Draft Environmental Assessment

New Business Services Shop
for
PB & Ches, LLC
Pearl City, Oahu, Hawaii
TMK (1) 9-8-21: 42

Accepting Agency:
City and County of Honolulu
Department of Planning and Permitting
Honolulu, Hawaii

Prepared By:
PATRICK SEGUIRANT ARCHITECT
Architecture Planning Land Use Consulting

December 2008

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December 2008

TABLE OF CONTENTS

Table of Contents continued

List of Figures

List of Tables

Appendices

1. INTRODUCTION

1.1 Project Summary

Project Name:	New Business Services Shop
Applicant/Land Owner:	PB & Ches, LLC. 98-814 Olena Street Aiea, HI 96701 Contact: Patricia Borengasser
Agent for the Applicant:	Patrick Seguirant, Architect 91-1030 Kaihi Street Ewa Beach, HI 96706 Phone: 808-683-4477
Project Architect:	Ross Architects LLC 100 Kahelu Avenue, Suite 7 Mililani, HI 96789 Contact/Phone: Ross A. Yamamoto, AIA / 808-625-7311
Accepting Agency:	City and County of Honolulu Department of Planning and Permitting 650 South King Street Honolulu, Hawaii 96813
Project Address :	371 Kamehameha Highway, Pearl City, Oahu
Tax Map Key:	Oahu TMK (1) 9-8-21: 42
Land Area:	5,699 square feet
Existing Use:	Vacant former restaurant building and on-site parking lot.
Proposed Action:	Demolish the existing vacant restaurant building. Construct a two-story commercial building and on-site parking.
State Land Use District:	Urban
Primary Urban Center - Development Plan Land Use Designation:	PUC-West, District Commercial
County Zoning:	B-2 Community Business District, 60 foot height limit
Special District:	None
Special Management Area:	The entire subject property is located within the Special Management Area.
Existing Use:	Existing vacant building was a former restaurant.
Permits Required:	Special Management Area Permit, CUP for Joint Development, Building Permit
Anticipated Determination	Finding of No Significant Impact (FONSI)

1.2 Project Overview

The owners propose to construct a two-story 2,600 square foot commercial building, with appurtenant site improvements, to be set back away from Kamehameha Highway. Once the new building is complete, the owner will relocate their existing business from Kalihi to this new location. The new shop will provide business services to other companies. These services will include minor job printing, foil stamping, dye cutting, folding and binding to other printing establishments. A new on-site 7-stall parking lot will be developed between the new building and Kamehameha Highway (one of the seven spaces will be used for loading). An existing vacant one-story building and parking lot, which currently occupy the site, will be demolished to make way for new construction. Also, an existing Hawaiian Electric Power pole located on the site will be removed and/or relocated as its current location conflicts with the proposed parking arrangement.

The subject property has been owned by the applicant and/or their family for over 50 years. The existing vacant one-story building adjacent to the highway has been developed in the past for restaurant use with on-site parking.

1.3 Project Location

The proposed project is located in Pearl City on the island of Oahu. The property is approximately 200 feet to the east of Blaisdell Park and approximately 900 feet north of Pearl Harbor's East Loch. The property is accessed from Kaluamoi Drive. **See Figure 1, Location Map**.

The project site is Tax Map Key (TMK): (1) 9-8-21: 42, and is owned by PB & Ches LLC. The project site is bordered by Kamehameha Highway to the north, a building on the adjacent property to the west historically used for retail and office space, single family residential development to the south, and Kalaumoi Drive to the east. Across the street from the project site there is an auto body repair shop on the corner of Kalaumoi Drive and Kamehameha Highway. There are numerous restaurant and commercial businesses along Kamehameha Highway, across from the project site. The existing building on the property is completely surrounded by asphalt and concrete paving.

The project site is entirely within the Special Management Area (SMA) as defined in Chapter 205A, Hawaii Revised Statues (HRS) and Chapter 25 of the Revised Ordinances of Honolulu (ROH). **See Figure 2, SMA Boundary Map**.

1.4 Purpose of the Environmental Assessment (EA)

The purpose of this environmental assessment is to inform interested parties of the proposed project, disclose the potential for adverse environmental impacts, identify measures proposed to sufficiently mitigate potential impacts, and seek public comment on the subject project. This EA describes existing conditions at the project site and proposes mitigation measures which address potential adverse environmental impacts that may result from the proposed action. This EA complies with Chapter 25, Revised Ordinances of Honolulu (ROH), which states that an EA shall be required as follows:

> ***Sec. 25-3.3 Procedural guidelines.***
>
> *(a) All development within the special management area shall be subject to review by the agency under the provisions of this chapter. Such review shall be pursuant to the objectives, policies and guidelines set forth herein.*
>
> *(b) Consultation. Any applicant contemplating development within the special management area shall contact the agency for information regarding procedures and general information which may have a direct influence on the applicant's proposed development.*
>
> *(c) Assessment Requirements for Special Management Area Use Permits.*
>
> *i. Any proposed development within the special management area requiring a special management area use permit shall be subject to an assessment by the agency in accordance with the procedural steps set form in HRS Chapter 343. The director may allow the assessment to be conducted concurrently with the processing of the application for a special management area use permit.*

1.5 Parties Consulted During the Pre-Consultation Period

State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
Department of Transportation

City and County of Honolulu
Department of Planning and Permitting
Civil Engineering Branch
Land Use Permits Division
Traffic Review Branch
Wastewater Branch

1.6 Permits and Approvals

The following is a preliminary list and is not an exhaustive summary:

- Issuance of a FONSI for the Final EA;
- City and County of Honolulu, Special Management Area Permit;
- City and County of Honolulu, Conditional Use Permit (Minor) for Joint Development,
- And ministerial permits including grading, building permits, and sewer and water connection permits.

2. SETTING AND DESCRIPTION OF PROPOSED ACTION

2.1 Existing Site Conditions

The irregularly shaped lot is located on the corner of Kamehameha Highway and Kaluamoi Drive in Pearl City on the Island of Oahu (**Figure 3 TMK Map**). The property contains an existing single-story masonry building, of approximately 1,500 square feet, which was in restaurant use since the early 1970's when a Kentucky Fried Chicken restaurant opened on the site. Within the last 10 years, the building has been occupied by L&L Drive Inn and most recently a Japanese / Korean restaurant which closed in early 2008. The existing building is currently vacant. The remainder of the property is an on-site asphalt parking lot. There is no existing landscaping. **Figure 4** contains photos of the existing site. The topographic survey for the site is in **Appendix A**.

As mentioned, the existing site is completely developed with an existing one-story building and paving. The property slopes downward from Kamehameha Highway in a southerly direction and continues with this general pattern (approximately 2% slope). The east edge of the subject property slopes downward toward Kaluamoi Drive which can be seen in Photo 2 of **Figure 4.** Existing retaining walls provide grade transition between the adjoining properties located to the west and south. There is also an existing Hawaiian Electric power pole on-site behind the existing building which can also be seen in Photo 2 of **Figure 4**.

Access to the site is provided off of Kaluamoi Drive into the property via an existing non-City standard driveway that is approximately 50 feet wide. Kaluamoi Drive is an existing 44-foot right-of-way with two travel lanes and paved shoulders. The existing roadway is non-standard as it contains no drainage, no sidewalks, curbs, or gutters. A special note should be made regarding Kaluamoi Drive and Kaluamoi Place. Most records identify **Kaluamoi Place** as the road that front the project site. However, this is incorrect. Inquiries to the Department of Design and Construction, Land Division revealed that **Kaluamoi Drive** (not Kaluamoi Place**)** is the main road serving the majority of properties on this dead-end road. Kaluamoi Place is actually a smaller dead-end road serving parcels 64 through 74. This is an important distinction as Kaluamoi Drive is a public street, while Kaluamoi Place is a private street. It also has been a source of confusion in reference to the project and addresses surrounding the project site. **For clarification, this document refers to the street adjoining the subject property as Kaluamoi Drive, while other publications and references may use Kaluamoi Place.**

The project site is served by municipal water service via an 8-inch water main in Kaluamoi Drive. Requirements for a new water meter and related charges will be addressed during the project development phase. The present water system should be adequate to serve the proposed

project, which will have less demand than the former restaurant use. Communication and power services are provided via overhead lines along Kamehameha Highway and within the site itself. The project site is served by municipal sewer service via a 10-inch sewer main in Kaluamoi Drive off of Kamehameha Highway.

The property itself is comprised of two legal lots of record. Lot 36 is 486 square feet and filed in the Land Court system. Lot 2 is 5,213 square feet and is filed in the Bureau of Conveyances or "regular system". **Figure 5** contains a portion of the subject property's Tax Key Map and illustrates the location of these two lots within the property. The proposed location of the new building will cross the two lot lines. As such, the applicant will apply for a Conditional Use Permit (Minor) for Joint Development from the City and County of Honolulu because a CUP is required to implement the project as planned.

2.2 Proposed Project Description

PB & Ches LLC, the applicant, proposes to demolish the existing building, parking area, and internal retaining walls. The applicant proposes to construct a new two-story 2,600 square foot commercial building at the south end of the property, as shown in the proposed site plan in **Appendix B**. A new on-site parking lot will be located between the new building and Kamehameha Highway. The new building will provide business services to other companies. These services include minor job printing, foil stamping, dye cutting, folding and binding to other printing establishments. Drawings of the new building are also in **Appendix B.**

The new building will have a footprint of approximately 1,760 square feet. The total floor area would be 2,600 square feet of which 1,761 square feet will be on the first floor and 839 square feet will be on the second floor. The building will be constructed of prefabricated steel frame with metal siding and roofing. The building's foundation will be of concrete constructed and designed as recommended by the soils engineer. The second floor will be wood framed. The building wall adjoining Parcel 41 to the west will be a full height masonry wall serving as a fire barrier.

Once the existing building is demolished and removed, portions of the site will be excavated slightly to create a smooth transition between the new parking area and Kaluamoi Drive. A new retaining wall will be constructed along Parcel 41's boundary to accommodate a change in grade due to excavation of the site.

Parking and Vehicular Access

Access into the project site will continue to be off of Kaluamoi Drive**.** No access is proposed into the site from Kamehameha Highway. A new driveway will be constructed slightly more

than 50 feet makai of Kamehameha Highway right-of-way providing access to a new 7-stall on-site parking lot.

Sidewalks

Right-of-way improvements are not proposed within the State or County right-of-way. Concrete and asphalt concrete sidewalks currently exist within the abutting Kamehameha Highway. There are no sidewalk improvements within Kaluamoi Drive (the portion owned by the City). It is possible the City may request improvements to Kaluamoi Drive, such as curbs, gutters, and sidewalks through Ordinance 2412. However, the extent and details of those improvements are not fully known at the time of this writing. The project architect and engineers are currently working with the City's Traffic and Civil Engineering Branches to determine if improvements are warranted and what those improvements might be.

Landscaping

The required landscape screening and buffering from adjoining lots and roadways will be provided. This includes landscape screening from the adjoining residential use and parking lot landscaping and screening. Landscaping will be provided within the required yard and setback areas. Landscaped areas will be provided with a permanent irrigation system.

All improvements will comply with the City and County of Honolulu's standards for building height and building setback, and floor area ratio density, as well as Land Use Ordinance (LUO) standards for parking and off-street loading areas.

Utility Connections

The new building will be served by an existing lateral off of the existing 8-inch water line in Kaluamoi Drive. A new reduced pressure principal backflow preventer will be installed for cross contamination prevention of the municipal water system if an automatic irrigation system is provided for the landscaped areas. The new building will be served by existing 10-inch sewer line in Kaluamoi Drive. Both water and sewer usage will be less for the proposed new business operation as compared to the former restaurant use.

Drainage

On-site storm water runoff generated by the development of this site will not negatively impact the surrounding properties or street. Storm water management will include, but not necessarily be limited to, percolation into landscaped areas and the use of drywells and/or French drains, if necessary, to ensure that there will be no net increase in runoff from the previous land usage.

2.3 Hours of Operation

The proposed project's hours of operation are anticipated to be:

Monday – Friday	7 am to 5 pm
Saturday and Sunday	Closed

Due to the nature of the proposed business, is it expected that there would be a decline in vehicular traffic to and from the site as compared to the property's former operation as a restaurant. The proposed hours of operation are also less than compared to the former restaurant use.

2.4 Project Cost

The planning, design and construction costs of the proposed project are approximately $450,000 and will be entirely privately funded.

2.5 Project Schedule

The project will take approximately 6 months to construct, which is anticipated to begin in June 2010. The proposed new business is anticipated to be operation by January 2011.

3. DESCRIPTION OF THE ENVIRONMENT SETTING, POTENTIAL IMPACTS AND MITIGATION MEASURES

The following is a description of the existing environment, assessment of potential project impacts and proposed mitigation measures.

3.1 Climate

The climate of Oahu is relatively mild. It is characterized by consistent tradewinds, relatively constant temperatures, moderate humidity and infrequent severe storms. Northeasterly tradewinds prevail throughout the year with an average wind velocity of about 10-15 miles per hour. The mean temperature at the Honolulu International Airport ranges from 70 degrees Fahrenheit in the winter months to 85 degrees and above in the summer months.

Potential Impacts and Mitigative Measures
The proposed project will have no impacts on regional climate conditions.

3.2 Topography and Soils

Topography: The regional topography is relatively flat. However, the property slopes downward from Kamehameha Highway, and continues with this general pattern (approximately 2%) in a southerly direction. The east edge of the subject property slopes downward toward Kaluamoi Drive with more of an abrupt sloped transition along this edge. Once the existing building is demolished and removed, portions of the sight will be excavated to remove expansive soil under the building foundation and create a smooth transition between the parking area and Kaluamoi Drive.

Soils: A soils investigation report was prepare for the project site. The subsurface borings of the site indicate that the site is underlain by moderately stiff to very stiff, brown and orange-brown clay to depths of 3.5 feet to 6 feet. This is followed by very stiff to hard clay to depths of 11 to 13.5 feet. Then there is orange-brown silt to depths of the borings which ranged from 15 to 30 feet below existing grade.

According to the U.S. Department of Agriculture Soils Conservation Service study titled “Soil Survey of the Island of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii”, the project site is located in an area designated as Hanalei silty clay (HnB) with two to six percent slopes. The Hanalei series consists of somewhat poorly drained soils to poorly drained soils on bottom lands that developed in alluvium derived from basic igneous rock. Runoff is slow and the erosion hazard is slight (USDA, 1972, pp. 38, Plate 53).

Potential Impacts and Mitigative Measures

Development plans for the project have attempted to minimize ground disturbance. However, some components of the proposed project will involve excavation, filling and grading. Proposed activities will not significantly alter the topography of the project site. According to the soils report, the on-site clay soil has moderate expansion potential. Therefore, for slab-on-grade construction, the soils report recommends that the slab be constructed with a minimum of 12-inches of select granular fill beneath the slab. The report also notes that the on-site clay soil should not be used as structural fill or retaining wall backfill**.**

Other minor excavation on-site will be limited to the superficial removal and replacement of existing pavement and accommodating utility hookups. The new surface parking lot area will involve minor excavation, fill and grading. These areas will not generally require excavation to deeper levels. The topography of the area will not be significantly altered or impacted.

The area of soil disturbance within the project site will not be greater than one acre. Thus a National Pollutant Discharge Elimination System permit is not required.

Construction-related activities will conform to the "Rules Relating to Soil Erosion Standards and Guidelines", including strict erosion control and dust control measures. Primary fugitive dust control methods that will be implemented include large plywood barriers around the perimeter of the site, regular water of exposed soil areas, good housekeeping practices on the job site, and prompt landscaping or paving of bare soils in areas where construction is completed. Ground cover plantings, landscaping and hardscape will be in place when construction is done thereby minimizing potential soil loss.

3.3 Water Quality / Drainage

There are no surface water bodies at or near the project site. The project site is approximately 800 feet inland from the shoreline. See **Figure 1, Project Location**.

The general drainage pattern of the project site is toward the adjacent street frontage of Kaluamoi Drive. There are no municipal storm drain facilities near the project site. The nearest storm drain connection is a storm drain manhole approximately 410 feet away down Kaluamoi Drive.

The project will not be allowed to increase surface runoff onto adjoining properties or rights-of-way. The existing site is entirely paved, except for the building. The proposed project will decrease the amount of paving and provide landscaped areas. Surface water will be directed to planting areas that will capture much of the surface water flows. It is anticipated this reduction

in paving and increase in landscape areas will reduce surface water runoff from its current amounts. However, if additional reduction to surface water flows are needed, French drains and drywells will be used. Similarly, water from building roof tops will be directed via a gutter system into adjoining planting areas. Drywells will be used as much as possible to minimize project impacts on existing roadways and the municipal storm drain system.

Potential Impacts and Mitigative Measures

No adverse impacts to surface waters are anticipated in relation to construction activities. Storm water runoff from the project site during site preparation and construction will be controlled in compliance with the City's "Rules Relating to Storm Drainage Standards". During construction, Best Management Practices will be employed such as silt fences, appropriately stockpiling materials on-site to prevent runoff, and building over or establishing landscaping as early as possible on disturbed soils to minimize the length of exposure.

No long-term adverse impacts to surface waters are anticipated as a result of the proposed project. Areas disturbed during construction will be built over, paved and landscaped to minimize erosion and sedimentation.

3.4 Flood Hazard

The project site lies within FIRM Zone D. As such, it is not located in any adverse flood hazard district, and special considerations for flood mitigation are not required.

Potential Impacts and Mitigative Measures

The proposed project will not impact existing drainage or flood hazard conditions. No mitigation measures are proposed.

3.5 Flora and Fauna

The existing project site is completely developed. There is no existing landscaping. No threatened or endangered flora or fauna are known to inhabit the site or immediate area. Faunal species likely include typical domestic and feral cats, as well as rats and mice, which are common to urbanized areas are probably present. Avifaunal species in the area likely include species also common to urban areas such as doves, mynah, sparrow, cardinal and finches.

Potential Impacts and Mitigative Measures

The development of the project will not have any adverse impacts on the area's vegetation or wildlife habitat. The project is not anticipated to result in any adverse impacts to native plant or animal species that are endangered, rare or threatened. The project will increase landscaped

areas. Planned landscaping includes the landscaping of required yards fronting Kamehameha Highway, Kaluamoi Drive, and fronting Parcel 43. These areas will be landscaped with groundcover, hedges, and small canopy form trees.

3.6 Noise

The project site is adjacent to Kamehameha Highway in an urban and highly developed area. The existing ambient noise levels along Kamehameha Highway would be relatively high. The primary noise sources in the project area are traffic noise levels due to the large volumes of traffic and heavy vehicles that use this primary thoroughfare. Sources of noise include not only typical automobiles and motorcycles, but also delivery and semi-trucks. Other sources of noise include emergency vehicles with sirens at all hours of the day or night.

The State Department of Health (DOH) regulates noise from fixed mechanical equipment. Construction activities are regulated by DOH through the issuance of permits that allow excessive construction noise during limited time periods.

Potential Impacts and Mitigative Measures

Short-term construction noise will be generated during construction activity and the use of heavy machinery. Significant adverse impacts due to construction noise are not anticipated due to the temporary nature of the work. Project-related construction noise will and must comply with the State Department of Health Hawaii Administrative Rules, Chapter 11-46, Community Noise Control.

In the long term during the operational phase of the project, the new office space will be air-conditioned so that will mitigate both noise impacts to those working inside and it will prevent noise from leaving the building. Any increase in noise levels that might result in the vicinity of the project site are not anticipated to exceed regulated noise levels. Long term operational noise, (after construction is complete and the new building is occupied) must also meet the State noise regulations.

3.7 Air Quality

According to the State Department of Health's 2002 Annual Summary of Hawaii Air Quality Data, "Air quality in the State of Hawaii continues to be one of the best in the nation and criteria pollutant level remain well below state and federal ambient air quality standards." The State of Hawaii continues to be well below federal standards on annual averages for particulates, sulfur dioxide and nitrogen dioxide and annual averages of daily maximum 1-hour values recorded for ozone and carbon monoxide. The State's averages have also been well below federal standards

for more stringent State standards for carbon monoxide and nitrogen dioxide. The air quality in the vicinity of the project site would be impacted by vehicular emissions from surrounding streets.

Potential Impacts and Mitigative Measures

The proposed project will have short-term construction-related impacts on air quality, including the generation of dust and emissions from construction vehicles, equipment and commuting construction workers. The potential impacts of construction activities will be mitigated because all construction activities for the project must comply with the Hawaii Administrative Rules, Section 11-60-11.1 regarding "Air Pollution Control", specifically Section 11.60.1-33 regarding fugitive dust and the prohibition of visible dust emissions at property boundaries.

Mitigation measures to address short-term impacts include minimizing movement of construction vehicles during peak traffic periods to avoid traffic congestion and its associated increase in vehicular emissions. Also, frequent watering of unpaved and disturbed areas on the project site will help control the generation of dust. Landscaping disturbed areas as soon as possible is yet another mitigation measure. No long term impacts on air quality are anticipated.

3.8 Views

The project site, which is adjacent to Kamehameha Highway, is in an area designated as Community Business District (B-2). The proposed new building will be consistent with the zoning designation of the subject property and other similarly zoned properties along Kamehameha Highway. The new building will not exceed the height limit.

Potential Impacts and Mitigation Measures

The new building will comply with all applicable development standards and regulations regarding height, density, open space and building setbacks of the Land Use Ordinance.

3.9 Socio-Economic Characteristics

Population and Housing:

The 2000 Census reported the population of Oahu at 876,156. According to the City and County of Honolulu's Department of Planning and Permitting's demographic profile for various Oahu neighborhoods using the 2000 Census data, the subject property is located in Neighborhood Area 21 – Pearl City, which had a population of 46,777.

In comparison to Oahu as a whole, the Pearl City population is slightly older; has a racial mix with proportionately more Asians and less Caucasians and Native Hawaiian or Pacific Islanders;

a higher proportion of family households; proportionately higher homeownership rates; and much lower vacancy rates. See **Figure 6**.

Economic:
According to 2000 Census data compiled by the City's Department of Planning and Permitting, median household income in 1999 for the Pearl City Neighborhood Area was $66,501, which is higher than the median household income of $52,280 for Oahu.

Potential Impacts and Mitigative Measures
The proposed project does not involve residential use. No impacts to the Pearl City population or housing inventory are anticipated. The proposed project's total estimated cost of construction is $450,000 in private funds. The project will have some positive short term construction related economic impacts. In the long-term, the project will create job opportunities associated with the business.

3.10 Public Services and Solid Waste

Police Services:
Pearl City is located in the Honolulu Police Department District 3, which covers the area from Red Hill to Village Park and Waipahu. This area contains 66 square miles and a population of 160,000 people (2000 census).

Fire Services:
Pearl City is located within Honolulu Fire Department's Battalion Five area. The Pearl City Fire Station No. 20 located at 886 First Street serves Pearl City and the project site.

Medical Services:
Two major hospitals are located near the project site, Kapiolani Pali Momi Medical Center and Kaiser Permanente Moanalua.

Potential Impacts and Mitigative Measures
In terms of police, fire and medical services, the proposed project is anticipated to have negligible impacts on these facilities and services. The new building will be constructed to meet the City's fire codes and building regulations. Refuse collection will be collected by a private company.

3.11 Utilities

Storm Drainage System

There are no municipal storm drain facilities along this portion of Kaluamoi Drive. Storm drain facilities due occur further south down Kaluamoi Drive where it takes a bend toward the west. As a result, storm water management will include, but not necessarily be limited to, percolation into landscaped areas and the use of drywells and/or French drains to ensure that there will be no net increase in runoff from the previous land usage.

Potential Impacts and Mitigative Measures

No significant impacts are anticipated on the municipal drainage system serving the project area as the project will not increase the surface water runoff onto adjoining rights-of-way. Drainage patterns and facilities will be design so that there is no net increase in run off onto the municipal drainage systems.

Sanitary Sewer System

The lots are currently serviced by an existing 10-inch sewer line that runs down to Kaluamoi Drive. One or more of the existing laterals will be utilized for the proposed development. A sewer connection permit for the project has been approved (2008/SCA-0720).

Potential Impacts and Mitigative Measures

The proposed project will utilize the available sewer capacity associated with the previous restaurant use. No upgrades or improvements are warranted as the impacts onto the existing municipal wastewater system will be reduced upon the change in use.

Water System

The new building will be served by existing water lines and water meters. There are existing water mains in both Kamehameha Highway and Kaluamoi Drive. There is an existing 12-inch water main in Kamehameha Highway and an existing 8-inch water main in Kaluamoi Drive. The property is served by an existing water meter located within the Kaluamoi Drive right-of-way (M/N 96023827). A new reduced pressure principal backflow preventer will be installed for cross contamination prevention of the municipal water system.

Potential Impacts and Mitigative Measures

The existing water lines are adequate to serve the new building as the impacts onto the municipal water system will be reduced upon the change in use.

3.12 Archeological Assessment

Pacific Legacy, Inc. conducted an Archaeological Assessment for the project site. The report is in **Appendix C**. The purpose of the assessment was to determine the potential of the subject parcel to contain any potentially significant archaeological remains. The archaeological assessment reviewed:

- Previous archaeological studies in the vicinity of the project;
- Archival research into the legends, myths and early uses of the area;
- Early maps of the area; and
- Land Commission Awards that may be associated with the property.

The assessment focused on the potential for buried deposits that may be impacted by ground disturbing activities because the subject property is completely developed and currently contains a vacant fast food restaurant building slated for demolition. A review of previous archaeological studies performed in the vicinity was conducted, as well as archival research covering legends, myths, and traditional land use associated with the project area.

The project area lies at the eastern boundary of Waiau and Wamalu Ahupuaa, which are relatively small *ahupua'a* in the 'Ewa District of Oahu. Archival research for the property located on 371 Kamehameha Hwy has indicated that the general areas of coastal Waiau and Waimalu *ahupua'a* have a long and rich history. A variety of sites have been recorded in the larger area region of the project site.

The 12 acre fishpond, Loko Paakea, was located less than half of a mile to the east of the project area. Loko Kukon, a 27 acre fishpond, was located approximately half a mile to the west of the project area. Located about a mile upland were the remains of Naulu-a-Maihea Heiau and slightly to the west of this were the remains of Kolokukahau Heiau.

Potential Impacts and Mitigative Measures

Although sites have been found in the vicinity, the Archaeological Assessment concluded that it is extremely unlikely that any potentially significant archaeological sites are present due to the relatively high amount of historic and modern disturbance related to commercial and residential development, as well as the types of soils (stiff to hard clays) that underlay the project site.

No further archaeological investigations are recommended for the project site. However, in the unlikely event that potentially significant archaeological resources, including human burials, are

encountered during construction excavations, work should halt and the State Historic Preservation Division (808-692-8015) should be notified.

3.13 Traffic

The project is located at the intersection of Kamehameha Highway and Kaluamoi Drive. This is a non-signalized intersection. Kaluamoi Drive serves only two commercially zoned properties, Parcel 42 (the subject property) and Parcel 1 (across from the subject property); both are adjacent to Kamehameha Highway. In fact, approximately 25 percent of the subject property's Kaluamoi Drive-frontage is residentially zoned. The rest of the parcels served by Kaluamoi Drive are also residentially zoned.

Kaluamoi Drive is an existing 44-foot right-of-way with two travel lanes and paved shoulders. The existing roadway is non-standard as it contains no drainage, no sidewalks, curbs, or gutters. Access to the project site is provided off of Kaluamoi Drive via an existing non-City standard driveway which is approximately 50 feet wide. The existing driveway into the project site is located approximately 55 feet away from the Kamehameha Highway right-of-way. The existing driveway will be demolished and reduced in width to approximately 22 feet wide. The throat of the new driveway will be approximately 20 feet deep.

A concept plan of the project was presented informally to the State Department of Transportation (SDOT) and City Department of Planning and Permitting, Traffic Review Branch (TRB) and Civil Engineering Branch (CEB). The SDOT stated that improvements within Kamehameha Highway would not be required, but the new driveway for the project should be located as far away from the intersection as possible. TRB had a similar concern regarding the driveway location, and further mentioned that the cost of the new project would subject it to Ordinance 2412 improvements. TRB and CEB mentioned that more discussion is warranted regarding the driveway and roadway improvements.

Ordinance 2412 improvements are normally implemented on commercial projects which exceed a certain valuation. The intent of these improvements is to allow the right-of-way to be upgraded to current standards and widths. Ordinance 2412 is not applicable to residentially zoned properties. As a result, Ordinance 2412 is only applicable to the two commercial lots at the intersection of Kaluamoi Drive and Kamehameha Highway. Therefore, the City would not achieve a continuity of roadway improvement along Kaluamoi Drive. Further, Kaluamoi Drive has no storm drain facilities near the project site making the construction of concrete gutters pointless. Installation of concrete gutters would alter the current roadway drainage pattern, potentially directing water back onto the roadway.

The number of employees, customers, and deliveries associated with the new building will be much less than that experienced by the previous restaurant uses. Deliveries are anticipated to occur once a week by van. The primary customer for the proposed use will be other print shops and businesses, not individuals. Therefore, there will be less daily customer traffic to the proposed business service shop than other retail or restaurant types of uses.

Potential Impacts and Mitigative Measures

Subsequent to the meeting with TRB and CEB, the building and parking lot design was revised to push the driveway further away from the Kamehameha Highway intersection with Kaluamoi Drive. The revised driveway is now near the location of the existing driveway.

The owner will request that potential improvements to Kaluamoi Drive be deferred so that continuity of the existing roadway can be maintained. There may be greater impacts to surrounding properties and roadways if full frontage roadway improvements were required. The existing roadways and intersection are adequate to serve the new building.

4. RELATIONSHIP TO LAND USE, POLICIES AND CONTROLS

This section discusses State and City and County of Honolulu land use controls, plans and policies relating to the proposed project.

4.1 Hawaii State Land Use District

The Hawaii State Land Use Law, contained in Chapter 205, Hawaii Revised Statutes, classifies all land in the State into four land use districts: Urban, Agricultural, Conservation, and Rural. The project site is located within the State Urban district which includes "lands characterized by city-like concentrations of people, structures, streets, urban level of services and other related land uses."

Discussion
The proposed project is consistent with the State Urban classification.

4.2 City and County of Honolulu

4.2.1. Primary Urban Center Development Plan

The City and County of Honolulu's Primary Urban Center (PUC) Development Plan (DP), approved by the Council in 2004, is one of eight regional plans covering the Island of Oahu. As mandated by the City Charter, the plans set forth City policy to guide zoning, land use and public investment in a manner that is consistent with and supports the General Plan of the City and County of Honolulu.

The PUC Development Plan Land Use Map – PUC West designates the project site as "District Commercial". The PUC Development Plan states:

> *"District Commercial includes a wide variety of commercial uses located in the core areas of the Primary Urban Center. These districts typically have larger facilities and serve larger populations than community/neighborhood commercial districts. …"*

Discussion
The proposed project is consistent with the District Commercial designation of the PUC Development Plan Land Use Map – PUC West. The proposed business will service other businesses in the region.

4.2.2. Aiea – Pearl City Livable Communities Plan

The Aiea – Pearl City Livable Communities Plan, which was issued in 2004, states that it "…integrates the planning and development of traffic improvements, transit services and facilities and pedestrian/bicycle circulation with land use and community design."

One aspect of the Plan is for improvements along the Kamehameha Highway Corridor:

> *"A major goal of the Kamehameha Highway Corridor improvements is to improve the visual quality and create an enjoyable pedestrian and bicycle-friendly experience connecting the 'Aiea and Pearl City Town District. Consistent to the end is the establishment of a bold, consistent landscape theme and character along the entire length of the corridor."*

Some of the principles recommended for the Kamehameha Highway Corridor include:

- Promote low density development makai of the Highway (buildings no more than two stories, or 30 feet);
- Establish a consistent landscape zone along both sides of the Highway; establish a landscape easement (10-foot minimum);
- Reduce visual impact of overhead lines;
- Provide for more pedestrian-friendly streetscape…;
- Preserve and enhance views to the shoreline and at key intersections and view channels…;
- Encourage the consolidation of smaller parcels to enable more compact development with greater open space and view channels….

Discussion

The proposed project is consistent with a number of the recommended principles stated above. The project complies with low density development and will be limited to two stories. The proposed new building is set back away from Kamehameha Highway. If in the future a landscape easement is established along Kamehameha Highway, the easement will not impact the proposed building but may impact the parking area. The project includes the relocation of an existing power line. The proposed new building is not located at a key intersection and that intersection is not identified in the Plan for potential transportation traffic improvements. The subject property is not located in a significant view channel. Finally, the project proposes to consolidate two existing lots via joint development to enable more compact development.

4.2.3. Land Use Ordinance - Zoning

The project site is designated as Community Business District (B-2). **See Figure 7, Zoning**. The intent of the B-2 community business district is to provide areas for community-wide business establishments, serving several neighborhoods and offering a wider range of uses than is permitted in the B-1 district (Chapter 21, Sec 21-3.110, Revised Ordinances of Honolulu).

The subject property adjoins only two other properties; one zoned R-5 for residential use and the second zoned B-2 Community Business. The residential district height setback is applicable at the buildable area boundary line where the project site adjoins the R-5 parcel TMK 9-8-21: 43.

B-2 Community Business District Development Standards

Development Standard		**Proposed Project**
Minimum lot area	5,000 SF	5,699 SF
Minimum lot width and depth	50 feet	5 feet & 10 feet per Figure 21-3.6
Yards	Varies	0 feet & 5 feet adjoining Parcel 43
Maximum building area	Not regulated	Not Applicable
Maximum density (FAR)	2.5 Base, 3.5 Maximum	0.46 FAR
Open Space Bonus	See LUO	Not Used
Maximum height	Per zoning map	60 feet
Height setbacks	Per Sec 21-3.110-1(c)	5 feet @ 1st flr, 10 feet @ 2nd flr

Discussion

The proposed new two-story print shop business is consistent with the property's B-2 zoning designation's allowable uses and development standards. The proposed project complies with the B-2 District Transitional Height Setback requirements because it adjoins a zoning lot in the residential district.

4.3 Special Management Area

The shoreline and some inland areas of Oahu as designated by the City and County of Honolulu as being within the Special Management Area (SMA). SMA areas are designated as sensitive environmental that should be protected in accordance with the Statement Coastal Zone Management policies, as set forth in Chapter 25, Special Management Area, Revised Ordinances of Honolulu (ROH) and in Section 205A, Hawaii Revised Statutes (HRS), Coastal Zone Management Program. **Figure 3** illustrates that the entire project site is within the SMA.

4.3.1. Revised Ordinances of Honolulu, Chapter 25, Special Management Area

The potential effects of the proposed project were evaluated based on the review guidelines in Chapter 25, Special Management Area, Revised Ordinances of Honolulu. The following is a discussion of the application of the guidelines to the proposed improvements of the proposed project:

> (a) All development in the special management area shall be subject to reasonable terms and conditions set by the council to ensure that:
>
> (1) Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas and natural reserves is provided to the extent consistent with sound conservation principles;

The proposed project is not located along the shoreline. No construction is proposed that would impact access to the shoreline. The proposed project will not impact access to publicly owned or used beaches, recreational areas or nature reserves.

> (2) Adequate and properly located public recreation areas and wildlife preserves are reserved;

The proposed project is located approximately 200 feet eastward of Blaisdell Park. The project site is not located in proximity to a wildlife preserve. No impacts are anticipated.

> (3) Provisions are made for solid and liquid waste treatment, disposition and management which will minimize adverse effects upon special management area resources; and

Solid waste: Construction-related debris and building materials will be disposed of at an approved City and County of Honolulu refuse facility. During the operational phase of the project, solid waste will be disposed of by a private refuse hauler. No further mitigation measures are anticipated to be required.

Liquid waste: Minimal liquid waste is anticipated to be generated during either the construction or operational phase of the proposed project. Construction-related wastes will be handled as applicable in accordance with City and County of Honolulu and State Department of Health (DOH) regulations.

> (4) Alterations to existing land forms and vegetation; except crops, and construction of structures shall cause minimum adverse effect to water resources and

scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation or failure in the event of earthquake.

The proposed project will require excavation and fill. However, no adverse impacts to water resources, scenic resources or recreational amenities are anticipated due to changes in land forms. No adverse impacts to water resources are anticipated due to the construction of the project. Development of the project site will adhere to a construction Best Management Practices (BMPs) Plan to reduce soil loss and sediment discharges from the work site. Construction activities will comply with applicable DOH regulations as set forth in Chapter 11-54, Water Quality Standards, and Chapter 11-55, Water Pollution Control, HAR.

(b) No development shall be approved unless the council has first found that:

(1) The development will not have any substantial, adverse environmental or ecological effect except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health and safety, or compelling public interest. Such adverse effect shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect and the elimination of planning options;

The proposed project is not anticipated to involve or result in substantial degradation of environmental quality. The subject property, which has been developed for many years is surrounded by urban residential and business development.

(2) The development is consistent with the objectives and policies set forth in Chapter 25-3.1 and area guidelines contained in HRS Chapter 205A-26;

The proposed project is consistent with the objectives and policies as set forth in Chapter 205A-2 and Chapter 205A-26, HRS. This document summarizes the proposed new commercial building and related improvements and potential for adverse impacts in relation to the Special Management Area guidelines found in Chapter 205A-26, HRS, and Chapter 25, ROH. The subject property is not within the shoreline setback area.

(3) The development is consistent with the county general plan, development plans and zoning. Such a finding of consistency does not preclude concurrent processing where a development plan amendment or zone change may also be required.

The General Plan is a statement of objectives and policies for the future development of Oahu. The proposed project is consistent with the Physical Development and Urban Design Objective A, which is to "coordinate changes in the physical environment of Oahu to ensure that all new

developments are timely, well-designed, and appropriate for the area in which they will be located." The subject property's zoning designation is B-2 Community Business District. The proposed project is consistent with this designation.

(c) The council shall seek to minimize, where reasonable:

(1) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;

The proposed project does not involve dredging, filling or otherwise alternating any bay, estuary, salt marsh, river mouth, slough or lagoon, and is not located along the shoreline.

(2) Any development which would reduce the size of any beach or other area usable for public recreation;

The proposed project is not along the shoreline or in proximity to a beach. No impacts to any beach or other public recreation area are proposed.

(3) Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the special management area and the mean high tide line where there is no beach;

The proposed project will not reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the Special Management Area. Public access to the shoreline will not be impacted.

(4) Any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast; and

The proposed project, which is makai of Kamehameha Highway, is approximately 900 feet mauka of the nearest shoreline. The new building will comply with the height limit.

(5) Any development which would adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.

Development of the subject property, which is surrounded by urban uses, will not adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.

4.3.2. Hawaii Revised Statutes, Chapter 205(A), Coastal Zone Management

The State of Hawaii has designated the Coastal Zone Management Program (CZMP) to manage the intent, purpose and provisions of Chapter 205(A)-2, HRS, as amended, for the areas from the shoreline to the seaward limit of the State's jurisdiction. The following is an assessment of the project with respect to the CZMP objectives and policies as set forth in Chapter 205(A)-2, HRS:

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 uses 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, and county authorities; and

crediting such dedication against the requirements of section 46-6.

The proposed project is located about 900 feet away from the shoreline area and approximately 200 feet eastward of the Blaisdell Park. No shoreline recreation areas will be impacted. The project will not alter existing shoreline areas. Water quality will be protected during construction through the application of construction BMPs.

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 archaeological 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.

No adverse impacts to historic or archeological resources are anticipated to occur due to historic development of the project site. The project site has been developed for many years and as such has been previously disturbed. Proposed construction activities are anticipated to have similar ground disturbance impacts as previous activities. However, should any archaeological resources be uncovered during construction, work will cease in the immediate area and the State Historic Preservation Division will be contacted.

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 land forms 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 that are not coastal dependent to locate in inland areas.

The proposed project conforms. The project will be developed in an area approximately 900 feet inland of the shoreline. The proposed business is consistent with the property's land use designation.

4. Coastal ecosystems
Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.
Policies:
(A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

(B) Improve the technical basis for natural resource management;

(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

(D) 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

(E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and non-point source water pollution control measures.

The proposed project is not expected to have any impacts on marine resources. Proposed construction activities do not involve alterations to water bodies, water resources, or stream channels. The project will not adversely affect marine or coastal resources. During construction BMPs will be undertaken to prevent potential discharges into storm water runoff. Measures to prevent sediment discharges into storm water runoff during construction will be in place before construction activities begin.

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 industry 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.

The project site has been used for commercial / restaurant use since the early 1970s. The proposed project has been assessed for potential impacts to social, visual and economic factors in accordance with Chapter 25, ROH. No adverse impacts are anticipated to result from 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 source pollution hazards;

(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

(D) Prevent coastal flooding from inland projects.

According to the Federal Emergency Management Agency (FEMA), the project site is in an area designated as Zone D, undetermined flood area. The development of the project will comply as applicable with the requirements of the Federal Flood Insurance Program; the City and County of

Honolulu Drainage, Grading and Development Standards for Flood Hazard District; and the City Land Use Ordinance, Section 21-9.10 Flood Hazard Districts.

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 or 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.

The project site is located in the State Urban Land Use District and the zoning designation is B-2 Commercial Business District. The proposed project is consistent with these designations and is a permitted use. All improvements will be developed in compliance with applicable State and County environmental and land use rules and regulations. This EA has been prepared to identify and, as necessary, propose mitigation measures to address potential impacts from the construction and operation of the project. This document will be published for public review in compliance with procedures set forth in Chapter 25, ROH.

8. Public participation;
Objective: Stimulate public awareness, education, and participation in coastal management.
Policies:
(A) Promote public involvement in coastal zone management processes;

(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 issues, developments, and government activities; and

(C) Organize workshops, policy dialogues, and site-specific mitigation to respond to coastal issues and conflicts.

As part of the SMA permit review process public notification of the proposed project will be published in the Office of Environmental Quality Control's Environmental Notice. Section 1.5 contains a list of agencies, organizations and individual consulted. All written public comments will be provided a written response. Mitigation measures will be developed where appropriate to address issues and concerns raised during the public review of the project.

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, minimize interference with natural shoreline processes, and 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.

The proposed project is located approximately 900 feet away from the shoreline, adjacent to Kamehameha Highway. The proposed improvements are not expected to impact existing recreational or ocean recreation activities, nor interfere with natural shoreline processes.

10. Marine resources
Objective: Promote the protection, use, and development of marine and coastal resources to assure their sustainability.
Policies:
(A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

(B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

(C) 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;

(D) 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

(E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

The proposed project does not involve research, education or technological development related to the marine or coastal environmental. No impacts to marine resources are anticipated.

5. ALTERNATIVES TO THE PROPOSED ACTION

5.1 No Action Alternative

The No Action Alternative would mean that the owner would not redevelop the property. The existing vacant small restaurant building would remain. The most likely tenant would be another restaurant use because of the existing kitchen equipment in the building. Therefore, the property developed again as restaurant use would have the potential to generate more traffic than the proposed use. The new business would be open just Monday through Friday during traditional office hours, while a restaurant use would be more intense and have more traffic entering and leaving the site during both day, evening and weekend hours.

5.2 Alternatives Considered

Reuse of the existing building: This alternative is not feasible for the new business operations because the existing building size and ceiling height will not accommodate the equipment necessary for the operation of the new business.

Construct new building near Kamehameha Highway: If a new building was built near the Kamehameha Highway end of the lot, the setbacks and shape of the existing lot would limit the shape of the new building and it would not be able to accommodate the equipment necessary for the operation of the new business.

5.3 Preferred Alternative

The proposed new two-story building at the rear of the lot, away from Kamehameha Highway, is necessary to accommodate the new business's equipment. The proposed project would provide a driveway located away from Kamehameha Highway. The proposed project is the preferred alternative which will meet the needs of the landowner and will meet the development standards of the Land Use Ordinance.

6. FINDINGS AND PRELIMINARY DETERMINATION

This Draft Environmental Assessment demonstrates that the proposed action is not anticipated to have a significant adverse effect on the environment and that an Environmental Impact Statement is not warranted. A Finding of No Significant Impact (FONSI) is therefore anticipated for this project.

6.1 Findings and Reasons Supporting the Preliminary Determination

Chapter 200 (Environmental Impact Statement Rules) of Title 11, Administrative Rules of the State Department of Health establishes criteria for determining whether an action may have a significant impact on the environment. The Rules establish "significance criteria" for making the determination. The relationship of the proposed project to the thirteen criteria is provided below.

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

The existing project site has modified extensively when the existing building and parking lot were developed. The project site is located well away from the shoreline and does not contain any known natural or archaeological resources.

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

The proposed project is an allowable use per the City and County's zoning ordinance. The project will not curtail the range of beneficial uses of the environment as the new building and parking area will be constructed on an already fully developed site.

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

The proposed project does not conflict with long-term environmental policies or goals and guidelines of the State of Hawai'i. Section 4 contains a detailed discussion as to how the proposed project is consistent with the applicable plans, policies and regulations. Potential impacts are primarily short-term temporary impacts associated with construction. Those impacts can be mitigated through adherence to standard construction mitigation and by following State and County rules and regulations for construction practices.

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

The proposed project will have a beneficial economic impact through the creation of short-term construction jobs as well as employment related to the operation of the business. The proposed project is not anticipated to have any affects on social welfare or cultural practices.

5. Substantially affects public health;

There is no public health concern related to the proposed construction of the project. No impacts to soil or water quality are anticipated. Short-term impacts to noise and air quality as a result of construction are not anticipated to be significant and will be limited to the construction phase.

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

Due to the nature of the proposed project, there are no significant secondary or indirect impacts anticipated, such as population changes or effects on public facilities.

7. Involves a substantial degradation of environmental quality;

Impacts are anticipated to be minimal and short-term to air quality and noise levels associated with construction of the two-story building and parking area. Mitigation measures will be employed as practicable to minimize potential effects from project activities, like dust control. The proposed project does not constitute substantial degradation of environmental quality.

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

The proposed project does not involve a commitment for a larger action. The new building are parking area are allowable uses and are consistent with the land use designations of the property. The proposed project does not create significant adverse effects upon the environment.

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

The project site has been previously disturbed and developed as a more intensive use as a restaurant. There are no known rare, threatened or endangered species or its habitat on or near the project site.

10. Detrimentally affects air or water quality or ambient noise levels;

Construction activities are anticipated to result in short-term impacts to noise and air quality. Mitigation measures will be implemented during construction in order to minimize impacts in accordance with applicable ordinance, rules and regulations.

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

The project site is located approximately 900 feet mauka of Pearl Harbor. The Federal Emergency Management Agency's FIRM Insurance designation for the project site is Zone D – area of undetermined flood hazard. The project is not located in an environmentally sensitive area and is unlikely to affect or suffer damage from natural forces such as flooding.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies;

The project site is not located in a significant view corridor. The height of the proposed building will comply with the applicable zoning regulations.

13. Requires substantial energy consumption.

Construction of the project will not require significant use of electricity. Operation of the proposed business is relatively small in scale in terms of energy consumption.

7 PERMITS AND APPROVALS

The following is a preliminary list of permits, approvals and reviews which may be require prior to construction of the proposed project:

City and County of Honolulu

Department of Planning and Permitting

- Issuance of a FONSI for the Final EA
- Special Management Area Permit
- Conditional Use Permit (Minor) for Joint Development
- Ministerial permits including grading, building permits, and sewer and water connection permits.

8 CONSULTATION

8.1 Parties Consulted During the Pre-Environmental Assessment Consultation Period

State of Hawaii
Department of Land and Natural Resources
- State Historic Preservation Division

Department of Transportation

City and County of Honolulu
Department of Planning and Permitting
- Civil Engineering Branch
- Land Use Permits Division
- Traffic Review Branch
- Wastewater Branch

Figures

Figure 1
Location Map

371 Kamehameha Hwy, Pearl City, Oahu

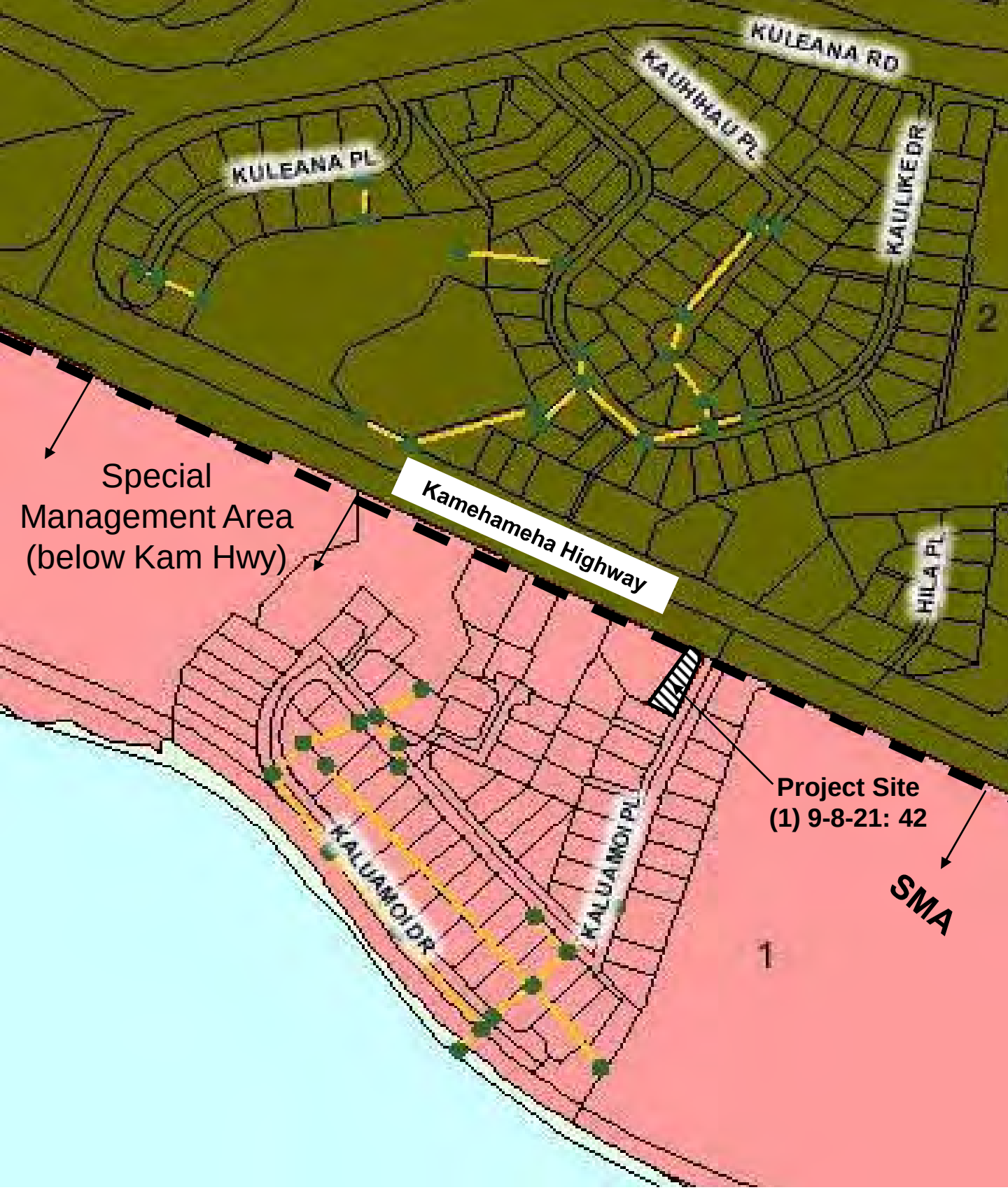


Figure 2
Special Management Area Boundary Map

371 Kamehameha Hwy, Pearl City, Oahu

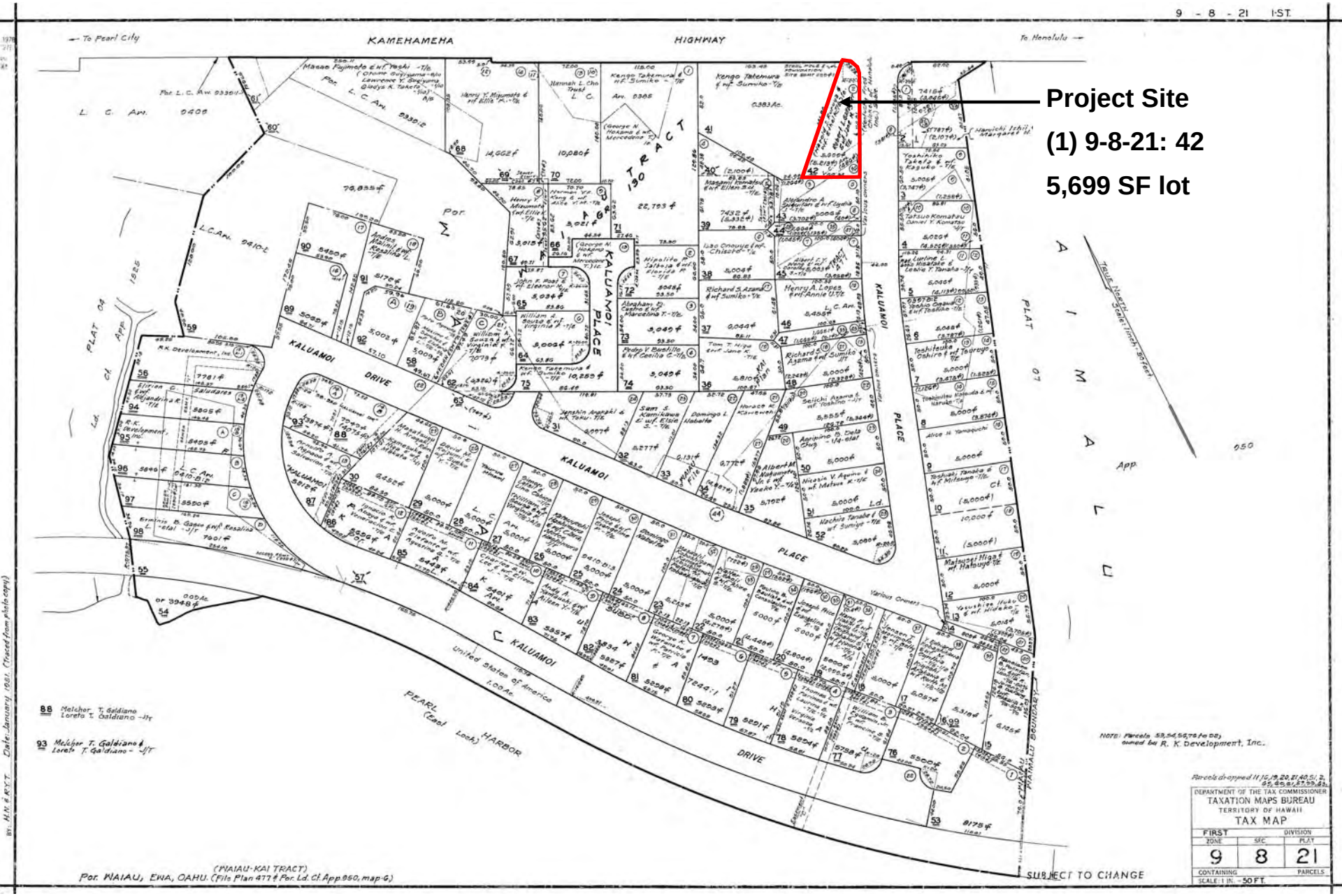


Figure 3
Tax Map Key

371 Kamehameha Highway, Pearl City, Oahu

1. Looking west at project site.

2. Looking north at project site and on-site parking lot.

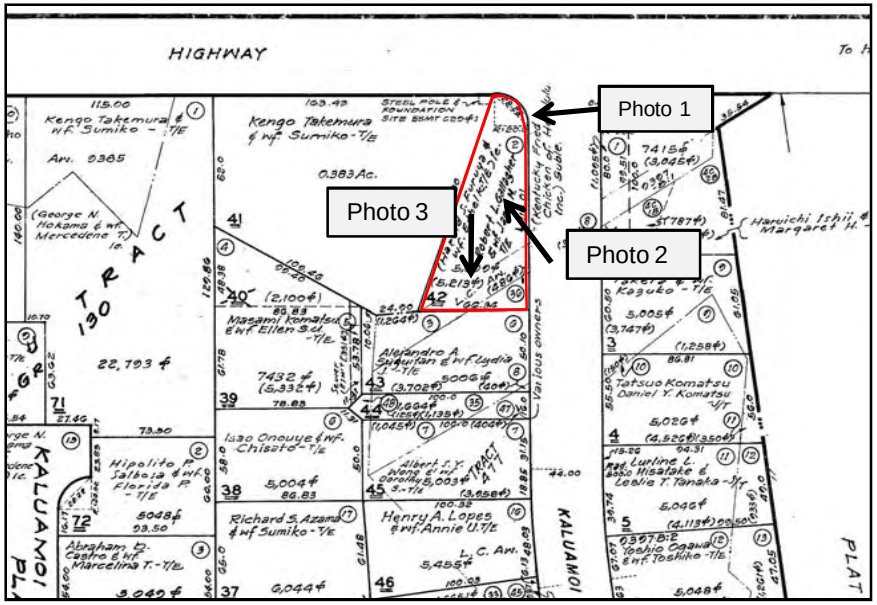


Figure 4 – Photo Key Map

3. Looking south at project site parking lot.

Figure 6: Demographic Characteristics: 2000

Subject	Neighborhood Area #21		Oahu	
	Number	Percent	Number	Percent
Total Population	46,777	100.0	876,156	100.0
AGE				
Under 5 Years	2,367	5.1	56,849	6.5
5-19 years	8,338	17.8	175,175	20.0
20-64 years	29,283	62.6	526,395	60.1
65 years and over	6,789	14.5	117,737	13.4
Median Age (years)	37.9		35.7	
RACE (alone or in combination with other races)				
White	10,005	16.1	186,484	21.3
Black or African American	605	2.3	20,619	2.4
American Indian and Alaska Native	292	0.2	2,178	0.2
Asian	8,876	56.5	403,371	46.0
Native Hawaiian and other Pacific Islander	1,725	5.6	77,680	8.9
Other	534	1.1	11,200	1.3
HOUSEHOLD (by type)				
Total Households			286,450	100.0
Family households (families)	11,502		205,672	71.8
With own children under 18 years	4,035		91,022	31.8
Married-couple family	9,188		156,195	54.5
With own children under 18 years	3,282		70,442	24.6
Female householder, no husband present	1,624		35,138	12.3
With own children under 18 years	540		15,235	5.3
Non-family Households	2,508		80,778	28.2
Households with Individuals under 18 yrs	5,126		108,247	37.8
Households with Individuals 65 yrs and over	4,510		80,464	28.1
Average Household Size	3.14	--	2.95	--
HOUSING OCCUPANCY AND TENURE				
Total Housing Units			315,988	100.0
Occupied Units	14,010		286,450	90.7
By owner	9,980		159,290	49.5
By renter	4,030		130,160	41.2
Vacant units	430		29,538	9.3
Available housing vacancy rate (%)	1.7	--	4.9	4.7 --
Homeownership rate (%)	71.2	--	54.6	--

Source: 2000 Census SF1 File; Planning Division, Honolulu Department of Planning and Permitting

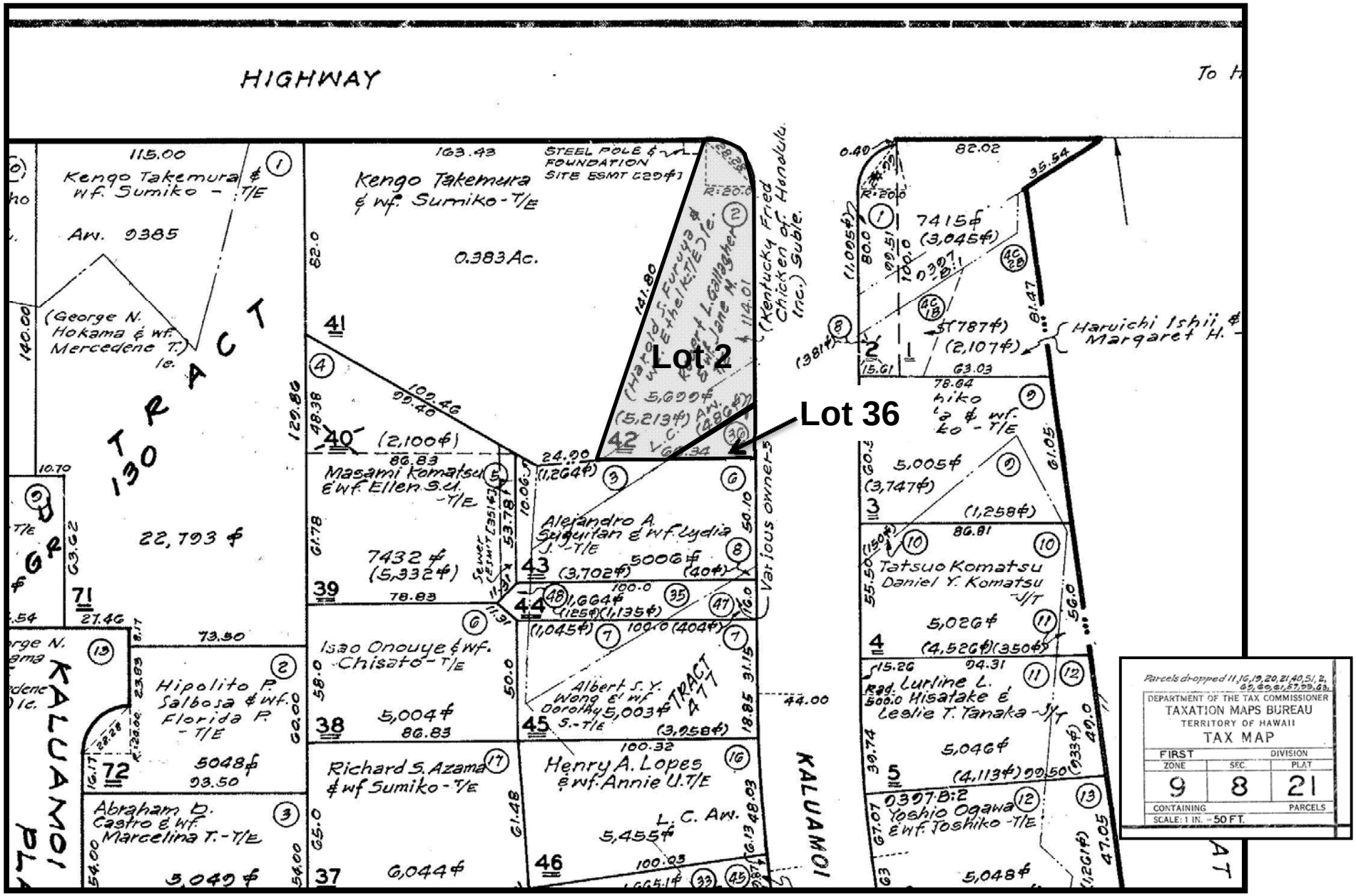


Figure 5 371 Kamehameha Highway, Pearl City, Oahu

Lot 2 and Lot 36 of TMK (1) 9-8-21: 42

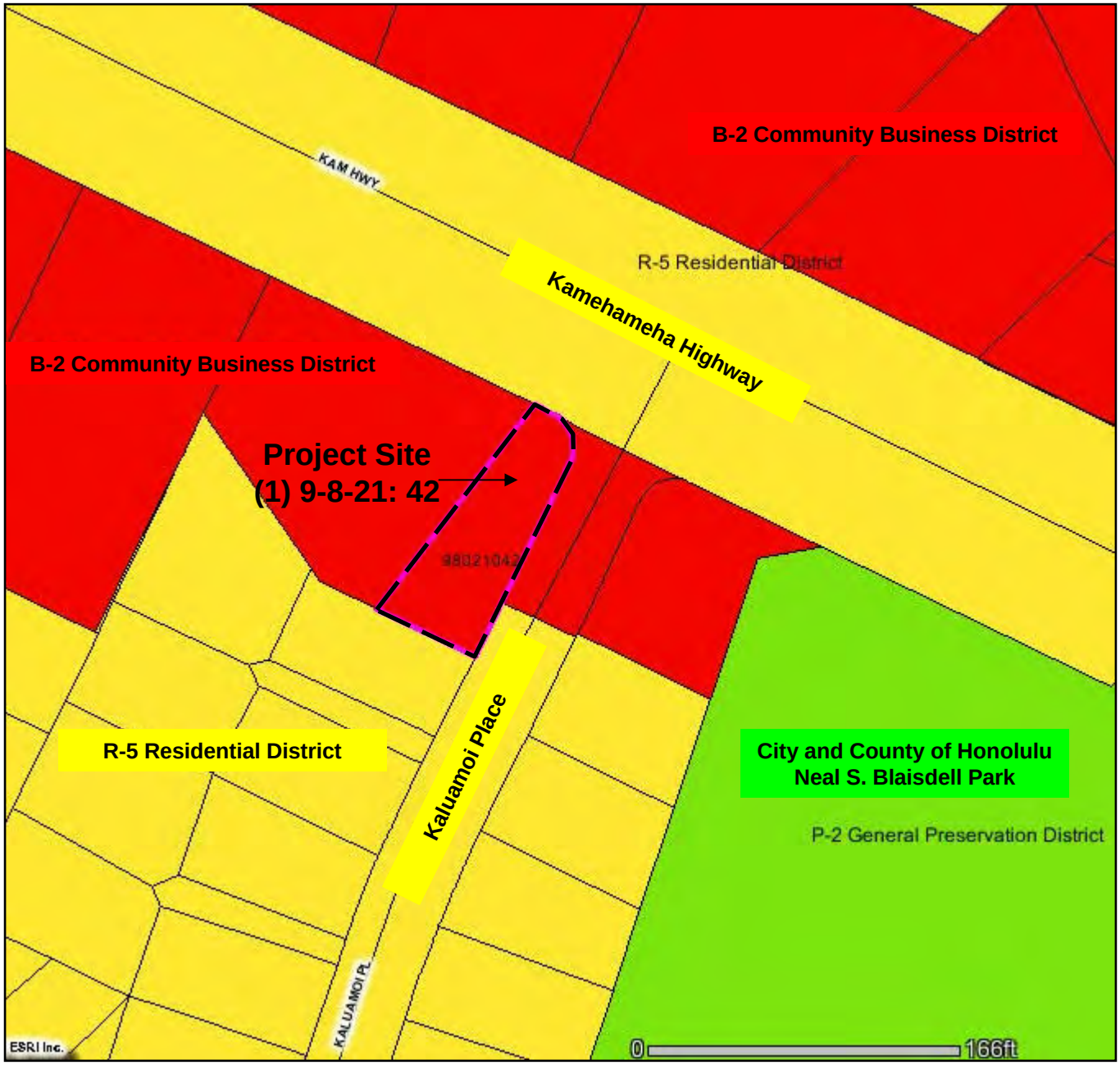
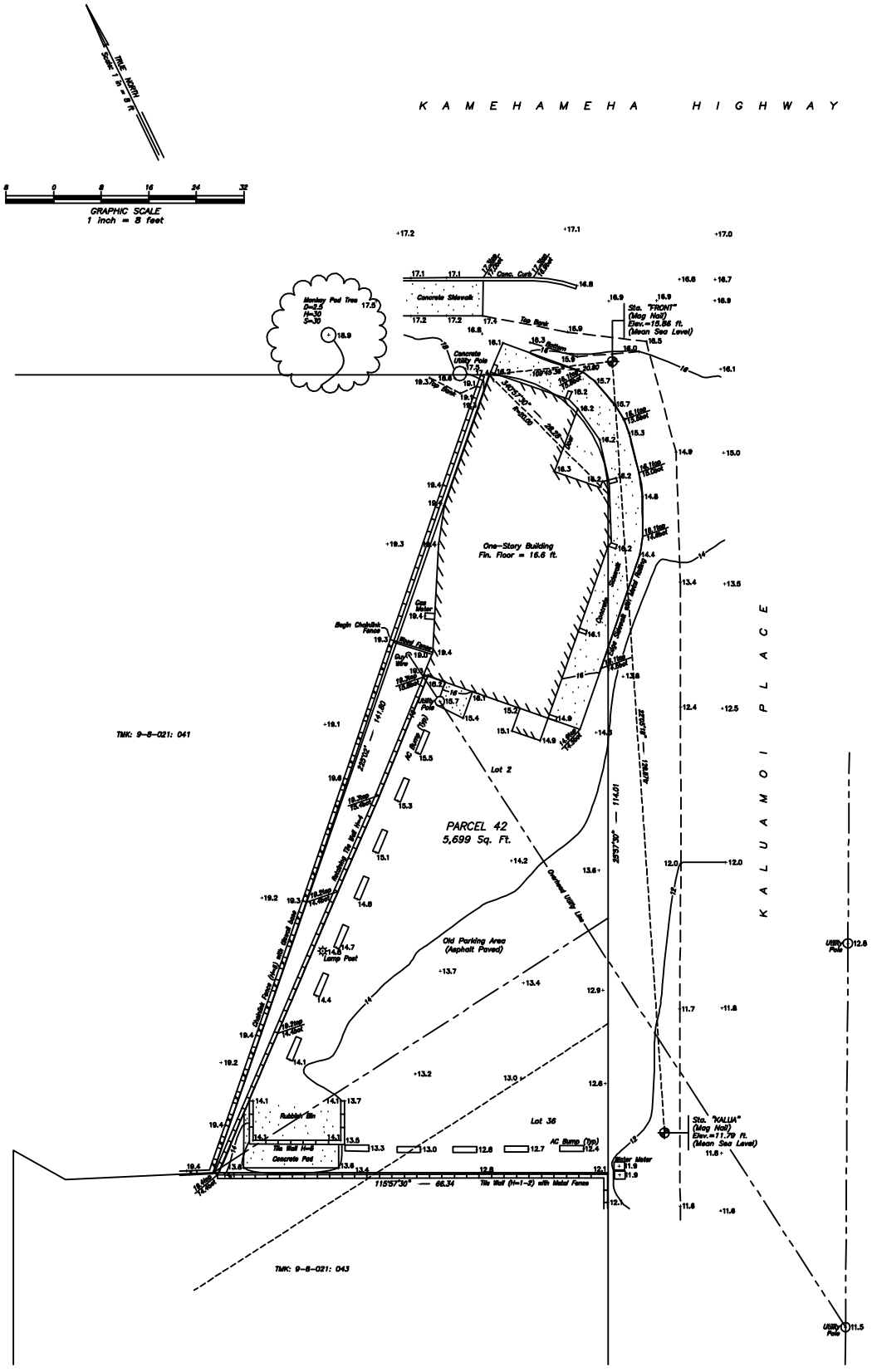


Figure 7 371 Kamehameha Highway, Pearl City, Oahu
Zoning

Appendix A



NOTE:

Elevations were referred to HRT Sta. No. "108" (Aluminum Disk) with an elevation of 18.116 feet (Mean Sea Level).

TOPOGRAPHIC SURVEY MAP

LOTS 2 & 36 OF MAP 6
LAND COURT APPLICATION 950
Tax Map Key: (1) 9-8-021: 042
AT WAIMALU, EWA, OAHU, HAWAII

This work was prepared by me or under my supervision

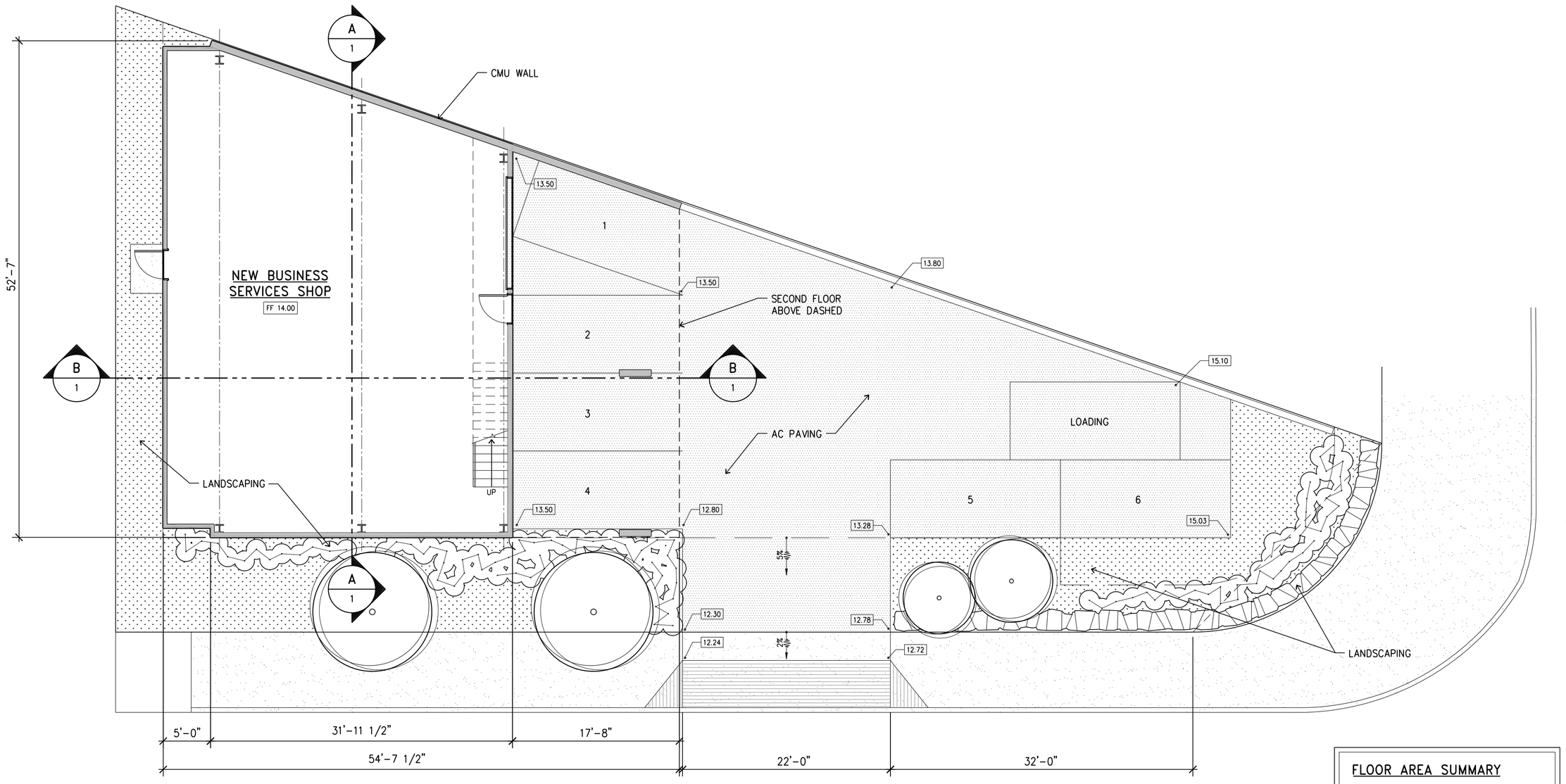
GIL P. BUMANGLAG
Licensed Professional Land Surveyor
Certificate Number 8948

Date: May 26, 2008
FB No. 6-317; 14
c:\sdskt\proj\topo\rosspotFIN

GIL SURVEYING SERVICES, Inc.
1442 ULA STREET HONOLULU HAWAII 96816

24" x 36" = 6.0 sq ft

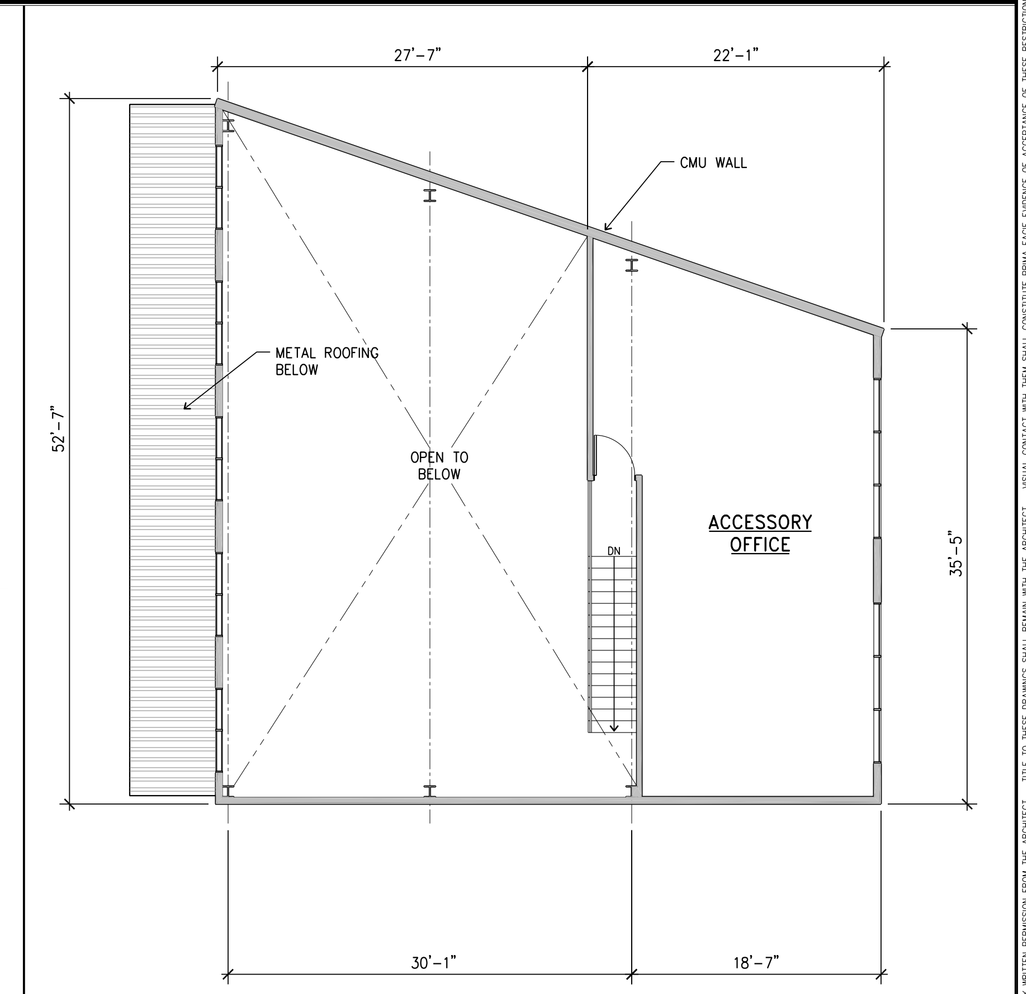
Appendix B



SITE/FIRST FLOOR PLAN

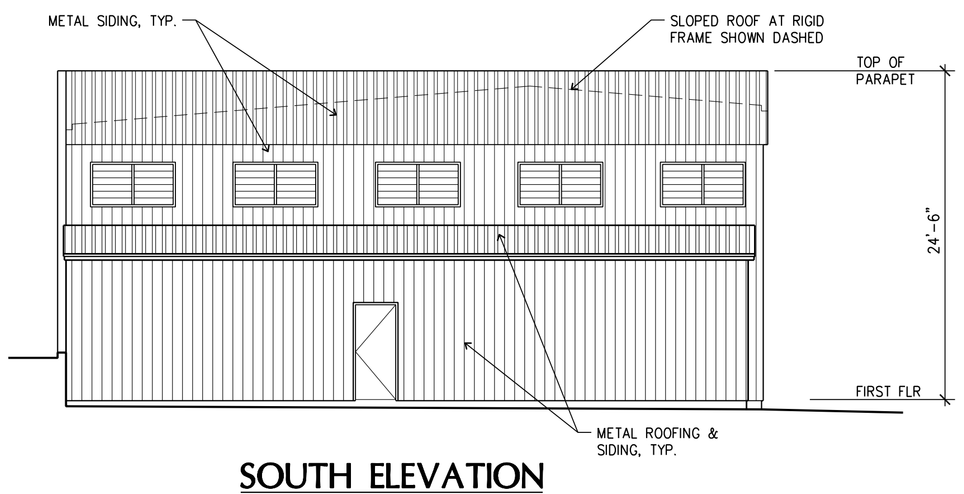
1/8" = 1'-0"

FLOOR AREA SUMMARY	
SECOND FLOOR:	1,761 SF
SECOND FLOOR:	839 SF
TOTAL:	2,600 SF



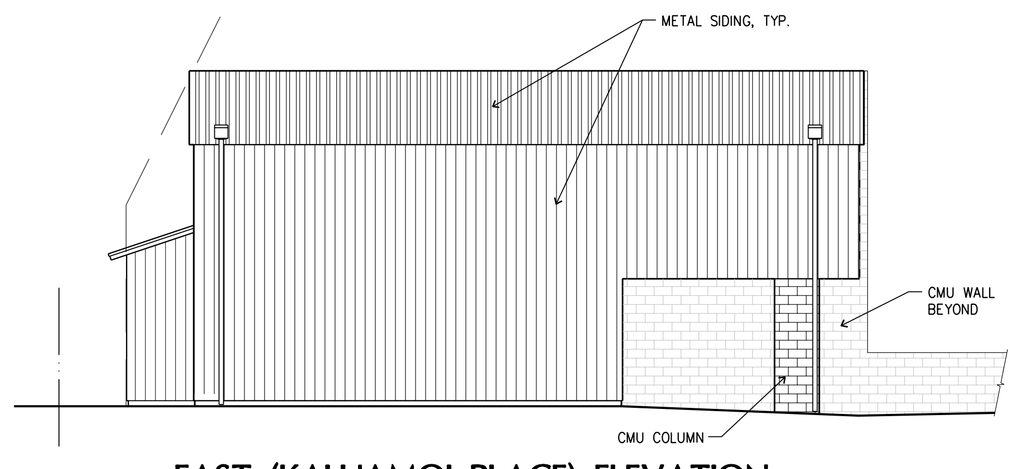
SECOND FLOOR PLAN

1/8" = 1'-0"



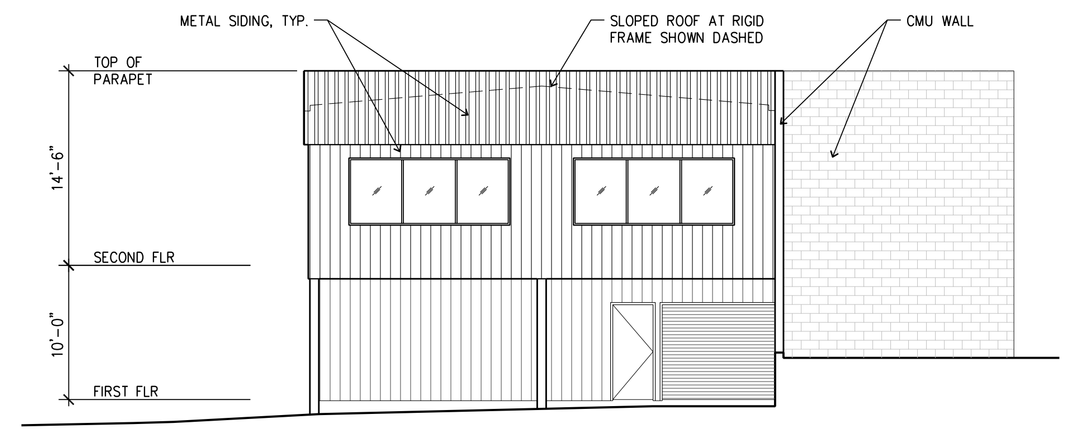
SOUTH ELEVATION

1/4" = 1'-0"



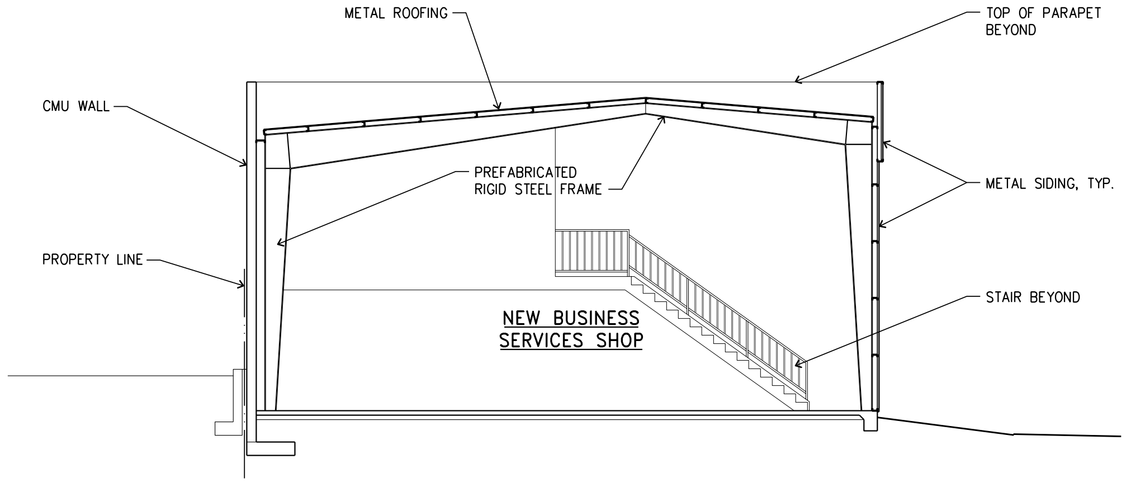
EAST (KALUAMOI PLACE) ELEVATION

1/4" = 1'-0"



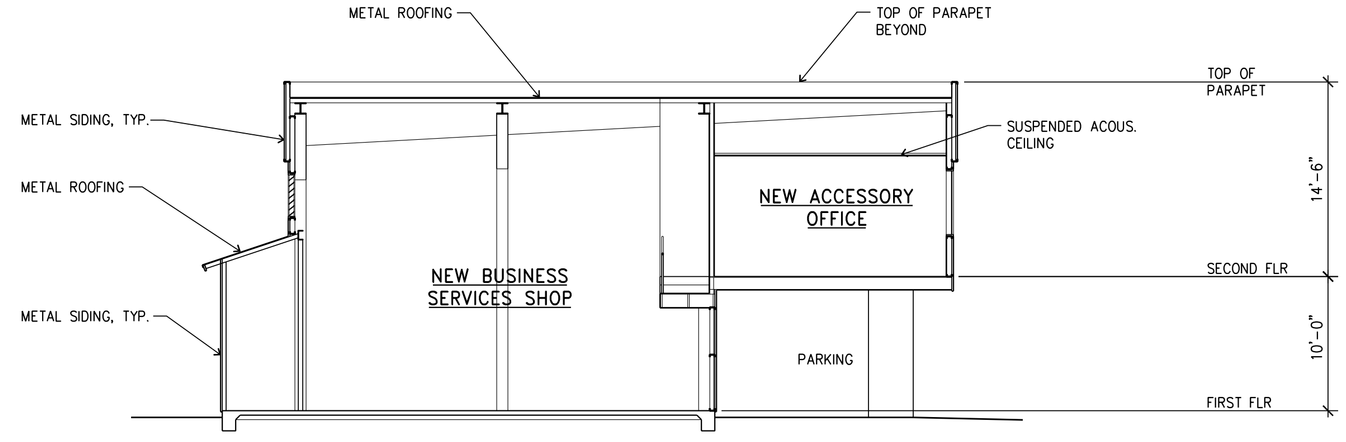
NORTH (KAM. HWY.) ELEVATION

1/4" = 1'-0"



BUILDING SECTION A-A

1/4" = 1'-0"



BUILDING SECTION B-B

1/4" = 1'-0"

ROSS ARCHITECTS LLC

MILILANI TECHNOLOGY PARK
100 KAHELU AVENUE, SUITE 7
MILILANI, HAWAII 96789-3913
TEL: (808) 625-7311 · FAX: (808) 625-7315

ROSS A. YAMAMOTO
LICENSED PROFESSIONAL ARCHITECT
No. 6437
HAWAII, U.S.A.

This work was prepared by me or under my supervision and construction of this project will be under my observation (Observation of Construction as defined in §16-115-2, Title 16, Chapter 115, Hawaii Administrative Rules, Professional Engineers, Architects, Surveyors, and Landscape Architects).

Date of Expiration: 4-30-10

CONSULTANT:

REVISION	DATE
1	
2	
3	

NEW BUSINESS SERVICES SHOP FOR:

PB & CHES, LLC

371 KAMEHAMEHA HIGHWAY
PEARL CITY, HAWAII 96782
TMK: 9 - 1 - 021: 042

DRAWN:	-
CHECKED:	-
PROJECT NO.:	08.008
DATE:	10-4-08

SHEET TITLE:

SITE/FIRST FLOOR PLAN
SECOND FLOOR PLAN
EXTERIOR ELEVATIONS
BUILDING SECTIONS

SHEET NUMBER:

1

SHEET 1 OF 1

Appendix C

Pacific Legacy

Incorporated

CULTURAL RESOURCES CONSULTANTS

ARCHAEOLOGICAL ASSESSMENT FOR THE PROPERTY LOCATED AT 371 KAMEHAMEHA HIGHWAY WAIAU AHUPUA‘A, O‘AHU ISLAND, HAWAI‘I (TMK (1) 9-8-021:042)

Pacific Legacy: Exploring the past, informing the present, enriching the future.

Hawai‘i
Kailua, O‘ahu
Wailuku, Maui
Hilo, Hawai‘i

California
Santa Cruz
Berkeley
Cameron Park
Bishop
Chico

ARCHAEOLOGICAL ASSESSMENT FOR THE PROPERTY LOCATED AT 371 KAMEHAMEHA HIGHWAY WAIAU AHUPUA'A, O'AHU ISLAND, HAWAI'I (TMK (1) 9-8-021:042)

Prepared by:

Kimberly M. Mooney, B.A.
and
Paul L. Cleghorn, Ph.D.

Pacific Legacy, Inc.
30 Aulike Street, Suite 301
Kailua, Hawai'i 97634
(808) 263-4800

Prepared for:
Patrick Seguirant, Architect
91-1030 Kalihi Street
Ewa Beach, HI 96706

September 2008

ABSTRACT

Pacific Legacy, Inc., under contract to Patrick Seguirant, Architect, has conducted an archaeological assessment of the property located at 371 Kamehameha Highway. This assessment investigated traditional accounts, historic texts, historic maps, and previous archaeological reports that pertain to the project location and its vicinity.

In general, the project locality was found to have a long and rich pre-Contact and post-Contact past. However, the project area itself was not subject to previous archaeological study and had no archival documentation indicating a relationship to any significant archaeological sites. Further, the project area's surface has been fully developed (i.e. paved and built upon).

No further archaeological investigations are recommended for this project area. However, in the unlikely event that potentially significant archaeological resources, including human burials, are encountered during construction excavations, work should halt and the State Historic Preservation Division (808-692-8015) should be notified.

TABLE OF CONTENTS

LIST OF FIGURES

1.0 INTRODUCTION

Pacific Legacy, Inc., under contract to Architect, Patrick Seguirant, conducted an Archaeological Assessment on behalf of Patricia J. Borengasser, for the property located at 371 Kamehameha Highway [TMK: (1) 9-8-021: 042] Waiau Ahupua‘a of `Ewa District, O‘ahu, Hawai‘i (Figure 1). The purpose of this assessment is to determine the potential of this parcel to contain any potentially significant archaeological remains.

As the subject property is completely developed and currently houses a fast food restaurant that has been slated for demolition, this assessment focuses on the potential for buried deposits that may be impacted by ground disturbing activities. A review of previous archaeological studies performed in the vicinity will be conducted as well as archival research covering legends, myths, and traditional land use associated with the project area. This assessment was conducted by Kimberly M. Mooney, B.A. under the overall supervision of Paul L. Cleghorn, Ph.D.

If potentially significant resources are present within the project area, impacts to these resources will need to be addressed and mitigation measures for potential adverse effects to these resources will be recommended.

1.1 PROJECT AREA DESCRIPTION

The proposed project area is located in Pearl City on the corner of Kamehameha Highway and Kaluamoi Drive at the southeast corner of Waiau Ahupua‘a in ‘Ewa District on the Island of O‘ahu, Hawai‘i. The property is approximately 60 meters to the east of Blaisdell Park and approximately 275 meters north of Pearl Harbor’s East Loch (Figures 1-3).

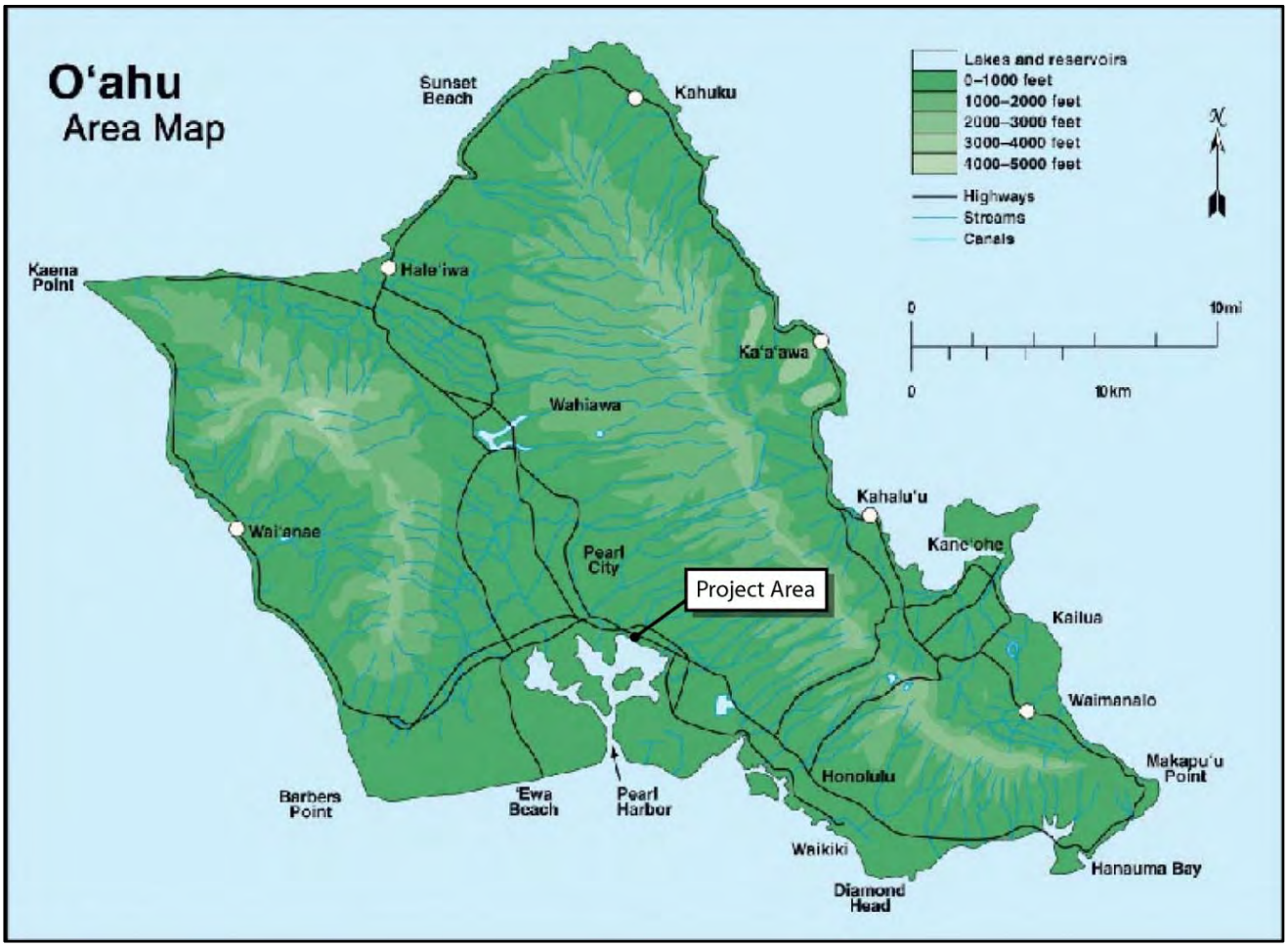


Figure 1. Map of O‘ahu with project location marked.

Currently, the subject parcel is situated in an area developed with residential and commercial structures and associated parking lots. Immediately to the north of the parcel is Kamehameha Highway and to the east is Kaluamoi Drive. The existing structure is completely surrounded by asphalt and concrete paving (Figures 4-8).

Figure 2. Aerial view of southeast Pearl City with project area, landmarks, and significant archaeological sites marked (adapted from of Google Earth aerial photo).

1.2 ENVIRONMENTAL SETTING

The project is situated on a flat, low-elevation lot on the northern rim of Pearl Harbor's East Loch in leeward O'ahu between Waiau Spring and Waimalu Stream.

The climate of Pearl City is generally mild. According to Price (1983: 62), this area receives approximately 25 to 35 inches of rain per year. Average highs in the summer are 89°F and average lows are 71°F. In the winter, average highs are about 82°F and lows average at roughly 63°F (The Weather Channel 2008).

Soils in the Pearl Harbor coastal areas consist of a series of deltaic sediments that overlie depositional soils typical of tributary valleys and flood plains caused by sea level fluctuations that drowned and alternately exposed its valleys. Macdonald *et al.* (1983) further explain,

"[Pearl Harbor's] branching lochs are former stream valleys drowned by the rising ocean, and modified somewhat in form by deposition of sediment and by differential wave erosion of rocks of varying resistance" (Macdonald *et al.* 1983:228). Naturally occurring soils in the project area are generally comprised of Hanalei silty clay (Foote *et al*. 1972: 38; map 53).

Recent soil investigations were conducted at the project location by Shinsato Engineering (2008). Three test bores were excavated to depths of 4.6 to 9.1 m (15 – 30 feet) (see Appendix). In general, the test borings revealed that the site is underlain with moderately stiff to very still brown to orange brown clay to depths of 1.1 to 1.8 m (3.5 – 6 feet), followed by very stiff to hard clay (saporitic soil) to depths of 3.4 to 4.1 m (11 – 13.5 feet), then stiff orange brown silt to the base of the borings.

Vegetation in pre-Contact times was much different than what is seen in the area today. According to micro- and macrobotanical studies as well as radiocarbon dating, this area was a wetland with areas of various grasses and sedges embanked by thick stands of *loulu* palms (*Pritchardia* sp.) from approximately 1540-172 B.C. (Wagner *et al*. 1990; Allen & Schilz 1996). At around 1402-1549 A.D., taro farming and an increased amount of grasses and sedges appeared in the palyontological and paleobotanical record as well as a decrease in forest vegetation (Henry *et al.* 1993:30; Allen & Schilz 1996:68).

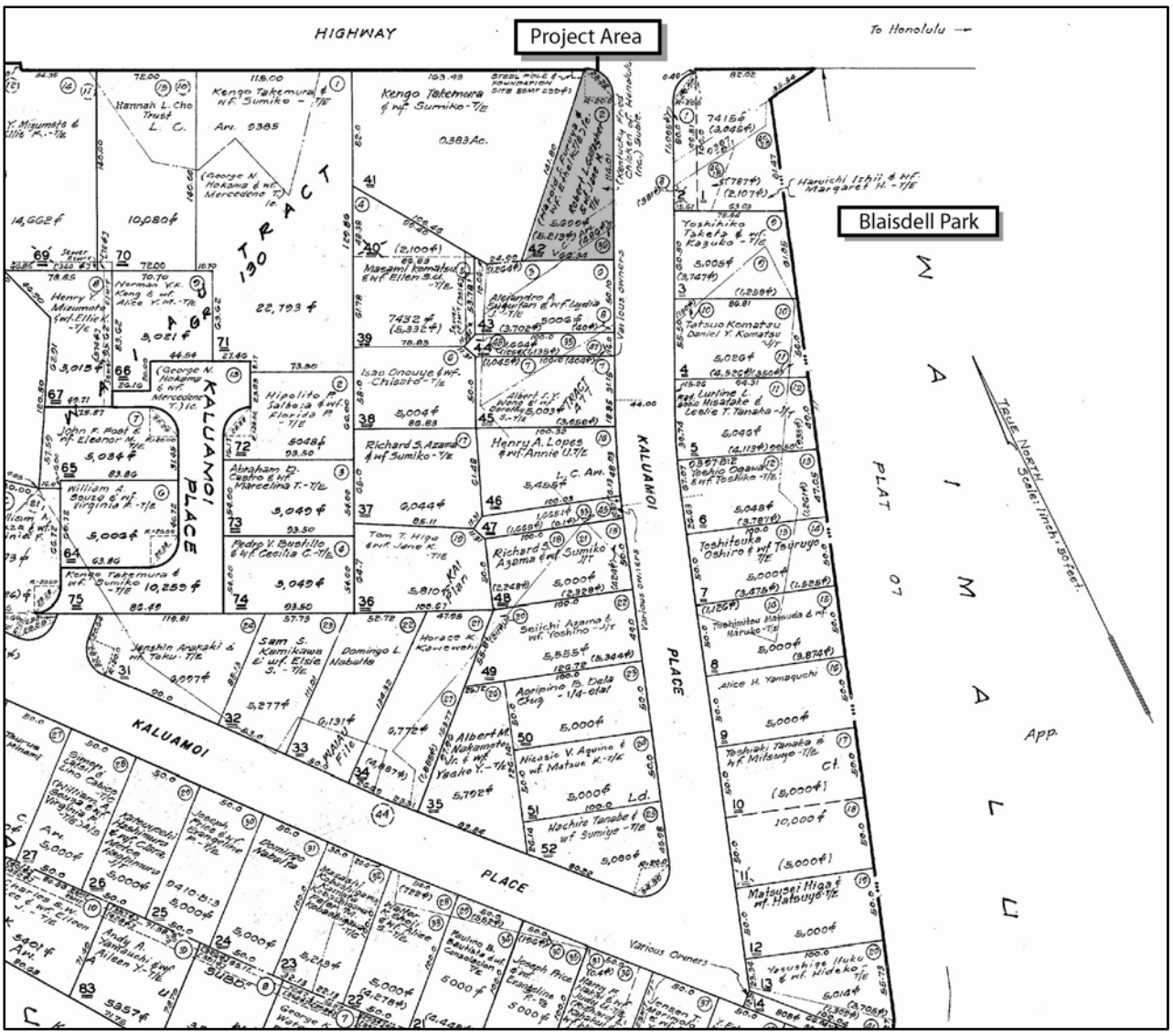


Figure 3. Tax Map of project area and surrounding parcels, project area shaded.

Figure 4. Existing structure in project area (facing west).

Figure 5. East side of property bordered by Kaluamoi Drive (facing south).

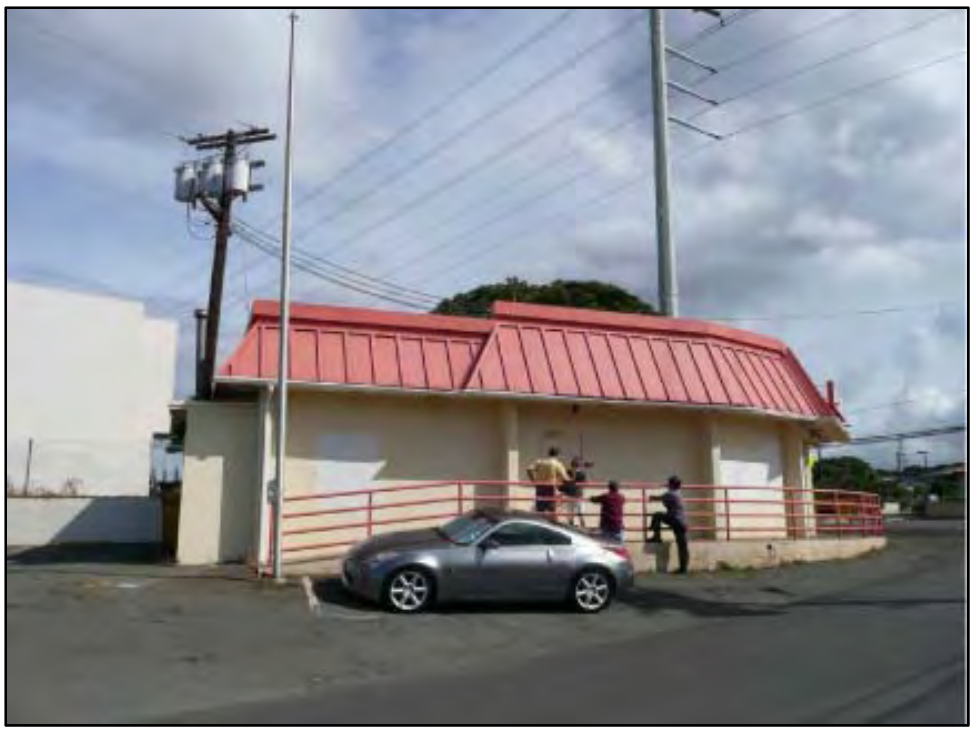


Figure 6. East side of project area from Kaluamoi Drive (facing west).

Figure 7. South portion of project area, currently used for parking (facing west).

Figure 8. South portion of project area (facing southwest).

Figure 9. Northwest portion of project area (facing north).

2.0 METHODS

The archaeological assessment consists of reviewing:

- previous archaeological studies in the vicinity of the project;
- archival research into the legends, myths and early uses of the area;
- early maps of the area; and
- Land Commission Awards that may be associated with the property.

The results of archival research will offer a view of pre-Contact and post-Contact land use within the general vicinity of the project area and determine the potential of the property to contain potentially significant sites.

The following repositories were consulted by Pacific Legacy, Inc. in preparation for this report:

- State Historic Preservation Department Library
- State of Hawai‘i Archives
- State of Hawai‘i Survey Office
- Waihona ‘Aina website

3.0 TRADITIONAL ACCOUNTS

The project area lies at the eastern boundary of Waiau and Wamalu Ahupua‘a, which are relatively small *ahupua‘a* in the ‘Ewa District of O‘ahu (Figure 10). ‘Ewa District stretches from Red Hill on the west edge of Kona District to Pili O Kahe just north of Ko‘Olina and Waimanalo, which separates Waianae District from ‘Ewa (Figure 5). Sterling and Summers (1978) state that the Gods Kāne and Kanaloa gave ‘Ewa District its name, which translates as, “the stone that strayed,” since the stone used to determine district boundaries had landed a great distance away from where it was thrown (Sterling & Summers 1978: 1). Pukui et al. (1974:28) maintain that ‘Ewa literally translates as ‘crooked’ and comes from the same story of Kāne and Kanaloa determining ‘Ewa’s boundaries at the landing place of their divinely thrown stone. ‘Ewa was once considered a “favorite residence of Oahu kings in olden times” (Sterling & Summers 1978:1).

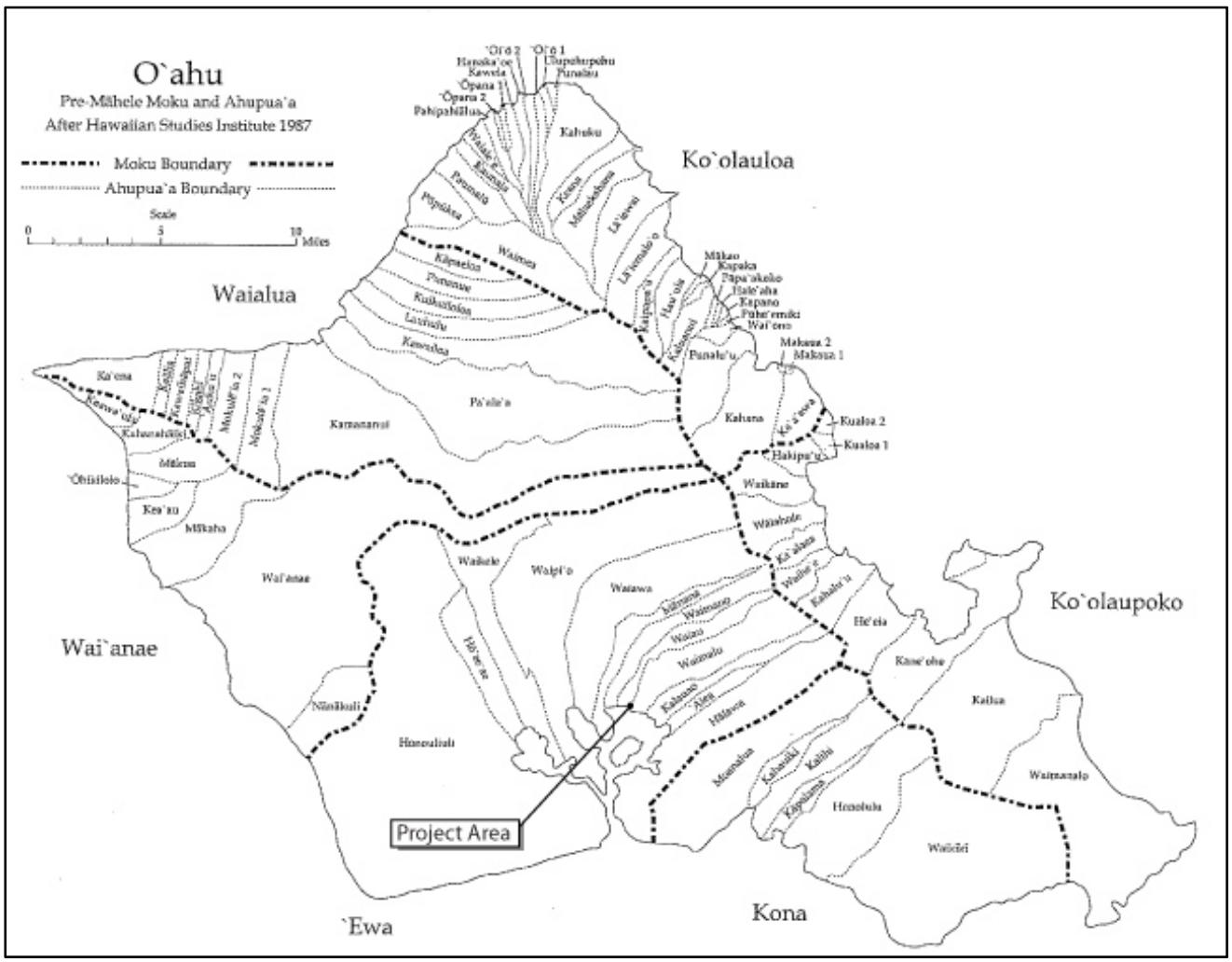


Figure 10. Map of Pre-Māhele *moku* and *ahupua‘a* of O‘ahu with project area (courtesy of Hawaiian Studies Institute).

The name Waiau, according to Pukui *et al*. (1974), refers to a land division and village in the Waipahu quadrant and literally translates as "swirling water" (Pukui *et al*. 1974: 221). Handy (1940) states that the Waiau Ahupua'a gets its name from the spring located in its southern extent. Waimalu Ahupua'a lies ca. 45 meters (150 feet) to the east of the project area and literally translates as "sheltered water" (Pukui *et al*. 1974: 225). Pearl Harbor's East Loch is approximately 275 meters (1,230 feet) to the south of the project area. Pearl Harbor was once called Pu'uloa, which translates as "long hill" for what reason is yet unknown (Pukui et al. 1974: 200).

Several traditional accounts are associated with the Waiau and Waimalu Ahupua'a. The Ka-lua-olehe Plain, which is located in *makai* Waiau Ahupua'a, was home to a mystical, hairless dog that could change its colors. It was said that the dog, named Ku-ilio-loa, would show itself when something important was about to happen (Sterling & Summers 1978:15). According to ancient oral tradition, the story of the two youngest sons of Maihea, named Kaakakai-a-Maihea and Punana-a Maihea, is associated with the Waimalu area. In this story, the brothers were turned into two long stones when they spilt their water gourds and ran to the hills to hide. It was said that these stones still stood on the mauka side of the government road, which is now Kamehameha Hwy., into late historic times. Further, it is said that these brothers were turned to stone before the gods Kāne and Kanaloa came to Hawai'i. (Sterling & Summers 1978:15). In another legend, Waimalu was the location where Kāne and Kanaloa sent ashore a great whale, who carried off Maihea's son to Kahiki (Tahiti) and trained by the gods in priestly lore and divine knowledge ('I'i 1959:95).

Some legends suggest that Pearl Harbor was a land of "firsts." The first Hawaiians are said to have settled in the Pearl Harbor area. In the legend Ka-Lua-Olohe, Pearl Harbor was said to be the place where human beings first came to O'ahu. In some versions, this area is located in Waiau Ahupua'a (Sterling & Summers 1978:15). The area is said to have many caves, which belong to the *ōlohe*, who were "born in the day"(Beckwith 1970). Additionally, the first planting of breadfruit is said to have occurred at Pu'uloa, located at the mouth of Pearl Harbor, under three miles southwest of the project area. According to tradition, Kahai, son of Moikeha, transported the species from Upolu, an island in Samoa, on his return trip home from Tahiti (Thrum 1907; McAllister 1933). Fornander (1919) and Kamakau (1964) also credit Pu'uloa as the location of Hawai'i's first breadfruit.

Kamakau, in the mid- to late-1800's wrote articles in newspapers titled, *Ku'oko'a* and *Ke Au 'Oka'a,* which shed light on ancient Hawaiian life, customs, and oral traditions. These articles were translated into English and compiled in several manuscripts in the 1960's then reprinted several times. Kamakau in *Ka Po'e Kahiko*: The People of Old (1991), speaks of one 'Ewa guardian ancestor deity, Kanekua'ana, also interpreted as a *mo'o,* or guardian water lizard, who was revered for providing her faithful descendants and *kama'āina* from Hālawa to Honouliuli with an abundance of *i'a* or marine resources. Further, Mary Kawena Pukui states that Kanekua'ana was responsible for bringing the *pipi,* or pearl oyster, from Tahiti in ancient times (Pukui 1943 as cited in Sterling & Summers 1978:49-51). During times of scarcity, her devotees erected *waihau* and *heiau* to Kanekua'ana where pigs, bananas, and coconuts were sacrificed rather than people. Kamakau (1991) reports on the outcome of one such sacrifice:

> What blessings did they obtain? *I'a*. What kinds of *i'a*? The *pipi* (pearl oyster) – strong along from Namakaohalawa to the cliffs of Honouliuli, from the *kuapā* [walled] fishponds of inland 'Ewa clear out to Kapakule. That was the oyster that came in from the deep water to the mussel beds near shore, from the channel entrance of Pu'uloa to the rocks along the edges of the fishponds. They grew right on the *nahawele* mussels, and thus was this *i'a* obtained…the *pipi* were found in abundance – enough for all 'Ewa – and fat with flesh. Within the oyster was a jewel (*daimana*) called a pearl (*momi*)…They were great bargaining value (*he waiwai kumuku'ai nui*) in the ancient days, but were just "rubbish" ('*opala*) in 'Ewa (Kamakau 1991: 83).

Clearly, Pearl Harbor was rich in marine resources, chiefly the oyster, as indicated by its name. Upholding this truth are additional accounts of oyster surplus, although there are other types of marine resources reported as plentiful. Pukui commented on the once copious bivalves of Pearl Harbor, "…No where else in all Hawai'i were there so many kinds of bivalves as in Pearl Harbor. There were large and small ones, thin-shelled and thick-shelled ones besides the *pipi*, famed in legends and chants…" (Pukui 1943 as cited in Sterling & Summers 1978:51). John Papa I'i paints Honouliuli, which is located ca. 3 miles to the west, as being a prosperous fishing community (I'i 1959). Thrum (1907) indicates that mullet began their seasonal migration in Honouliuli before swimming to the windward side of the island and back in the story of *anae-holo* (Thrum 1907). From the many seafood related tales, Pearl Harbor was undeniably capable of sustaining large sedentary populations.

Pearl Harbor is the source of many myths. Sterling and Summers (1978) offer several stories about the shark goddess, Ka'ahupahau (translated as Cloak-well-cared-for), her origin having several interpretations. In one interpretation, Ka'ahupahau was thought to have been a miscarriage by her mother and left in the waters of Pearl Harbor, but still alive, she transformed into a shark. In another version, Ka'ahupahau and her brother were born as human, but were later transformed into sharks by a shark god. The two remained in Pearl Harbor, where they were fed '*awa* by their human relatives. In return, Ka'ahupahau protected her human kin from other sharks. Another major figure in Pearl Harbor mythology is Papio, the beautiful surfing chiefess, who had several conflicts with the shark goddess, Ka'ahupahau, and is often said to have eventually been devoured by her (Sterling & Summers 1978: 54-56).

Kapakule is the tennis racket shaped fishpond located at the entrance to Pearl Harbor, which is the setting of many tales. One of which is of the *menehune,* or little people, who built the fishpond in one night at the command of the Gods, Kāne and Kanaloa (Sterling & Summers 1978: 42-43). Fornander tells the story of Keaunui, "the head of the powerful and celebrated Ewa chiefs" who is credited with cutting a navigable channel into the estuary of Pearl River near the Pu'uloa saltworks (Fornander 1880: 48 as cited in Sterling & Summers 1978:46).

Warfare was another constant theme in the 'Ewa District during pre-Contact times. Fornander (1919) wrote about the "battle" of Keahumoa Plain, which was supposed to be the final battle of celebrated chief, Kuali'i. In this account, two warrior brothers sought higher positions in life, so they arranged for 12,000 of Kuali'i's men to meet with 1200 Ko'olau warriors to battle at Keahumoa, 'Ewa. However, they did not plan to fight, but to unite both sides. The youngest

brother, Kamakaaulani, presented a *mele* chant to Kualiʻi while the older brother, Kapaahulani, led the opposing side to the battleground. When the two sides met, the *mele* chant was successful and the battle was prevented. After the treaty, the island of Oʻahu was united. When chiefs of other islands found out about the unity, they joined forces to unite under Kuali'i. Sterling and Summers (1978: 38) list several versions of this battle. Another battle referred to as "Battle of Kipapa" was part of the story of Maʻili-kukahi, where Big Island's chief, Hilo, attempted to take over Oʻahu unsuccessfully in a particularly bloody battle. His head was placed at a crossroads just above Honouliuli Village, which was since called Po'o-hilo (Kamakau 1991: 56). A later conflict was the Battle of ʻEwa, which took place in several places within ʻEwa in the mid-1790's. In this battle, Ka-ʻeo and Kalanikapule fought, and with the aid of European weaponry, Kalanikupule overcame Ka-ʻeo (Kamakau 1961 as cited in Sterling & Summers 1978: 12).

4.0 HISTORIC BACKGROUND

In general, early historic testimony of Pearl Harbor area focused on its wealth of natural resources. In his journal, Levi Chamberlain wrote of Pearl Harbor's oyster abundance after canoeing from Waikele to Honolulu in the mid-1800's, saying that divers could fill several large calabashes with *pipi* in a short period of time (Chamberlain Ms.: 899 as cited in Sterling & Summers 1978:51). Lands bordering Pearl Harbor's East Loch to the north appeared to have an abundance of natural resources, such as rich soil, marine life, and fresh water since early Contact times as depicted by early historic maps (Malden 1825; Bishop 1887; Figures 12 & 13), allowing for burgeoning agriculture, aquaculture, and human population. Additionally, early written accounts describe the area as prosperous. In 1809, Archibald Campbell was granted about 60 acres of land in the ahupua'a of Waimano, which borders Waiau to the west (Campbell 1819). He describes his journey from Honolulu to his property, stating:

> …the king was pleased to grant me about sixty acres of land, situated upon the Wymummee or Pearl-water, an inlet of the sea about twelve miles to the west of Hanaroora. I immediately removed thither; and it being Macaheite time, during which canoes are tabooed, I was carried on mens shoulders. We passed by foot-paths winding through an extensive and fertile plain, the whole of which is in the highest state of cultivation. Every stream was embanked, to supply water for the taro beds. Where there was no water, the land was under crops of yams and sweet potatoes. The roads and numerous houses are shaded by cocoa-nut trees, and the sides of the mountains covered with wood to a great height. We halted two or three times, and were treated by the natives with the utmost hospitality. My farm, called Wymannoo, was on the east side of the river, four or five miles from its mouth… (Campbell 1819 as cited by Sterling & Summers 1978:16)

Handy (1940) described the flats of *makai* Waiau and Wamalu Ahupua'a in *The Hawaiian Planter* as fertile and intensively cultivated, stating:

> …extensive flats between East Loch of Pearl Harbor and the present highway were formerly developed in terraces irrigated from Waimalu Stream and Waipi Spring, which is east of Waiau Pond. There are banana groves here now. Terraces also covered the flats extending three quarters of a mile above the highway into Waimalu Valley, and there were small terrace areas several miles upstream beyond these flats (Handy 1940: 81 as cited by Sterling & Summers 1978:14).

The political center of 'Ewa during the Contact period is still disputed. McAllister (1933: 106) describes a place named Lepau, which sits on the Waipi'o Peninsula, ca. 2 miles west of Waiau

Ahupua‘a, as a “dwelling place of the alii.” Silva (1987) suggests that a place called Hālaulani on the same peninsula was home to chiefs. Conversely, some argue that the political center was much further north at Lihue between Pu‘u Kuua and Maunauna (Cordy 1996).

The Battle of ‘Ewa is stated by Kamakau (1961) to have occurred in 1794, shortly after European Contact. This battle is said to have several phases, taking place in ‘Ewa District and utilizing European weaponry. It is said that Kalanikupule, high chief of O‘ahu, overcame Kaeokulani, who ruled Kaua‘i and Maui at the time.

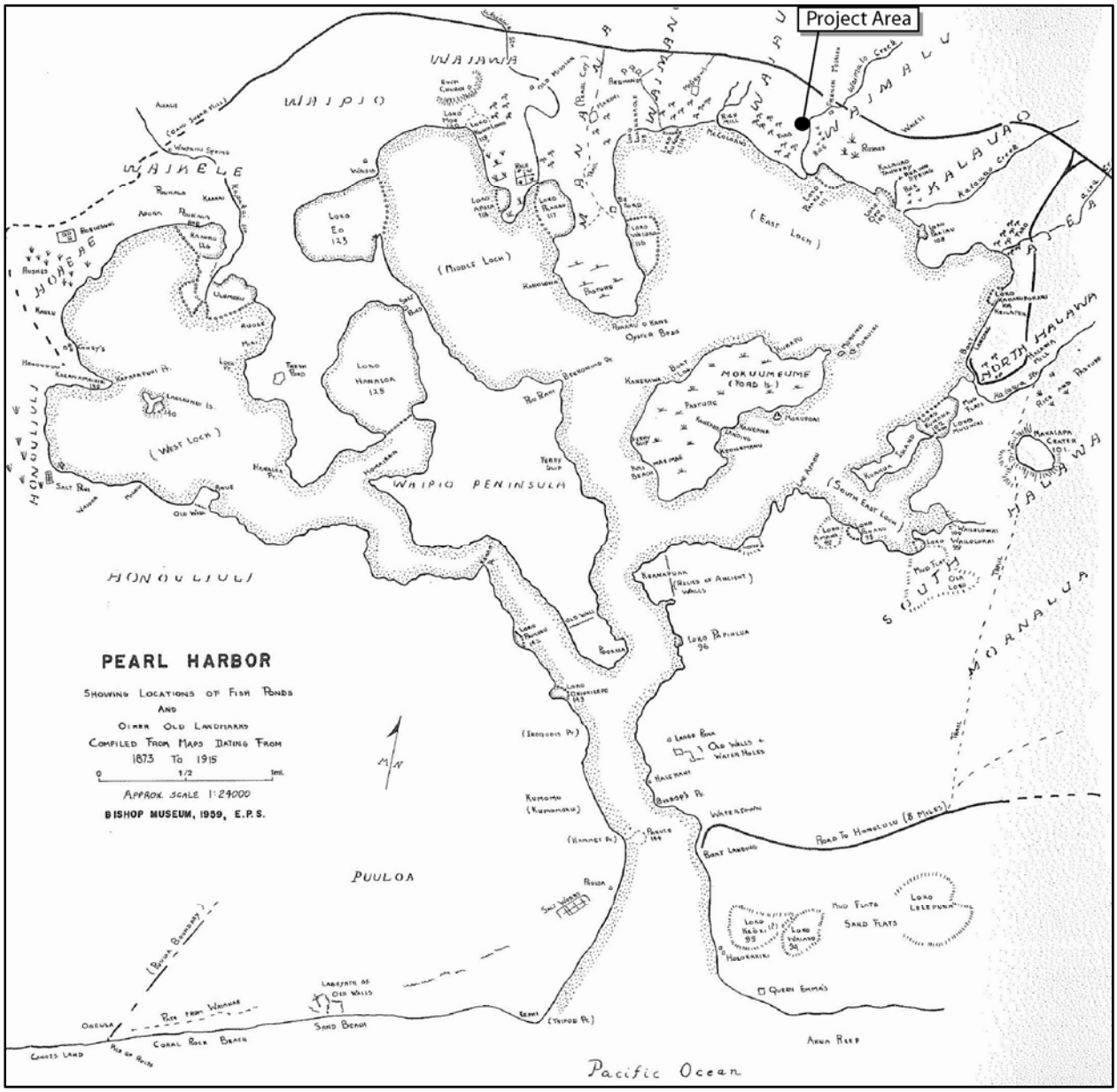


Figure 11. Map of Historic Pearl Harbor area (courtesy of Sterling & Summers 1978).

In the mid-1800's, the Great Mehele divided the Hawaiian islands into modern land titles recognized by the Hawaiian Government. As seen in the Land Commission Award's Native Testimonies and early maps of Waimano and Waiau Ahupua'a (Figure 13), the land was intensively farmed with a variety of traditional agricultural methods from early Contact times into the late 1800's. Several Land Claim Awards (LCA) had been granted in the project vicinity.

The project area appears to be located within the 1.335 acre property granted to Kokaina, also known as Kekaina, (LCA 09326; Royal Patent 170), which is comprised of 2 *'āpana* (parcels), 16 *lo'i* (irrigated terraces), 1 *kula* (pasture), 1 fence, and 1 stream. To the west of the project area was a *mo'o* (small parcel of land) named Kauo (LCA No. 09385; Royal Patent 177) located in Kauhihau *'ili (*subdivision), Waiau Ahupua'a, which was awarded to Palea. This property contained 1*'āpana*, and 6 *lo'i*. To the east was a small parcel owned by Kekaula (LCA No. 09397 B – court action) that was described in the registry of Native Testimony as a taro *mo'o* in Pipio *'ili*, containing 8 *lo'i kalo* (taro patches), two of which belonged to the *konohiki* (ahupua'a farming foreman).

Sterling and Summers (1978) also depict the project area in their map of historic Pearl Harbor (Figure 11) as being located in an area of taro patches. However, during the later half of the 19th century, rice would displace taro as the major crop in *makai* Waiau Ahupua'a (Hammatt & Chiogioji 1998).

In the late 1890's, Pearl City was developing several subdivisions, the sugar plantations expanded, and O'ahu Railway and Land Company (O.R.&L.) was looking to extend lines from Honolulu to the west (Hammatt & Chiogioji 1998). With these developments came more industry and commerce, which subsequently led to increased immigration to the area and higher population density.

The Reciprocity Treaty of 1875 allowed the US Navy to lease Pearl Harbor as a naval base. After the annexation of Hawai'i to the United States, Pearl Harbor was refitted to allow for more navy ships. The United States would show increased interest in this area after the annexation of the islands to the U.S. in 1899. In 1901, dredging began to deepen and widen Pearl Harbor and repeated in 1908 and in the 1920's. In 1908, a Naval Shipyard was established in Pearl Harbor and continued to rapidly expand for decades. During this time, the U.S. Navy built support and dry dock facilities in the Pearl Harbor area. In the early 1930's, the Navy constructed an ammunition depot on a 213 acre parcel at West Loch that was leased from the Campbell estate (O'Hare et al. 2006: 52). The attack on Pearl Harbor by Japanese forces on December 7, 1941, provided grounds for the Navy base itself to be recognized as a National Historic Landmark in 1964.

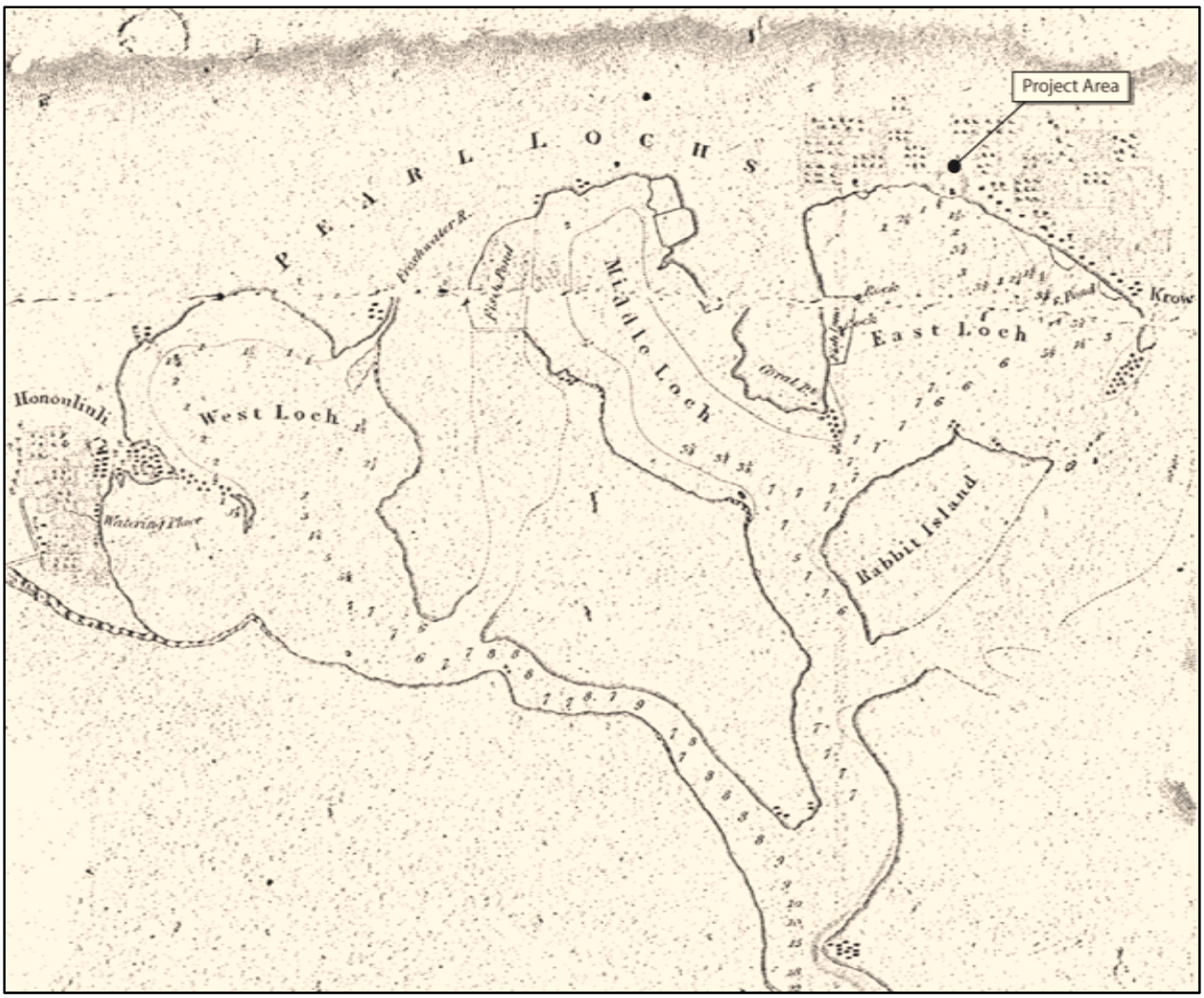


Figure 12. Portion of Lt. C.R. Malden's 1825 map of south Oʻahu (registered map No. 614, Hawaiʻi State Survey Office).

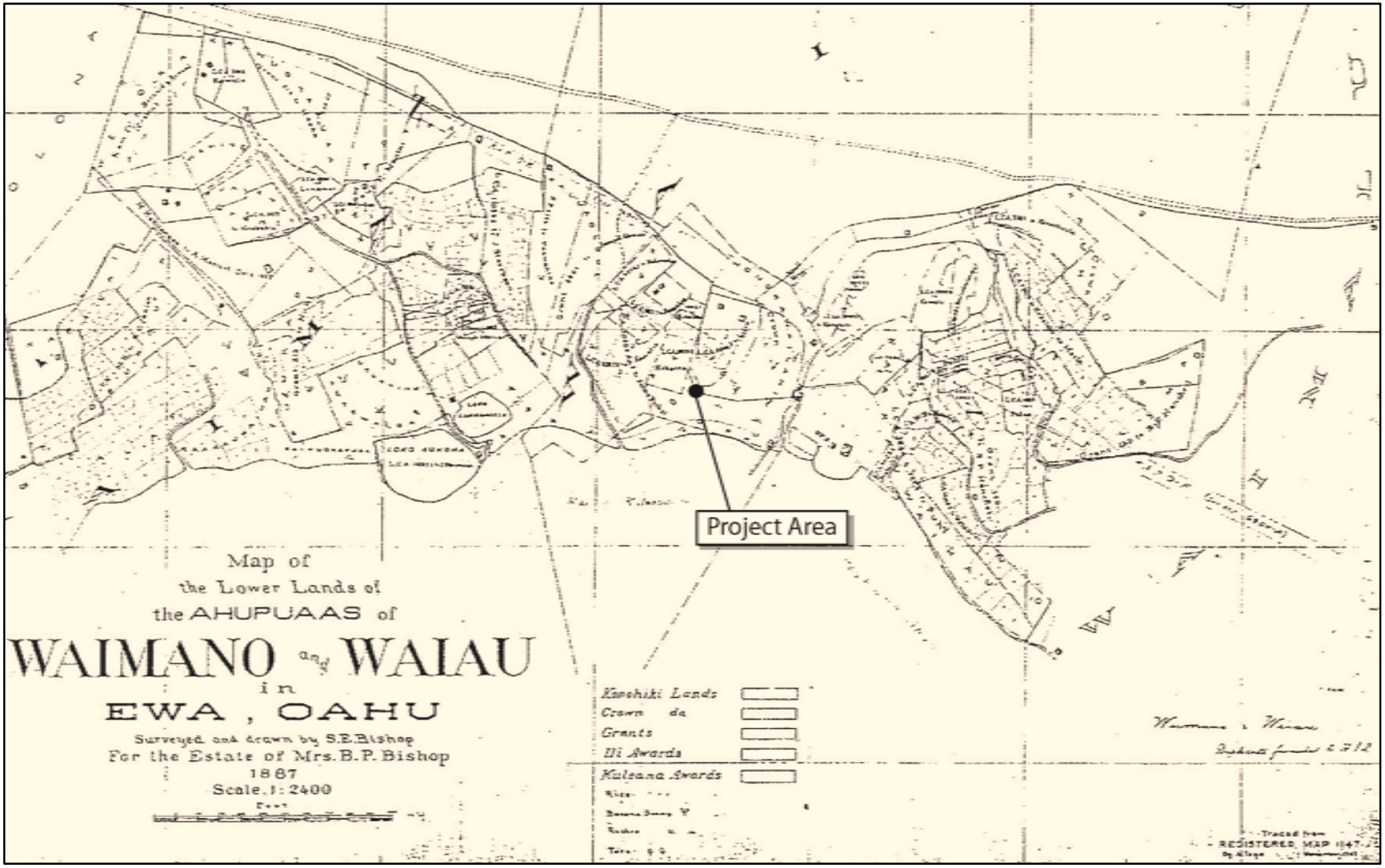


Figure 13. Portion of *makai* Waimano & Waiau Ahupua'a map (Bishop 1887)

5.0 PREVIOUS ARCHAEOLOGY

Early archaeological investigations of the Pearl Harbor area begin with Thrum (1907) and followed by Stokes (1909), who carried out a detailed study of fish ponds.

Later, McAllister (1933) recorded a series of sites near to the project location. The 12 acre fishpond, Loko Paakea (site 111), was located less than half of a mile to the east of the project area. Loko Kukona (site 114), which was a 27 acre fishpond was located approximately half a mile to the west of the project area. Located about a mile upland were the remains of Naulu-a-Maihea Heiau (site 112) and slightly to the west of this were the remains of Kolokukahau Heiau (site 113) as recorded by McAllister (1933).

Nearly 60 years later, Kaschko (1990) conducted a survey and subsurface testing with a backhoe in Pearl City on a lot ca. 1 mile southeast of the project area (TMK: 9-7-19:10), which yielded at least 12 human graves (5 from above ground markers and 7 subsurface burials that were unmarked on the ground surface) which were part of the historic "Lockview-B Cemetary" with internments ranging from 1900 and 1908.

Anderson (1994) performed archaeological monitoring at Sewer Ejector Station 11 located on Pearl City Peninsula and discovered gleyed soils, that could have been interpreted as fishpond deposition. However, no other cultural remains were found.

Just under a mile west/northwest of the project area, McGerty and Spear (1995) surveyed areas in Manana and Pearl City. However, the survey did not yield any sites and, therefore, McGerty and Spear (1995) suggested no further archaeological work for the area.

Allen and Schilz (1996) performed geoarchaeological coring up to 5.255 meters below surface at U.S. Navy Surveillance Towed Array Sensor System (SURTASS), formerly the fishpond Loko Weloka on the east side of Pearl City Peninsula, ca. 1 mile southwest of the project area. Their findings suggested that the main period of fishpond aquaculture was possibly pre-Contact at Loko Weloka and that there may have been two separate episodes of use. Further, Allen and Schilz (1996) state that in the early 1900's the area was likely used for commercial endeavors.

In an archaeological assessment for the H-1/H-2 interchange at Waiawa, ʻEwa, Hammatt & Chiogioji (1998) performed archival research and a surface survey, which yielded no new archaeological sites. However, the report suggested that the area contained many buildings of historical significance that could be eligible for nomination to Hawaiʻi Register of Historic Places as well as the National Register of Historic Places.

Located 550 meters southeast of the project area in Blaisdell Park, Site 50-80-12-6383, which consisted of the disturbed remains of two individuals was discovered inadvertently (Sara Collins pers. Comm. to Mike Dega in 2000, as cited in Dega & O'Rourke 2003). These remains had appeared to be related to a cultural layer that was not archaeologically investigated. The impacts that had occurred to the burials were likely related to either military or railroad construction activities.

Magnuson and Tomonari-Tuggle (2002) performed an archaeological assessment and historical research study for the proposed Waiau Fuel Pipeline. This study suggested that fishponds, traditional deposits, and O.R.&L. remnants could be an issue when excavating in the area.

During subsurface testing at the Blaisdell Park, Dega & O'Rourke (2003) found no pre- or post-Contact archaeological deposits.

6.0 SUMMARY AND DISCUSSION

Archival research for the property located on 371 Kamehameha Hwy has indicated that the general areas of coastal Waiau and Waimalu *ahupua'a* have a long and rich history. The close proximity to Kamehameha Highway, formerly Government Road, may increase the likelihood of historic deposits. In addition, documentation of traditional land use during the Great Mahele period in the immediate vicinity has been noted.

However, due to the relatively high amount of historic and modern disturbance related to commercial and residential development, and the types of soils (stiff to hard clays) that underlay the site, it is extremely unlikely that any potentially significant archaeological sites are present. No further archaeological investigations are recommended for this project area. However, in the unlikely event that potentially significant archaeological resources, including human burials, are encountered during construction excavations, work should halt and the State Historic Preservation Division (808-692-8015) should be notified.

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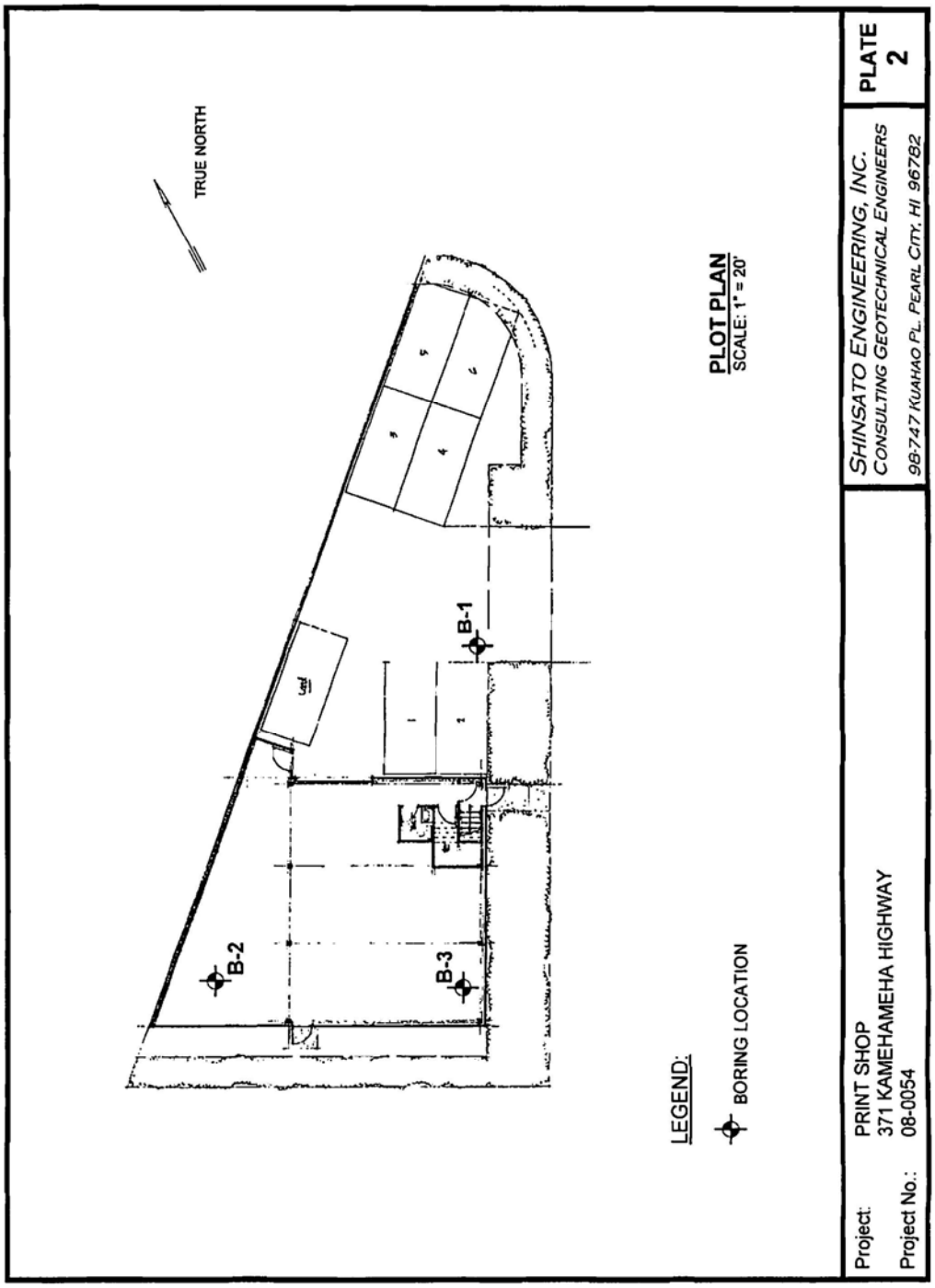
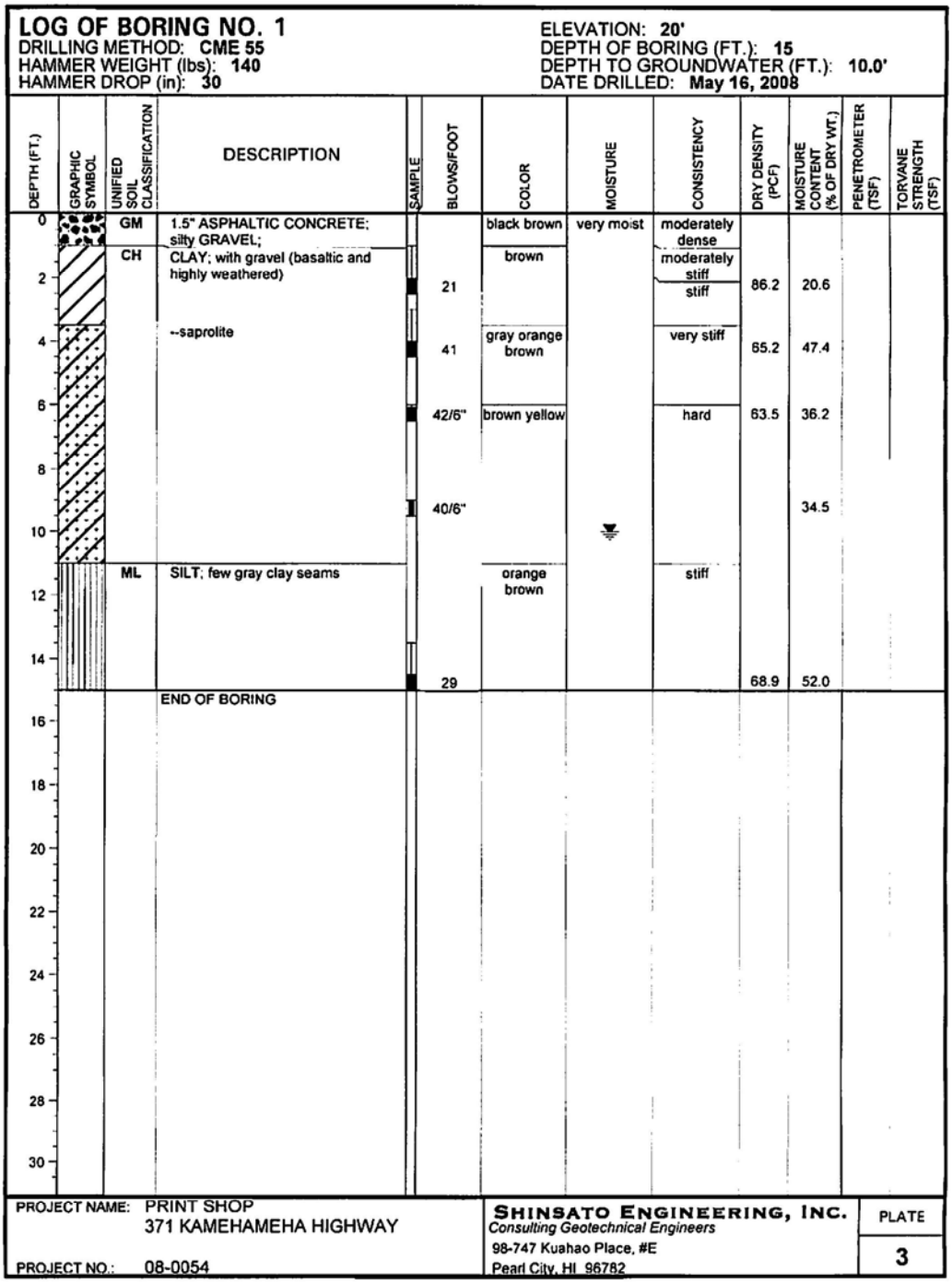
APPENDIX

SOIL BORING DATA (FROM SHINSATO ENGINEERING, INC. (2008)


TRUE NORTH
PLOT PLAN
SCALE: 1" = 20'
B-1
B-2
B-3
LEGEND:
BORING LOCATION
Project: PRINT SHOP
371 KAMEHAMEHA HIGHWAY
Project No.: 08-0054
SHINSATO ENGINEERING, INC.
CONSULTING GEOTECHNICAL ENGINEERS
98-747 KUAHAO PL. PEARL CITY, HI 96782
PLATE
2



LOG OF BORING NO. 1

DRILLING METHOD: **CME 55**
HAMMER WEIGHT (lbs): **140**
HAMMER DROP (in): **30**

ELEVATION: **20'**
DEPTH OF BORING (FT.): **15**
DEPTH TO GROUNDWATER (FT.): **10.0'**
DATE DRILLED: **May 16, 2008**

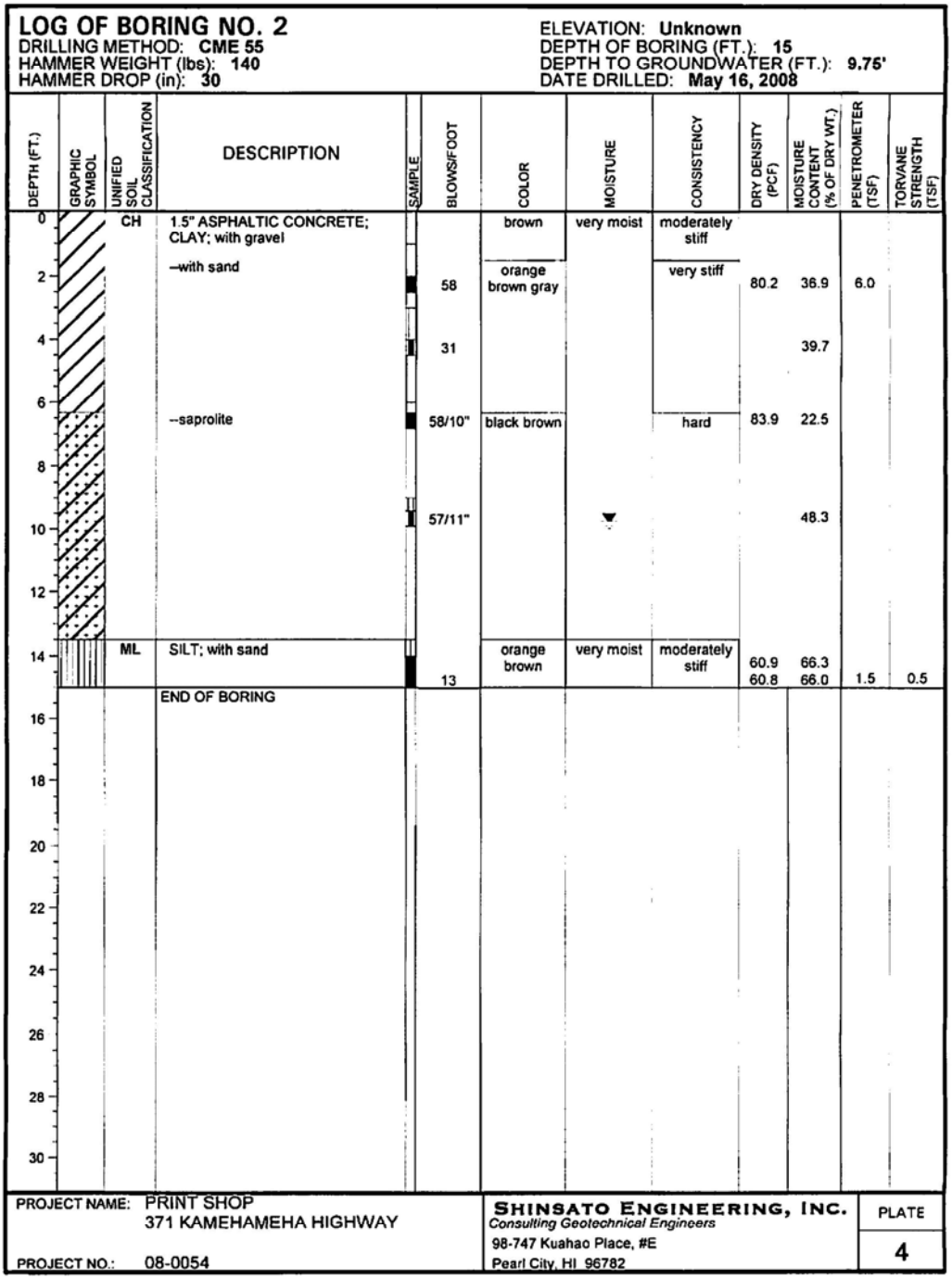
DEPTH (FT.)	GRAPHIC SYMBOL	UNIFIED SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	BLOWS/FOOT	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	TORVANE STRENGTH (TSF)
0		GM	1.5" ASPHALTIC CONCRETE; silty GRAVEL;			black brown	very moist	moderately dense				
2		CH	CLAY; with gravel (basaltic and highly weathered)		21	brown		moderately stiff / stiff	86.2	20.6		
4			--saprolite		41	gray orange brown		very stiff	65.2	47.4		
6					42/6"	brown yellow		hard	63.5	36.2		
8												
10					40/6"					34.5		
12		ML	SILT; few gray clay seams			orange brown		stiff				
14					29				68.9	52.0		
16			END OF BORING									
18												
20												
22												
24												
26												
28												
30												

PROJECT NAME: PRINT SHOP
371 KAMEHAMEHA HIGHWAY

PROJECT NO.: 08-0054

SHINSATO ENGINEERING, INC.
Consulting Geotechnical Engineers
98-747 Kuahao Place, #E
Pearl City, HI 96782

PLATE 3



LOG OF BORING NO. 2

DRILLING METHOD: **CME 55**
HAMMER WEIGHT (lbs): **140**
HAMMER DROP (in): **30**

ELEVATION: **Unknown**
DEPTH OF BORING (FT.): **15**
DEPTH TO GROUNDWATER (FT.): **9.75'**
DATE DRILLED: **May 16, 2008**

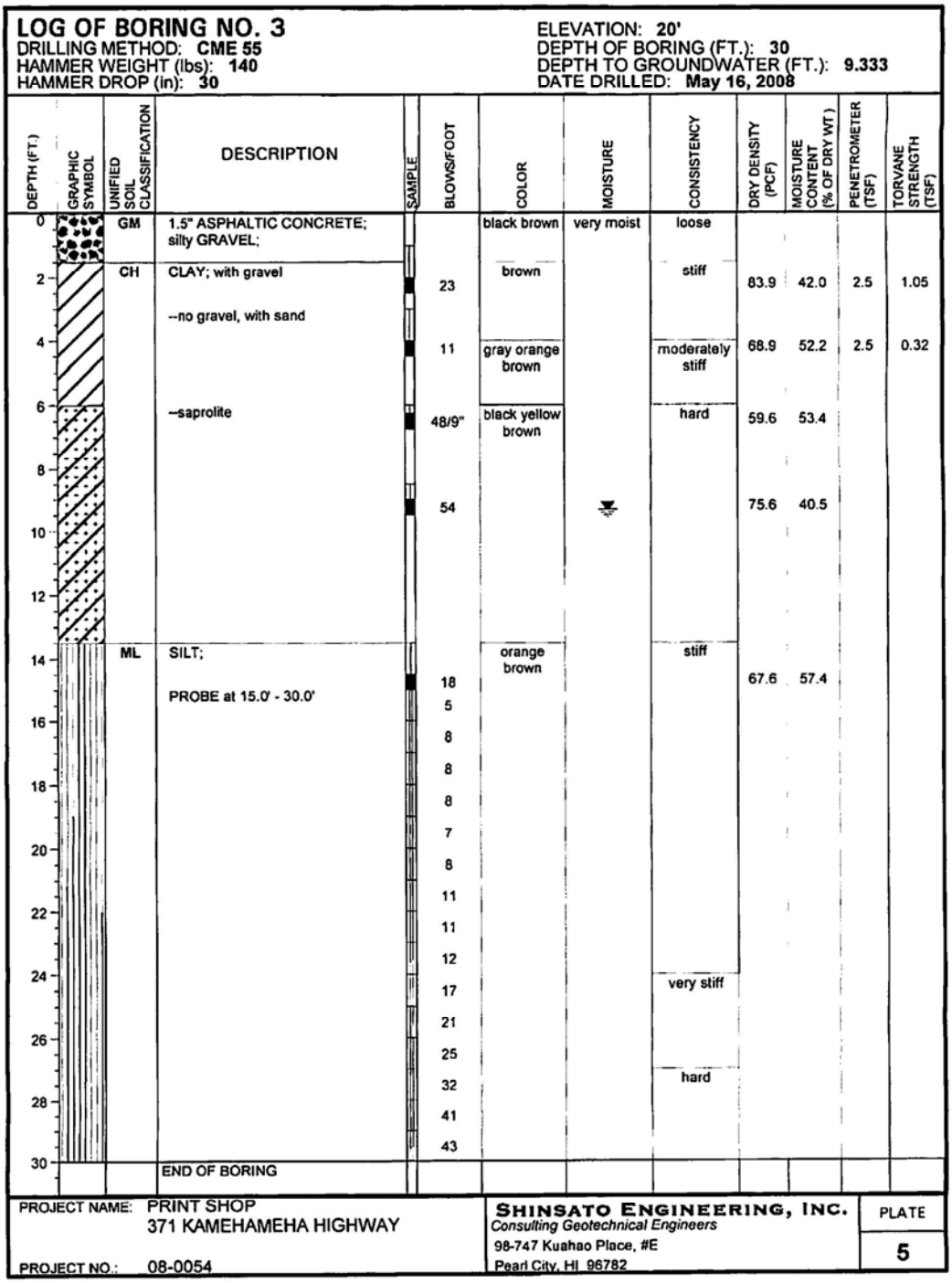
DEPTH (FT.)	GRAPHIC SYMBOL	UNIFIED SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	BLOWS/FOOT	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	TORVANE STRENGTH (TSF)
0		CH	1.5" ASPHALTIC CONCRETE; CLAY; with gravel			brown	very moist	moderately stiff				
2			–with sand		58	orange brown gray		very stiff	80.2	36.9	6.0	
4					31					39.7		
6			–saprolite		58/10"	black brown		hard	83.9	22.5		
8												
10					57/11"		▼			48.3		
12												
14		ML	SILT; with sand		13	orange brown	very moist	moderately stiff	60.9 60.8	66.3 66.0	1.5	0.5
16			END OF BORING									
18												
20												
22												
24												
26												
28												
30												

PROJECT NAME: PRINT SHOP
371 KAMEHAMEHA HIGHWAY

PROJECT NO.: 08-0054

SHINSATO ENGINEERING, INC.
Consulting Geotechnical Engineers
98-747 Kuahao Place, #E
Pearl City, HI 96782

PLATE 4


LOG OF BORING NO. 3
DRILLING METHOD: CME 55
HAMMER WEIGHT (lbs): 140
HAMMER DROP (in): 30
ELEVATION: 20'
DEPTH OF BORING (FT.): 30
DEPTH TO GROUNDWATER (FT.): 9.333
DATE DRILLED: May 16, 2008
DEPTH (FT.)
GRAPHIC SYMBOL
UNIFIED SOIL CLASSIFICATION
DESCRIPTION
SAMPLE
BLOWS/FOOT
COLOR
MOISTURE
CONSISTENCY
DRY DENSITY (PCF)
MOISTURE CONTENT (% OF DRY WT.)
PENETROMETER (TSF)
TORVANE STRENGTH (TSF)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
GM
1.5" ASPHALTIC CONCRETE; silty GRAVEL;
black brown
very moist
loose
CH
CLAY; with gravel
23
brown
stiff
83.9
42.0
2.5
1.05
--no gravel, with sand
11
gray orange brown
moderately stiff
68.9
52.2
2.5
0.32
--saprolite
48/9"
black yellow brown
hard
59.6
53.4
54
75.6
40.5
ML
SILT;
PROBE at 15.0' - 30.0'
orange brown
stiff
18
5
8
8
8
7
8
11
11
12
67.6
57.4
17
21
25
32
41
43
very stiff
hard
END OF BORING
PROJECT NAME: PRINT SHOP
371 KAMEHAMEHA HIGHWAY
PROJECT NO.: 08-0054
SHINSATO ENGINEERING, INC.
Consulting Geotechnical Engineers
98-747 Kuahao Place, #E
Pearl City, HI 96782
PLATE
5