Rate @C (vph)	Adj	v/c	HCH Delay	L Queue
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SB Approach 7.1 A

RT	12/1	0.142	1.000	1583	1583	133	0.084	0.1	A	5 ft
TH	24/2	0.216	0.533	1888	1888	661	0.350	8.5	A	166 ft

NB Approach 7.7 A

TH	24/2	0.155	0.533	1888	1888	428	0.227	7.7	A	103 ft
LT	12/1	0.000	0.533	337	377	6	0.016	6.6	A	2 ft

EB Approach 16.4 B

RT+TH+LT	12/1	0.124	0.300	403	467	133	0.285	16.4	B	82 ft
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Consolidated Baseyards
 PM Peak Hour of Traffic
 Base Year 2009 w/o Project Traffic

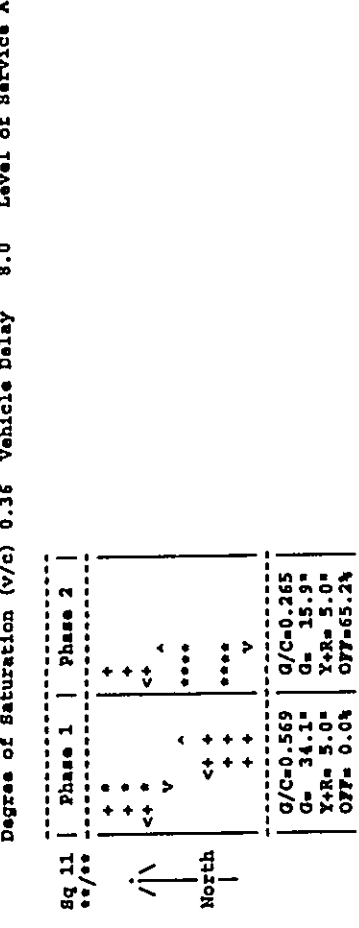
12/05/03
 14:28:46

Consolidated Baseyards
 PM Peak Hour of Traffic
 Base Year 2009 w/o Project Traffic

12/05/03
 14:28:41

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary
 Intersection Averages for Int # 0 - Kuirahani Highway/Waiko Roa
 Degree of Saturation (v/c) 0.36 Vehicle Delay 8.0 Level of Service A

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values
 Intersection Parameters for Int # 0 - Kuirahani Highway/Waiko Roa



Approach Parameters	SB	WB	NB	KB
APPLABELS	0.0	0.0	0.0	0.0
GRADES	0.0	0.0	0.0	0.0
FEDLEVELS	0	0	0	0
BIKEVOLUMES	0	0	0	0
PARKINGSIDES	NONE	BOTH	NONE	BOTH
PARKVOLUMES	0	2	0	2
SUBVOLUMES	0	0	0	0
RIGHTTURNONREDS	0	0	0	0
UPSTREAMVC	0.00	0.00	0.00	0.00

Movement Parameters											
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
120	765	0	0	0	0	655	10	5	0	115	0
12.0	24.0	0.0	0.0	0.0	0.0	24.0	12.0	0.0	12.0	0.0	0.0
1	2	0	0	0	0	2	1	0	0	1	0
NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
3	3	3	3	3	3	3	3	3	3	3	3
NO	NO	YES	YES	YES	YES	NO	NO	YES	NO	YES	YES
5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
0	0	0	0	0	0	0	0	0	0	0	0
1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1583	3539	0	0	0	0	3539	555	0	1573	0	0

Phasing Parameters											
SEQUENCES	11	11	NO	NO	NO	NO	NO	NO	LEADLAGS	NONE	NONE
PERMISSIVES	NO	YES	YES	YES	YES	YES	YES	YES	OFFSET	0.00	1
OVERLAPS	YES	YES	YES	YES	YES	YES	YES	YES	PEDTIME	0.0	0
CYCLES	60	120	60	120	60	120	60	120			
GREENTIMES	34.12	15.88	34.12	15.88	34.12	15.88	34.12	15.88			
YELLOWTIMES	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00			
CRITICALS	2	11	2	11	2	11	2	11			
EXCESS	0	0	0	0	0	0	0	0			

SB Approach										
Lane Group	Width/Lanes	Reqd	Used	g/c	Service Rate	Adj	v/c	HCM Delay	L Queue	Model
RT	12/1	0.142	1.000	1583	133	0.084	0.1	A	5	ft
TH	24/2	0.266	0.569	2013	850	0.422	8.0	*A	209	ft

NB Approach											
Lane Group	Width/Lanes	Reqd	Used	g/c	Service Rate	Adj	v/c	HCM Delay	L Queue	Model	
TH	24/2	0.234	0.569	2013	728	0.362	7.5	A	173	ft	
LT	12/1	0.000	0.569	279	316	11	0.035	5.7	A	4	ft

EB Approach											
Lane Group	Width/Lanes	Reqd	Used	g/c	Service Rate	Adj	v/c	HCM Delay	L Queue	Model	
RT+TH+LT	12/1	0.124	0.265	350	416	134	0.322	18.2	*B	87	ft

APPENDIX C
LEVEL OF SERVICE CALCULATIONS

- Year 2006 with Phase I Project-Generated Traffic
-

Consolidated Baseyards
AM Peak Hour of Traffic
Year 2006 with Project Traffic

12/12/03
08:57:31

Consolidated Baseyards
AM Peak Hour of Traffic
Year 2006 with Project Traffic

12/12/03
08:57:43

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values

Intersection Parameters for Int # 0 - Honospilani Highway/Waiko Roa
METROAREA NONCBD
SIGNALIZATION PERIOD 15
LEVELOFSERVICE C B
NODELOCATION 0 0
QUEUENODELS 1 90 25 40

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary

Intersection Averages for Int # 0 - Honospilani Highway/Waiko Roa
Degree of Saturation (v/c) 0.69 Vehicle Delay 11.0 Level of Service B+

Approach Parameters

APPLABELS	SB	WB	NB	EB
GRADES	0.0	0.0	0.0	0.0
FEDEVELS	0	0	0	0
BIKEVOLUMES	0	0	0	0
PARKINGSIDES	NONE	BOTH	NONE	BOTH
PARKVOLONES	0	2	0	2
BUSVOLUMES	0	0	0	0
RIGHTTURNORRDS	0	0	0	0
UPSTREAMVC	0.00	0.00	0.00	0.00

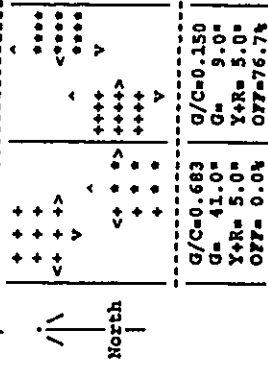
Movement Parameters

MOVLABELS	RT	TH	LT	RT	TH	LT	RT	TH	LT
VOLUMES	15	800	85	10	35	835	5	10	45
WIDTHS	12.0	12.0	12.0	0.0	12.0	12.0	12.0	12.0	12.0
LANES	1	1	1	0	1	1	1	1	1
GROUPTYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCKPERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEACHOURFACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVALTYPES	3	3	3	3	3	3	3	3	3
ACTUATIONS	NO	NO	YES	YES	NO	NO	YES	NO	YES
REQCLEARANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
MINIMUMS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUPLOST	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
KNDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0
INITIALQUEUE	0	0	0	0	0	0	0	0	0
IDEALSATFLOWS	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DELAYFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NETOFFFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATIONFLOWS	1583	1663	333	0	1417	0	1851	412	1409

Phasing Parameters

SEQUENCES	11	11
PERMISSIVES	NO	NO
OVELLAP	YES	YES
CYCLES	60	120
GREENTIMES	41.00	9.00
YELLOWTIMES	5.00	5.00
CRITICALS	8	5
EXCESS	0	0

Sg 11 Phase 1 Phase 2
/



G/C=0.683 G/C=0.150
G= 41.0 G= 9.0
Y+R= 5.0 Y+R= 5.0
OFF= 0.04 OFF=76.7%

C= 60 sec G= 50.0 sec = 83.3% Y=10.0 sec = 16.7% Ped= 0.0 sec = 0.0%

Lane Group	Width/Lanes	Reqd	G/C	Used	Service Rate	Adj	HCM	Delay	L	Queue
			v/c	Vol	Vol					

SB Approach

RT	12/1	0.046	0.683	1075	1082	17	0.016	3.1	A	5 ft
TH	12/1	0.499	0.683	1273	1273	889	0.698	9.0	A	441 ft
LT	12/1	0.380	0.683	201	231	94	0.407	5.3	A	38 ft

NB Approach

RT+TH+LT	12/1	0.540	0.683	1265	1265	967	0.764	10.7	B+	532 ft
LT	12/1	0.000	0.683	254	285	6	0.021	3.1	A	2 ft

WB Approach

RT+TH+LT	12/1	0.122	0.150	152	207	117	0.552	26.7	C+	92 ft
----------	------	-------	-------	-----	-----	-----	-------	------	----	-------

EB Approach

RT	12/1	0.041	0.150	123	205	11	0.052	22.3	C+	9 ft
TH+LT	12/1	0.032	0.150	150	205	61	0.290	23.4	C+	45 ft

12/12/03
08:59:49

Consolidated Baseyards
PM Peak Hour of Traffic
Year 2006 with Project Traffic

12/12/03
08:59:42

Consolidated Baseyards
PM Peak Hour of Traffic
Year 2006 with Project Traffic

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary

Intersection Averages for Int # 0 - Honospillani Highway/Waiko Roa
Degree of Saturation (v/c) 0.68 Vehicle Delay 13.2 Level of Service B+

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values

Intersection Parameters for Int # 0 - Honospillani Highway/Waiko Roa

METROAREA NONCBD
SIMULATION PERIOD 15
LEVELOFSERVICE C S
NODELOCATION 0 0
QUEUENODELS 1 90 25 40

Approach Parameters

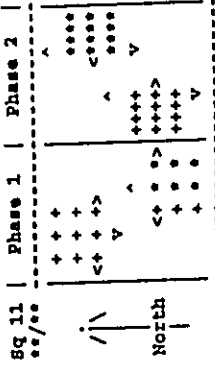
APPLABELS	SB	WB	NB	EB
GRADES	0.0	0.0	0.0	0.0
FEEDLEVELS	0	0	0	0
BIKEVOLUMES	0	0	0	0
PARKINGSIDES	NONE	BOTH	NONE	BOTH
PARKVOLUMES	0	2	0	2
BUSVOLUMES	0	0	0	0
RIGHTTURNORRDS	0	0	0	0
UPSTREAMVC	0.00	0.00	0.00	0.00

Movement Parameters

MOVLABCLS	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
VOLUMES	30	670	75	115	10	30	30	830	15	5	5	25
WIDTHS	12.0	12.0	12.0	0.0	12.0	12.0	0.0	12.0	12.0	12.0	12.0	0.0
LANES	1	1	1	0	1	1	0	1	1	1	1	0
GROUPTYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCKPERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEAKHOURFACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVALTYPES	3	3	3	3	3	3	3	3	3	3	3	3
ACTIONIONS	NO	YES	YES	YES	NO	YES	NO	NO	YES	NO	YES	YES
REQCLEARANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
MINIMUMS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUPLIST	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ENDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0	0	0	0
INITIALQUEUES	0	0	0	0	0	0	0	0	0	0	0	0
IDEALSATFLOWS	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DELAYFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NETOFFFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATIONFLOWS	1583	1863	279	0	1405	0	0	1853	516	1409	1414	0

Phasing Parameters

SEQUENCES	11	11
PERMISSIVES	NO	NO
OVERLAPS	YES	YES
CYCLES	60	120
GREENTIMES	38.00	12.00
YELLOWTIMES	5.00	5.00
CRITICALS	8	5
KXCBS	0	0



G/C=0.633 G/C=0.200
G=38.0 G=12.0
Y+R=5.0 Y+R=5.0
OFF=0.0% OFF=71.7%

C=60 sec G=50.0 sec = 63.3% Y=10.0 sec = 16.7% Ped=0.0 sec = 0.0%

Lane Group	Width/Lanes	Reqd	g/c	Used	Service Rate	Adj	v/c	Delay	HCK	L	Queue
SB Approach											
RT	12/1	0.065	0.633	985	1003	33	0.033	4.2	A	12	ft
TH	12/1	0.430	0.633	1170	1180	744	0.631	9.3	A	367	ft
LT	12/1	0.279	0.633	147	177	83	0.469	7.7	A	40	ft
NB Approach											
14.4 B+											
RT+TH	12/1	0.533	0.633	1164	1174	955	0.813	14.5	B+	606	ft
LT	12/1	0.000	0.633	294	327	17	0.052	4.2	A	6	ft
WB Approach											
26.0 C+											
RT+TH+LT	12/1	0.168	0.200	215	279	172	0.616	26.0	C+	133	ft
EB Approach											
19.8 B											
RT	12/1	0.030	0.200	194	282	6	0.021	19.4	B	4	ft
TH+LT	12/1	0.000	0.200	219	283	34	0.120	19.9	B	23	ft

CHAPTER 17 - AWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET												
Analysis Summary			Site Information									
General Information			MN		Ardsden/Dus Mau		12/5/2003					
Analysis			ATA		E-W 9th Street		Waikoa Road					
Agency or Company			ATA		E-W 9th Street		Waikoa Road					
Analysis Period/Year			AM Peak		2003		Waikoa Rd or Waikapu Blvd					
Comments			Year 2003 with Project Traffic									
INPUT DATA												
Lane code (Lane 1 is curb lane)	EB		WB		NB		SB					
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
LTR	10		5		1		1		15		1	
Volume (veh/h)	120		95		1		1		10		1	
Lft-sum	1		15		5		5		10		10	
Thru												
Rght-sum												
Peak-hour factor	0.90		0.90		0.90		0.90		0.90		0.90	
% Heavy vehicles	6		6		6		6		6		6	
OUTPUTS												
Total lane flow rate (veh/h)	EB		WB		NB		SB					
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
148		128		48		8		29		29		
Departure headway, h _d (s)	4.23		4.16		4.24		4.50		4.50		4.50	
Field data?												
Degree of utilization, x	0.171		0.148		0.009		0.038		0.038		0.038	
Move-up time, m (s)	2.00		2.00		2.00		2.00		2.00		2.00	
Field data?												
Service time, t _s (s)	2.23		2.16		2.24		2.60		2.60		2.60	
Capacity (veh/h)	842		853		784		754		754		754	
Delay (s) Equation 17-45	8.1		7.9		7.3		7.7		7.7		7.7	
Level of service (Exhibit 17-22)	A		A		A		A		A		A	
Delay (s), approach	8.1		7.9		7.3		7.7		7.7		7.7	
Level of service, approach	A		A		A		A		A		A	
Delay (s), intersection							7.9		7.9		7.9	
Level of service, intersection							A		A		A	

CHAPTER 17 - AWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET												
Analysis Summary			Site Information									
General Information			MN		Ardsden/Dus Mau		12/5/2003					
Analysis			ATA		E-W 9th Street		Waikoa Road					
Agency or Company			ATA		E-W 9th Street		Waikoa Road					
Analysis Period/Year			PM Peak		2003		Waikoa Rd or Waikapu Blvd					
Comments			Year 2003 with Project Traffic									
INPUT DATA												
Lane code (Lane 1 is curb lane)	EB		WB		NB		SB					
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
LTR	6		1		1		1		20		20	
Volume (veh/h)	110		135		1		1		1		1	
Lft-sum	1		20		1		1		20		20	
Thru												
Rght-sum												
Peak-hour factor	0.90		0.90		0.90		0.90		0.90		0.90	
% Heavy vehicles	6		6		6		6		6		6	
OUTPUTS												
Total lane flow rate (veh/h)	EB		WB		NB		SB					
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
129		173		7		30		30		30		
Departure headway, h _d (s)	4.29		4.18		4.59		4.48		4.48		4.48	
Field data?												
Degree of utilization, x	0.154		0.201		0.004		0.057		0.057		0.057	
Move-up time, m (s)	2.00		2.00		2.00		2.00		2.00		2.00	
Field data?												
Service time, t _s (s)	2.29		2.15		2.59		2.48		2.48		2.48	
Capacity (veh/h)	824		850		729		763		763		763	
Delay (s) Equation 17-45	8.1		8.2		7.6		7.7		7.7		7.7	
Level of service (Exhibit 17-22)	A		A		A		A		A		A	
Delay (s), approach	8.1		8.2		7.6		7.7		7.7		7.7	
Level of service, approach	A		A		A		A		A		A	
Delay (s), intersection							8.1		8.1		8.1	
Level of service, intersection							A		A		A	

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary		Site Information					
General Information		Site Information					
Agency	MIN	Jurisdiction/Date	Maui				
Agency or Company	ATA	Major Street	Waiko Road				
Analysis Period/Year	AM Peak	Minor Street	Project Drive/way				
Comment	Year 2008 with Project Traffic						
Input Data							
Lane Configuration	EB	WB	NB				
Lane 1 (each)	LT	TR	LR				
Lane 2							
Lane 3							
Lane 4							
Lane 5							
Movement	1 (LT) 2 (TR) 3 (PT) 4 (LT) 5 (TR) 6 (PT) 7 (LT) 8 (TR) 9 (PT) 10 (LT) 11 (TR) 12 (PT)						
Volume (veh/h)	30	125	60				
PHF	0.90	0.90	0.90				
Percent of heavy vehicles, HV	3	3	3				
Flow rate	33	139	67				
Flow storage (l of veh)							
Median storage (l of veh)							
Signal upstream of Movement 2							
Length of study period (h)	0.25						
Output Data							
Lane/Movement	Flow Rate (veh/h)	Capacity (veh/h)	vc	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
1							
NB 2							
3							
1 LR	23	674	0.034	0	10.5	B	10.5
SB 2							
3							
EB ①	33	1360	0.025	0	7.7	A	
WB ②							

fct1 - Waiko Consol AM 1 of 1

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary		Site Information					
General Information		Site Information					
Agency	MIN	Jurisdiction/Date	Maui				
Agency or Company	ATA	Major Street	Waiko Road				
Analysis Period/Year	PM Peak	Minor Street	Project Drive/way				
Comment	Year 2008 with Project Traffic						
Input Data							
Lane Configuration	EB	WB	NB				
Lane 1 (each)	LT	TR	LR				
Lane 2							
Lane 3							
Lane 4							
Lane 5							
Movement	1 (LT) 2 (TR) 3 (PT) 4 (LT) 5 (TR) 6 (PT) 7 (LT) 8 (TR) 9 (PT) 10 (LT) 11 (TR) 12 (PT)						
Volume (veh/h)	10	120	15				
PHF	0.90	0.90	0.90				
Percent of heavy vehicles, HV	3	3	3				
Flow rate	11	133	17				
Flow storage (l of veh)							
Median storage (l of veh)							
Signal upstream of Movement 2							
Length of study period (h)	0.25						
Output Data							
Lane/Movement	Flow Rate (veh/h)	Capacity (veh/h)	vc	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
1							
NB 2							
3							
1 LR	100	735	0.136	0	10.7	B	10.7
SB 2							
3							
EB ①	11	1412	0.008	0	7.8	A	
WB ②							

fct1 - Waiko Consol PM 1 of 1

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12/12/03
09:00:57

Consolidated Baseyards
PM Peak Hour of Traffic
Year 2006 with Project Traffic

12/12/03
09:00:51

Consolidated Baseyards
PM Peak Hour of Traffic
Year 2006 with Project Traffic

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary

Intersection Averages for Int # 0 - Kuhlalani Highway/Waiko Roa
Degree of Saturation (v/c) 0.37 Vehicle Delay 9.9 Level of Service A

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values

Intersection Parameters for Int # 0 - Kuhlalani Highway/Waiko Roa

METROAREA NONCBD
SIMULATION PERIOD 15
LEVELOFSERVICE C S
MODELLOCATION 0 0
QUEUENODELS 1 90 25 40

Approach Parameters

APPLABELS	SB	MB	NB	EB
GRADES	0.0	0.0	0.0	0.0
PEDELEVL	0	0	0	0
BIKEVOLUME	0	0	0	0
PARKINGSIDES	NONE	BOTH	NONE	BOTH
PARKVOLUME	0	2	0	2
BUSVOLUME	0	0	0	0
RIGHTTURNP	0	0	0	0
UPSTREAMVC	0.00	0.00	0.00	0.00

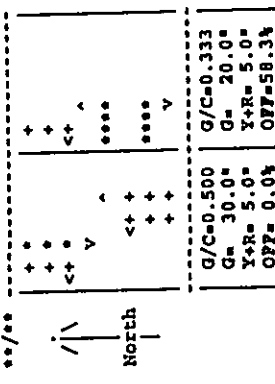
Movement Parameters

MOVLABELS	RT	TH	LT	RT	TH	LT	RT	TH	LT
VOLUMES	130	695	0	0	580	15	30	0	150
WIDTHS	12.0	24.0	0.0	0.0	24.0	12.0	0.0	12.0	0.0
LANES	1	2	0	0	2	1	0	1	0
GROUPTYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCKPERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEAKHOURFACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVALTYPES	3	3	3	3	3	3	3	3	3
ACTIVATIONS	NO	NO	YES	YES	NO	YES	NO	YES	YES
REQCLEARANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
MINIMUMS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUPLAST	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ENDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0
INITIALQUEUE	0	0	0	0	0	0	0	0	0
IDEALSAFELWS	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DELAYFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NETOPFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATIONFLOWS	1583	3539	0	0	0	3539	585	0	1571

Phasing Parameters

SEQUENCES	11	11
PERMISSIVES	NO	NO
OVERLAPS	YES	YES
CYCLES	60	120
GREENTIMES	30.00	20.00
YELLOWTIMES	5.00	5.00
CRITICALS	2	11
EXCESS	0	0

Sq 11



G/C=0.500 G/C=0.333
G= 30.0 G= 20.0
Y+R= 5.0 Y+R= 5.0
OFF= 0.0% OFF=58.3%

C= 60 sec G= 50.0 sec = 83.3% Y=10.0 sec = 16.7% Ped= 0.0 sec = 0.0%

Lane Group	Width/Lanes	Reqd	G/C Used	Service Rate Adj	v/c	Delay	HCH	L Queue
RT	12/1	0.149	1.000	1583	144	0.091	0.1	6 ft
TR	24/2	0.245	0.500	1770	772	0.436	10.4	211 ft

SB Approach 8.8 A

TH	24/2	0.212	0.500	1760	644	0.364	9.7	171 ft
LT	12/1	0.000	0.500	252	17	0.058	7.8	7 ft

NB Approach 9.7 A

RT+TH+LT	12/1	0.171	0.333	458	519	0.385	15.8	123 ft
----------	------	-------	-------	-----	-----	-------	------	--------

EB Approach 15.8 B

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values

Intersection Parameters for Int # 0 - Honospillani Highway/Waiko Roa

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary
Intersection Averages for Int # 0 - Honospillani Highway/Waiko Roa
Degree of Saturation (v/c) 0.78 Vehicle Delay 14.0 Level of Service B+

METROAREA NONCBD
SIMULATION PERIOD C S
LEVELOFSERVICE C S
NODELOCATION 0 0
QUEUENODELS 1 90 25 40

Approach Parameters

APPLABELS SB NB EB
GRADES 0.0 0.0 0.0
FEDLEVELS 0 0 0
BIKRVOLUMES 0 0 0
PARKINGSIDES NONE 0 0
PARKVOLUMES 0 0
BUSVOLUMES 0 0
RIGHTTURNONREDS 0 0
UPSTREANVC 0.00 0.00 0.00

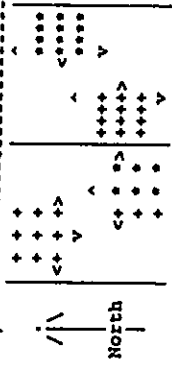
Movement Parameters

MOVLABELS RT TH LT RT TH LT RT TH LT
VOLUMES 15 915 100 90 5 15 45 910 5
WIDTHS 12.0 12.0 12.0 0.0 12.0 0.0 0.0 12.0 12.0
LANES 1 1 1 0 1 1 0 1 1
GROUPTYPES NORM NORM NORM NORM NORM
UTILIZATIONS 0.00 0.00 0.00 0.00 0.00 0.00
TRUCKPERCENTS 2.0 2.0 2.0 2.0 2.0 2.0
PEAKHOURFACTORS 0.90 0.90 0.90 0.90 0.90 0.90
ARRIVALTYPES 3 3 3 3 3 3
ACTUATIONS NO NO YES YES YES YES
REGCLEARANCES 5.0 5.0 5.0 5.0 5.0 5.0
MINIMUMS 5.0 5.0 5.0 5.0 5.0 5.0
STARTUPLIST 2.0 2.0 2.0 2.0 2.0 2.0
ENDGAIN 2.0 2.0 2.0 2.0 2.0 2.0
STORAGE 0 0 0 0 0 0
INITIALQUEUE 0 0 0 0 0 0
IDRALSATFLOWS 1900 1900 1900 1900 1900 1900
FACTORS 1.00 1.00 1.00 1.00 1.00 1.00
DELAYFACTORS 1.00 1.00 1.00 1.00 1.00 1.00
NETOFFFACTORS 1.00 1.00 1.00 1.00 1.00 1.00
SATURATIONFLOWS 1583 1863 242 0 1397 0

Phasing Parameters

SEQUENCES 11 11
PERMISSIVES YES YES
OVERLAPS 60 120
CYCLES 41.00 9.00
YELLOWTIMES 5.00 5.00
CRITICALS 8 5
EXCESS 0 0

Sq 11 Phase 1 Phase 2
*/**



North
G/C=0.683 G/C=0.150
Gm 41.0 Gm 9.0
Y+R= 5.0 Y+R= 5.0
OFF= 0.0% OFF=76.7%

Cm 60 sec G= 50.0 sec = 83.3% Y=10.0 sec = 16.7% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	Reqd	g/c	Used	Service Rate @C (vph)	Adj	v/c	Delay	HCH	L	Queue
------------	--------------	------	-----	------	-----------------------	-----	-----	-------	-----	---	-------

SB Approach

RT	12/1	0.046	0.683	1075	1082	17	0.016	3.1	A	5 ft
TH	12/1	0.561	0.683	1273	1273	1017	0.799	11.9	B+	595 ft
LT	12/1	0.581	0.683	137	165	111	0.673	15.8	B	65 ft

NB Approach

RT+TH	12/1	0.585	0.683	1264	1264	1061	0.839	13.9	B+	676 ft
LT	12/1	0.000	0.683	167	196	6	0.031	3.1	A	2 ft

WB Approach

RT+TH+LT	12/1	0.129	0.150	150	205	123	0.586	28.0	C	98 ft
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EB Approach

RT	12/1	0.041	0.150	123	205	11	0.052	22.3	C+	9 ft
TH+LT	12/1	0.032	0.150	148	203	61	0.293	23.5	C+	45 ft

Consolidated Baseyards
PM Peak Hour of Traffic
Year 2009 with Project Traffic

12/12/03
09:37:24

SIGNAL2000/TEAPAC(Ver 1.11.00) - Summary of Parameter Values

Intersection Parameters for Int # 0 - Honospillani Highway/Waikoa Roa
METROAREA NONCBD
SIMULATION PERIOD 15
LEVELOFSERVICE C 8
NODELOCATION 0 0
QUEUEMODELS 1 90 25 40

Approach Parameters

APPLABELS	SB	MB	MB	KB
GRADES	0.0	0.0	0.0	0.0
FEDLEVELS	0	0	0	0
BIKEVOLUMES	0	0	0	0
PARKINGSIDES	NONE	BOTH	NONE	BOTH
PARKVOLUMES	0	2	0	2
SUBVOLUMES	0	0	0	0
RIGHTTURNONREDS	0	0	0	0
UPSTREAMVC	0.00	0.00	0.00	0.00

Movement Parameters

MOVIELABELS	RT	TH	LT	RT	TH	LT	RT	TH	LT
VOLUMES	30	705	80	130	10	40	30	950	15
WIDTHS	12.0	12.0	12.0	0.0	12.0	0.0	0.0	12.0	12.0
LANES	1	1	1	0	1	0	1	1	1
GROUPTYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCKPERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEAKHOURFACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVALTYPES	3	3	3	3	3	3	3	3	3
ACTUATIONS	NO	NO	YES	YES	YES	YES	NO	NO	YES
REQCLEARANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
MINIMUMS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUPLOST	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ENDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0
INITIALQUEUE	0	0	0	0	0	0	0	0	0
IDEALSATFLOWS	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DELAYFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NETOFFFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATIONFLOWS	1583	1863	196	0	1377	0	0	1854	472

Phasing Parameters

SEQUENCES	11	11
PERMISSIVES	YES	NO
OVERLAPS	YES	YES
CYCLES	60	120
GREENTIMES	38.00	12.00
YELLOWTIMES	5.00	5.00
CRITICALS	8	5
EXCESS	0	0

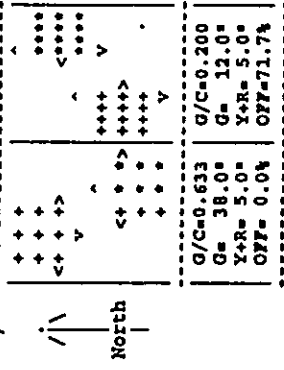
Consolidated Baseyards
PM Peak Hour of Traffic
Year 2009 with Project Traffic

12/12/03
09:37:31

SIGNAL2000/TEAPAC(Ver 1.11.00) - Capacity Analysis Summary

Intersection Averages for Int # 0 - Honospillani Highway/Waikoa Roa
Degree of Saturation (v/c) 0.78 Vehicle Delay 19.1 Level of Service B

Sq 11 Phase 1 Phase 2
/



G/C=0.633 G/C=0.200
G= 38.0* G= 12.0*
Y+R= 5.0* Y+R= 5.0*
OFF= 0.0% OFF=71.7%

C= 60 sec G= 50.0 sec = 83.3% Y=10.0 sec = 16.7% Ped= 0.0 sec = 0.0%

Lane Group	Width/Lanes	Reqd	Used	g/c	Service Rate	Adj	v/c	Delay	HCM	L	Queue
RT	12/1	0.065	0.633	985	1003	33	0.033	4.2	A	12	ft
TH	12/1	0.448	0.633	1170	1180	783	0.664	9.9	A	400	ft
LT	12/1	0.458	0.633	98	120	89	0.718	25.5	C+	61	ft

NB Approach

RT+TH+LT	12/1	0.191	0.200	212	275	199	0.724	31.5	C	163	ft
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SB Approach

RT	12/1	0.030	0.200	194	282	6	0.021	19.4	B	4	ft
TH+LT	12/1	0.000	0.200	214	278	34	0.122	19.9	B	23	ft

CHAPTER 17 - AWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information **Site Information**

Analysis: MN Jurisdiction/Date: Maul 12/5/2003
 Agency or Company: ATA EB-WB Street: Waikō Road
 Analysis Period/Year: AM Peak 2003 Waiale Rd or Waikapu Blvd
 Comment: Year 2009 with Project Traffic

Input Data

Lane code (Lane 1 is curb lane)	EB		WB		NB		SB	
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
LTR								
Left-turn	10		5		1		15	
Through	150		100		1		1	
Right-turn	1		15		5		10	
Peak-hour factor	0.90		0.90		0.90		0.90	
% Heavy vehicles	0		0		0		0	
Output								

Total lane flow rate (veh/h)	EB		WB		NB		SB	
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Departure headway, h_p (s)	179		133		8		29	
Field delay	4.23		4.20		4.32		4.58	
Degree of utilization, u	0.210		0.156		0.009		0.037	
Move-up time, m (s)	2.00		2.00		2.00		2.00	
Service time, s (s)	2.23		2.20		2.32		2.56	
Capacity (veh/h)	641		644		771		734	
Delay (s) (Equation 17-55)	8.4		8.0		7.4		7.8	
Level of service (Exhibit 17-22)	A		A		A		A	
Delay (s), approach	8.4		8.0		7.4		7.8	
Level of service, approach	A		A		A		A	
Delay (s), intersection					8.1			
Level of service, intersection					A			

fnc2 - Waikō Waiale AM
1 of 1

CHAPTER 17 - AWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information **Site Information**

Analysis: MN Jurisdiction/Date: Maul 12/5/2003
 Agency or Company: ATA EB-WB Street: Waikō Road
 Analysis Period/Year: PM Peak 2003 Waiale Rd or Waikapu Blvd
 Comment: Year 2009 with Project Traffic

Input Data

Lane code (Lane 1 is curb lane)	EB		WB		NB		SB	
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
LTR								
Left-turn	5		1		1		20	
Through	115		185		1		1	
Right-turn	1		20		1		20	
Peak-hour factor	0.90		0.90		0.90		0.90	
% Heavy vehicles	6		6		6		6	
Output								

Total lane flow rate (veh/h)	EB		WB		NB		SB	
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Departure headway, h_p (s)	134		207		3		46	
Field delay	4.33		4.20		4.68		4.56	
Degree of utilization, u	0.162		0.241		0.004		0.056	
Move-up time, m (s)	2.00		2.00		2.00		2.00	
Service time, s (s)	2.33		2.20		2.68		2.56	
Capacity (veh/h)	816		846		709		734	
Delay (s) (Equation 17-55)	8.2		8.5		7.7		7.8	
Level of service (Exhibit 17-22)	A		A		A		A	
Delay (s), approach	8.2		8.5		7.7		7.8	
Level of service, approach	A		A		A		A	
Delay (s), intersection					8.3			
Level of service, intersection					A			

fnc2 - Waikō Waiale PM
1 of 1

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary		Site Information											
General Information		Site Information											
Analysis	MIN	Jurisdiction/Date	Mail	12/5/2003									
Agency or Company	ATA	Major Street	Waiko Road										
Analysis Period/Year	AM Peak	Minor Street	Project Driveway										
Comment	Year 2009 with Project Traffic												
Input Data		Input Data											
Lane Configuration	EB LT	WB	NB	SB									
Lane 1 (cut)	LT	TR		LR									
Lane 2													
Lane 3													
Lane 4													
Lane 5													
Movement	1 (LT) 2 (TR) 3 (TR)	4 (LT) 5 (TR)	6 (TR) 7 (LT)	8 (TR) 9 (TR) 10 (LT) 11 (TR) 12 (TR)									
Volume (veh/h)	60	105	125	115	25	15							
PIV	0.90	0.90	0.90	0.90	0.90	0.90							
Percent of heavy vehicles, HV	3	3	3	3	3	3							
Flow rate	67	117	139	128	26	17							
Flow storage (l of veh)													
Median storage (l of veh)													
Signal operation of Movement 2	Movement 5												
Length of study period (h)	0.25												
Output Data		Output Data											
Lane Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LDS	Approach Delay and LOS						
1													
2													
3													
1 LR	45	618	0.073	0	11.3	B	11.3						
2							B						
3													
EB	67	1291	0.052	0	7.0	A							
WB													

HICAP v2.0.0.0
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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary		Site Information											
General Information		Site Information											
Analysis	MIN	Jurisdiction/Date	Mail	12/5/2003									
Agency or Company	ATA	Major Street	Waiko Road										
Analysis Period/Year	PM Peak	Minor Street	Project Driveway										
Comment	Year 2009 with Project Traffic												
Input Data		Input Data											
Lane Configuration	EB LT	WB	NB	SB									
Lane 1 (cut)	LT	TR		LR									
Lane 2													
Lane 3													
Lane 4													
Lane 5													
Movement	1 (LT) 2 (TR) 3 (TR)	4 (LT) 5 (TR)	6 (TR) 7 (LT)	8 (TR) 9 (TR) 10 (LT) 11 (TR) 12 (TR)									
Volume (veh/h)	15	120	130	50	115	60							
PIV	0.90	0.90	0.90	0.90	0.90	0.90							
Percent of heavy vehicles, HV	3	3	3	3	3	3							
Flow rate	17	133	144	33	128	67							
Flow storage (l of veh)													
Median storage (l of veh)													
Signal operation of Movement 2	Movement 5												
Length of study period (h)	0.25												
Output Data		Output Data											
Lane Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LDS	Approach Delay and LOS						
1													
2													
3													
1 LR	195	720	0.271	1	11.9	B	11.9						
2							B						
3													
EB	17	1392	0.012	0	7.0	A							
WB													

HICAP v2.0.0.0
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Consolidated Baseyards
AM Peak Hour of Traffic
Year 2009 with Project Traffic

12/12/03
09:37:08

12/12/03
09:37:13

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values

Intersection Parameters for Int # 0 - Kuihelani Highway/Waiko Roa
 HETEROAREA NONCBD
 SIMULATION PERIOD 15
 LEVELOFSERVICE C 8
 NODELOCATION 0 0
 QUEUENODELS 1 90 25 40

Approach Parameters

APPLABELS	SB	WB	HB	EB
GRADES	0.0	0.0	0.0	0.0
PEDELVLS	0	0	0	0
BKEVOLVLS	0	0	0	0
PARKINGSIDES	NONE	BOTH	NONE	BOTH
PARKVOLUMES	0	2	0	2
BUSEVOLUMES	0	0	0	0
RIGHTTURNONREDS	0	0	0	0
UPSTREAMVC	0.00	0.00	0.00	0.00

Movement Parameters

MOVLABELS	RT	TH	LT	RT	TH	LT	RT	TH	LT
VOLUMES	185	595	0	0	0	0	385	50	115
WIDTHS	12.0	24.0	0.0	0.0	0.0	0.0	24.0	12.0	0.0
LANES	1	2	0	0	0	0	2	1	0
GROUPTYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCKPERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEAKHOURFACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVALTYPES	3	3	3	3	3	3	3	3	3
ACTUATIONS	NO	NO	YES	YES	YES	NO	NO	YES	YES
RECLEARANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
MINIMUMS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUPLOST	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ENDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0
INITIALQUEUE	0	0	0	0	0	0	0	0	0
IDEALSATFLOWS	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DELAYFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
WSTOPFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATIONFLOWS	1583	3539	0	0	0	0	3539	692	0

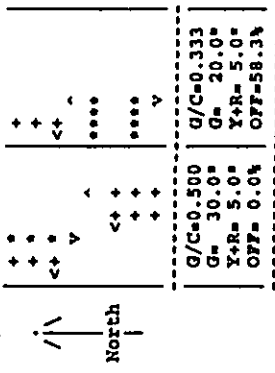
Sequencing Parameters

SEQUENCES	11	11
PERMISSIVES	NO	NO
OVERLAPS	YES	YES
CYCLES	60	120
GREENTIMES	30.00	20.00
YELLOWTIMES	5.00	5.00
CRITICALS	2	11
EXCESS	0	0

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary

Intersection Averages for Int # 0 - Kuihelani Highway/Waiko Roa
 Degree of Saturation (v/c) 0.29 Vehicle Delay 8.8 Level of Service A

Sq 11 Phase 1 Phase 2
 /



Lane Group	Width/Lanes	Req'd	g/c Used	Service Rate @C (vp/h)	Adj	v/c	Delay	HCX	L	Queue Model
RT	12/1	0.189	1.000	1583	1583	206	0.130	0.2	A	9 ft
TH	24/2	0.216	0.500	1760	1770	661	0.373	9.8	*A	176 ft

SB Approach

RT	12/1	0.189	1.000	1583	1583	206	0.130	0.2	A	9 ft
TH	24/2	0.216	0.500	1760	1770	661	0.373	9.8	*A	176 ft

NB Approach

TH	24/2	0.155	0.500	1760	1770	428	0.242	8.9	A	110 ft
LT	12/1	0.000	0.500	304	346	56	0.162	8.4	A	25 ft

EB Approach

RT+TH+LT	12/1	0.145	0.333	456	517	161	0.311	15.2	*B	96 ft
----------	------	-------	-------	-----	-----	-----	-------	------	----	-------

SIGNAL2000/TEAPAC[Ver 1.11.00] - Summary of Parameter Values

Intersection Parameters for Int # 0 - Kuliheheli Highway/Waiko Roa

NETCARENA NONCBD
SIMULATION PERIOD 15
LEVELOFSERVICE C 8
NODELOCATION 0 0
QUEUMODELS 1 90 25 40

Approach Parameters

APPLABELS	SB	NB	MB
GRADES	0.0	0.0	0.0
FEEDLEVELS	0	0	0
BIKEVOLUMES	0	0	0
PARKINGSIDES	NONE	BOTH	BOTH
PARKVOLUMES	0	0	0
SUBVOLUMES	0	0	0
RIGHTTURNONREDS	0	0	0
UPSTREAMVC	0.00	0.00	0.00

Movement Parameters

MOVLABELS	RT	TH	LT	RT	TH	LT	RT	TH	LT
VOLUMES	140	765	0	0	0	0	655	20	185
WIDTHS	12.0	24.0	0.0	0.0	0.0	24.0	12.0	0.0	12.0
LANES	1	2	0	0	0	2	1	0	1
GROUPTYPES	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
UTILIZATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUCKPERCENTS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PEAKHOURFACTORS	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
ARRIVALTYPES	3	3	3	3	3	3	3	3	3
ACTUATIONS	NO	NO	YES	YES	YES	NO	NO	YES	YES
REQCLEARANCES	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
MINIMUMS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
STARTUPLIST	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ENDGAIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
STORAGE	0	0	0	0	0	0	0	0	0
INITIALQUEUE	0	0	0	0	0	0	0	0	0
IDEALSATFLOWS	1900	1900	1900	1900	1900	1900	1900	1900	1900
FACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DECAIFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NETOFFFACTORS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SATURATIONFLOWS	1583	3539	0	0	0	3539	491	0	1547

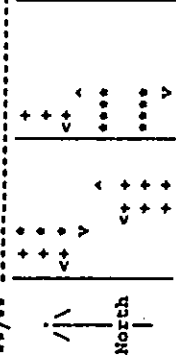
Phasing Parameters

SEQUENCES	11	11
PERMISSIVES	NO	NO
OVERLAPS	YES	YES
CYCLES	60	120
GREENTIMES	28.00	22.00
YELLOWTIMES	5.00	5.00
CRITICALS	2	11
EXCESS	0	0

SIGNAL2000/TEAPAC[Ver 1.11.00] - Capacity Analysis Summary

Intersection Averages for Int # 0 - Kuliheheli Highway/Waiko Roa
Degree of Saturation (v/c) 0.45 Vehicle Delay 11.5 Level of Service B+

Bq 11 Phase 1 Phase 2



G/C=0.467 G/C=0.367
G= 38.0% G= 22.0%
Y+R= 5.0% Y+R= 5.0%
OFF= 0.0% OFF=55.0%

C= 60 sec G= 50.0 sec = 83.3% Y=10.0 sec = 16.7% Ped= 0.0 sec = 0.0%

Lane Group	Width/Lanes	Reqd	g/c	Used	Service Rate	Adj	v/c	Delay	L Queue
------------	-------------	------	-----	------	--------------	-----	-----	-------	---------

SB Approach 10.5 B+

RT	12/1	0.157	1.000	1583	1583	156	0.099	0.1	7 ft
TH	24/2	0.266	0.467	1630	1652	850	0.515	12.4	252 ft

NB Approach 11.5 B+

TH	24/2	0.234	0.467	1630	1652	728	0.441	11.6	209 ft
LT	12/1	0.000	0.467	191	231	22	0.095	9.1	10 ft

EB Approach 15.2 B

RT+TH+LT	12/1	0.216	0.367	509	567	267	0.471	15.2	164 ft
----------	------	-------	-------	-----	-----	-----	-------	------	--------

Appendix K-1

***Letter Dated August 6, 2004
from Austin, Tsutsumi &
Associates, Inc.***



AUSTIN, TSUTSUMI & ASSOCIATES, INC. CIVIL ENGINEERING & SURVEYING
 CONTINUING THE ENGINEERING PRACTICE FOUNDED BY H. A. M. AUSTIN IN 1924

NEAL H. KASAMOTO, P.E.
 1001 W. WILSON ST., SUITE 201, AUSTIN, TEXAS 78703
 TEL: (512) 476-1111 FAX: (512) 476-1112
 WWW.ATA-INC.COM

#03-061
 August 6, 2004



Mr. David Ward
 Consolidated Baseyards, LLC
 33 Lono Avenue, Suite 450A
 Kapaehaui Hawaii 96732

Dear Mr. Ward:

Subject: Consolidated Baseyards LLC
 Proposed Light Industrial Subdivision

As requested, we have reviewed the revised plans (See Attachment), for the Consolidated Baseyards LLC Light Industrial Subdivision. It is our understanding that the project will maintain its original land area and will be revised to include a total of 35 usable lots. The *Traffic Impact Analysis Report - Consolidated Baseyards, (TIAR)* dated January 20, 2004, was based on a 30-lot industrial subdivision, covering the same land area, therefore, the findings in the original TIAR remain valid. Should you have any questions or comments, please do not hesitate to call me at (808) 533-3846.

Sincerely,

AUSTIN, TSUTSUMI & ASSOCIATES, INC.

Neal H. Kasamoto

By
 NEAL H. KASAMOTO, P.E.
 Senior Transportation Engineer

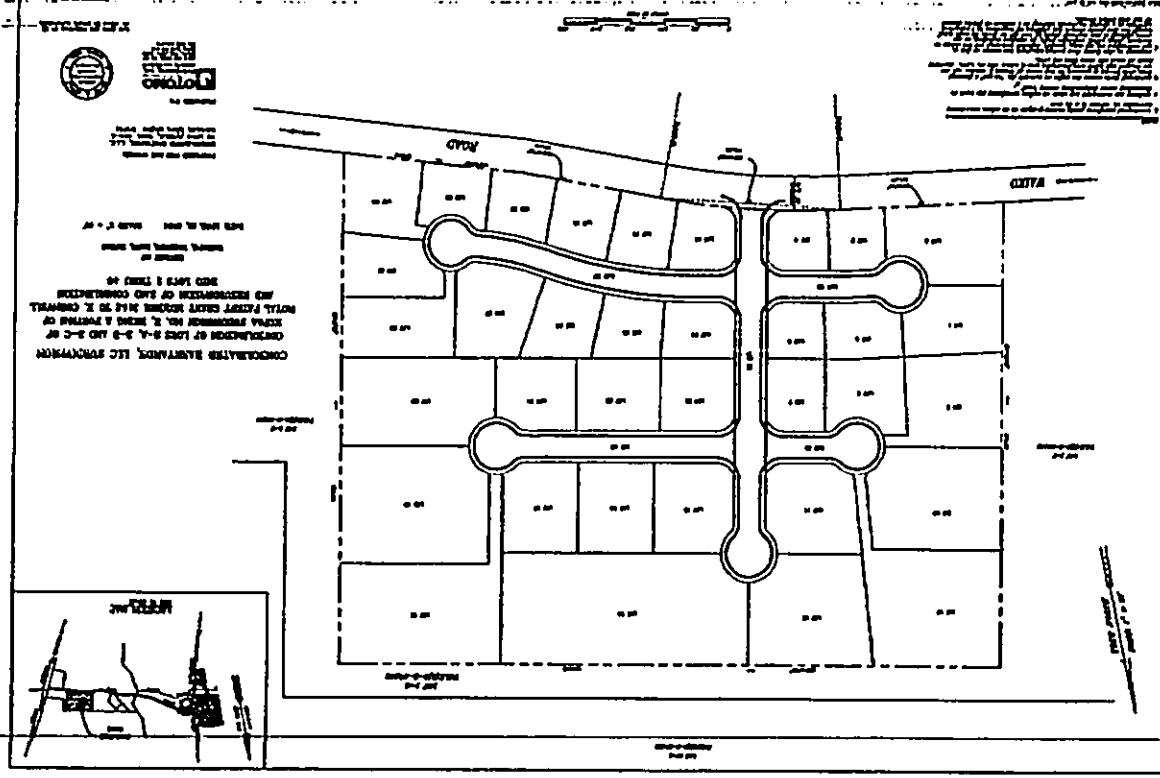
cc: Ms. Karynn Kawahara - Murekiyo & Hiraga, Inc., Fax (808) 244-8720
 Mr. Blaine Kobayashi - Carlsmith Bell

Attachment: Revised Plans

I certify that the information furnished on this form is true and correct. I am aware that this form and the information furnished hereon are being submitted to the State of Texas Department of Transportation for its review and approval for the project described herein and for the authority of the State to issue a permit therefor.

NEAL H. KASAMOTO, P.E.
 1001 W. WILSON ST., SUITE 201, AUSTIN, TEXAS 78703
 TEL: (512) 476-1111 FAX: (512) 476-1112
 WWW.ATA-INC.COM

NEAL H. KASAMOTO, P.E.
 1001 W. WILSON ST., SUITE 201, AUSTIN, TEXAS 78703
 TEL: (512) 476-1111 FAX: (512) 476-1112
 WWW.ATA-INC.COM



Appendix L

***Groundwater
Resource Report***



Tom Nance Water
Resource Engineering

No. of pages: 1
Fax # 803-0043

Original will be mailed to you. will not be mailed to you.

March 22, 2004
04/138 (03-86)

FAXED
MAR 22 2004

MEMORANDUM

TO: Dave Ward and Dean Frampton
FROM: Tom Nance *TN*
SUBJECT: Groundwater Beneath TMK 3-6-7-89 In Waikapu, Maui

This memo responds to your request to provide an assessment of groundwater conditions beneath the Consolidated Baseyards site off Waiko Road in Waikapu, Maui. As I understand it, the proposed light industrial development will require a water supply of approximately 60,000 gallons per day (GPD). This supply is to be provided by a well identified by its State Number 5129-02. This 8-inch well was completed in 2001 to a depth of 255 feet, ending 31 feet below sea level. Based on past testing, the well is able to produce potable quality water. Currently, a 60 GPM submersible pump driven by a 7.5-horsepower motor is installed in the well. It is my understanding that a larger capacity pump will be installed for the project.

Identification of the Aquifer Tapped by the Well

Well 5129-02 is drilled into groundwater within the Kahului Aquifer, a 9.54-square mile area which extends across the island's isthmus. For regulatory and management purposes, the State Commission on Water Resource Management (CWRM) has set the sustainable yield of the Kahului Aquifer at 1.0 million gallons per day (MGD). This amount is based on the CWRM's estimate that about 20 percent of the rainfall directly on the 9.54-square mile area becomes recharge to the underlying groundwater and that 44 percent of this recharge can be safely pumped by wells.

Past and Present Pumpage of the Kahului Aquifer

Past and present pumpage from the Kahului Aquifer has substantially exceeded the 1.0 MGD amount that was set by the CWRM as its sustainable yield. In 1997, the CWRM staff estimated that total pumpage at that time was about 44 MGD, most of it being drawn from HC&S shafts (refer to the table below). Present pumpage, also estimated by the CWRM staff, is about 29.8 MGD. Of this amount, 25.8 MGD is attributed to the HC&S wells.

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CWRM Estimate of Kahului Aquifer Pumpage In 1997

W e l l		Average Pumpage (MGD)
HC&S Wells:	Waikapu Shaft (5129-02)	9.29
	Puunane Pump 6 (5226-02)	10.54
	Puunane Pump 8 (5227-04)	11.40
	Puunane Pump 19 (5227-05)	10.85
Subtotal for HC&S Wells		<u>42.08</u>
ML&P Wells:	Cannery Shaft (5328-01)	0.80
	Cannery Well (5328-28)	0.83
Subtotal for ML&P Wells		<u>1.73</u>
Five Other Wells		0.12
Total for the Kahului Aquifer		<u>43.93</u>

Hydrologic Characteristics of the Kahului Aquifer

Groundwater in the Kahului Aquifer occurs as a basal lens residing in the very permeable Honomanu series of lava flows from the Hualalai volcano. Over most of the isthmus, the top of the lens is about four (4) feet above sea level. Also over much of the isthmus, the water in the aquifer is drinking water fresh, an unusual occurrence in a relatively thin basal lens. Two aspects of the Kahului Aquifer enable it to be pumped at many times its direct rate of rainfall recharge and to continue to produce fresh water. One is its sources of recharge and the other is its geologic stratigraphy.

Sources of the Aquifer's Recharge. Rainfall directly on the aquifer's 9.54-square mile area is actually the smallest of its identifiable sources of recharge. The others include: underflow from the Haleakala mountain which passes through the Pala Aquifer into the Kahului Aquifer with no known hydrologic impediment; underflow from the West Maui Mountain which moves into the Kahului Aquifer through the weathered surface (saprolite) and alluvium of the West Maui Mountain; irrigation return flow from HC&S sugarcane fields and other agricultural activities; and leakage of Waiehae and Spreckels Ditch flows from the Waiehae Reservoir.

Geologic Stratigraphy. A typical stratigraphic section across the isthmus consists of a layer of sand at the surface (some of it consolidated), then a layer of relatively impermeable alluvium, and

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finally the Honomanu volcanics at depth. The relatively impermeable aluokum is the key feature. Over most of the Isthmus, its bottom is 10 to several tens of feet above sea level. But at the shorelines at Malaea and Kahuli, it dips below sea level. This layer functions as a caprock, retarding the intrusion of sea water inland and the escape of groundwater into the marine environment. In combination with the substantial sources of recharge identified above, this enables the aquifer's relatively thin basal lens to remain anomalously fresh.

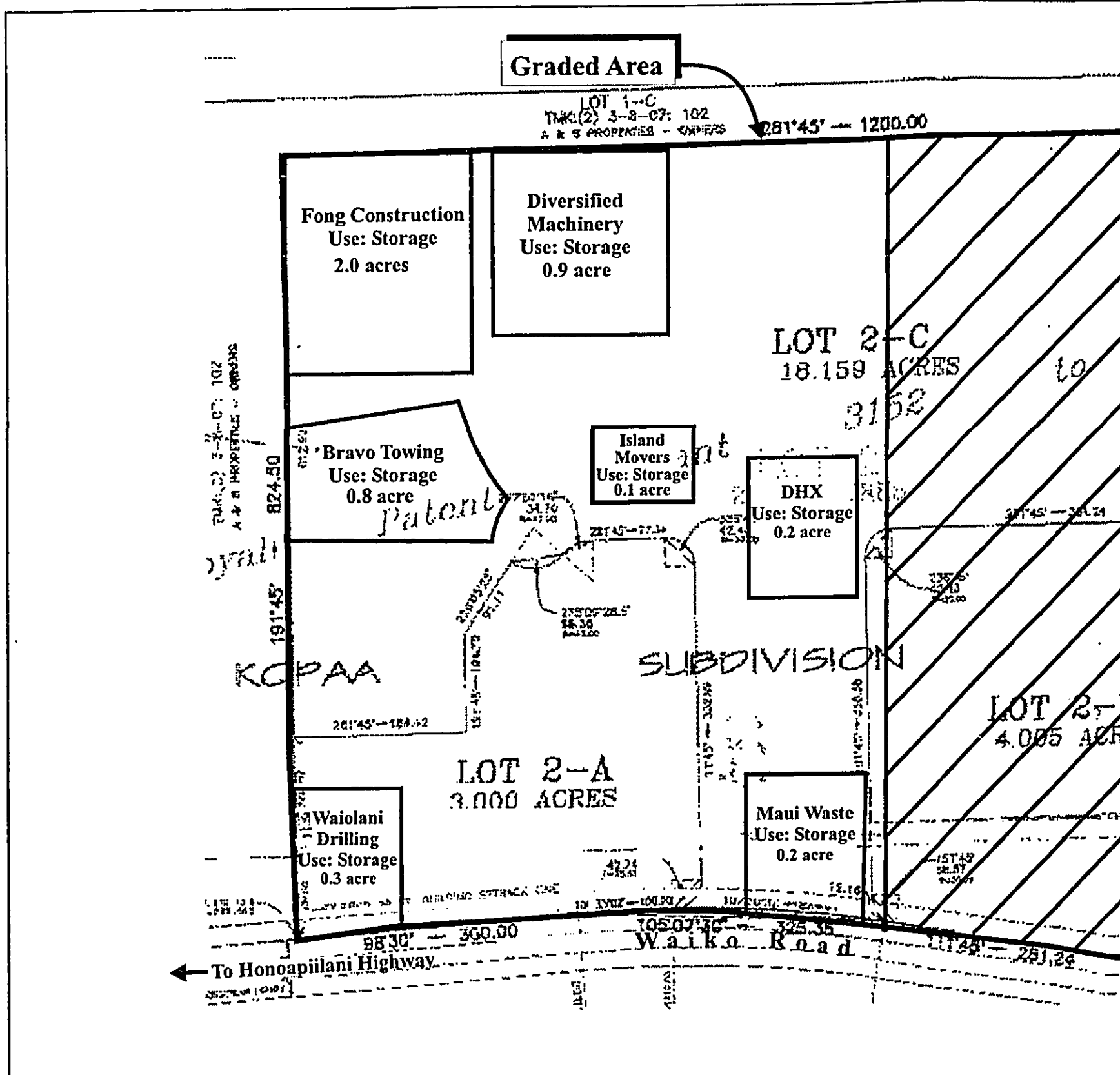
Impact of the Proposed Use of 0.060 MGD

The proposed draft of an average of 0.060 MGD from Well 5129-02 to supply the project will have no impact on the integrity of the aquifer or any of its existing uses. The draft rate is simply too small to have an effect on any of the nearest active wells, all of which are more than a mile away. This conclusion is based on the actual experience with far more closely spaced wells within and around the nearby Maud Lani project (Nos. 5229-02, 5229-03, and 5129-01 within the project and No. 5230-01 immediately to the east). No interference or adverse impact among these wells has occurred and their combined pumping rates are more than 15 times greater than the rate required to supply the Consolidated Baseyards project.



Appendix M

***Consolidated Baseyards
Existing Use Map***

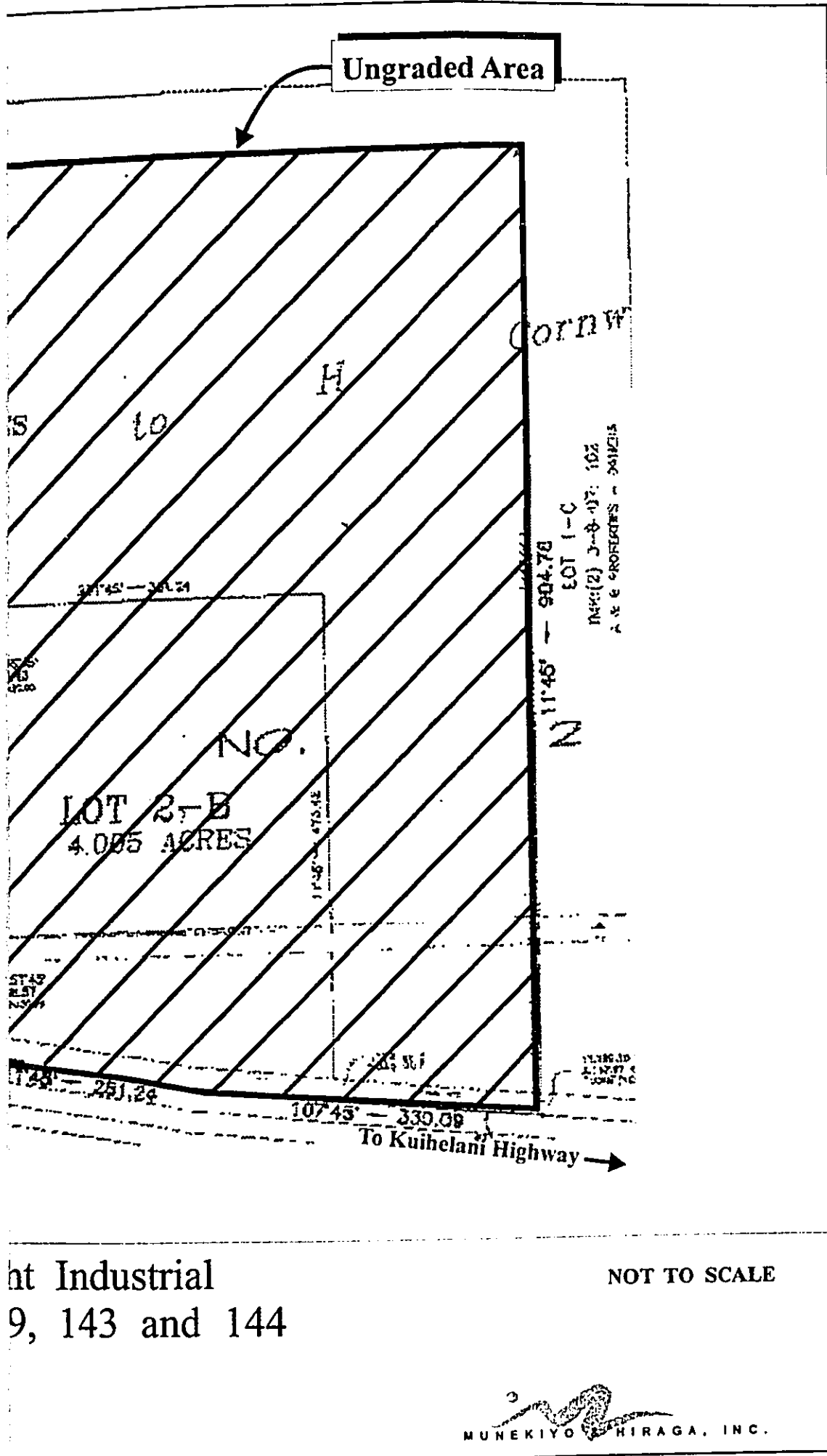


Source: Otomo Engineering, Inc.

Consolidated Baseyards Light Industrial Subdivision at TMKs 3-8-07:089, 143 and Existing Use Map



Prepared for: Consolidated Baseyards, LLC



ht Industrial
9, 143 and 144

NOT TO SCALE

MUNEKIYO HIRAGA, INC.