DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

October 3, 2001

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

Dear Ms. Salmonson:

SUBJECT: FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR WAILUKU MINI PARK, RESTROOM & POLICE RESOURCE CENTER
TMK: 3-4-012:022, WAILUKU, MAUI, HAWAII

The County of Maui, Department of Parks and Recreation, has reviewed the comments received during the 30-day public comment period which began on August 8, 2001. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the October 23, 2001 OEQC Environmental Notice.

We are enclosing a completed OEQC Publication Form and four copies of the final EA. Please call Patrick Matsui, Parks Planning and Development, at (808) 270-7387 if you have any questions.

Sincerely,

Patrick T. Matsui

for FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Planning and Development
Brian Miskae, Mayor's Office

2001-10-23-MA-FEA-

FINAL
ENVIRONMENTAL ASSESSMENT FOR WAILUKU MINI-PARK, RESTROOM AND POLICE RESOURCE CENTER

County of Maui
Department of Parks and Recreation
and
Office of Economic Development
Wailuku, Maui, Hawaii
September, 2001

Final
Environmental Assessment
(Chapter 343, HRS)

Wailuku Mini-park, Restroom and Police Resource Center

Wailuku, Maui, Hawaii

County of Maui
Department of Parks and Recreation
and
Office of Economic Development
September 2001

TABLE OF CONTENTS

I. PROJECT DESCRIPTION

A: PROPOSING AND ACCEPTING AGENCIES

Maui County's Department of Parks and Recreation is the proposing and accepting authority for this project. Contact information is listed below:

County of Maui
Department of Parks and Recreation
Planning and Development Division
200 South High Street
Wailuku, Hawaii 96793

Mr. Floyd Miyazono, Director
Department of Parks and Recreation
(808) 270-7230

County of Maui
Office of the Mayor
200 South High Street
Wailuku, Hawaii 96793

Mr. Brian Miskae, Executive Assistant
(808) 270-7855

B. PROJECT LOCATION, DESCRIPTION, AND NEED

The subject property is located in Wailuku on Market Street on the Island of Maui (TMK: 3-4-012:022) and contains a total area of 42,371 sq.ft. Structures on the site include the historic Iao Theater and a vacant office building.

The proposed action involves the construction of a park consisting of 10,000 sq.ft. landscaping, hard surface and irrigation, a public restroom and a police resource center.

Wailuku is deficient in open space park facilities, public restrooms and a police presence. The project will provide needed park area for social activities and general beautification, a restroom for general public use and a facility which will allow county police officers to maintain a presence in the area.

Maui County, Hawaii

Home Search Records General Info Help

Tax Records

Configure Map

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View Area

◯ County
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◯ 1/2 Mile
◯ 1/4 Mile
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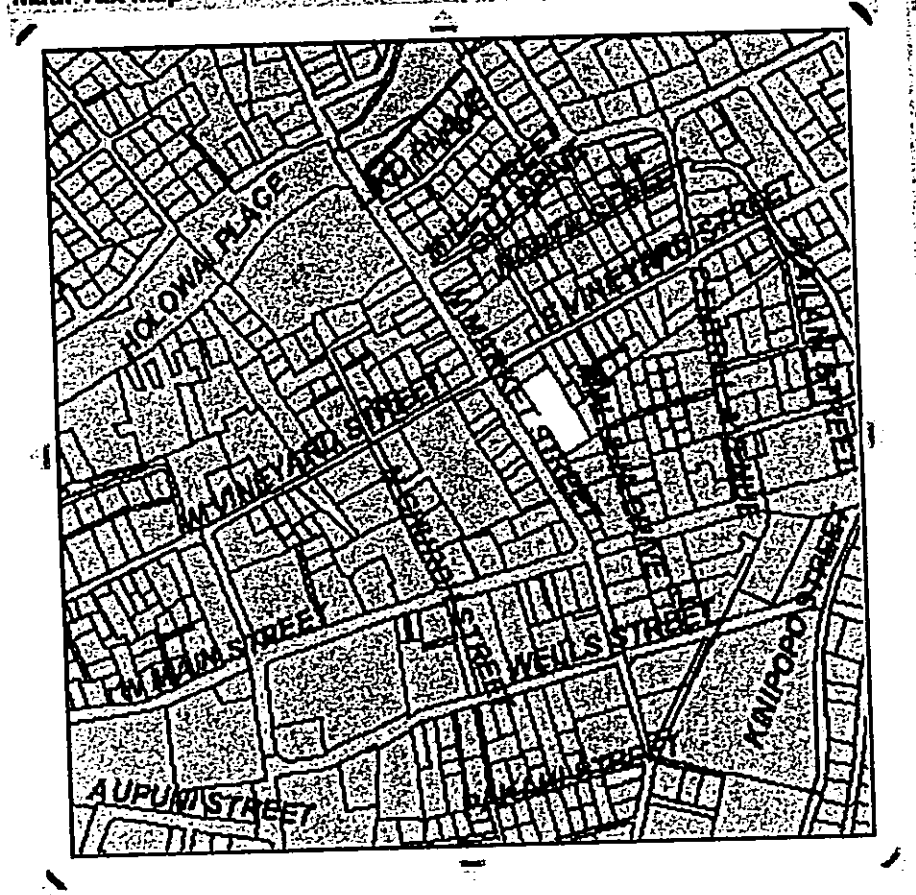
Maui Tax Map



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- Refine Search
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Key Map

■ Current View
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The project is also an integral part of the overall Wailuku revitalization effort and is in direct response to concerns expressed by the local community for such facilities.
Details on the project location, project improvements, and other details are illustrated in Figures P-SP1, PSS1 and P-A1.

C. ALTERNATIVES

Only one alternative was considered in this regard and that was to leave the site in its vacant graveled condition. This no-action alternative would have left an area fronting Market Street in a condition which was not conducive to the overall benefit of the area.

D. PROJECT SCHEDULE AND COST

Initiation of the construction is anticipated for the first quarter of 2002. The project will be completed within approximately four months.

Total estimated construction costs are $330,000. Funding for the project will provided through a grant from the Federal Department of Housing and Urban Development.

E. REQUIRED PERMITS

<u>County</u>
Maui Redevelopment Agency approval
Grading Permits
Building Permits

II. AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. Land Use

Established land uses on the subject parcel include the historic Iao Theater. The theater was opened on August 22nd, 1928 and is the oldest continuously operating theater in the State of Hawaii. The theater, the office building and the open area portions of the site are in the heart of old Wailuku town. The Iao Theater was placed on the National Register of Historic Places on February 9th, 1995. It is currently leased to Maui Community Theater (now Maui On-Stage) and is used for live theater productions.

The office building was constructed circa 1920 and has been the home of George Goo Market/Grocery Store, Style Home Dress Shop, Economy Store, Home Equipment Furniture Store, Miki's Dress Shop and most recently, Traders of the Lost Art. It is currently vacant.

Other uses adjacent to the subject property are a Sporting Goods retails store to the North; business and office use buildings to the South; residential uses to the East; and Market Street and business/office use buildings to the West.

All construction with the exception of minor utility connections, will be confined to the subject parcel. The change in use of the parcel from vacant to park, restroom, police resource center and parking lot is not deemed to be of a significant nature and should not impact surrounding land uses to any degree.

As is provided in the appended drainage report, short-term impacts to existing and abutting properties will be mitigated to the extent possible. If at any time construction will have an impact to existing or surrounding properties, the contractor will inform them accordingly.

2. Topography/Landforms

The U.S. Department of Agriculture Soil Conservation Service's Soil Survey of the Island of Kauai, Oahu, Maui, Molokai and Lanai, classifies the soils within the project site as Wailuku Silty Clay (WvB). It consists of well-drained soils. Runoff is slow and erosion hazard is slight. Slopes range from 3 to 7 percent. The Preliminary Soil and Drainage Report is appended.

Wailuku Silty Clay also falls under Hydrologic Soil Group (HSG) "B" and is

characterized by moderate runoff potential and infiltration rate when the soil is thoroughly wetted.
The Flood Insurance Rate Maps, Maui County designates the site within Flood Zone "C". Zone "C" is designated as areas of minimal flooding; therefore the proposed project will not be subject to the requirements of Chapter 19.62, Flood Hazard Area of the Maui County Code.
The existing site is presently occupied by the Iao Theater Building and a vacant office building. The remainder of the site is paved, graveled and grassed and used for parking purposes. The existing ground has elevations ranging from 270 feet to 281 feet above mean sea level. In general, the ground surface slopes down in an easterly direction from Market Street toward the backside of the lot, at an average slope of about 4 percent.

3. Air Quality

The air quality in the Wailuku-Kahului region is considered good as point sources (e.g. Maui Electric Power Plant, HC&S Mill) and non-point sources (e.g., automobile emissions) of emission do not generate high concentrations of pollutants. The relatively high quality of air can also be attributed to the region's constant exposure to winds that quickly disperse concentrations of emissions. Construction related mitigation measures including Best Management Practices (BMPs) will be detailed in an erosion control plan drafted by the project engineer and reviewed by the County's Land Use and Codes Administration.
Mitigation measures will include frequent watering of the project site to control any fugitive dust, and dust fences if appropriate. No substantial impacts to air quality are anticipated.

4. Noise Characteristics

Dominant noise sources in the area include traffic, wind, and occasional aircraft overflights. Short-term construction related noise impacts would be associated with grading, trenching, backfilling, concrete work and building construction. These construction related impacts can and will be mitigated by adherence to rules set forth by the State Department of Health (DOH) on noise control. In addition to limiting work to daytime hours, such measures would require:
- Mufflers on on-site vehicles or devices whose operations involve the exhausting of gas or air, excluding pile hammers and pneumatic hand tools weighing less than 15 pounds;
- Construction vehicles using the site and surround environs must satisfy the DOH's vehicular noise level requirements; and
- Permits from DOH where construction noise exceeds the DOH's "maximum permissible" property line noises. These permits would limit the hours and days in which these increased noises may occur.

5. Biological Resources

No rare, threatened, or endangered species, or their habitat are known to exist in the project area. No substantial impacts to unique or special biological resources are anticipated.

6. Shoreline Processes

The proposed project is located inland and will have no foreseeable impact to shoreline processes.

7. Flood and Tsunami Hazard

According to the Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM), the project site is designated Zone "C" or an area of minimal flood hazard potential. No impacts to flood or tsunami hazards are anticipated as part of the project.

8. Archaeological and Cultural Resources

An archaeological inventory survey of the project site was conducted on March 12, 2001 followed by subsurface testing of selected areas on two separate occasions. The first took place on March 16, 2001 in conjunction with foundation studies being undertaken and the second was conducted March 21, 2001 as part of the archaeological inventory survey procedures. During both phases of work, subsurface sampling was effected through backhoe trenching.

The results of the current inventory procedures shed light on the past land use of the project area. Although the majority of the test trenches resulted in negative findings in terms of cultural remains, two historic features and evidence for compounded extensive disturbance were recovered. The collected assemblage of artifacts and corresponding historic background data permits a fairly conclusive interpretation of the finds. Thus, no further archaeological procedures appear to be warranted prior to commencement of development activities. However, based on the presence of the two features, as well as the possibility for buried remains at greater depths, the implementation of archaeological monitoring, during development-related, ground-altering activities in specific areas and below a

specified depth, appears to be a prudent and justified course of action. Construction documents will require the contractor to strictly monitor all sub-surface work and should any artifacts of significance be uncovered, a qualified archaeologist will be called to provide interpretation and appropriate action. Should any human remains be uncovered, adequate rules and regulations already

exist to direct appropriate actions. See appendix B.

The site is in the urban setting of Wailuku town. The area was developed as a parking lot for the old Iao Theater and is currently being used for public parking. No gathering of plants occurs since the site is void of vegetation. The site is surrounded by the old Iao Theater building on the south, retail buildings on the west and north, and residential development to the east. It is therefore highly unlikely that the site would be used as a navigational aid by fishermen or sailors. The proposed project would provide a park setting to conduct cultural practices such as hula performances.

9. Visual Resources

Scenic resources to the west of the project area include Iao Valley and the West Maui Mountains. Looking southeast, Haleakala and the urban areas of Kahului are clearly visible. The project will not block ocean views or scenic mauka ridgelines.

10. Hazardous Waste

No hazardous wastes have been identified within the project area and no impacts due to hazardous wastes are anticipated.

11. Sustainable Building Techniques

Building designs will incorporate sky-lights to decrease the need for electric lights to illuminate the restroom interiors. Irrigation techniques and plant palates will reduce water consumption. Every effort will be made to minimize construction waste and to recycle and reuse generated construction wastes. Design consultants and contractors will be encouraged to use the guidelines for sustainable building in Hawaii which were prepared and adopted by the Environmental Council.

B. SOCIAL AND ECONOMIC ENVIRONMENT

1. Population and Economy

The population of the County of Maui has exhibited relatively strong growth over the past decade with an estimated 1999 population of 121,997. Central Maui (which includes Wailuku, Kahului and South Maui) has the largest concentration of population.

The Central Maui region is the center of Maui's economy. Central Maui has developed into the island's service, commercial, government and residential center.

Agriculture is also an important segment of Central Maui's commerce with large scale sugar cane and pineapple production along with major processing facilities at Puunene and in Kahului. The redevelopment of Wailuku Town remains a major opportunity for the region. In general, historic Wailuku Town is a community asset that can also serve as one of the many tourist attractions on the island.

No significant tangible impacts to population are anticipated as a result of the project. The proposed action may, however, have a positive impact on the economic viability of the Wailuku Town by providing an incentive for further investment in new buildings as well as rehabilitation of existing buildings. The introduction of core park areas brings with it a concept of tranquility that tends to attract people who will then conduct business in the area.

C. PUBLIC SERVICES

1. Recreational Facilities

The Central Maui region offers excellent beaches and associated activities such as ocean sports, swimming, fishing, surfing, scuba diving, snorkeling, and sailing. In addition, the Wailuku area has many County recreational which include swimming pools, gymnasium, and track and exercise fields.

2. Police and Fire Protection

The Central Maui District station of the Maui County Police Department has provided police protection for the Central District since the early 1900's. The main station is located on Kaahumanu Avenue in Wailuku and is approximately 2 miles from the project site. An integral part of the project will be the provision of an office which will accommodate two officers for the purposes of conducting report preparation and other related duties.

Fire protection in the Central Maui District is provided by the Maui County Fire Department's Kahului Station, Wailuku Station and the Kihei Station.

3. Solid Waste

Only two landfills are currently operating on Maui: the Central Maui landfill at Puunene, and the Hana landfill. Solid waste collection is provided by the County for residential consumers and commercial collection is by private operators.

4. Health Care

Maui Memorial Hospital, the only major medical facility on the island, serves the

Central Maui region. Acute, general and emergency care services are provided by the 145 bed facility. In addition, numerous privately operated medical/dental clinics and offices are located in Wailuku/Kahului areas to serve the region's residents.

5. Schools

The Central Maui district is serviced by both private and public schools, which provide education for preschool through high school children.

D. INFRASTRUCTURE

1. Water

Short-term uses of water include the watering of the construction area in order to mitigate dust emissions. Water service is provided by the Department of Water Supply through a system of mains, laterals and service lines located in Market Street. The supply source are deep wells in the Iao and Waihee valleys. Long term water consumption for the project is not deemed to be significant.

2. Drainage

The present onsite drainage condition is characterized by surface waters sheet flowing across the project site towards the back portion of the lot. The runoff would either flow directly into TMK:3-4-12:24 or would continue to the southeast portion of the property and eventually drain into the lower lot (TMK:3-4-12:21). The existing 10 year runoff rate expected to be generated by the project site is about 1.9 cubic feet per second (cfs), while the anticipated 50-year runoff volume is 3,440 cubic feet (cf).

In terms of off-site drainage the proposed development site will not be affected by any significant offsite storm runoff.

The full text of the consultant drainage report is contained within Appendix A.

3. Wastewater

The public restroom being proposed on the site will generate an insignificant volume of wastewater which will easily be handled by existing transmission lines located in Market Street. No substantial impacts related to wastewater disposal or transmission systems are anticipated as a result of the project.

4. Electrical and Telephone Systems

No changes in electrical or telephone service are anticipated as part the project. Both utilities are readily available to the project site.

5. Roadways
The project site is located in the urban center of Wailuku town and is served by a standard grid system roadway network. No impacts to adjacent roadways is anticipated as a result of the project.

III. RELATIONSHIP TO POLICIES AND REGULATION

A. HAWAII LAND USE LAW (HRS CHAPTER 205, AS AMENDED)

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission established four major land use districts in which all lands in the State are placed. These districts are designated Urban, Rural, Agricultural and Conservation.

B. GENERAL PLAN OF THE COUNTY OF MAUI

The General Plan of the County of Maui (1991) provides long range goals, objectives and policies addressing social, environmental, and economic issues related to future growth and development in Maui County.

The proposed action relates the following General Plan objectives and policies:

Cultural Resources
Objective: To preserve for present and future generations the opportunity to know and experience the arts, culture and history of Maui County.
Policy: Encourage the rehabilitation and adaptive use and reuse of historic districts, sites and buildings in order to perpetuate traditional community character and values.
Urban Design
Objective: To encourage developments which reflect the character and the culture of Maui County's people.
Policies: Encourage community design which establishes a cohesive identity; encourage the establishment of green areas, bike-paths, active and passive recreation areas and mini-parks in new subdivision development.
Public Safety
Objective: To create an atmosphere which will convey a sense of security for all residents and visitors and aid in the protection of life and property.
Policies: Locate fire, police and life saving stations in convenient areas; restore and

encourage the sense of neighborhood and community caring throughout Maui County.

C. WAILUKU/KAHULUI COMMUNITY PLAN

The Wailuku/Kahului Community Plan, one of nine community plans for Maui County, reflects current and anticipated conditions in the Wailuku/Kahului region and advances planning goals, objectives, policies and implementation considerations to guide decision-making in the region through the year 2010. The Wailuku/Kahului Community Plan provides specific recommendations to address the goals, objectives and policies contained in the General Plan, while recognizing the values and unique attributes of Wailuku/Kahului, in order to enhance the region's overall quality of life.

In the *Problems* introduction to the Wailuku/Kahului Community Plan (WKCP) parking was identified as a problem in the civic center and Wailuku business area. Identified as an *Opportunity* is the redevelopment of Wailuku Town. The Iao Theater, which was acquired along with the project site, has received some restoration. It serves as a link to the Wailuku's past and is once again becoming an asset for the community.

Policy recommendations for the WKCP region have been developed to guide decision-making in a number of subject areas having community-wide impacts. Simply interpreted, the goals are those broad statements which identify a preferred future condition. The objectives and policies specify steps and measures to be taken to achieve the stated goal. Finally, the implementing actions identify specific programs, project requirements and activities necessary to successfully bring reality to the desired goal.

Economic Activity

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

Objectives and Policies: Support the revitalization of the Wailuku commercial core and adjacent areas by expanding the range of commercial services; improving circulation and parking; enhancing and maintaining the town's existing character through the establishment of a Wailuku Town design district; redevelopment of the Wailuku Municipal Parking Lot to include the emphasis on additional public parking; establishing urban design guidelines; and providing opportunities for new residential uses. Improve Wailuku's image and level of service as a commercial center for the region's population. A combination of redevelopment and rehabilitation actions is necessary to meet the needs of a growing center.

Cultural Resources

Goal: Preservation, enhancement and appropriate use of cultural resources, cultural practices and historic sites that provide a sense of history and define a sense of place for the Wailuku/Kahului region.

Objectives and Policies: Preserve the character and integrity of historic areas in Wailuku Town.

Social Infrastructure

Recreation

Goal: Develop and maintain an efficient and responsive system of public services which promotes a safe, healthy and enjoyable lifestyle, accommodates the needs of the young, elderly, disabled and disadvantaged persons, and offers opportunities for self-improvement and community well-being.

Objectives and Policies: Place high priority on rehabilitating the Iao Theater for use as a multi-purpose community facility and develop the adjoining property in a manner that retains the integrity of the town core.

Public Safety

Objectives and Policies: Maintain adequate police and fire protection services in the region.

Infrastructure

Transportation

Objectives and Policies: Expand parking facilities serving the civic and commercial centers of Wailuku. Parking improvements should include expanding existing public parking facilities off Market Street and around the civic center, improving controls over existing civic center parking to reserve it for short-term use. Explore feasibility of a shuttle service for county employees to remote parking facilities.

Urban Design

Goal: An attractive and functionally integrated urban environment that enhances neighborhood character, promotes quality design, defines a unified landscape planting and beautification theme along major public roads and highways, watercourses and a major public facilities, and recognizes the historic importance and traditions of the region.

Objectives and Policies: Establish, expand and maintain parks, public facilities and public shoreline areas. Maintain the existing character of historic Wailuku Town. Expand public parking facilities at the Wailuku Municipal Parking Lot and provide for safe and convenient bicycle parking in Wailuku Town. Foster development of mini-parks where appropriate and a community beautification program.

D. MAUI COUNTY ZONING

Chapter 19.20, Maui County Code Comprehensive Zoning provisions provides: *B-3 Central Business District - This district is applied to the central business district and permits general business enterprises, particularly financial, governmental, commercial and professional activities. Its distinguishing feature is the greater height limit permitted in the area. Manufacturing and nuisance industries are excluded from the zone. Within the B-3 district, there shall be permitted any use permitted in B-1 district and B-2 community business district (with some exceptions).*

The project complies with the intent and purpose of the B-3 Business District.

COORDINATION AND COMMENTS

Pre-consultation by phone, meeting, and letter were concluded with the following agencies. Responses are attached in Appendix C.

Department of Parks and Recreation

Department of Public Works and Waste Management

Department of Planning

Department of Water Supply

Department of Police

Wailuku Main Street Association

V. DETERMINATIONS

A. HAWAII REVISED STATUTES - CHAPTER 343

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

1) *Involve an irrevocable commitment to loss or destruction of any natural or cultural resource;*
The project will enhance and beautify a portion of the downtown core of Wailuku Town by the creation of a 10,000 square foot mini-park. The site is currently vacant and, according to the archaeological inventory is not likely to contain any natural or cultural resources. A monitoring program will be carried out during the construction period.

2) *The proposed action will not curtail the range of beneficial uses of the environment;*
The project in of itself will provide enhanced open space and would therefore contribute to the built and natural environment of the area.

3) *The proposed action will not conflict with State or County long-term environmental policies and goals expressed in Chapter 344, HRS, and those which are specifically outlined in the Conservation District Rules.*
The project is fully contained within the State Land Use Urban District and is fully consistent with State and County long-term environmental policies.

4) *The proposed action will not substantially affect the economic or social welfare and activities of the community, county or state.*
The project will contribute to the overall well-being of the community by providing a mini-park, a public restroom, a police center and a public parking lot.

5) *The proposed action will not substantially affect public health.*
The project will provide a welcome green area within the urban core area of Wailuku Town and, as part of the project, will provide a sanitary and well-maintained public restroom.

6) *The proposed action will not result in substantial secondary impacts.*
In the longer term, the project will provide very positive impacts to the region, and

in particular, to the Wailuku downtown district. Short term impacts may result from construction noise and fugitive dust but these will be mitigated through best

management practices.

7) *The proposed action will not involve a substantial degradation of environmental quality.*
Short term construction noise and dust will occur. No long-term degradation of environmental quality will result from the project, rather the environmental quality will be improved.

8) *The proposed project will not produce cumulative impacts and does not have considerable effects upon the environment or involve a commitment for larger actions.*
The project will have no cumulative impacts on the environment and does not involve any commitment for larger actions.

9) *The proposed action will not affect a rare, threatened, or endangered species or its habitat.*
No known rare, threatened or endangered species or habitat are found on or near the project site.

10) *The proposed action will not substantially or adversely affect air and water quality or ambient noise levels.*
During construction every measure will be taken to reduce or mitigate any affects on air quality. By adoption of reasonable work schedules, ambient noise levels during construction will be kept to a minimum. No impacts on water quality are anticipated.

11) *The proposed action will not substantially affect or be subject to damage by being located in an environmentally sensitive area, such as flood plain, shoreline, tsunami zone, erosion-prone areas, estuary, fresh waters, geologically hazardous land or coastal waters.*
The project is not located in any of the mentioned areas and should therefore not be affected nor affect any of the noted areas.

12) *The proposed action will not substantially affect scenic vistas or view planes identified in county or state plans or studies.*
The project is not located in any scenic vista or view plane area.

13) *The proposed action will not require substantial energy consumption.*
Water consumption will be required for irrigation and lighting will be required for the park and the parking lot. In neither case would this be deemed substantial consumption.

A Finding of No Significant Impact (FONSI) is therefore concluded for the Wailuku Mini-

park, public restroom, parking lot and police resource center. This finding is based on analysis contained within this document which support the aformentioned findings in accordance with Section 11-200-12 of the Department of Health's Environmental Impact Statement Rules. Compliance with all agency and public comments on the Draft Environmental Assessment have been included in this document and will be incorporated into the project.

VI. REFERENCES

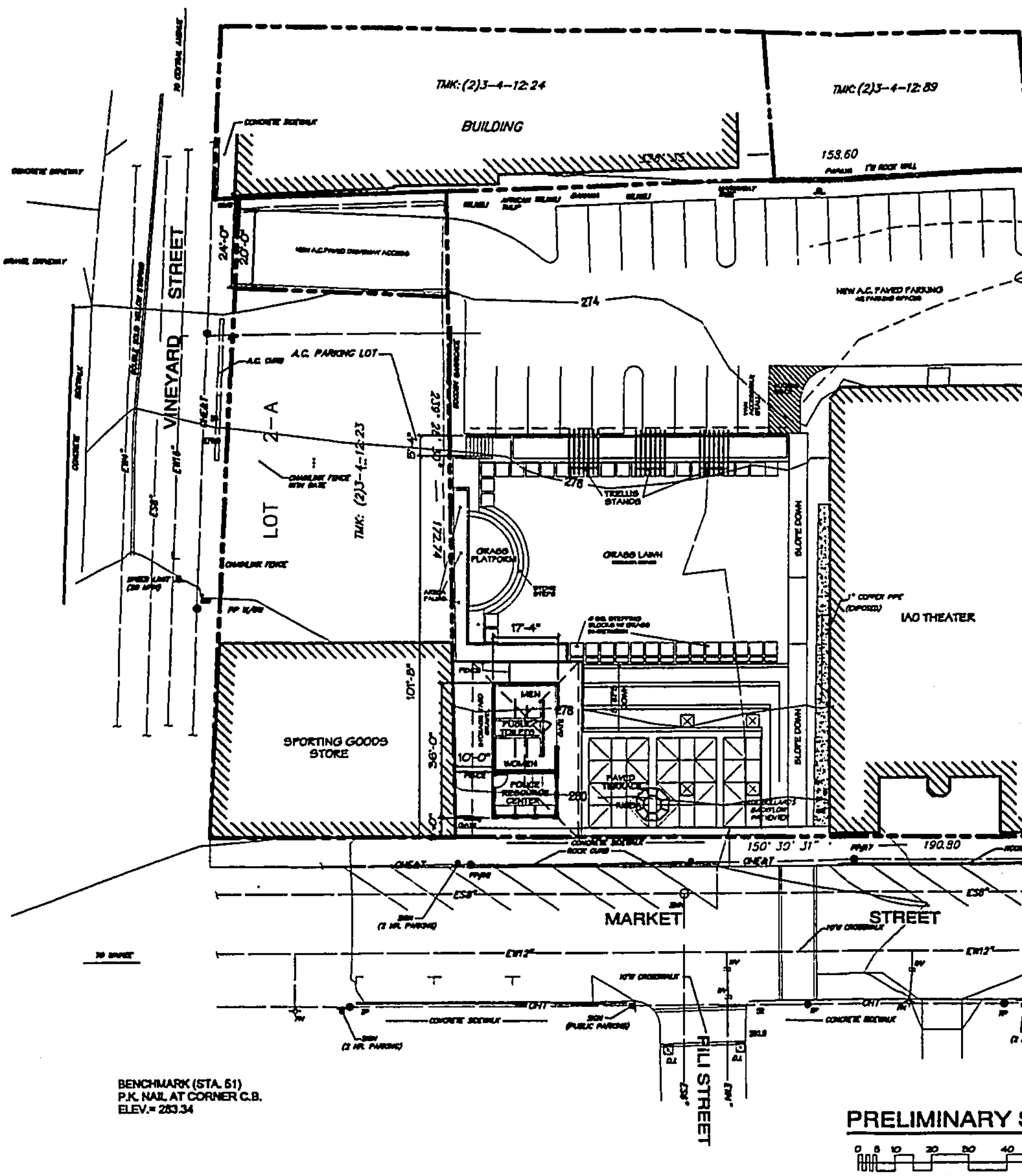
Maui County Code, A Codification of the General Ordinances of the County of Maui, 1980, Revised and Republished 1991 and as amended from time to time.

County of Maui, Department of Planning, *Proposed* Wailuku-Kahului Community Plan 1994

County of Maui, Department of Planning, The General Plan of the County of Maui

County of Maui, Office of Economic Development Maui County Data Book, 2000

FIGURES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PUBLIC TOILETS
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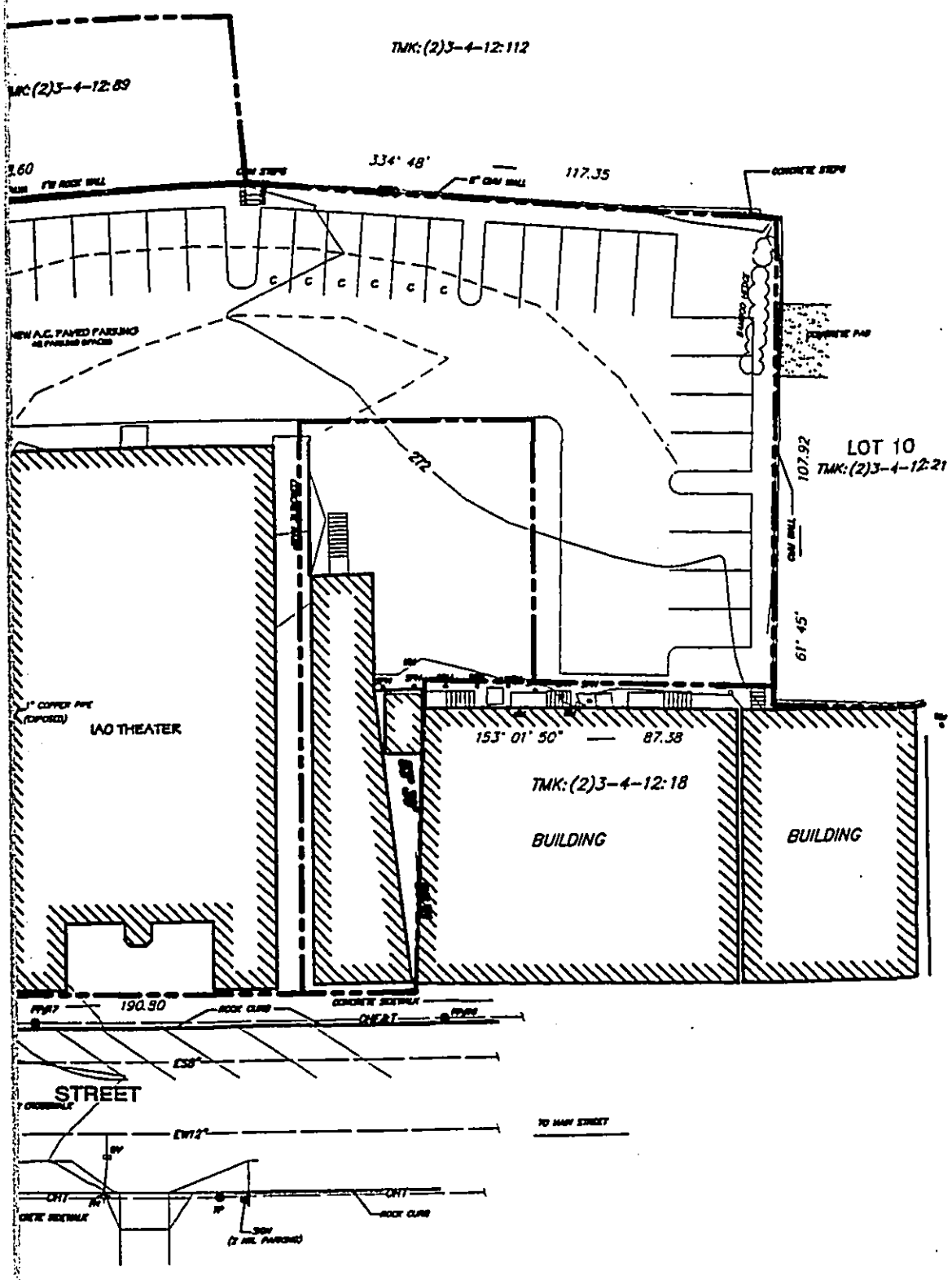

PRELIMINARY SITE PLAN

SCALE: 1/16" = 1'-0"

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Hiyakumoto + Higuchi
ARCHITECTS · INC.

1860 Main Street
Wailuku, Maui, Hawaii 96793
Telephone (808) 242-9705

This work was prepared by me or under my supervision.

Date : MAY 2, 2001
Revisions :

WAILUKU MINI-PARK
RESTROOM AND POLICE RESOURCE CENTER
WAILUKU TOWN, MAUI, HAWAII

Sheet Title
PRELIMINARY SITE PLAN

Sheet Number
P-SP1

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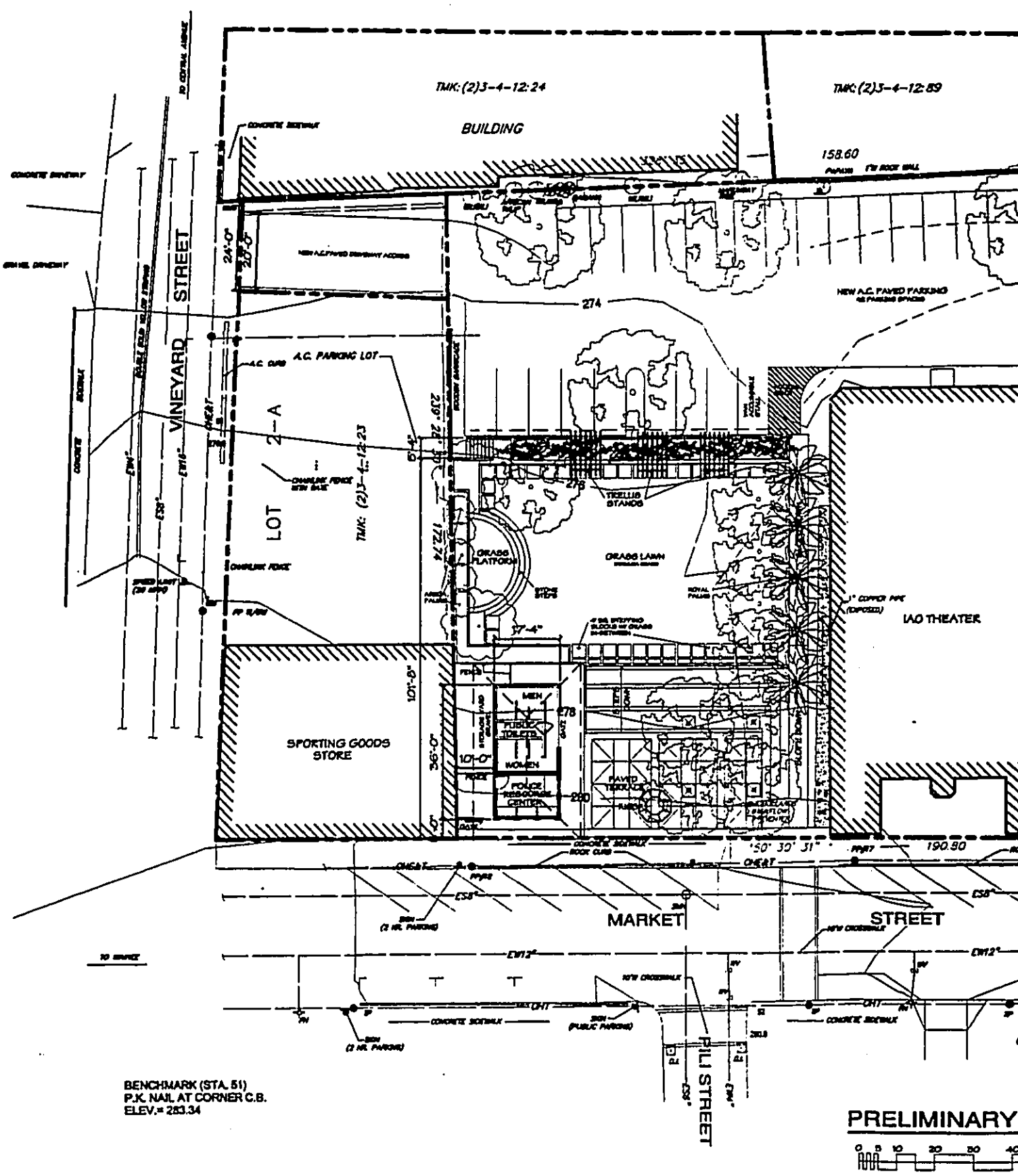
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274
NEW A.C. PAVED PARKING
A.C. CURB
A.C. PARKING LOT
VINEYARD STREET
LOT 2-A
TMK: (2)3-4-12:23
CHAINLINK FENCE
TICELLIS STANDS
GRASS PLATFORM
GRASS LAWN
STONE STEPS
ROYAL PALMS
1" COPPER PIPE (DEPOSED)
IAO THEATER
37'-4"
SPORTING GOODS STORE
101'-9"
36'-0"
MEN
278
PUBLIC TOILETS
WOMEN
101'-0"
POLICE SUBSTATION CENTER
280
PAVED WALKWAY
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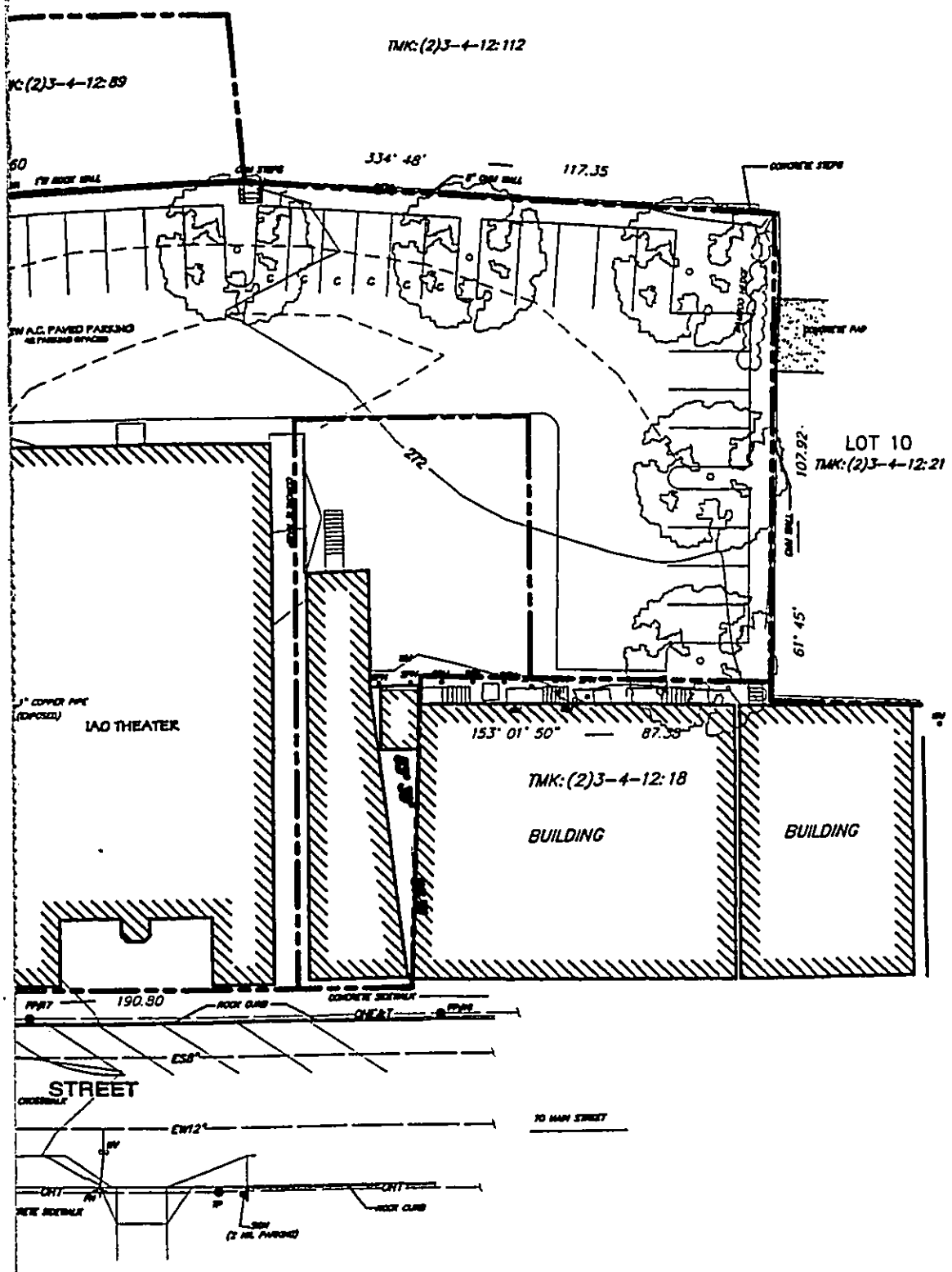
190.90
CONCRETE SIDEWALK
ROCK CURB
MARKET
STREET
NEW CROSSWALK
10'W CROSSWALK
CONCRETE SIDEWALK
SIGN (2 HR. PARKING)
SIGN (PUBLIC PARKING)
PILI STREET
BENCHMARK (STA. 51)
P.K. NAIL AT CORNER C.B.
ELEV.= 283.34
PRELIMINARY
0 5 10 20 30 40
FEET



PRELIMINARY SITE PLAN

SCALE: 1/16" = 1'-0"

Hiyakumoto + Higuchi
ARCHITECTS · INC.

1860 Main Street
Wailuku, Maui, Hawaii 96793
Telephone (808) 242-9705

This work was prepared by me or under my supervision.

Date : MAY 2, 2001

Revisions :

WAILUKU MINI-PARK
RESTROOM AND POLICE RESOURCE CENTER
WAILUKU TOWN, MAUI, HAWAII

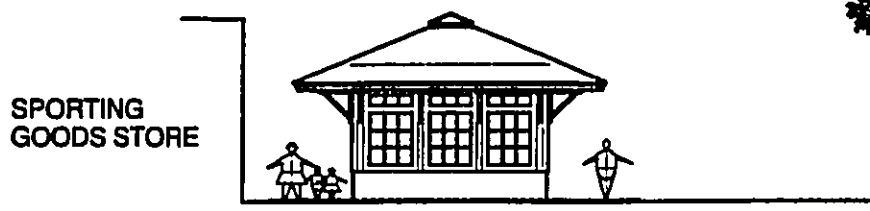
Sheet Title

PRELIMINARY SITE PLAN

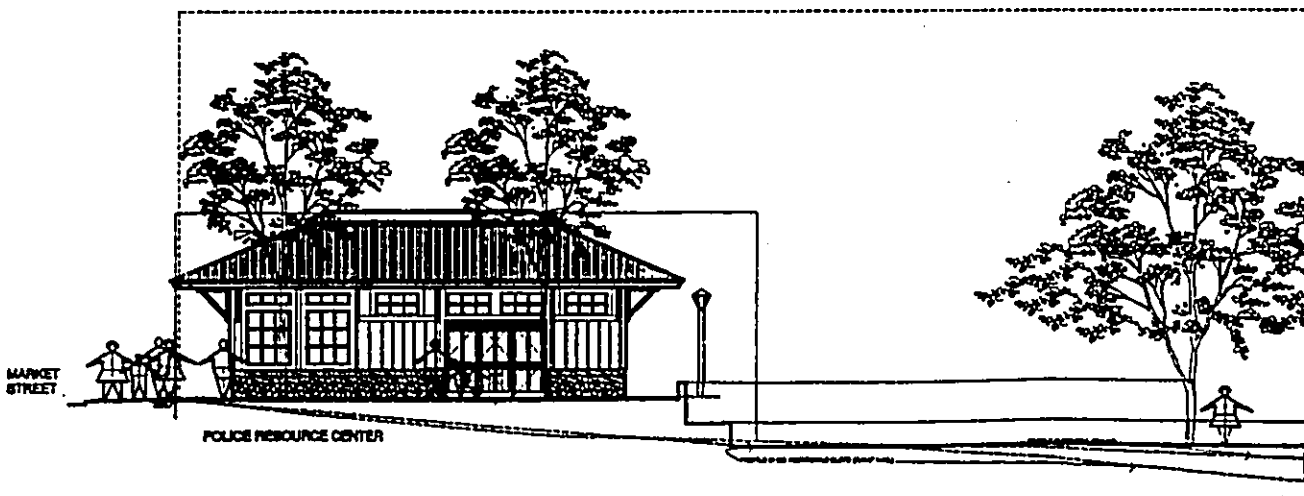
Sheet Number

P-SP1

Sheet of



FRONT ELEVATION MA
POLICE RESOURCE CEN



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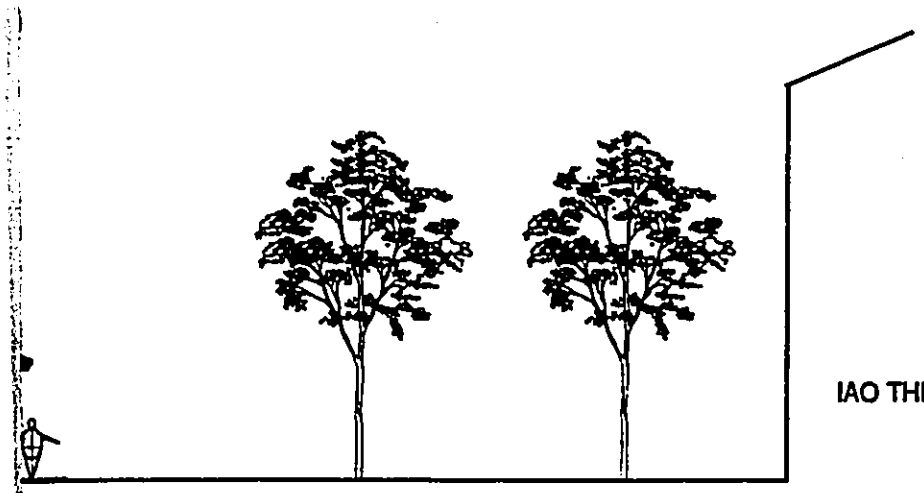
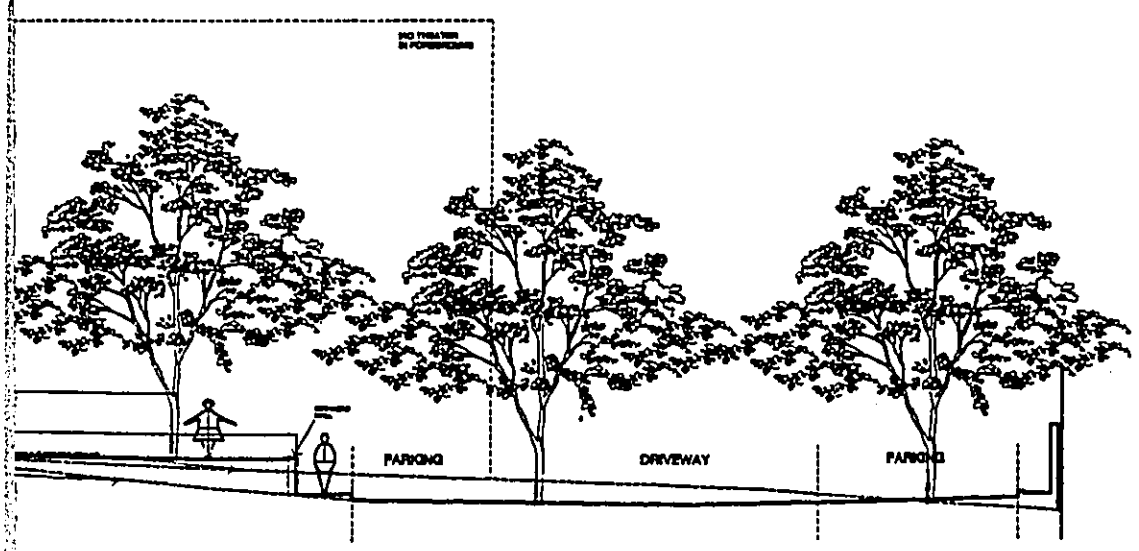


ELEVATION MARKET STREET
RESOURCE CENTER



UDINAL SECTION THRU SITE

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GERALD M. HIYAKUMOTO
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Date : MAY 2, 2001
Revisions :

WAILUKU MINI-PARK
RESTROOM AND POLICE RESOURCE CENTER
WAILUKU TOWN, MAUI, HAWAII

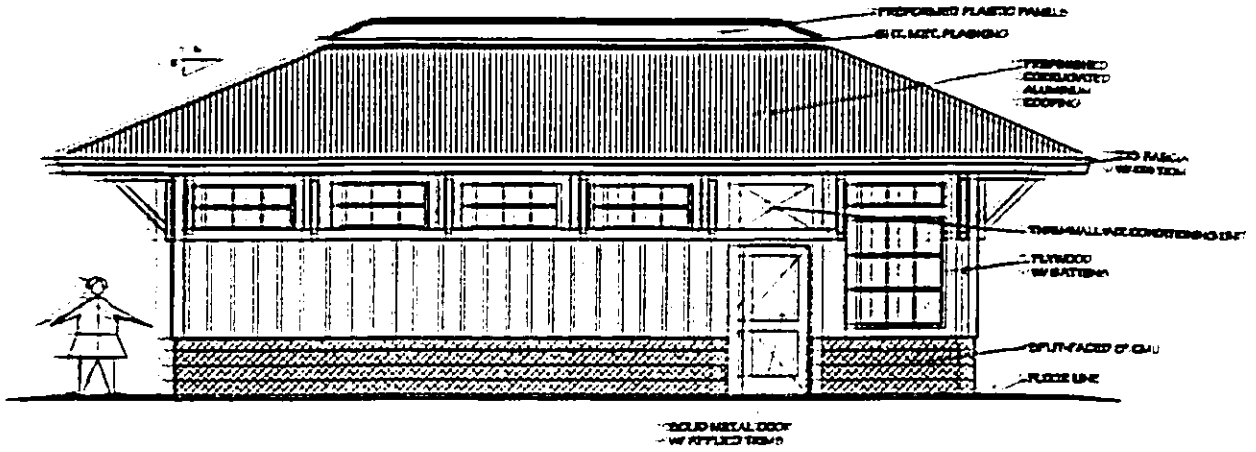
Sheet Title

PRELIMINARY
SECTION

Sheet Number

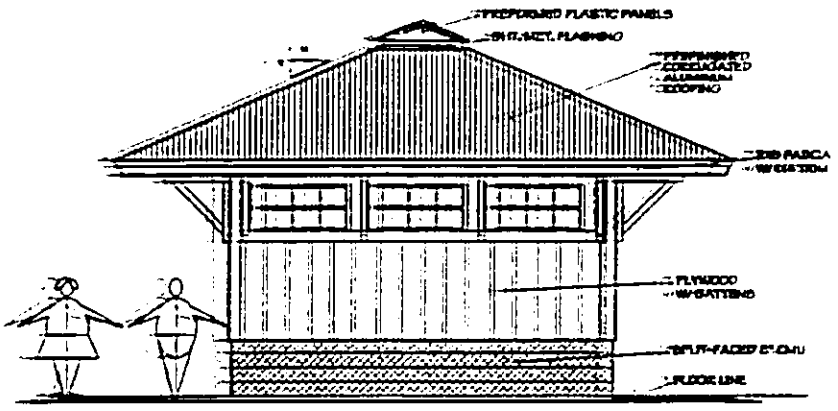
P-SS1

Sheet of



LEFT ELEVATION

SCALE: 1/4"=1'-0"



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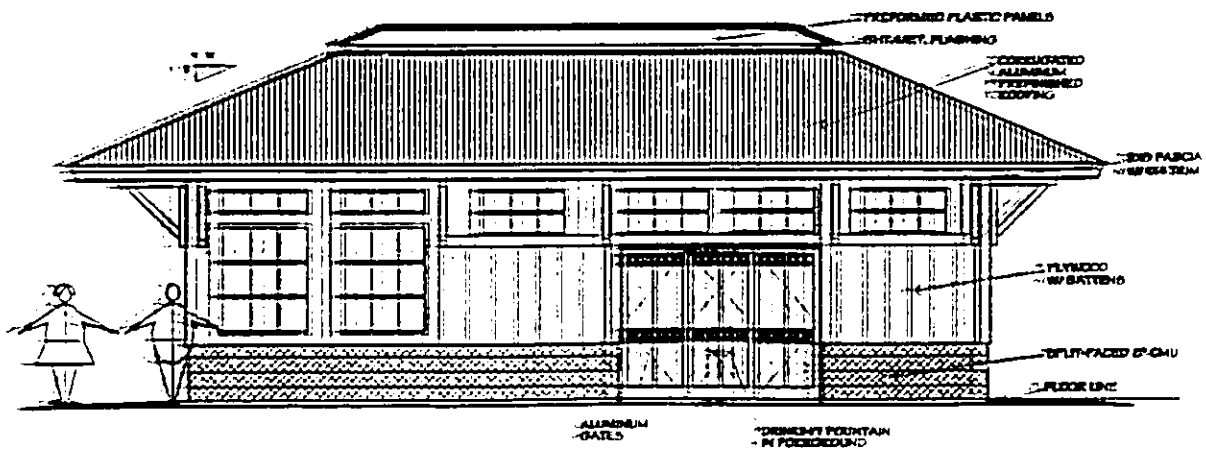
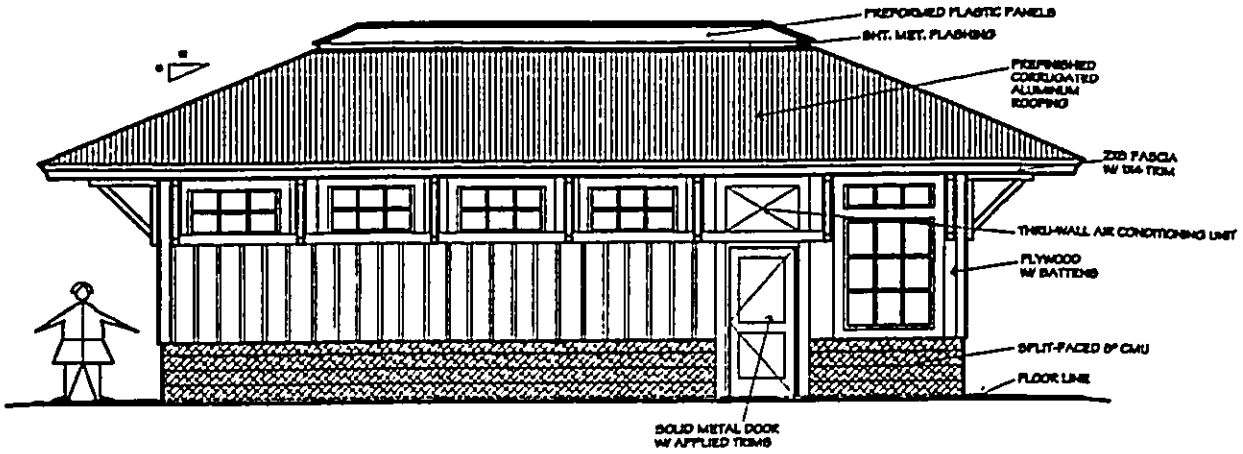
SCALE: 1/4"=1'-0"



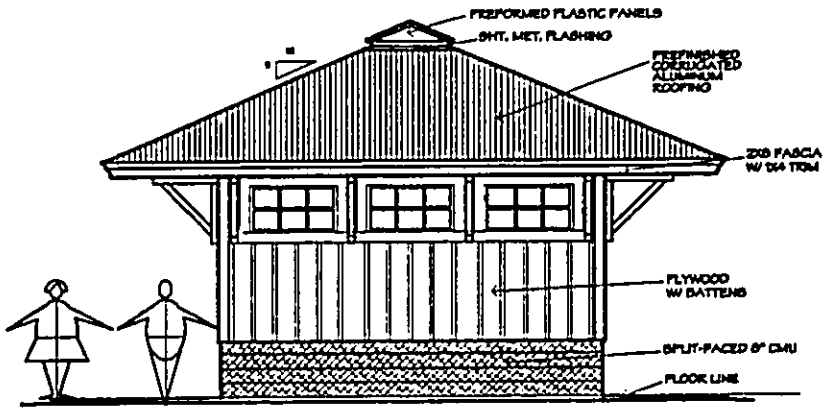
RIGHT ELEVATION

SCALE: 1/4"=1'-0"



LEFT ELEVATION

SCALE: 1/4"=1'-0"



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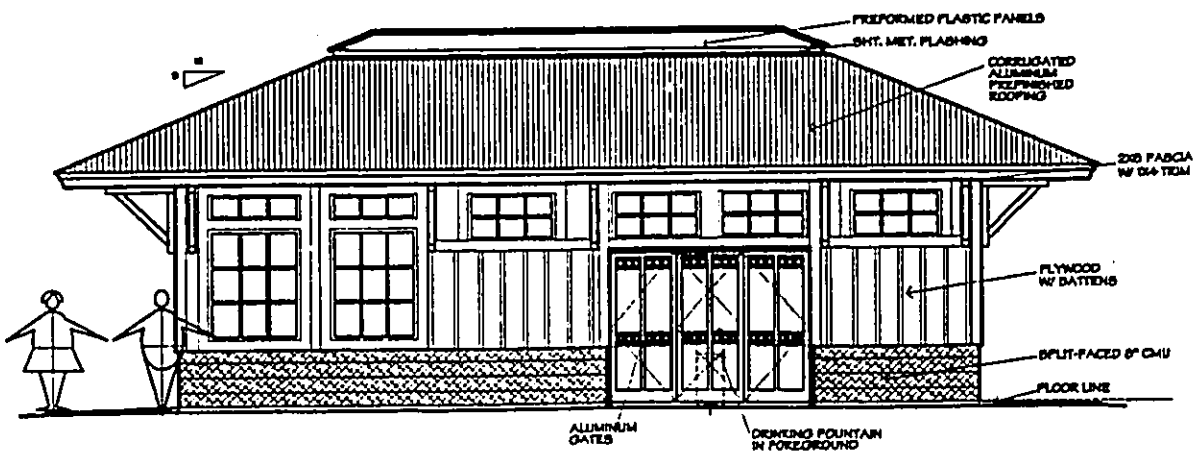
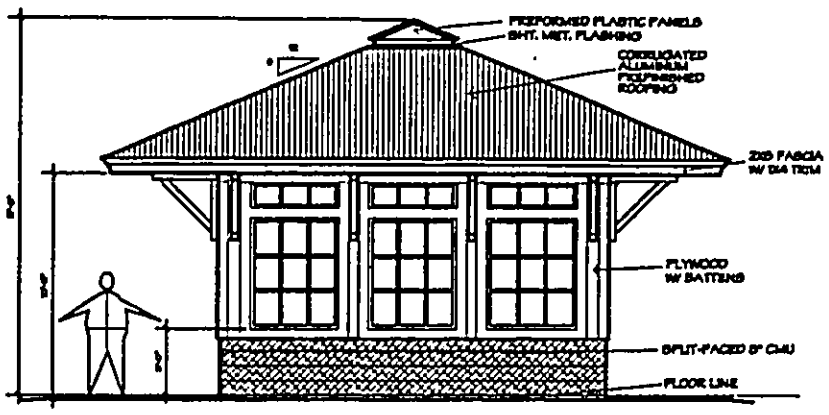
SCALE: 1/4"=1'-0"



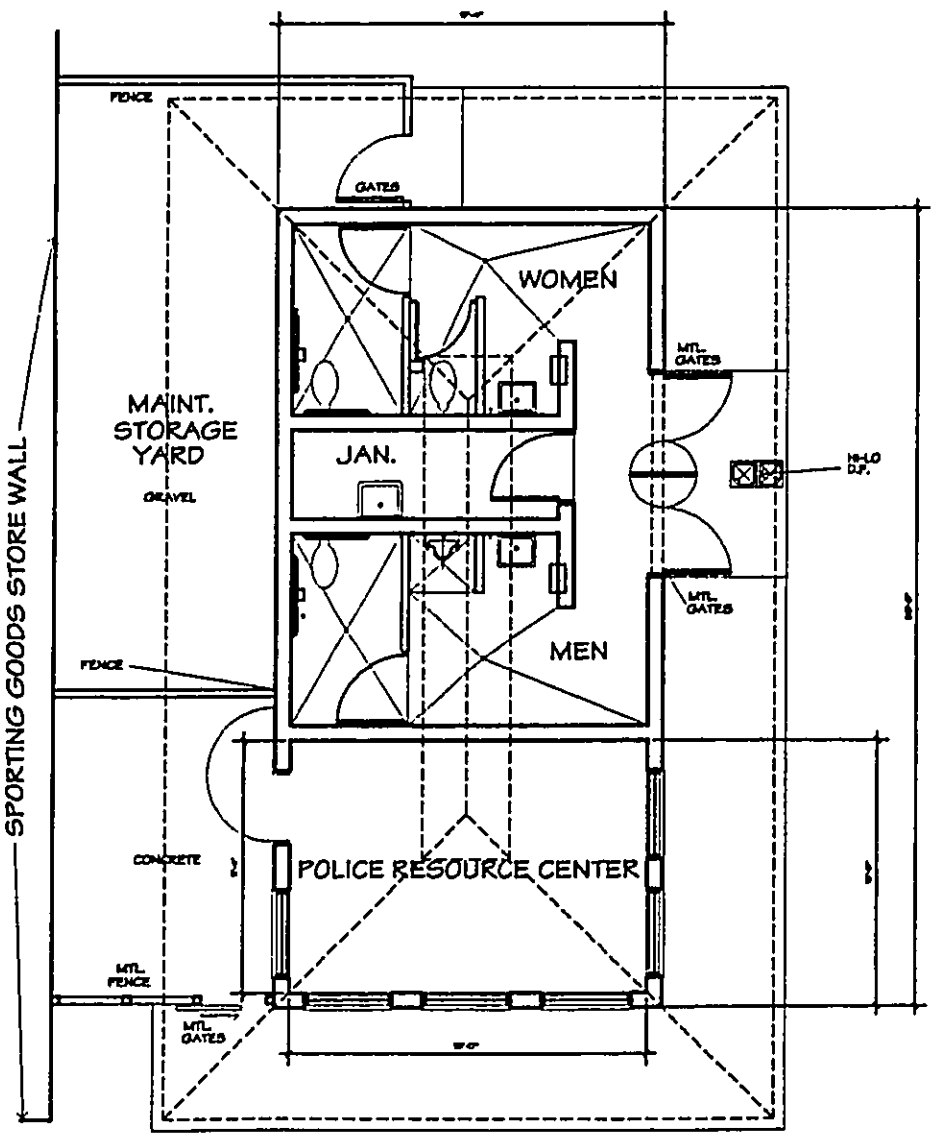
RIGHT ELEVATION

SCALE: 1/4"=1'-0"



FRONT ELEVATION
POLICE RESOURCE CENTER

SCALE: 1/4"=1'-0"



FLOOR PLAN

SCALE: 1/4"=1'-0"

Hiyakumoto + Higuchi
ARCHITECTS · INC.
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Date : MAY 2, 2001
Revisions :

WAILUKU MINI-PARK
RESTROOM AND POLICE RESOURCE CENTER
WAILUKU TOWN, MAUI, HAWAII

Sheet Title
PRELIMINARY FLOOR PLAN & ELEVATIONS

Sheet Number
P-A1

Sheet of

APPENDIX "A"

PRELIMINARY

DRAINAGE & SOIL EROSION CONTROL STUDY

FOR

PROPOSED WAILUKU MINI-PARK

RESTROOM AND POLICE RESOURCE CENTER

AT WAILUKU TOWN, MAUI, HAWAII

TAX MAP KEY: (2) 3-4-12:22

PREPARED FOR:

HIYAKUMOTO + HIGUCHI ARCHITECTS
1060 MAIN STREET
WAILUKU, MAUI, HAWAII - 96793

PREPARED BY:

Toraka
ENGINEERS, INC.
CIVIL & STRUCTURAL ENGINEERING • LAND SURVEYING • CONSTRUCTION MANAGEMENT & INSPECTIONAL SERVICES

871 KOLU STREET, SUITE 201
WAILUKU, MAUI, HAWAII - 96793
JOB NO. 01-008

MAY 2001

TABLE OF CONTENTS

FIGURE 4 - PROPOSED IMPROVEMENTS

FIGURE 5 - EXISTING TOPOGRAPHY

FIGURE 6 - GRADING & DRAINAGE PLAN

FIGURE 7 - SOIL EROSION CONTROL PLAN

I. INTRODUCTION:

A. PURPOSE:

The purpose of this report is to determine existing drainage conditions at the project site and to recommend a drainage plan for the disposal of runoff to be generated by the proposed development.

B. LOCATION:

The site, which is Lot 3 of the proposed Iao Theater Subdivision, is situated near the eastern corner of the intersection of Vineyard and N. Market Streets (Figure 1). It is located at the heart of the Wailuku Town business core.

The project site contains an area of 37,527 square feet or 0.862 acres.

C. BASIS OF STUDY:

This drainage study is fundamentally based on the standards as set forth by the "Rules for the Design of Storm Drainage Facilities" in the County of Maui [2]. The erosion control measures to be instituted during development of the project will be in accordance with the requirements of Chapter 20.08 of the Maui County Code (MCC) (Ordinance No. 2684).

D. PROJECT DESCRIPTION:

The proposed project involves the construction of restroom facilities, police resource center, 42-stall paved parking area, landscaping and other amenities. The preliminary layout of the proposed improvements is shown on Figure 4.

II. EXISTING CONDITIONS:

A. SOIL CONDITIONS:

The U.S. Department of Agriculture Soil Conservation Service's Soils Survey of the Island of Kauai, Oahu, Maui, Molokai and Lanai [3], classifies the soils within the project site as Wailuku Silty Clay (WvB). It consists of well-drained soils. Runoff is slow and erosion hazard is slight. Slopes range from 3 to 7 percent. Figure 2 shows the soil classification at the site.

Wailuku Silty Clay also falls under Hydrologic Soil Group (HSG) "B" and is characterized by moderate runoff potential and infiltration rate when the soil is thoroughly wetted.

B. FLOOD HAZARD CONDITIONS:

The Flood Insurance Rate Maps, Maui County [4] designates the site within Flood Zone "C" (Figure 3).

Zone "C" is designated as areas of minimal flooding; therefore, the proposed project will not be subject to the requirements of Chapter 19.62, Flood Hazard Area of the MCC.

C. TOPOGRAPHY:

The existing site is presently occupied by the Iao Theater Building. The remainder of the site is paved, graveled and grassed and used for parking purposes.

The existing ground has elevations ranging from 270 feet to 281 feet above mean sea level. In general, the ground surface slopes down in an easterly direction from Market Street toward the backside of the lot,

at an average slope of about 4 percent. Topography of the site is shown on Figure 5.

D. ONSITE DRAINAGE:

The present onsite drainage condition is characterized by surface waters sheet flowing across the project site towards the back portion of the lot. The runoff would either flow directly into TMK: 3-4-12:24 or would continue to the southeast portion of the property and eventually drain into the lower lot (TMK: 3-4-12:21).

The existing 10-year runoff rate expected to be generated by the project site is about 1.9 cubic feet per second (cfs), while the anticipated existing 50-year runoff volume is 3,440 cubic feet (cf).

E. OFFSITE DRAINAGE:

The proposed development site will not be affected by any significant offsite storm runoff. Referring to Figure 5, runoff from N. Market Street will flow in a southerly direction towards Main Street. Vineyard Street runoff will flow in a northeasterly direction towards Central Avenue. Runoff from TMK: 3-4-12:23 flows northerly towards its back boundary where it will be diverted to Vineyard Street by the existing A.C. curb. Runoff (approximately 0.9 cfs) from Lot 2 and portion of Lot 1; however, will flow directly into the southeast portion of the project site and eventually flow out into the downstream lot (TMK: 3-4-12:21).

III. STORM RUNOFF QUANTITIES:

The following is a summary of estimated runoff quantities. Calculations are given in Appendix A.

Runoff Rate: (10-yr., 1-hr. Storm)

Onsite:

Developed Conditions	= 3.6 cfs
Existing Conditions	= 1.9 cfs
Increase due to Development	= 1.7 cfs

Offsite:

Expected Runoff to Affect the Proposed Improvements (Parking Area only)	= 0.9 cfs

Onsite Runoff Volume: (50-yr., 1-hr.)

Developed Conditions	= 5,130 cf
Existing Conditions	= 3,440 cf
Increase due to Development	= 1,690 cf (minimum volume to be retained onsite).

IV. PROPOSED CONDITIONS:

A. GRADING & DRAINAGE FACILITIES:

Figure 6 shows the planned grading of the project site and proposed drainage facilities. The grading will involve excavating and filling the area surrounding the Iao Theater Building for the proper reception of

the proposed facilities and parking area. The site will be graded such that onsite runoff will flow into the new drain inlets.

The proposed drainage facilities will be designed to handle the expected 50-year runoff volume increase generated by the proposed project. Since there is no existing drainage system to connect to, the new facilities will include a subsurface storage basin to retain the runoff volume increase. Surface flows will be collected by the proposed grated inlets.

The proposed storage basin will be constructed under the new parking area and will consist of perforated HDPE pipe with crushed rock envelop which in turn will be wrapped with geotextile fabric. Capacity of the storage basin, shall be equal to or greater than the runoff volume increase.

Storage capacity calculations and cross-section of the proposed storage basin are included in Appendix A.

V. EROSION CONTROL PLAN:

The proposed erosion control plan is presented in Figure 7. It includes the installation of silt fences downslope of the graded areas and providing wind breaker/dust fences.

The contractor will be required to submit satisfactory soil erosion control measures to the County (Land Use & Codes Administration) prior to issuance of a grubbing and grading permit. The erosion control plan shall include Best Management Practices in compliance with Section 20-08.035 of the Maui County Code (Grading Ordinance No. 2684).

In addition to the measures shown on Figure 7, which will be a part of the construction plans, temporary erosion control measures will also include, but not be limited to, the following:

a. Clear areas only that are needed for new improvements.

b. Control dust by means of waterwagon and/or sprinklers during period of construction.

c. Early construction of the drainage basin and facilities.

d. Graded areas will be thoroughly watered after construction activity has ceased for the day and for weekends and holidays.

e. All exposed graded areas will be grassed, landscaped and/or paved immediately upon completion of finished grading.

VI. CONCLUSION:

Based on this study, completion of the proposed improvements, will not cause additional adverse drainage effects to adjacent and downstream properties due to the following:

A. Incorporation of an onsite subsurface retention drainage basin will result in a zero runoff increase to adjacent and downstream properties. Overall, the onsite 50-year storm runoff volume to offsite properties will be reduced by about 187 cubic feet (cf), from 3,440 cf to 3,253 cf.

B. Soil erosion and dust control measures will be instituted during development of the project. These measures shall include Best Management Practices in compliance with Section 20.08.035 of the Maui County Code (Ordinance No. 2684).

VII. REFERENCES:

1. Rules for the Design of Storm Drainage Facilities in the County of Maui, Title MC-15, Department of Public Works and Waste Management, County of Maui, Chapter 4.

2. Maui County Code, Chapter 20.08, Soil Erosion & Sedimentation Control.

3. Flood Insurance Rate Maps for the County of Maui, June 1981.

4. Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, prepared by U. S. Department of Agriculture, Soil Conservation Service, August 1972.

5. Rainfall-Frequency Atlas of the Hawaiian Islands, Technical Paper No. 43, U. S. Department of Commerce, Weather Bureau, 1962.

6. Erosion and Sediment Control Guide for Hawaii, prepared by U. S. Department of Agriculture, Soil Conservation Service, March 1981.

APPENDIX A

DRAINAGE CALCULATIONS

10-YEAR STORM RUNOFF RATE

Reference: Rules for the "Design of Strom Drainage Facilities" in the County of Maui

1. Hydrologic Criteria: 10-year, 1-hour storm

2. Methodology:

   Rational Method, Q = CIA, in which:

   Q = Flow rate in cubic feet per second

   C = Runoff coefficient

   I = Rainfall intensity in inches per hour for a duration equal to the time of concentration

   A = Drainage area in acres

3. Hydrologic Calculations: (See attached Hydrology Charts)

4. Runoff Coeffcient, C:

   a. Onsite: (Area = 37,527 s.f. = 0.86 Ac.)

   Existing C = 0.25 (Lawn, 12,372 s.f.)

   = 0.40 (Gravel, 13,170 s.f.)

   = 0.98 (Pavement, Roofs, etc., 11,985 s.f.)

$$\text{Weighted C} = \frac{0.25 \times 12{,}372 + 0.40 \times 13{,}170 + 0.95 \times 11{,}985}{37{,}527}$$

   = 0.53 (Existing Condition)

   Future C = 0.25 (Lawn, 7,440 s.f.)

   = 0.95 (Pavement, Roofs, etc., 30,087 s.f.)

$$\text{Weighted C} = \frac{0.25 \times 7{,}440 + 0.95 \times 30{,}087}{37{,}527}$$

   = 0.81 (New Condition)

b. Offsite (Area = 10,095 s.f. = 0.23 Ac.)

C = 0.25 (Lawn, 2,615 s.f.)

= 0.95 (Pavement, Roofs, etc., 7,480 s.f.)

$$\text{Weighted C} = \frac{0.25 \times 2{,}615 + 0.95 \times 7{,}480}{10{,}095}$$

$$= 0.77$$

PROJECT: Wailuku Mini-Park

LOCATION: Wailuku Town

DATE: _____

TMK: _____

HYDROLOGY

Drainage Area Designation	Inlet Structure/ Designation	Area (Acres)	Length of Overland Flow (feet)	Average Slope, %	Character of Ground	T_c (min.)	C	TM (years)	1-Hour Rainfall (inches)	I (in./hr.)	Q=AIC (c.f.s.)	Remarks
ONSITE:												
Existing Condition:												
--	--	0.86	320	4%	Use Bare Soil	10	0.53	10	2.0	4.10	1.9	
New Condition:												
--	--	0.86	320	4%	Use Paved	5	0.81	10	2.0	5.15	3.6	Increase Due to Development
												3.6 - 1.9 = 1.7 cfs
OFFSITE:												
--	--	0.23	--	--	--	5	0.77	10	2.0	5.15	0.9	Use TC = 5 min.
												Since offsite area is practically covered with buildings and impervious surfaces.

JOB NO.: _____

R. T. TANAKA ENGINEERS, INC.
ENGINEERS - SURVEYORS

SHEET ____ of ____

50-YEAR STORM RUNOFF VOLUME

A. BASIS OF CALCULATION:

1. Runoff Volume - Runoff volume will be determined by SCS Method.

   Ref.: Erosion & Sediment Control Guide for Hawaii, March, 1981, prepared by SCS

2. Given Data:

   Type of Soil at Property = Wailuku Series: Wailuku Silty Clay (WvB)

   Hydrologic Soil Group = B

   Rainfall Amount (50-year, 1-hour) = 2.8"

   Lot Area = 37,527 sq. ft.

B. ONSITE:

1. Runoff Volume at Existing Condition

Existing Curve Number, CN = 61 (Lawn, Good Condition - 12,372 s.f.)

= 85 (Gravel - 13,170 s.f.)

= 95 (Pavement, Roofs, etc. - 11,985 s.f.)

$$\text{Weighted CN} = \frac{61 \times 12{,}372 + 85 \times 13{,}170 + 95 \times 11{,}985}{37{,}527}$$

= 80.3

Use CN = 80

Runoff depth:

$$Q = \frac{(P - 0.2S)^2}{P + 0.8S}$$

Where $S = \frac{1,000}{CN} - 10$

$= \frac{1,000}{80} - 10$

$= 2.50$

$$Q = \frac{(2.8 - 0.2 \times 2.50)^2}{2.8 + 0.8 \times 2.50} = 1.10''$$

Runoff Volume, $V = \frac{1.10''}{12} \times 37,527 = 3,440$ Cubic Feet (CF)

2. <u>Runoff Volume at Improved Condition</u>

Future Curve Number, CN = 61 (Lawn, Good Condition - 7,440 s.f.)

= 95 (Pavement, Roofs, etc. - 30,087 s.f.)

$$\text{Weighted CN} = \frac{61 \times 7,440 + 95 \times 30,087}{37,527}$$

$= 88.3$

Use CN = 88

Runoff depth:

$$Q = \frac{(P - 0.2S)^2}{P + 0.8S}$$

Where $S = \frac{1,000}{CN} - 10$

$= \frac{1,000}{88} - 10$

$= 1.36$

$$Q = \frac{(2.8 - 0.2 \times 1.36)^2}{2.8 + 0.8 \times 1.36} = 1.64''$$

Runoff Volume, $V = \frac{1.64''}{12} \times 37,527 = 5,129$ Cubic Feet (CF)

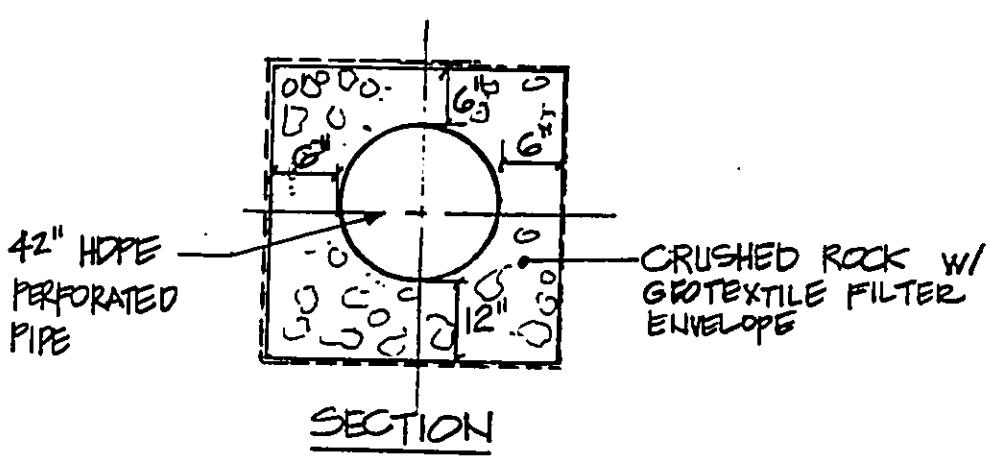
= 5,130 CF

3. Increase of Runoff Due to Development

Increase = 5,130 - 3,440

= 1,690 cf

4. Capacity of Storage Basin



Storage Pipe: Dia. = 42" HDPE Perforated Pipe

Length = 175 Ft.

Vol. = $3.1416 \times 1.75^2 \times 175$

= 1,684 c.f.

Rock Envelope:

Cross-Sectional Area = $5' \times 4.5' - (3.1416 \times 1.75^2)$

= 22.5 - 9.62

= 12.88

Volume = 12.88×175

= 966 c.f.

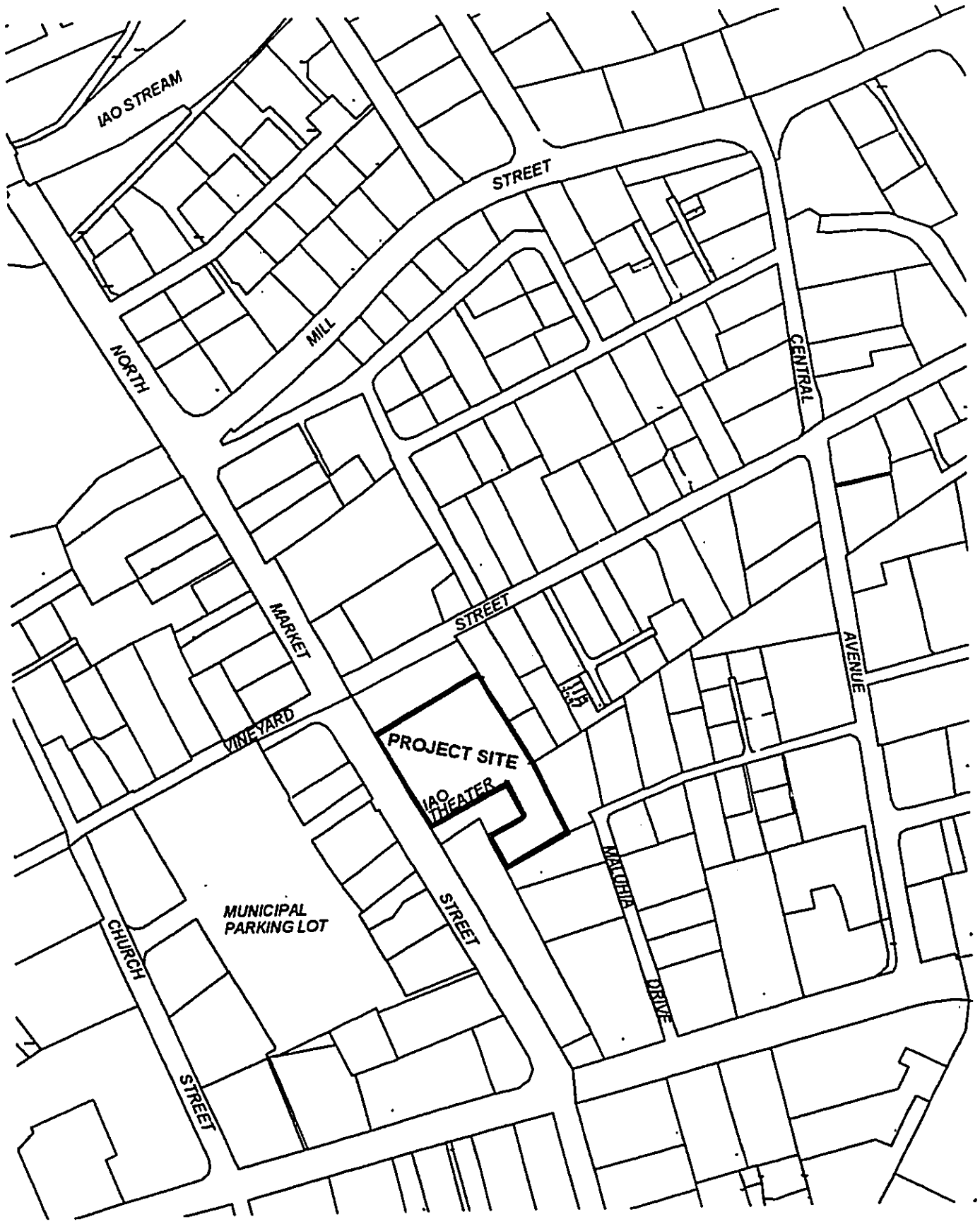
Effective Vol. = 50% of Void [1]

= 966 x 0.50 x .40 (Void Area)

= 193 c.f.

Net Capacity of Storage Basin = 1,684 + 193

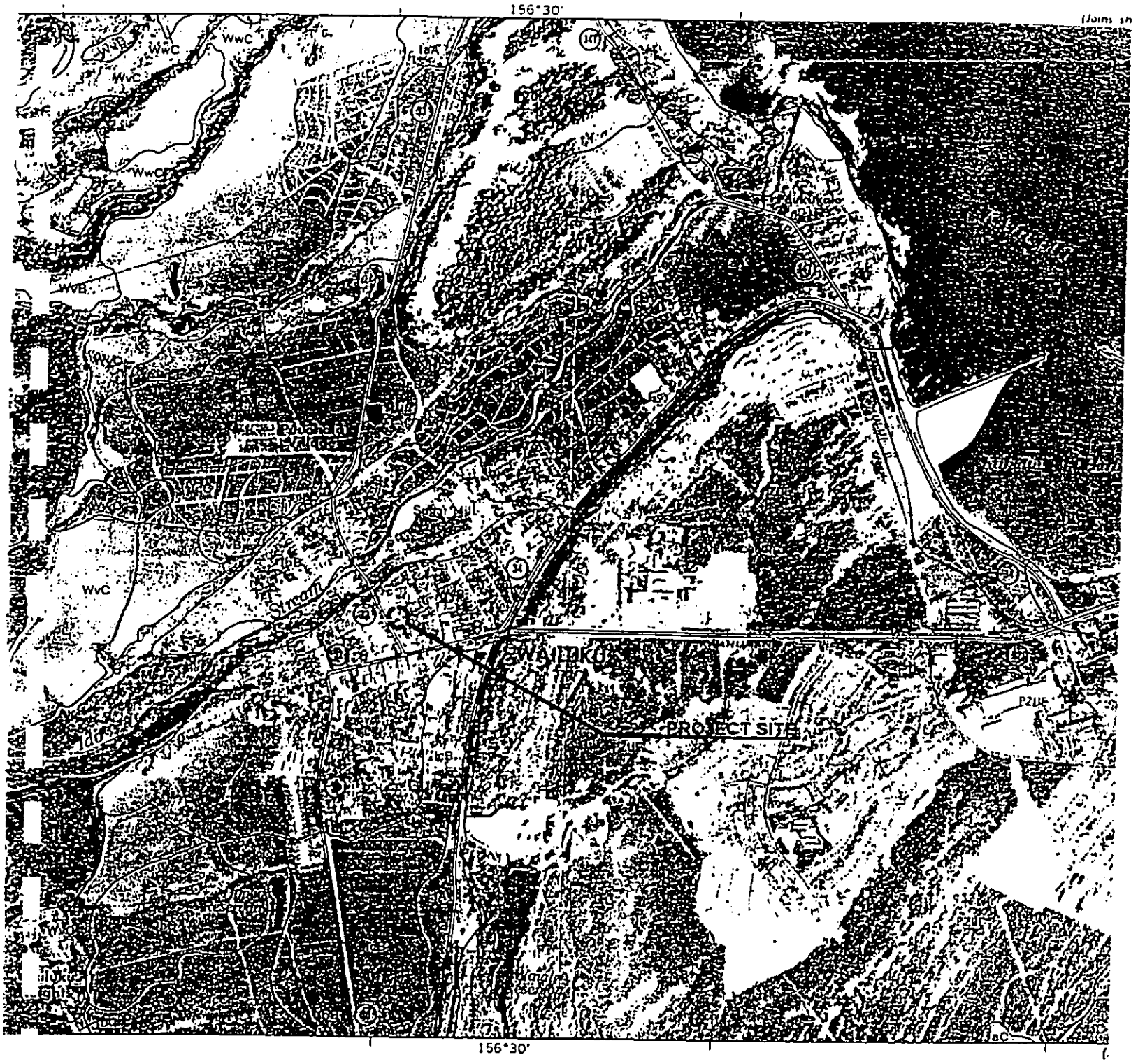
= 1,877 CF > 1,690 CFS (Design Vol. Increase)



VICINITY MAP

Scale: 1" = 200'

FIGURE 1

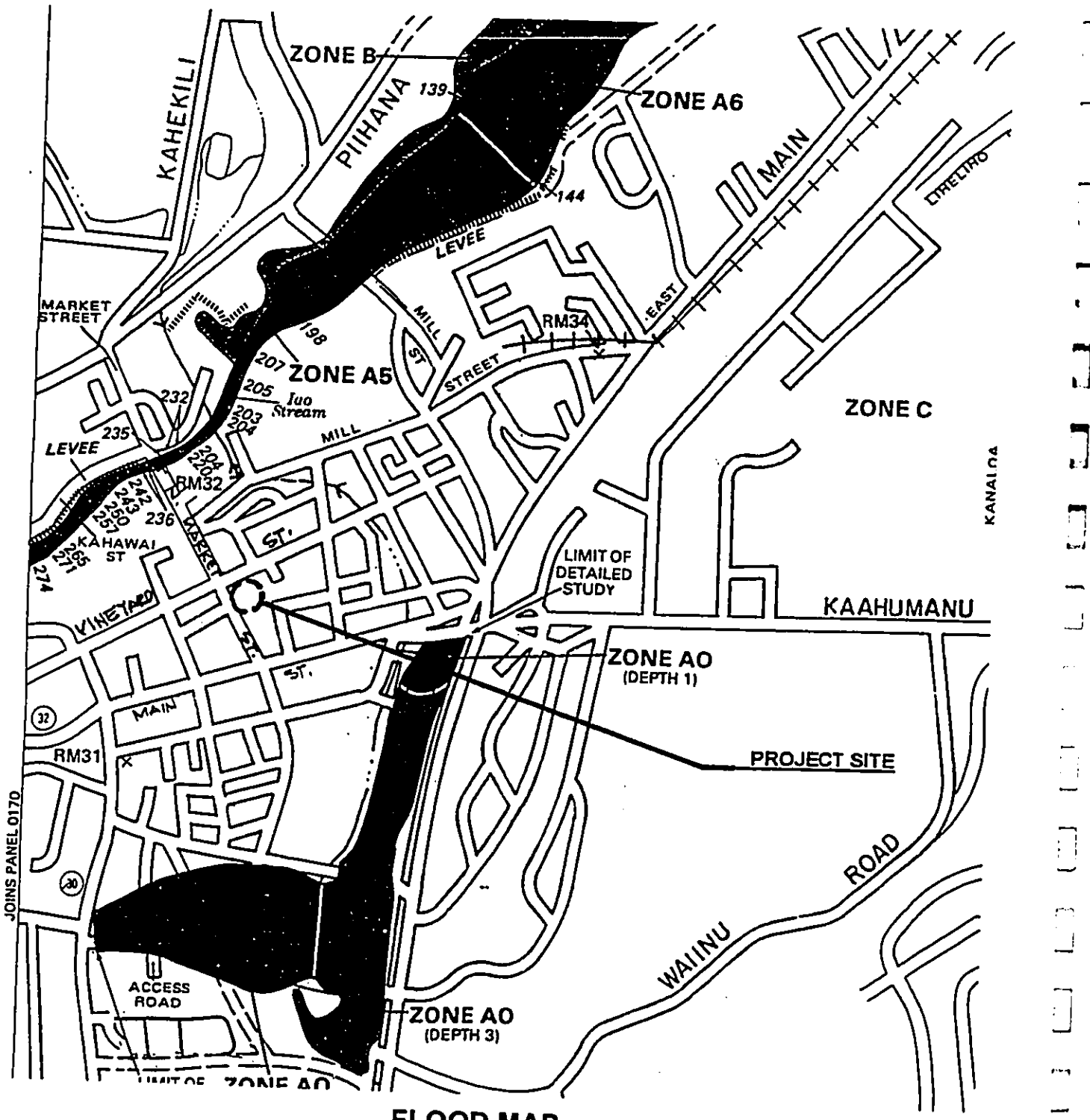


SOILS MAP

Scale: 1" = 2,000'

Ref.: Soil Survey of the
Islands of Kauai, Oahu, Maui
Molokai and Lanai, State of Hawaii
(Sheet No. 99)

FIGURE 2

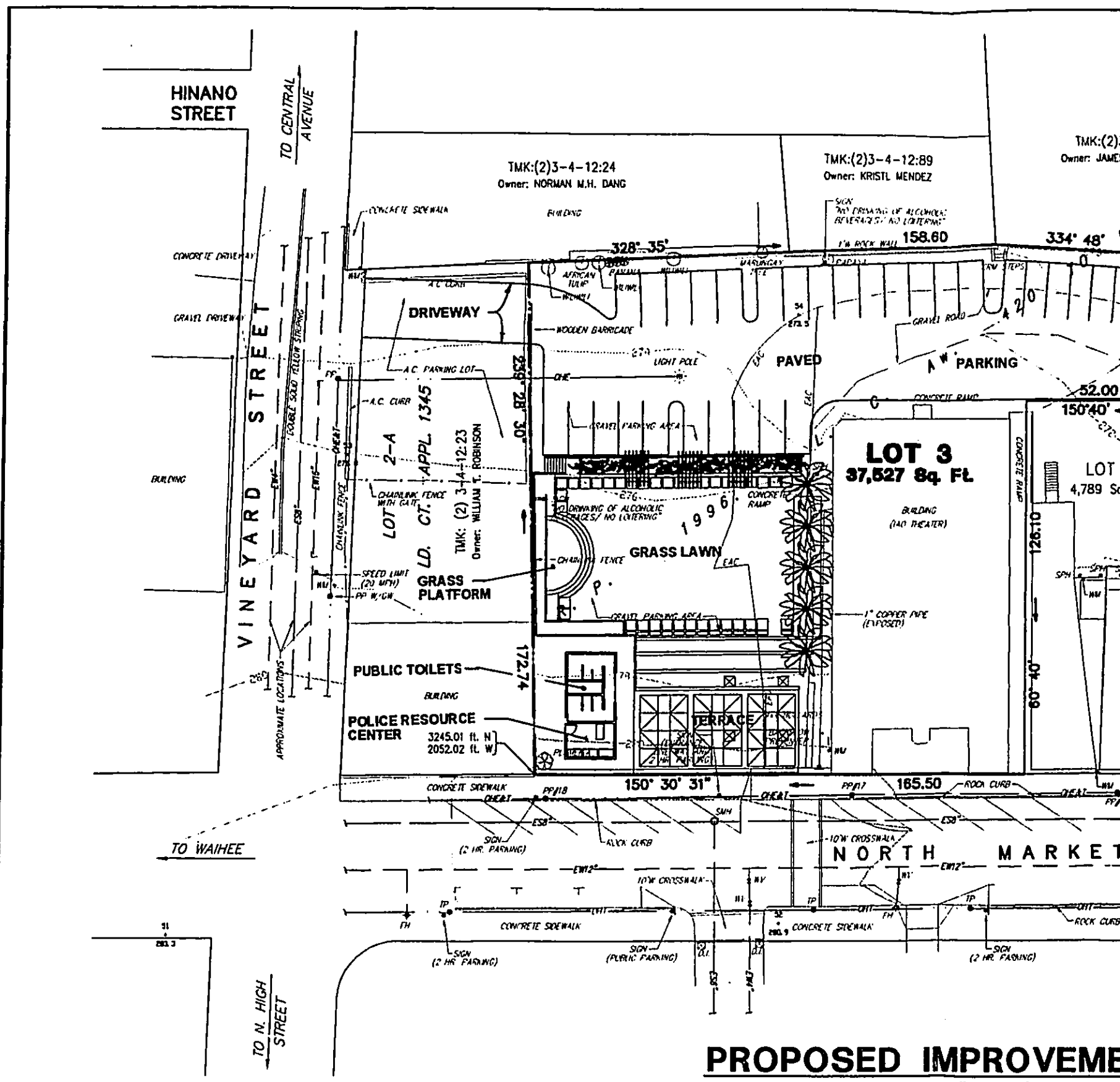


FLOOD MAP

Scale: 1" = 1,000'

Ref.: Flood Insurance Rate Map
Panel 0190D
Revised: March 16, 1995

FIGURE 3

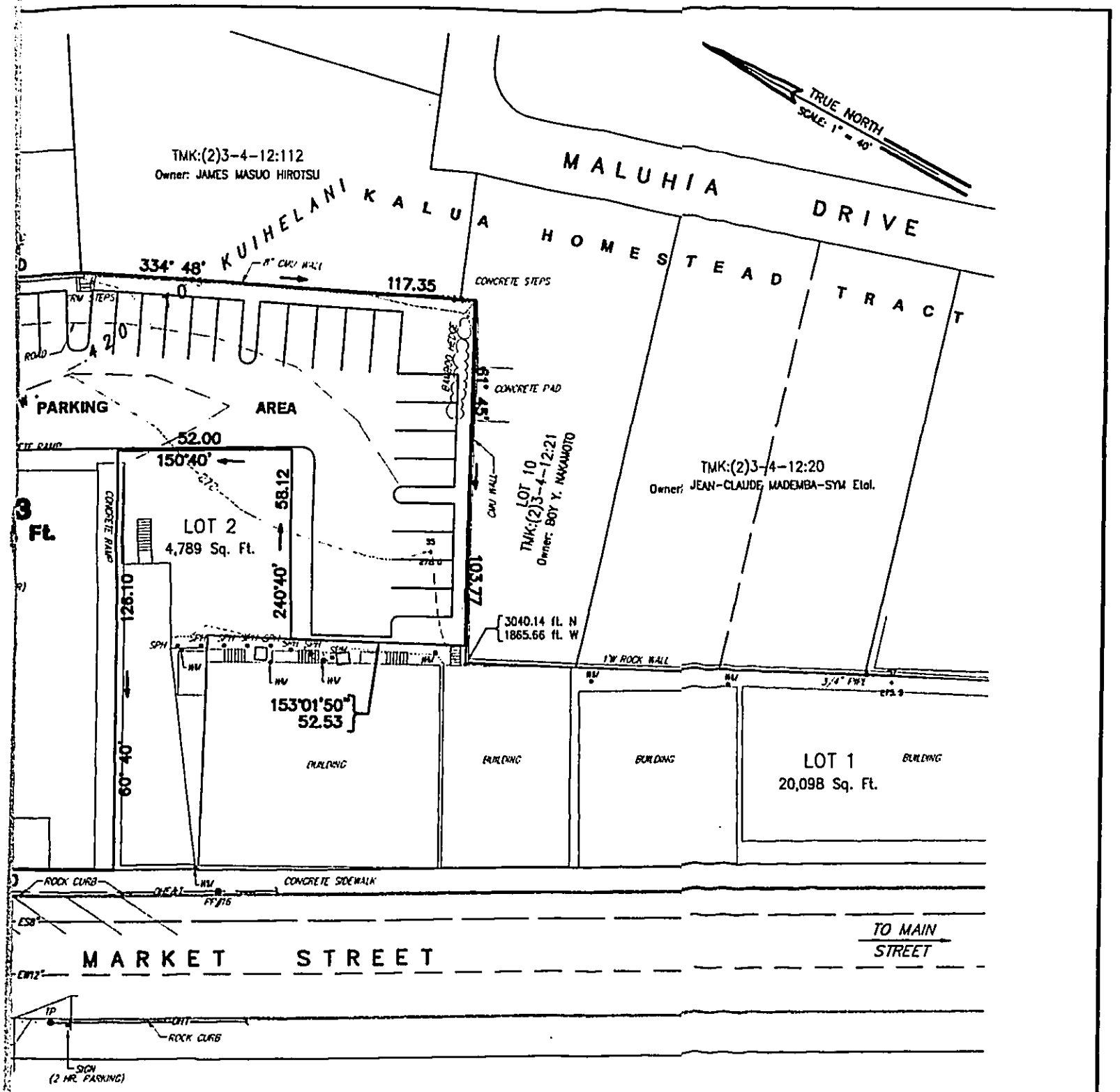


PROPOSED IMPROVEME

SCALE: 1" = 40'

871 KOLU STREET, SUITE 201
WAILUKU, MAUI, HAWAII 96793

R. T. TANAKA ENGINEERS,
LAND SURVEYORS - CIVIL & STRUCTURAL ENG



MPROVEMENTS

1" = 40'

FIGURE 4

MAY 25, 2001

JOB NO. 01-008

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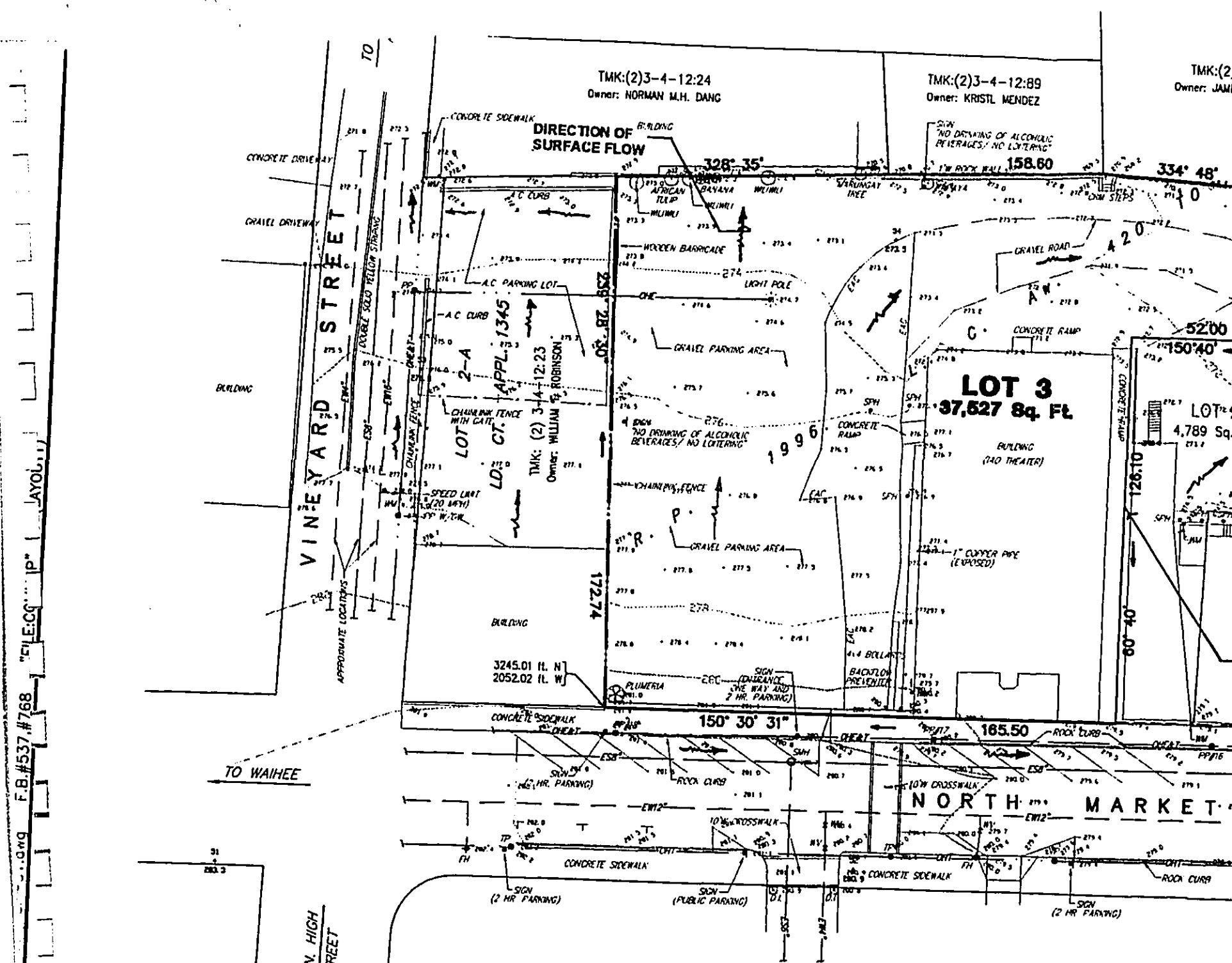
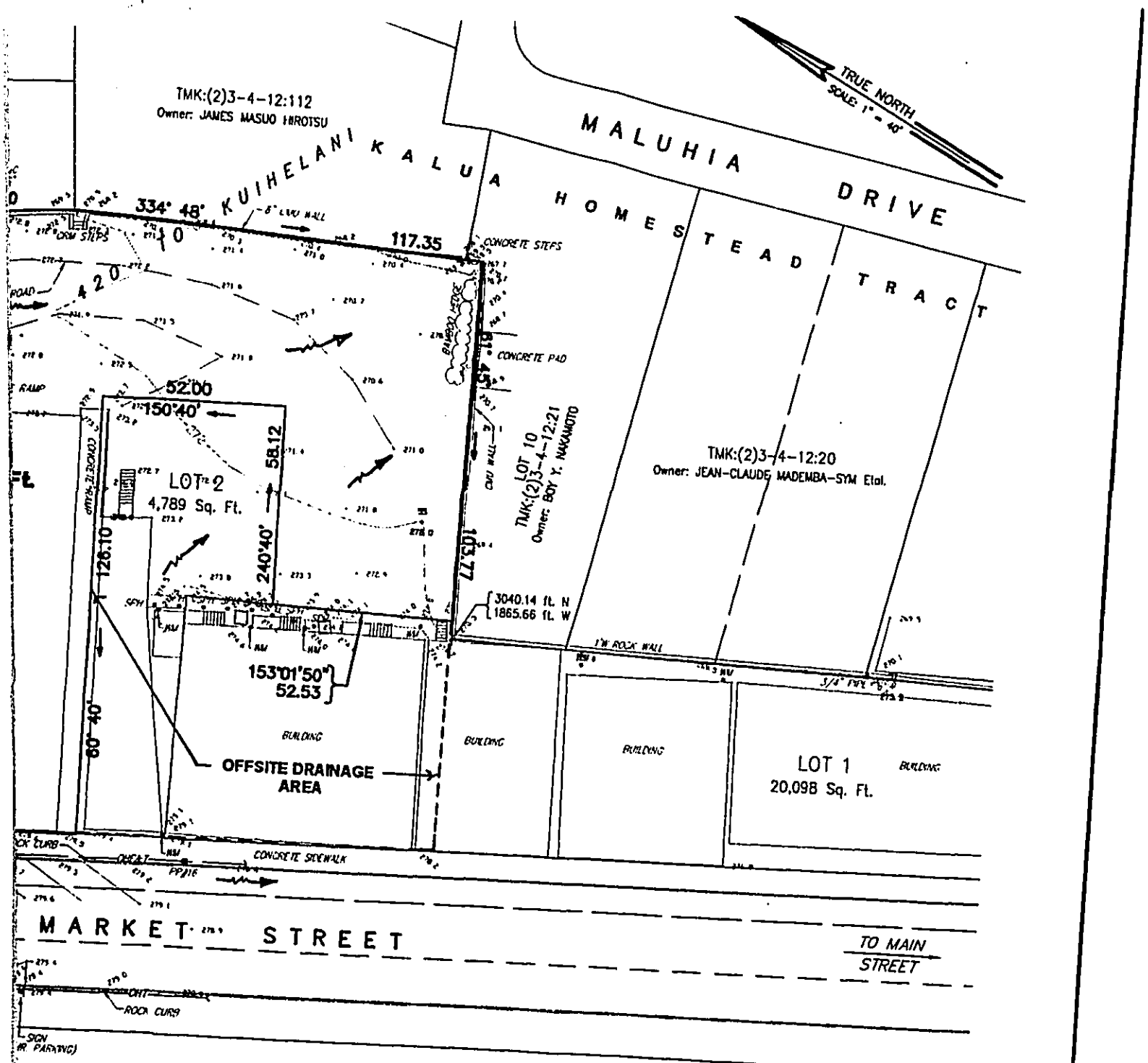


EXISTING TOPOGRAPHIC SURV

SCALE: 1" = 40'

871 KOLU STREET, SUITE 201
WAILUKU, MAUI, HAWAII 96793

R. T. TANAKA ENGINEERS, INC
LAND SURVEYORS - CIVIL & STRUCTURAL ENGINEERS



IIC SURVEY MAP

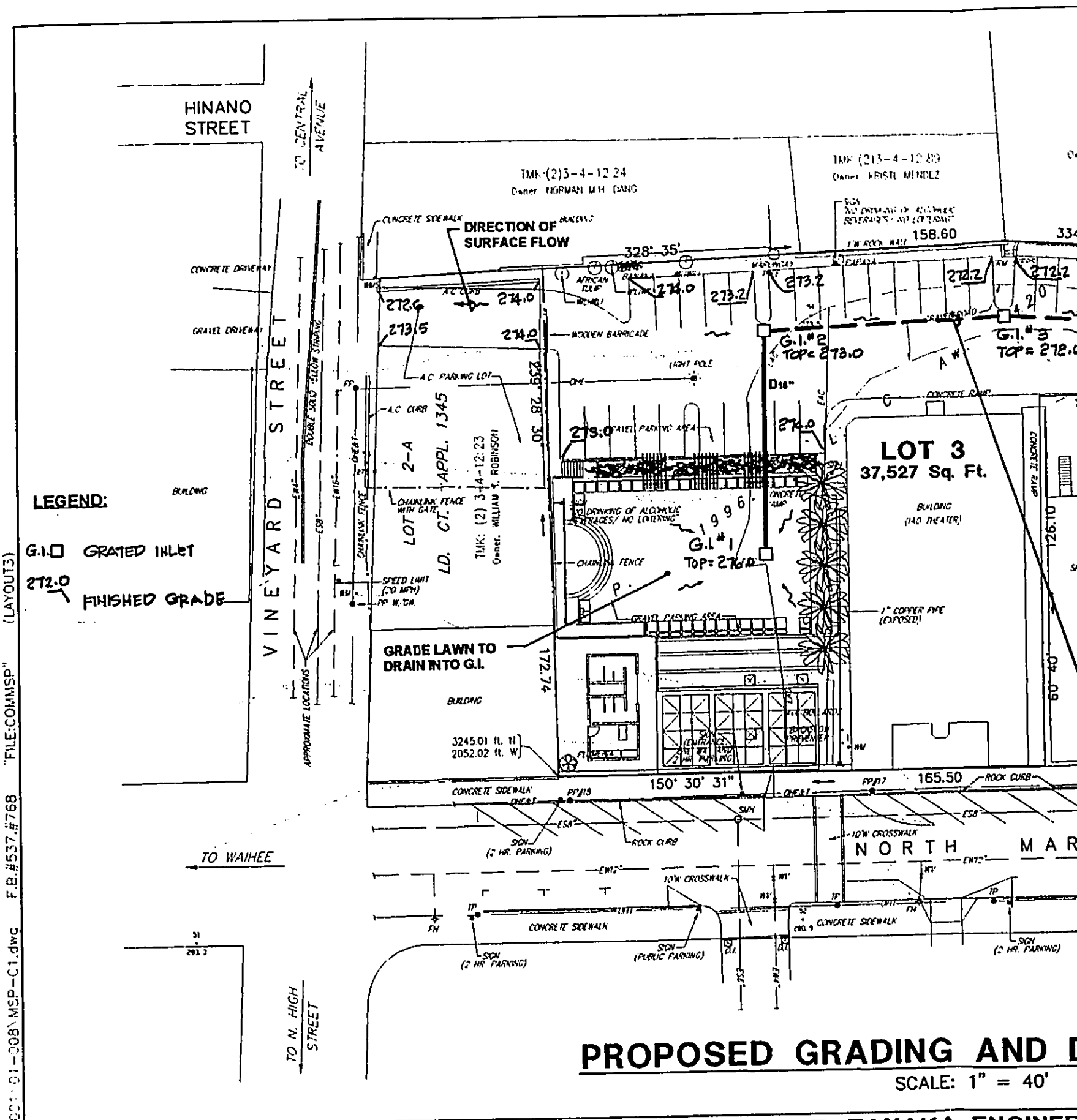
40'

INEERS, INC.
TRUCTURAL ENGINEERS

FIGURE 5

MAY 25, 2001

JOB NO. 01-008

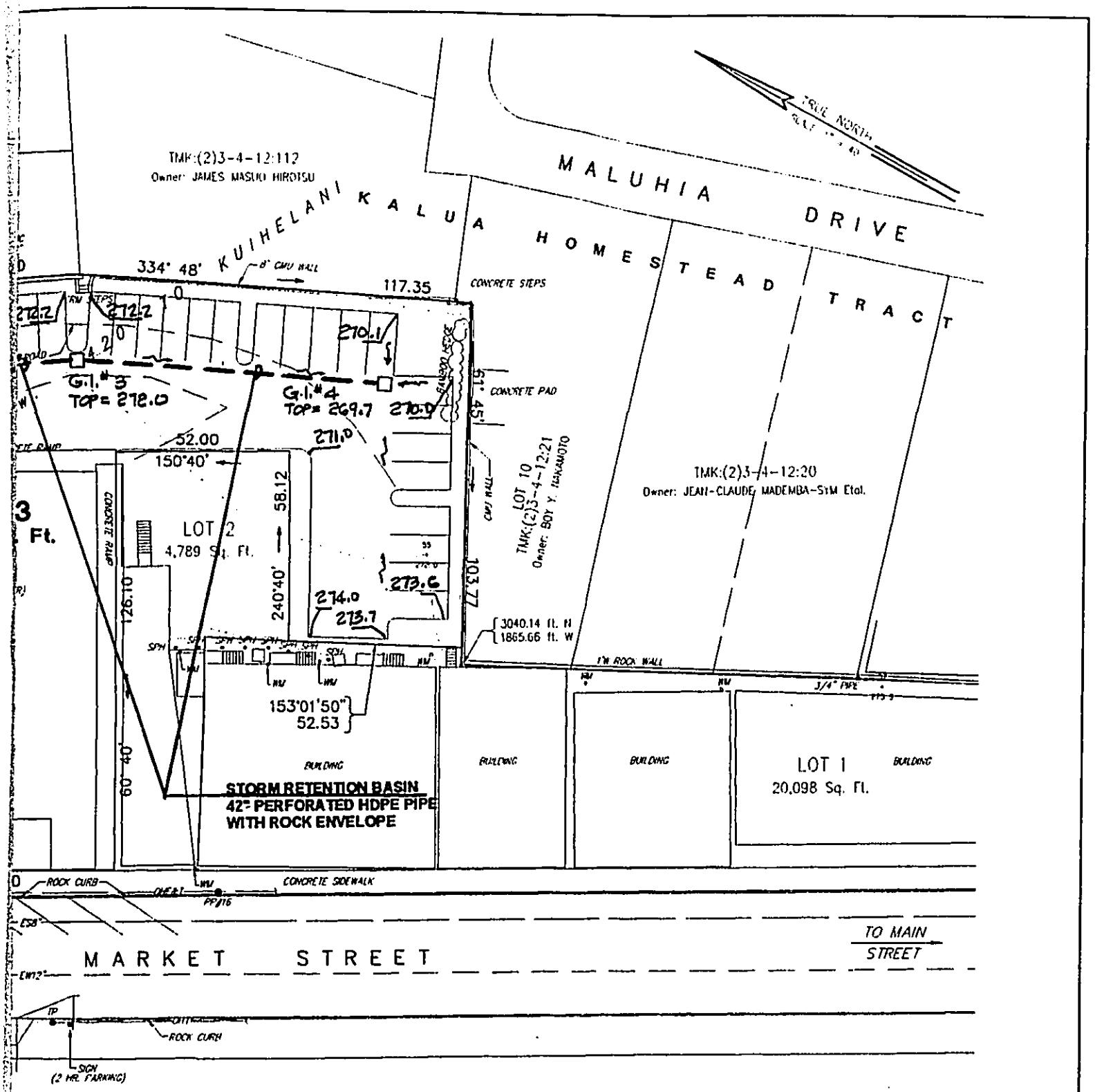


PROPOSED GRADING AND D

SCALE: 1" = 40'

871 KOLU STREET, SUITE 201
WAILUKU, MAUI, HAWAII 96793

R. T. TANAKA ENGINEE
LAND SURVEYORS – CIVIL & STRUCTUR



AND DRAINAGE PLAN

1" = 40'

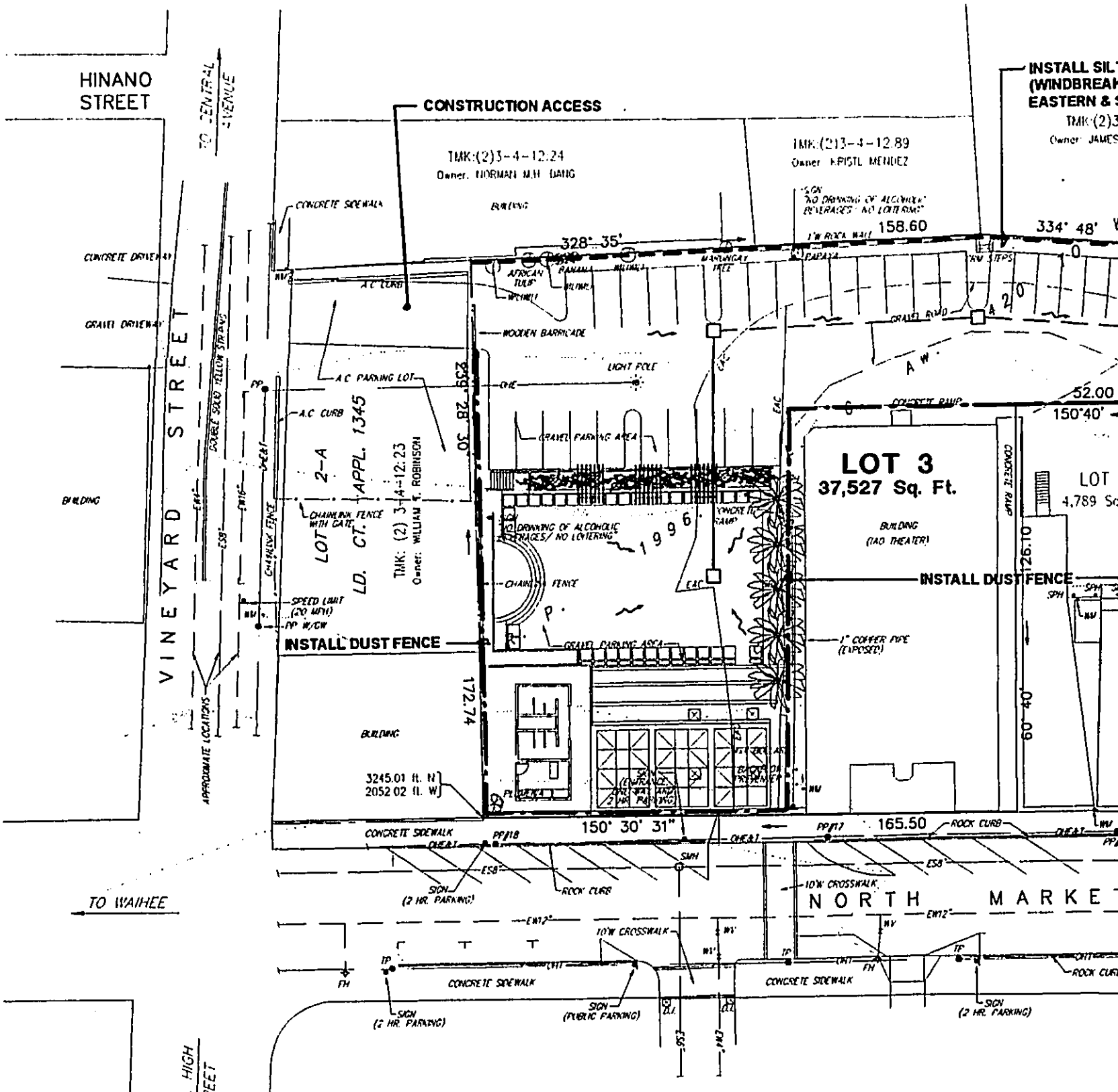
FIGURE 6

MAY 25, 2001

JOB NO. 01-008

ENGINEERS, INC.

CIVIL & STRUCTURAL ENGINEERS

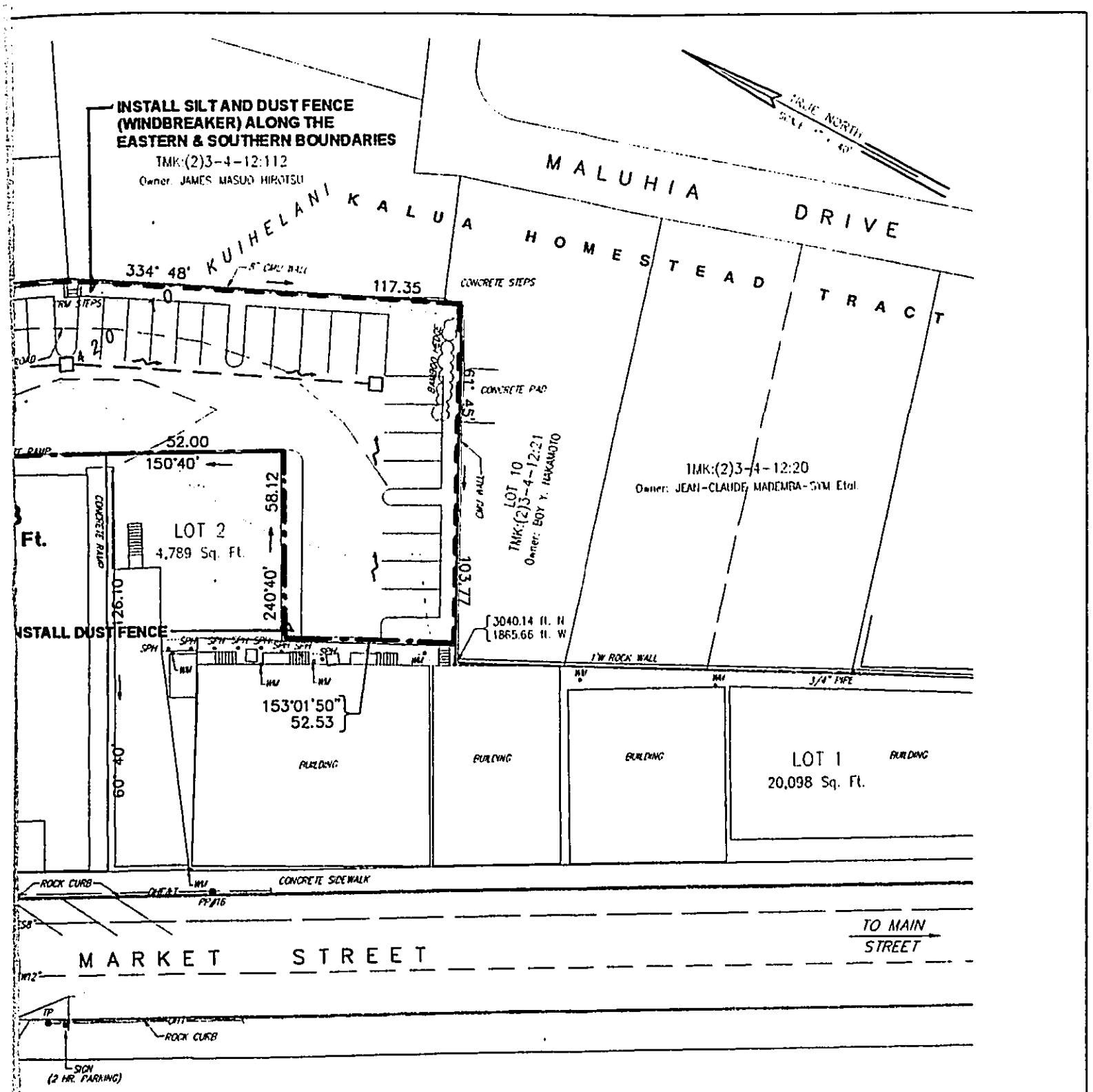


PROPOSED SOIL EROSION CO

SCALE: 1" = 40'

871 KOLU STREET, SUITE 201
WAILUKU, MAUI, HAWAII 96793

R. T. TANAKA ENGINEERS,
LAND SURVEYORS - CIVIL & STRUCTURAL EN



OSION CONTROL PLAN

1" = 40'

FIGURE 7

MAY 25, 2001

JOB NO. 01-008

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APPENDIX "B"

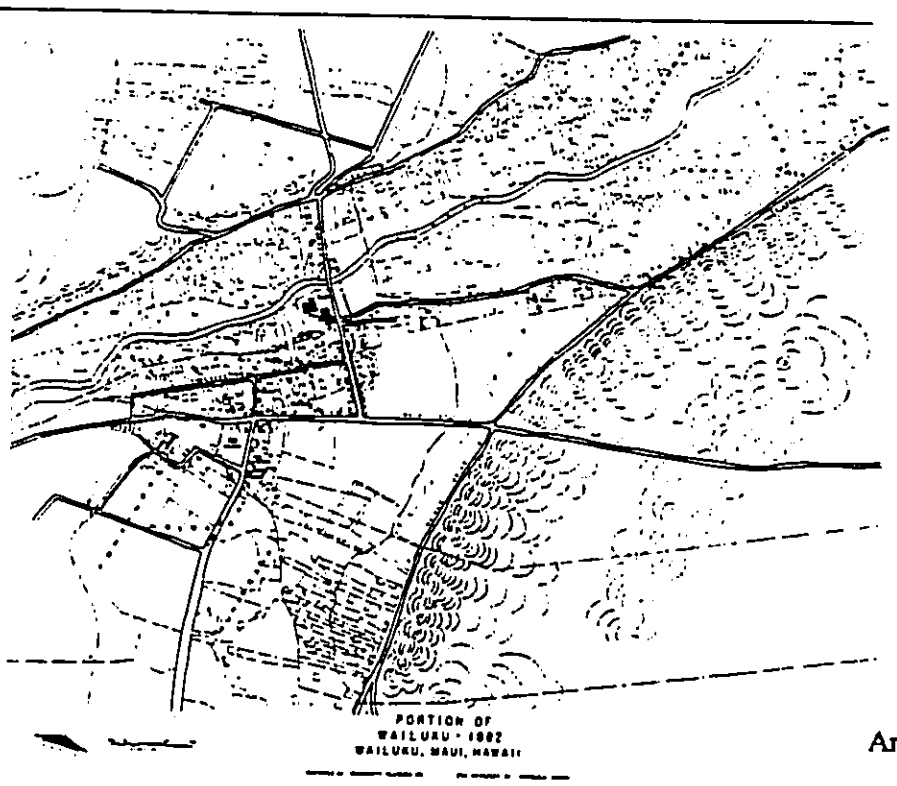
ASC015-1

AN ARCHAEOLOGICAL INVENTORY SURVEY OF THE PROPOSED 62 MARKET STREET PROJECT WAILUKU *AHUPUA'A*, WAILUKU, MAUI

(TMK 3-4-12:22 & por 23)

by

Aki Sinoto
Diane Guerrero
Lisa Rotunno-Hazuka
and
Jeffrey Pantaleo, M.A.



for

Office of Economic Development
County of Maui
200 South High Street
Wailuku, Hawaii 96793

May 2001

Aki Sinoto Consulting
2333 Kapiolani Blvd. #2704
Honolulu, Hawaii 96826

in association with

Archaeological Services Hawaii, LLC
16 South Market Street, Suite G
Wailuku, Hawaii 96793

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ABSTRACT

Aki Sinoto Consulting of Honolulu in association with Archaeological Services Hawaii. LLC of Wailuku. conducted an archaeological inventory survey at the request of the Maui County Office of Economic Development. The project area is a 42,317 square feet of vacant lands surrounding the existing 'Iao Theater in downtown Wailuku, Maui Island (TMK 3-4-12:22 & por 23). The development of a mini-park. restroom. and police resource center is being proposed for the subject area by Maui County.

Following the initial surface inspection which resulted in no findings, subsurface testing was conducted on two separate occasions. One in conjunction with geotechnical studies being undertaken for engineering purposes and the other as the subsurface testing phase of the current archaeological inventory survey. A total of 12 backhoe trenches were excavated. Only two of the trenches produced any cultural remains, and both were the geotechnical trenches. An historic refuse deposit and cess -pool were encountered. These findings were designated respectively as Features 1 and 2 of Site 50-50-04-5092. No other significant cultural remains were encountered in any of the remaining ten trenches.

The area was found to be extensively disturbed historically and also more recently, as well. Historic background research revealed that the subject area was probably occupied by immigrant Japanese plantation workers at the latter part of the 1800s through the early part of the 1900s. The artifactual assemblage recovered from the refuse deposit, consisting primarily of porcelain table-ware and glass bottles appeared to correspond to the chronology and ethnicity of the inhabitants. A fire insurance map of the area, made in 1914 depicts the various residential and commercial structures that formerly existed. Interpretation was facilitated and enhanced by the information generated during the historic background research.

No further archaeological procedures appear to be warranted prior to commencement of development activities. However, archaeological monitoring of specific activities in specific locales is recommended. A monitoring plan that presents the objectives and scope of such monitoring shall be prepared for approval by the State Historic Preservation Division of the Department of Land and Natural Resources.

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INTRODUCTION

At the request of the Maui County Office of Economic Development, Aki Sinoto Consulting of Honolulu in association with Archaeological Services Hawaii of Wailuku, undertook an archaeological inventory survey of vacant lands surrounding the existing Iao Theater in downtown Wailuku, Maui Island. The development of a mini-park, restroom, and police resource center is being proposed for the subject area by Maui County. An initial surface inspection was conducted on March 12, 2001 followed by subsurface testing of selected areas on two separate occasions. The first took place on March 16, 2001 in conjunction with foundation studies being undertaken by Island Geotechnical Engineering, Inc. and the second was conducted on March 21, 2001 as part of the archaeological inventory survey procedures. During both phases of work, subsurface sampling was effected through backhoe trenching.

PROJECT LOCATION

The project area encompassing 42,317 sq. ft., is situated fronting the segment of Market Street between Main and Vineyards Streets, in Wailuku Town, Wailuku *ahupua`a* and District, Maui Island (Fig. 1). Occurring along the eastern side of Market Street, the vacant land starts at the north of the existing Iao Theater (State Site 50-50-04-1627) building and wraps around the back or eastern side of buildings adjoining to the south of the theater (TMK 3-4-12:22 & por 23). The redevelopment project also includes an existing historic building , 62 Market Street, which adjoins the theater to the south with a narrow alleyway in between. The property is bounded on the west by Market Street and existing commercial buildings, north by a commercial building and a vacant lot (TMK 3-4-12:23) fronting on Vineyard Street, east by existing commercial and residential buildings and lots, and south by existing residential lots (Figs. 2-4). The surrounding residential lots to the east and south are part of the Kalua Homestead Tract and the lots in the northern portion of the eastern boundary belong to the Furtado Homestead Tract.

ENVIRONMENT

The project area occurs on the lower eastern slopes of the West Maui mountains fronting the mouth of 'Iao Valley. Elevation in the project area is roughly 280 feet above sea level. Rainfall averages between 20 and 30 inches annually, with most of the precipitation occurring during the winter months from November through March. 'Iao Stream is located about 600 m north of the project area.

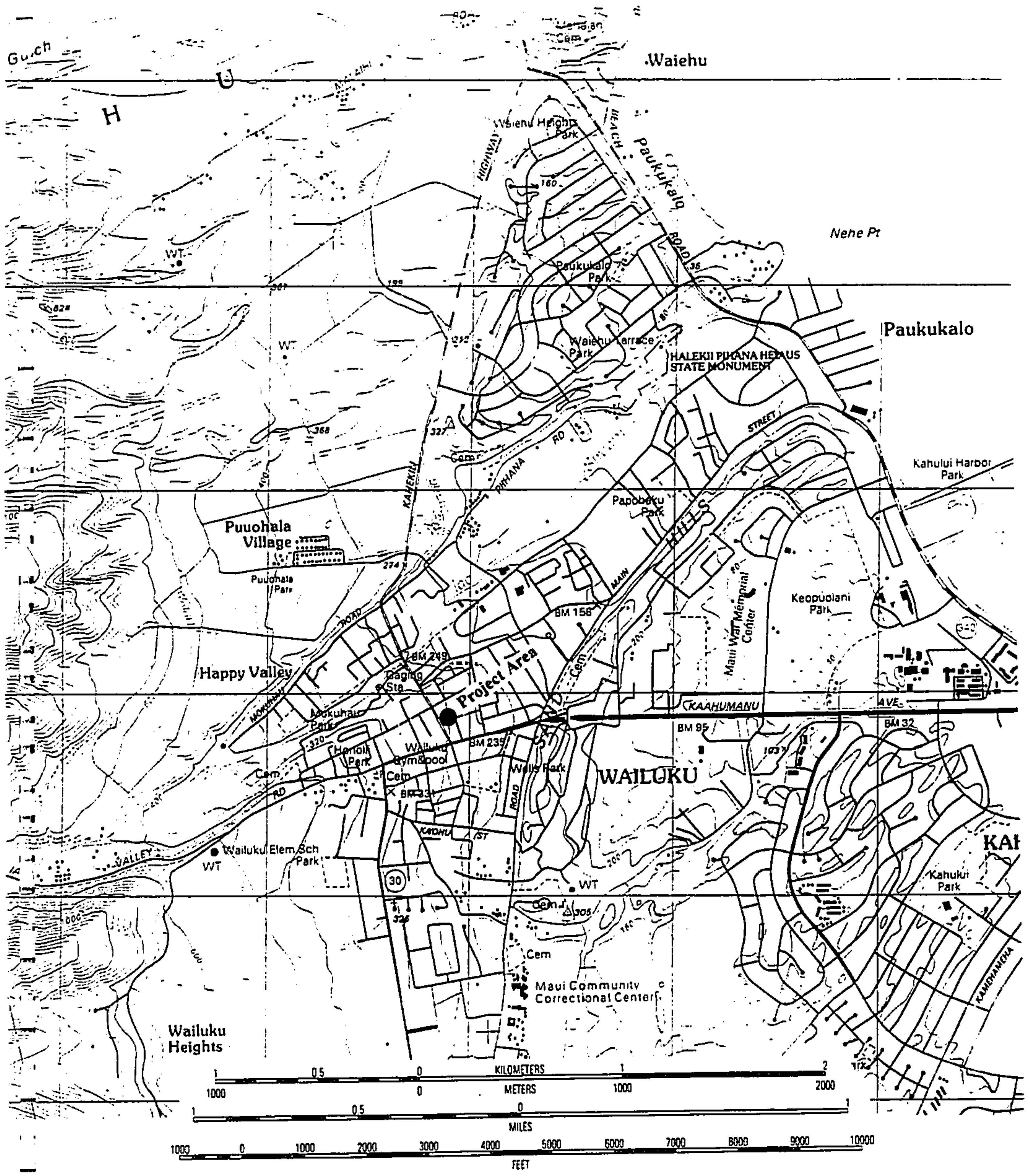


Figure 1. Project Location on USGS Wailuku Quadrangle

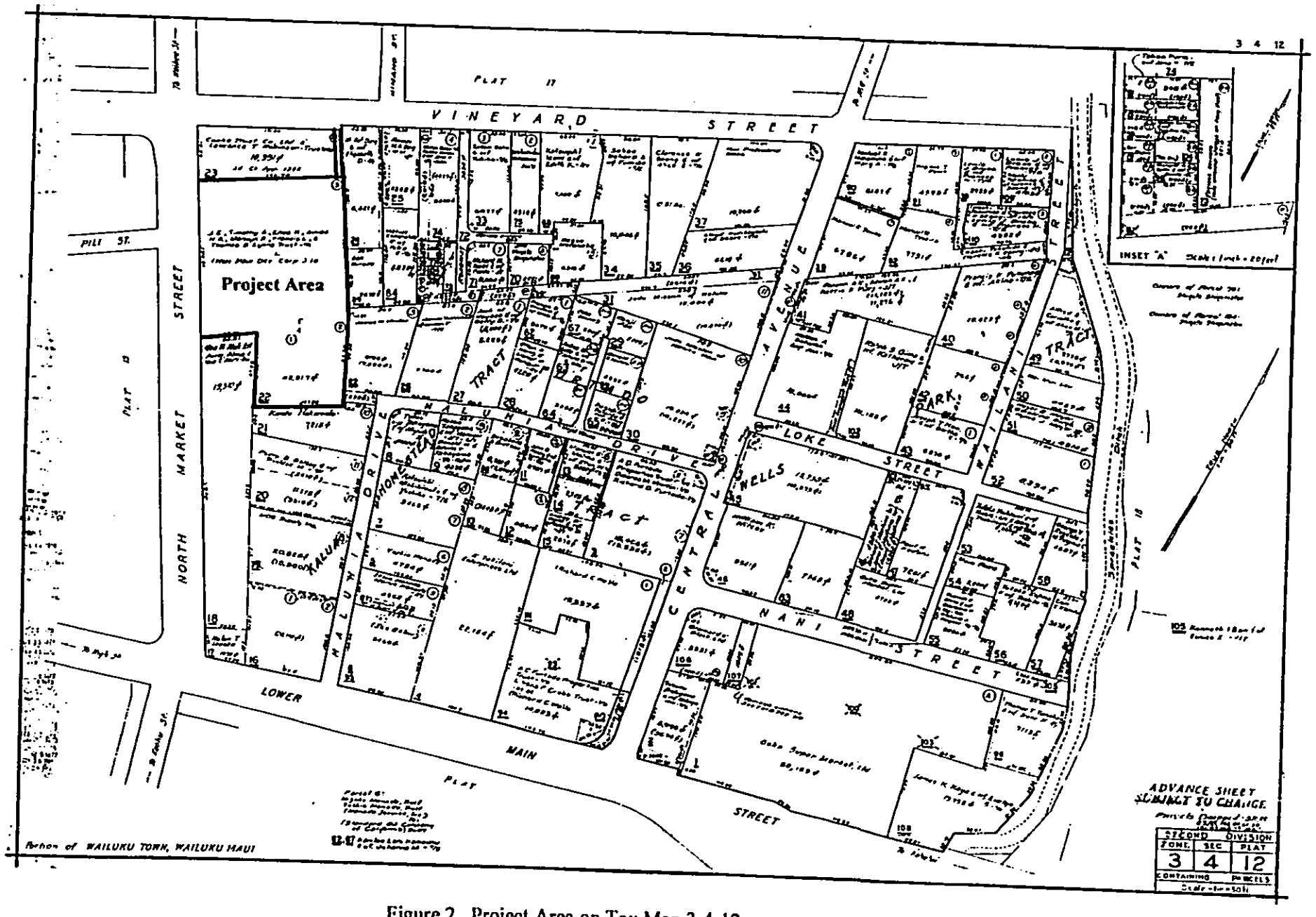


Figure 2. Project Area on Tax Map 3-4-12.

Figure 3. (top) Overview of NW Quadrant (Parking Lot) of Project Area to NW.
(bottom) Overview of SE Quadrant of Project Area to SW.

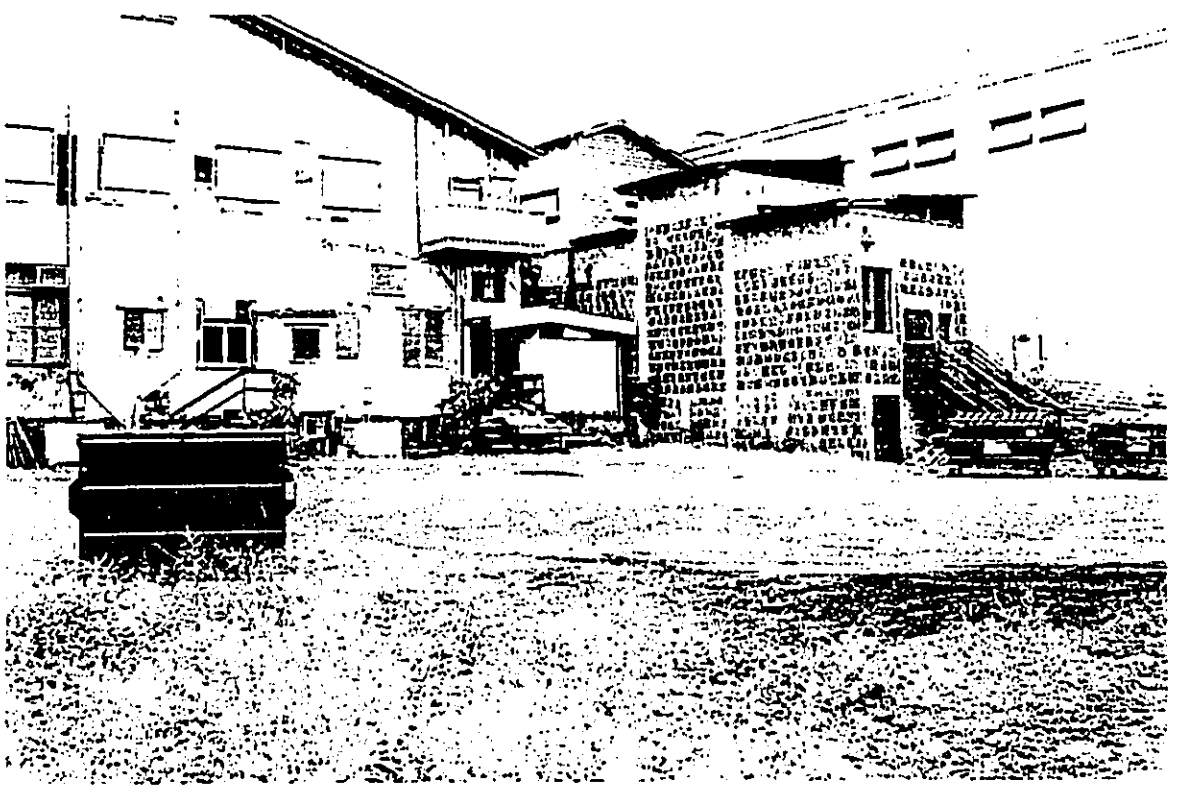


Figure 4. Overview of SE Quadrant and Building (Red Tiled) to be Renovated, Note Gravel Paving. To NW.

The overall project area topography slopes gently to the east. However, the ground level of the surrounding lots which are .70 –1.0 m lower, indicates that the project area was raised during previous grading with fill material being deposited along its eastern portions (Figs. 5 & 6).

The silty clay occurring in the project area consists of Wailuku series soils, which are well-drained soils on alluvial fans. These soils developed in alluvium derived from weathered, basic igneous rock and occur on gentle to moderate slopes and are geographically associated with Iao and Pulehu Series soils. Runoff is slow and the erosion hazard is slight. The soil is used for sugarcane and homesites (Foote et al. 1972).

Currently the flora within the project area is minimal due to recent clearing that took place. Other than some grasses and weeds, notable vegetation are all typical remnants of former landscaping or secondary growth that flourish soon after clearing. These consist of *koa haole* (*Acacia farnesiana*), golden crown-beard (*Verbesina encelioides*), and *'ilima* (*Sida fallax*) in the peripheral areas. A small strip of ground along the eastern boundary is being used by neighboring residents to cultivate vegetables, banana, and papaya trees. A hedge of small bamboo (*Bambusa* sp.) is located just inside the southern boundary near the southeast corner.

The central portions of the project area are covered with gravel due to the current use as a parking lot. According to one neighboring resident, a laundry was present at one time near the theater. The presence of building remnants such as concrete slabs and large fragments of concrete with re-bar indicates that other structures formerly existed in the area.

HISTORICAL BACKGROUND

The *ahupua'a* of Wailuku is a large land division stretching around Kahului Bay from Paukukalo to Kapukalua. It includes the northern half of the Kahului Isthmus with `Iao Valley and extends across the isthmus between East and West Maui from Kahului to Maalaea Harbors. This single land division comprises nearly half of the district of Wailuku. The district of Wailuku contains the other *ahupua'a* of Waiehu, Waihe'e, and Kahakuloa to the north, and Waikapu and Pulehunui to the south.

A search of available literature was conducted to provide background information concerning the traditional and historical setting for the current project area.

Figure 5. View of the Southern Periphery Showing Difference in Ground Level, to North.

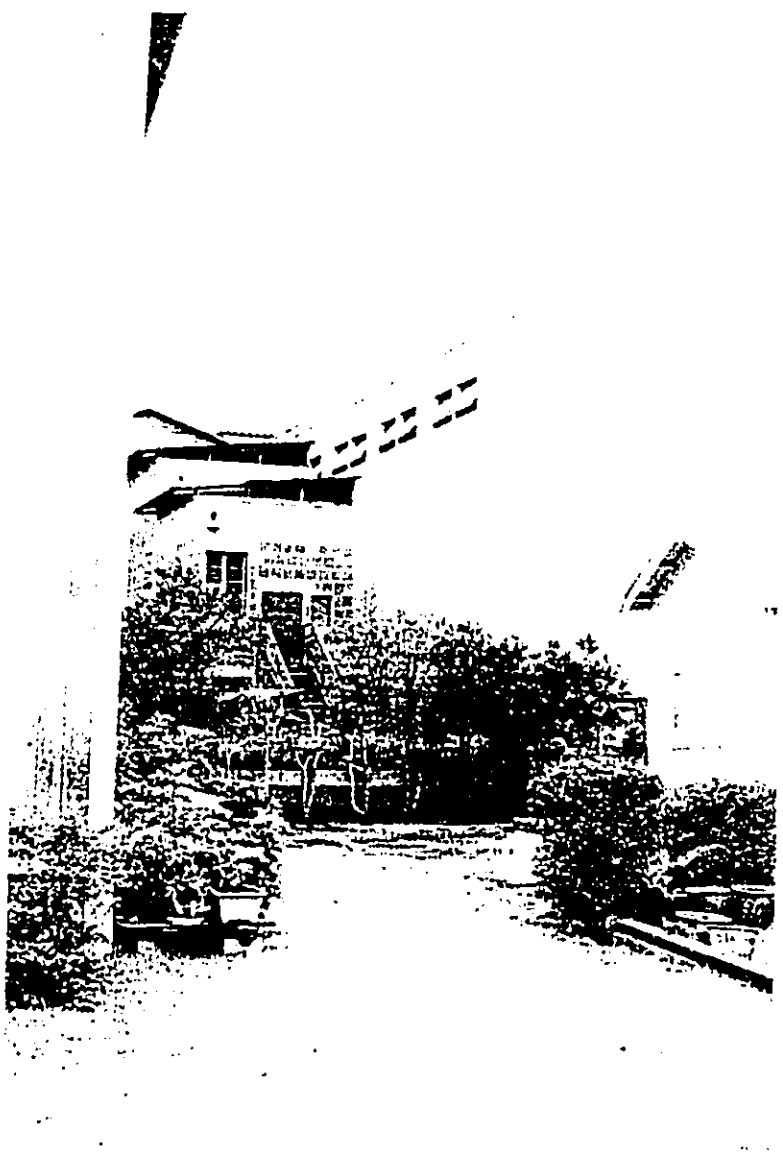


Figure 6. View of Eastern Boundary Showing Difference in Ground Level. to West.

Pre-contact Period

The areas adjacent to streams and valleys of West Maui are known to have been settled relatively early in the prehistoric period (Kirch 1974), eventually supporting large populations which became centers of socio-agricultural development and political power (Handy and Handy 1972, Kirch 1984). The history of the project area is generally described in reference to the old *`okana* or land division named Na Wai Eha. as excerpted below:

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

Handy refers to ancient fishing settlements and sweet potato plantations in Wailuku valley (Handy 1940:159). "From Waihe'e to Wailuku Valley, in ancient times was the largest continuous area of wet-taro cultivation in the islands" (Handy and Handy 1972:496).

The area called Na Wai `Eha, fed by the four streams of Waikapu, Waihe`e, Waiehu, and Wailuke prospered with the abundance of water. This valuable resource contributed to the population concentration of Wailuku and its surrounding area, which evolved into a substantial Hawaiian settlement and central place of religious and political power on Maui during the pre- and post-contact periods.

The Hawaiian society that evolved was both sophisticated and successful. Food flourished in valleys, as well as on mountainous slopes, with the use of efficient irrigation dams, canals, terraces, and erosion prevention methods. Excellent fishermen, innovative aqua-culturists, and expert navigators were renowned in this area (Bartholomew 1994: 2).

Early traditional accounts through myths and legends associate both the *ahupua`a* and district of Wailuku with notable personages. Hawaiian tradition taught that people and their *`aina*, or land,

were one – thus spiritual parents *Papa*, the earth, and *Wakea*, the sky, gave birth to the island of Maui, as well as the high chiefs who ruled it (Bartholomew 1994:2). Appearing in the legend of Lepeamoa is Wailuku, known as an ancient chieftess, the wife of Maui-nui and the sister of the O'ahu chief Kakuhihewa (Westervelt 1977:204-205). Haho is one of the first *aha ali'i* (noble counselors) referred to in the oral histories of Maui. Haho ruled in the Wailuku district circa A.D. 1228 or 1338 (Kolb 1991:65).

Wailuku translates as "water of destruction" and literally means "water of killing" (Pukui et. al. 1974:179, 225). This name refers to the battles, which took place in this area. One of the first legendary battles recounted by Silva (n.d.: 9) was between owls and men. "The owls retaliated against an act committed by a cruel man by flocking to Wailuku and descending upon him." Also, "The cruel man was punished, and the battle place still bears the name Wailuku, Water-of-killing" (Pukui and Curtis 1974:179).

In *The History of Iao Valley*, Cole discusses the origin of the name 'Iao and relates the story of Hawaii-loa, the legendary discoverer of Hawaii. He is said to have embarked on his travels with 8 navigators who were called by the names of the guide-stars used in inter-island voyaging. One of these navigators was called Iao, after the "star" which is actually the planet Jupiter positioned as the "Morning Star."

In another story, Cole relates the legend about Maui and his wife Hina having a beautiful daughter named Iao, who was so lovely that her father allowed no one to approach her. In spite of this, she became the lover of Puuokamoa, whom Maui turned in to a pillar of stone as punishment (Iao Needle). Iao is also said to mean "supreme point"(Cole 1969:4-5).

'Iao Valley shelters one of the most revered sacred sites – the age old cave known as Oloeio, where only the highest rulers could be entombed. This royal ritual ceased with the internment of Maui chief Kekaulike, and the knowledge of the cave's location has been long lost (Barthlomew 1994:127).

In his collection of oral tradition, *The Legends and Myths of Hawaii*, King David Kalakaua recounts a "remarkable event that occurred at Wailuku" during the late 14th or 15th Century when *Wakalana*, an *ali'i* who resided in Wailuku described the: "appearance in the [Hawaiian] group of a vessel bearing people of a strange race, described by tradition as 'white, with bright, shining

eyes." *Wakalana* ruled over the windward side of the island in West Maui and was the cousin of the *mo`i*, the king of Maui, their relations were friendly" (Kalakaua 1990: 182-183).

Maui was divided into several chiefdoms prior to the 16th Century. An earlier west Maui *ali`i*, (chief) *Kaka`alaneo* along with his brother *Kaka`e*, was admired and known for his thrift, energy, and a reign free from strife and want (Batholomew 1994:3).

According to Kolb (1991:65), by A.D. 1500 Wailuku and Hana had become divided into separate districts as the result of increased conflict and competition.

In the 1500s, Kaka`e's descendant, Pi`ilani became ruling chief, or *moi* of Maui. He united the island politically through warfare and initiated a long period of peace, stability, and prosperity. During his reign Pi`ilani is credited for the construction of the West Maui section of the *Alaloa*, the Kings Highway. His son, Kihapi`ilani completed the East Maui section, completing the only ancient highway to encircle any Hawaiian island (Bartholomew 1994:2).

Silva (n.d.: 9) brings attention to two battles fought at Wailuku involving chief Kihapi`ilani. The first encounter took place "near where the present female seminary is located in the Wailuku Valley," where Kihapi`ilani barely escaped with his life. The second confrontation was fought with the help of Hawai`i Island forces, with Kihapi`ilani defeating the opposition and eventually becoming the ruler of Maui (Thrum 1923:77-86).

Each succeeding generation of chiefs secured their positions of political domination through warfare. Maui's success in warfare was in part due to the advantage of having two highly concentrated population areas in West Maui and the Na Wai `Eha area of Wailuku that provided the necessary supply of warriors and food.

One successful chief named Kekaulike, not only preserved Maui's power, but is best remembered as the founder of the last Maui dynasty. Through his three wives, he fathered a long line of influential Hawaiian royalty, including Kahekili; Boki; Keopuolani; Queen Ka`ahumanu; King Kaumuali`i of Kaua`i; Regent Kina`u; Princess Victoria Kamamalu; Kamehamea II, III, IV, and V; Queen Kapi`olani; and Prince Kuhio (Bartholomew 1994:3).

Kahekili, a descendant of Kekaulike was the last *mo`i* of Maui, ruling from 1765 to 1790. His main residence at Wailuku was known as Kahalelani. "The Wailuku area was a major gathering place and residential site of the Maui chiefs and those of rank" (Handy and Handy 1972:496). By the second half of the 18th century, Maui *ali`i* – including the ruling chief Kahekili – are reported to have been residing at Wailuku, with the chiefs of Wailuku enjoying the surf of Kehu and Ka`akau (Kamakau 1992:83). To the southeast of `Iao Stream, below Pihana Heiau, was Kauahea where warriors dwelt, and were trained in war skills. This was a boxing site in the time of Kahekili (Stokes 1916).

In the mid-1770s (1776 according to Westervelt) Wailuku became the site of intense warfare. Kahekili and his army from Maui and O`ahu engaged in a savage battle with the invading Big Island chief Kalani`opu`u and his *alapa* warriors. Kalanihale and the sand hills below (later to be named Kakanilua, "The furious destruction at...") were successfully defended by Maui. Kalani`opu`u`s army was pushed to the sea and slaughtered (Speakman1978: 16-17).

In 1790, Kamehameha I (Kamehameha the Great) in his quest to conquer the Hawaiian Islands:

> Preceded to the island of Maui, his canoes heavy with firearms acquired from Westerners. Kamehameha confronted the forces of Kahekili on the shores of the Ko`olau district at Hanawana. Successful in this first battle, he swiftly sailed his fleet of war canoes to Kahului, where more opposition awaited. Kamehameha's warriors forced the Maui men to retreat to steep-sided `Iao Valley. Kamehameha's firepower proved effective in slaughtering most of the Maui forces (Bartholomew 1994:5).

This defeating of Kepaniwai by Kamehameha's forces my not have succeeded were it not for the arrival of Westerners and the introduction of Western firearms. However, Kahekili continued his hold on all of the islands until his death in 1794.

Kepaniwai means literally, "water dam," in reference to` Iao Stream, because the stream was choked with human bodies after the slaughter (Pukui, et, al. 1972:109). The word Kahului can be translated as "the winning", and the bay takes this name because Kamehameha gathered his warriors there prior to fighting the battle in `Iao Valley (Pukui, et. al. 1974).

The two large *heiau*, Haleki`i and Pihana, located on the northern side of `Iao Stream, atop the large dune formation, are the only remaining pre-contact Hawaiian religious structures in the Wailuku area . During Winslow Walker's 1931 island-wide survey, he reported that there were a number of *heiau* in the area of Wailuku. He named ten; Keahuku, Olokua, Olopio, Malena,

Pohakuokahi, Lelemako, Kawelowelo, Kaulaupala, Palamaihiki, and Oloolokalani. These *heiau*, which were said to have been consecrated by Liloliho in 1801, could not be located (Walker, 1931:146-147).

"Traditional history credits the *menehune* with the construction of both Haleki`i and Pihana in a single night with rocks collected from Paukukalo beach" (Beckwith 1907:333). Other accounts credit Kihapi`ilani, Ki`ihewa, and Kahekili as the builders. Haleki`i is thought to have been a chiefly compound and Pihana, the full name of which is Pihanakalani, or "gathering place of the *ali`i*," is reported to be a *luakini*-type *heiau* (Naone 1996).

"Keopuolani, a chiefess of divine rank and descendant of the ruling chiefs of Maui and Hawaii was born at Pihana. She became the wife of Kamehameha I and mother of Liholiho (Kamehameha III). The body of Kamehameha Nui, an uncle of Kamehameha I, who ruled before his brother Kahekili succeeded him, was laid at Pihana before being taken to a final resting place on Moloka`i. Kahekili lived at Haleki`i around 1765 and Kakaulike, father of Kahekili and Kamehameha Nui, died at Haleki`i in 1736"(Kamakau, 1961).

Post-Contact Period

With the arrival of Captain James Cook, three miles offshore from Kahului Bay, Maui, on the 26th of November in 1778, the recorded events that followed the contact between Europeans and the indigenous population of Maui began.

Kamehamea's favorite wife, Hana-born Ka`ahumanu, served as his counselor. After he died in 1819, she declared herself *Kuhina nui*, or ruler, with the young new king, Liholiho, also known as Kamehamea II. Their place of residence, Lahaina, became the capital of the kingdom. From the time of Liholiho's departure for England in 1823 until her death in 1832, Ka`ahumanu virtually ruled the kingdom, because Liholiho died abroad, and his brother Kaikeaouli, or Kamehameha III, was only twelve years old when he was proclaimed king (Duensing 1998:xiv).

When Kamehamea I died, the strength of the ancient *kapu* system of religion began to fail. Ka`ahumanu, who disagreed with the restrictions of traditional Hawaiian religion, persuaded Liholiho to break the *kapu*, an act which unintentionally cleared the way for the arrival of the Christian missionaries in the year 1820.

The old religion began to die as *heiau* were destroyed and abandoned. The breakdown of the Hawaiian *kapu* system helped to initiate acceptance of the new religion. Pihana was demolished

by Kalanimakamauali`i and Kauanaulu during Ka`ahumanu's proclamation in 1819 (Stokes 1916).

The arrival of the missionaries in1820 had a profound influence on every aspect of Hawaiian society. A Western-style government began to take form. In 1839, Kauikeaouli promulgated a declaration of rights known as Hawaii's Magna Carta and, just a year later, Hawaii's first constitution was written (Ainsworth 1998:1998xiv).

In 1837, American missionaries became the first non-Hawaiian immigrants to settle in Wailuku. The Maui chiefs generously granted the missionaries use of prime property near the entrance to `Iao Valley to establish their mission (Ainsworth 1993:4).

Under the auspices of the American Board of Commissioners for Foreign Missions, the Reverend Jonathan Green established the Wailuku Female Seminary. This girls' school was a counterpart to the Lahainaluna Seminary, founded by the missionaries in 1831 for the Christian training of native Hawaiian boys (Duensing 1993:4).

Kahekili's royal residence, Kalanihale, is said to be located just north of the intersection of High and Main Streets leading into `Iao Valley in Wailuku town (Fredericksen 199:4). "From his home base at today's Wailuku Civic Center, Maui's powerful chief Kahekili launched" successful canoe invasions and fought bloody battles (Engebretson, 2000:2). In another account, reference is made to Honoli`i Park on the southwest corner of Main and High Streets, next to the church graveyard as the site of the home and *heiau* of the powerful chief Kahekili and his family (Maui News/Maui Historical Society).

The initial documentation of life in Wailuku, during the first half of the 19th Century, was recorded by the Protestant missionaries who established their station at Wailuku in 1832. The missionary census of 1831-1832 recorded a total population of 2,256 in Wailuku *ahupua'a*, comprising 918 adult males, 860 adult females, and 478 children (Schmitt 1973:18). By the time of the 1840 census, the Wailuku population had dropped to 1,364, representing a diminution of 892 in just four years (Ibid: 38). The Native Hawaiian population of Wailuku and other Maui districts continued to decline during the nineteenth century due to repeated epidemics of measles, whooping cough, diarrhea, influenza, and smallpox (Barrere 1975:56).

In addition, countless native Hawaiians lost their land use rights as a result of the Great *Mahele* of 1848, which established a system of private land ownership. Many land-less native Hawaiians signed on as laborers in the emerging sugar industry, which began on Maui during the 1820s in Wailuku and Waikapu (Ainsworth 1998:xiv).

Sugarcane cultivation was introduced to the region relatively early in the historic period by a Spaniard named Antone Catalina who made cane syrup at Waikapu in 1828, marking the beginning of the sugar industry in the Wailuku District. The Waikapu plantation was started by James Louzada who sent his first sugar to market in 1863. After several changes in ownership, the plantation passed into the control of Wailuku Sugar Company in 1894 (Maui News, February 3, 1926). Kamehameha III, with the help of two Chinese merchants, established a water-powered mill. This was known as Hungtai Sugar Works, and its location was fairly close to the later location of the Wailuku Sugar Mill, which was established in 1865.

The first mill in Wailuku town replaced a livery stable west of Market Street, on a site stretching about 300 yards south of 'Iao Stream. Sometime after the turn of the century it was demolished. in 1906 this mill made way for a new $400,000 facility on the same site, which operated until 1978. That mill was demolished in the mid-80's to make way for the Millyard office and residential subdivision. Today, the Wailuku Post office is located where the sugar mill once stood (Hawaii State Archives).

Claus Spreckles was awarded a portion of Wailuku *ahupua`a* by King Kalakaua in 1882 and established the Hawaiian Commercial and Sugar Company. These lands passed into the control of Alexander and Baldwin (A&B) in 1926.

The 1867 landmark court case, Peck vs. Bailey, set the precedent for ownership of water rights. Peck (Wailuku Sugar) argued that their water rights were paramount over the rights of Bailey's heirs. The judge ruled, "Each owner held the right to the water used on their portion of land". This decision greatly impacted traditional Hawaiian customs by breaking the traditional connection between the shared use of water and taro cultivation. Under customary Hawaiian law, the chiefs controlled and parceled out the use of water. The appurtenant rights to water was one of the most important aspects of traditional law, as Hawaii's staple crop, taro depended on the stable delivery of water. By the nineteenth century, however, sugar replaced taro as Hawai'i's

dominant crop. This decision made possible the rapid expansion of the sugar industry and the subsequent growth of population in central Maui (Silverman 1988).

Within `Iao Valley proper, daily life was more traditional in style, long after economic changes and urbanization were taking place in Wailuku. By the 1900s, the residential population in the valley had diminished, but people remaining there still maintained the traditional life-style of taro farming and fishing from `Iao Stream (Connolly 1974:5). `Iao Stream became a valuable source of water to irrigate the sugarcane fields.

After the Great *Mahele* in1848, much of Wailuku *ahupua`a* was designated as Crown Land, to be used in support of the monarchy. In 1872, Kamehameha V died, and his sister, Princess Ruth Ke`elikolani inherited the land. In the Native Register (1846-1855), the last of the royal descendants shown as owning land are Ruth Ke`elikolani, the great granddaughter of Kamehameha I (Zambucka 1977:16-17) and Victoria Kamamalu, sister of Kamehameha IV, Kamehameha V, Moses Kekuaiwa, and half sister of Ruth Ke`elikolani. Ruth Ke`elikolani was designated as the owner of the Ka`a lands of Wailuku, the southern portion of the *ahupua`a* situated near the Kanaha Fishpond. Besides Ke`elikolani's claims to the Crown Lands, she was already bequeathed a considerable amount of land from others. She also inherited the primary legacy of private lands owned by the Kamehameha dynasty (Hazuka 1994:14).

Princess Ruth's half-sister, Victoria Kamamalu was awarded the entire *ahupua`a* of Waiehu and a much smaller northern section of Wailuku, L.C.A. 7713, Apana 23. This L.C.A was formerly the *`ili* of Kalua which consisted of 391 acres that extended from the town of Wailuku to the western part of Kahului bordering the bay. The *`ili* of *Owa* comprised of 743.40 acres and designated LCA 420 was granted to Kuihelani, a steward to Kamehameha I. The current project area may have been a portion of LCA 420. A total of 265 smaller LCA's were awarded in Wailuku *ahupua`a*.

In 1882, Princess Ruth sold one-half of the Crown Lands of Hawai`i to Claus Spreckels, in order to settle her debts with him. Spreckels already held a lease for 16,000 acres of Wailuku *ahupua`a* (Waikapu Commons) dating from 1878 (Grant 3152). Worried about what Spreckels might do with half of the Crown Lands, King Kalakaua gave him Grant 3343 in 1882, a 24,000 acre portion of the southeastern section of Wailuku *ahupua`a*, in return for the surrender of his claim

(Adler 1966:262-264). In 1882, Spreckels' established the Hawaiian Commercial and Sugar Company (Adler 1966:71).

In 1926, Alexander and Baldwin bought Spreckels' Hawaiian Commercial Sugar Companies' interests on Maui (Alder 1966:71). As a result of the intensity of the growing sugar industry in Wailuku, labor was imported to the island and plantation camps were established (Clark & Toenjes 1987:8). The Wailuku commercial district flourished.

The first railroad was built to facilitate the transportation of sugar. The first common carrier and steam-powered railroad in the Hawaiian Islands was the three-mile-long Kahului and Wailuku railroad built in 1879 (Best 1978:13). The Kahului Railroad paralleled Lower Main Street, adjacent to the Sand Hills on the south and extended west towards Main and Central Streets to the Wailuku Depot. Lower Main Street was built along the route of an old government road, which very likely followed the course of existing traditional transportation routes from the ocean to the inland portions of 'Iao Valley. It grew to serve a variety of sugar mills and canneries. The railroad extended to the north shore of Maui, a total of 24 miles including sidings. The railroad continued operations until after World War II, and by 1947, roads replaced the railroads (Hazuka 1994:16).

Captain Vancouver first introduced cattle to the Hawai'i Island in 1793, followed by the introduction of horses in 1803 (Kramer 1971:167). By 1845 there were large herds of cattle trampling land on the isthmus between East and West Maui as well. The free-ranging cattle, previously under royal *kapu*, were so destructive to the land that native Hawaiian landholders protested. Ranching ranked as Maui's third biggest industry behind sugar and pineapple. Between 1893 and 1927, close to 1,600 brands represented ranches from Honolua to Kaupo (Ainsworth 1998:xiv).

The cultivation and processing of cotton in Wailuku also began in 1835 under the influence of the missionaries (Barrere 1975:50), but it never became a major cash crop and the industry was short-lived (Hazuka 1994:14).

The growth of Wailuku, which was named as the county seat in 1903, continued during the first decades of the 20th century. Two photographs taken in the early 1900s from the Wailuku sand hills show the town expanding into former cane fields. By the late 1920s development of

Wailuku had stretched to the west side of the Wailuku Sand Hills along the current Lower Main Street alignment (Bishop Museum Archives).

The Wailuku Public School located on High Street was the first public building to be constructed in Wailuku in the 20th century. Built in 1904 with stone gathered from 'Iao Valley and Wailuku Sugar Company fields (Engebretson 2000:80). It was designed by the architectural firm of Dickey and Newcomb (Holmes 1994:51). It was renamed Wailuku Elementary in 1928 and was nominated to the National Register of Historic Places in 1992 (Duensing 1993:7). Public education in Wailuku dates to the 1880's. C. W. Dickey also designed the Wailuku Public Library built in 1928 on High Street (Holmes 1994:54). It is listed on the State Register of Historic Places. Wailuku's oldest government building, the Court House located on High Street, was designed by Henry Livingston Kerr in 1907, opened in 1909, and renovated in 1993 (Holmes 1994:52).

In 1895, a period in which Japanese culture and tradition dominated the area, the 'Iao Congregational Church was founded as the Wailuku Japanese Christian Church. Its first building was on the corner of Market and Mill Streets; the congregation's second building was constructed in 1909 on the corner of Vineyard and Church Streets. Just prior to World War II the congregation became the 'Iao Congregational Church in 1936 (Holmes 1994:21). The 'Iao Congregational Church was constructed on property occupied by the Wailuku Japanese Girls' Home. Mr. and Mrs. Kanda founded the organization in 1911 for Maui's Japanese girls needing homes (Duensing 1993:15).

The residential and commercial area on Vineyard, west of High street during the early 1900s' was predominantly Japanese. This area housed a Japanese hospital, doctors' offices and numerous shops such as food shops to dressmakers (Duensing 1993:17). The current project area was probably also included in the Japanese enclave in this part of Wailuku town.

During this time, other churches in the community were also founded based on racial groupings because of language difficulties and diverse beliefs (Holmes 1994:21). English speaking people attended the Wailuku Union Church or the Church of the Good Shepherd. The Union Church was originally located on the east side of High Street in 1866. The present Gothic-style stone structure was built in 1911 with stones from 'Iao Valley and from the fields of Wailuku Sugar Company (Holmes 1994:26). In 1866, the original building of the Church of the Good Shepherd

located at Main and Church Streets was used as a school and parish hall. In 1910, a new Church was built further back on the property (Engebretson 2000:73).

Hawaiians attended the Ka`ahumanu Church, founded in1832 and designed and built by Edward Bailey in1876. The land on which the church stands originally belonged to William Pulepule Kahale, granted to him from Kamehameha II, Liholiho (Holmes 1994:18). Originally a thatched structure was built over the former *heiau* of the 18th century chief Kahekili (Bishop Museum). Listed on the State and National Register of Historic Places as Site 50-50-04-1500.

The Portuguese celebrated mass at Saint Anthony Church founded in 1873. The Gothic-style church was designed by William d'Esmond in the early 1920's. In 1977, the historic church was destroyed by arson. The structure was completely destroyed along with priceless stained-glass windows, both organs, an 1858 bell, and the alter (Engebretson 2000:79).

The Chinese followed their religious beliefs at the Chinese Christian Church or at one of two Chinese Societies (Bartholomew 1994:128). The Gee Kung Society was located on Vineyard Street between Church and High Streets before it collapsed in the early 1990's. It was one of six Chinese Society buildings on Maui. Built in 1905, it offered single Chinese men a place to visit, socialize, or stay the night (Engebretson 2000:102). The Chinese Christian Church was located on the 11 acre Alexander House Settlement in 1902 on Market Street on the southwest side of what would become known as Wells Street.

The Japanese also attended the Hongwanji or Jodo missions. The Wailuku Hongwanji Buddhist Temple was founded in 1898 by the Rev. Hojun Kunisaki in a small shack behind what is now First Hawaiian Bank on Market Street (Engebretson 2000:75). The first temple built in 1902 was at the corner of Wells and Market Streets. In 1925, land was purchased for a social hall on Mill Street and in 1952 a new temple was built (Holmes 1994:34).

Over a century ago, Wailuku was a bustling town with dirt streets and wooden sidewalks. Horse drawn carts carried and delivered supplies to merchants and hitching posts fronted shops and residences. Maps of Wailuku Town in 1882, 1919, and 1950, excerpted from a document entitled *Urban Planning Wailuku-Kahului*, prepared by Community Planning, Inc. for Maui County in 1962, depict the development of this urban center (Figs. 7-9). The early prominence of Market Street and the influence of *kuleana* property on the land boundary patterns of later periods can be

seen from these maps. In 1903, Market Street was paved and a large number of commercial activities continued to be established. By 1948, some 7000 people resided in Wailuku.

As various ethnic groups broke out of the plantation work force, small "Mom and Pop" stores opened throughout Maui County, displaying the "false front" architecture characteristic of small towns of the era (Holmes 1994:73). Wailuku Hardware & Grocery moved to the northwest corner of Main and Market Streets in 1917, a silent movie theater occupied the corner prior to the hardware store. A meat market and a new exterior were added in 1927. When Wailuku Hardware closed in 1937, it was replaced by the Main Market, billed as a "modern shopping center offering various island delicacies" (Maui Historical Society).

On the southwest corner of Main and Market Streets during the turn of the century, the Alexander House Settlement was established. This 11-acre community center housed the Chamber of Commerce, the Red Cross, a teachers' rooming house, a Chinese church on Market Street, and a kindergarten on the corner of Market and Main Streets (Hawaii State Archives). The existing buildings located along Market Street today are good representations of vernacular architectural examples of the early 20th century development.

The building at 62 Market Street was built sometime in the early to mid-1920s. The earlier stores that occupied the building from the 1920s to its current use included George Goo's Market and Grocery Store, Home Style Dress Shop, Economy Store, Home Equipment Furniture Store, Miki's Dress Shop, and most recently, Traders of the Lost Art. Currently the County of Maui owns the vacant building. The space above the store, over the years, was utilized for living quarters or held an assortment of small professional offices (Wailuku Main Street Association, Inc.). According to the Wailuku Main Street Association, "It is the recollection of the oral history group that the rear of 62 Market Street from the 1950s to most recently had been used as parking lot for Market Street businesses and the 'Iao Theatre.

Prior to the 1950s the vacant parking lot directly behind 62 Market and the 'Iao Theatre was occupied by residential plantation style homes similar to those that still exist towards the east. The vacant property adjacent to the north of the theater on Market Street once housed a market and laundry. The Sanborn Fire Insurance map dated December 1914, depicts various structures, labeled as dwellings, tenements, restaurants, stores, and other commercial enterprises fronting Market Street and within the current project area (Fig. 10).

The existing historic `Iao Theatre replaced a burned down building and began rebuilding in 1927. When Manuel G. Paschoal and H. P. Weller opened the 750-seat `Iao Theatre on August 22, 1928 with the silent film "Sporting Goods," it was reported, "to be the fanciest Mauians had ever seen" (Wailuku Main Street Association). Not only did the theatre show movies, it was also a center that housed "Bingo Nights," yoyo demonstrations, singing contests, political rallies, and a shelter for victims of the 1946 tidal wave. During the war years, Bob Hope and Betty Hutton were among the many big names that played at the theatre. Today the building is the home of the Maui Community Theatre. Harry Kaya ran the snack concession outside the theater entrance on Market Street from the mid-1930s through the mid-1970s with his beloved and famous dog "Queenie"(Engebretson 2000:50).

North of `Iao Theatre and on the same side of Market Street at the intersection of Vineyard Street is Gilbert's Formal Wear. Specializing in tuxedos, this garment store was opened in 1949 by Susanne and Gilbert Hotta and is currently still open for business. Prior to Gilbert's the location was used for Frankie and Johnnie's lunch counter (Engebretson 2000:49).

In the 1920s, Wailuku motorists enjoyed curbside service at Yuichi Hanada's station on the east side of Market Street south of 62 Market Street. In addition to a service station, Hanada's also ran a taxi and car rental service. Next to Hanada's on the south was the Wailuku Vulcanizing Works and beyond that, the dental offices of Dr. L.C. Smith (Engebretson 2000).

Across the street from Hanada's was the Baldwin Bank founded in 1924. The bank shared the space with Maui Electric Co. In 1933, Baldwin Bank became Bishop First National Bank. In 1969, Bishop First National became First Hawaiian Bank, which still occupies the space today (Engebretson 2000:41).

On the west side of Market Street near the corner of Pili Street, Maui Savings & Loan opened in 1962, in a building, which also housed Shiyan Okazu-ya. In 1970, this structure and the former Chinese restaurant building at Pili Street were demolished for a branch office of American Savings and Loan. Next to the Maui Savings & Loan, towards Main Street, was the Goodness Building, today an empty lot. Nakagawa Tailor, now the site of Sig Zane Design and Emura Jewelry is still open for business after 50 years (Engebretson 2000:46).

Just north of the existing First Hawaiian Bank and the 33 Market Street office building was the site of Maui Drugs, Herbert's Furniture, The Maui Standard Market with its rooming house upstairs, and Ted's Men's Wear in the 1950s. The 46 Market Street building in the 1960s housed the Maui Health Center, along with Maui Sportswear, Clyde's Shoes, and Palm Travel.

Some of the notable, current historic resources of Wailuku Town include the Wailuku Sugar Company Manager's Residence, the Bailey House and its adjacent Structures (State Site 50-50-04-3000), the Alexander House, Ka`ahumanu Church (State Site 50-50-04-1500), the Wailuku Public Library, the `Iao Theater (State Site 50-50-04-1627) and the Territorial Office Building. Historically, these structures reflect three different periods of Maui's history: the missionary, the sugar industry, and the territorial government (Duensing 1993:23).

PREVIOUS ARCHAEOLOGY

Prior to the 1970's, in spite of its social and political significance, Maui remained less intensively studied than either O`ahu or Hawai`i and no intensive studies had yet to be undertaken in the traditional population centers in the valleys of West Maui (Kirch 1985:136). Emory, who conducted an inventory of archaeological sites in Haleakala Crater in 1921, and Walker, who recorded prominent sites in 1931, are generally considered to be the earliest of the "modern" archaeologists to undertake survey of prominent sites on Maui. Other than the data gathering work by Sterling during the 1960s and 70s, archaeological research on Maui really did not gain momentum until the early 1970s, with the advent of large-scale resort development and the establishment of community master plans. During and subsequent to the 1970s, resort and urban development generated a number of contract archaeology reports primarily for various coastal regions of Maui. For a brief summary and synthesis of these reports, the reader is referred to Kirch (1985). Any number of the more recent reports will provide an updated review of archaeological work completed during the 1990s. A brief review of pertinent recent studies in the immediate vicinity are presented below.

In Wailuku *ahupua`a*, in areas southeast of the current project locality, recent development has generated several archaeological reports from the Wailuku Sand Hills area in connection with the 1000 acre Maui Lani development. The reader is referred to Rotunno-Hazuka (et al. 1994) for a list summarizing these investigations, year completed, and location of each study. Although no surface structural remains have been recorded in the Wailuku Sand Hills province, a large number of human burials have been recorded in the area. A complex of human burials was identified in

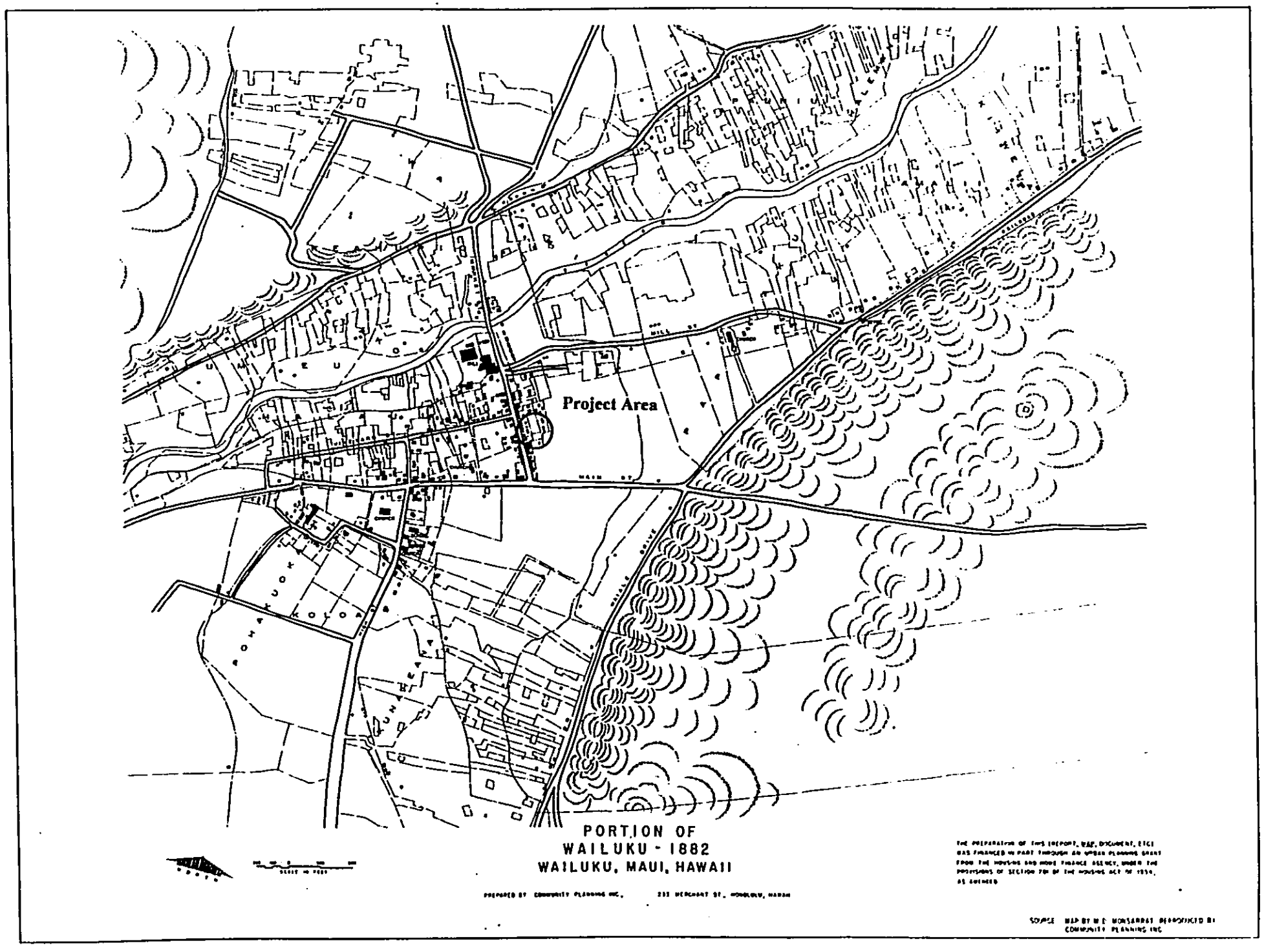


Figure 7. Map of Wailuku Town in 1882 by M.D. Monsarrat. (Community Planning, Inc.)

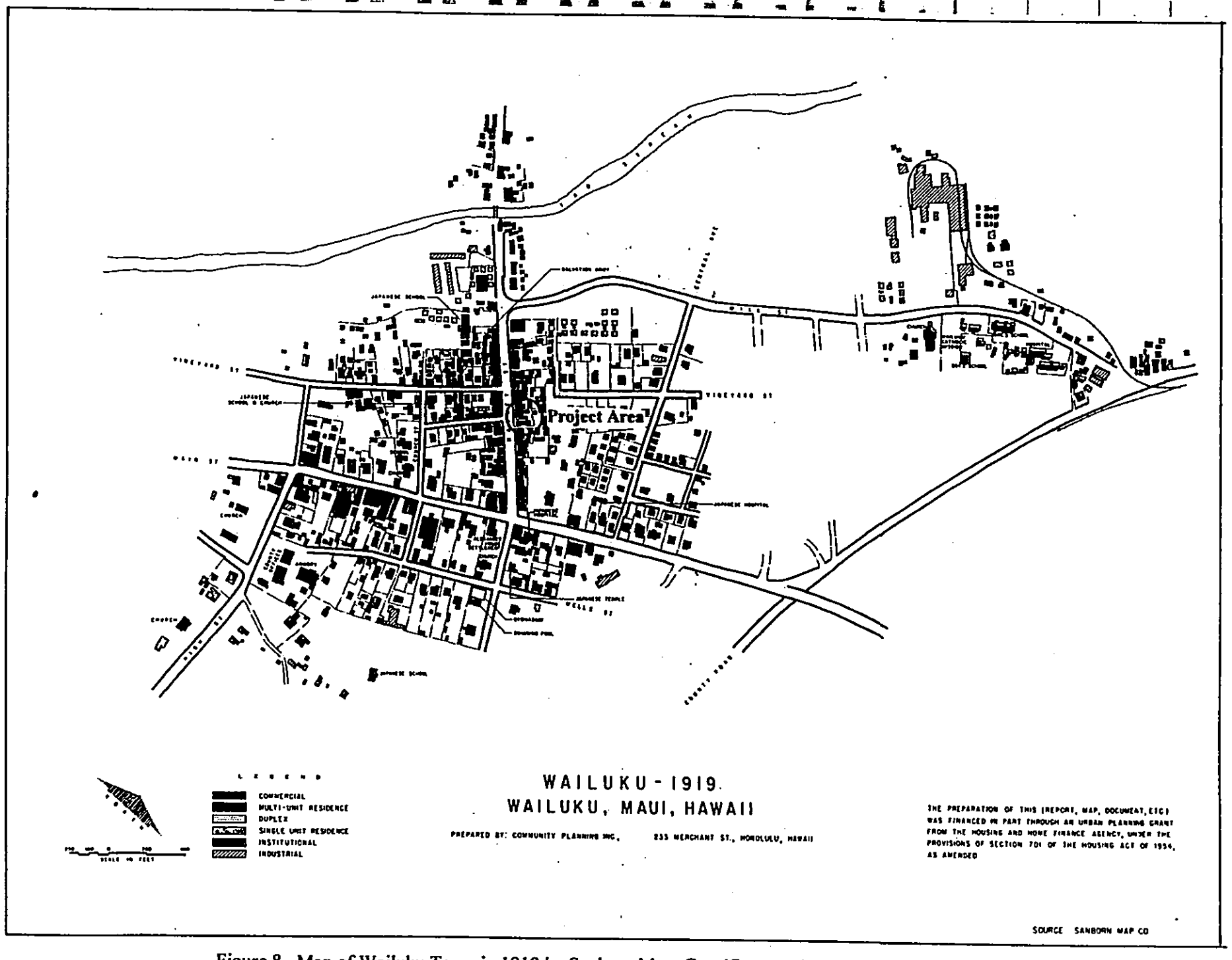


Figure 8. Map of Wailuku Town in 1919 by Sanborn Map, Co. (Community Planning, Inc.)

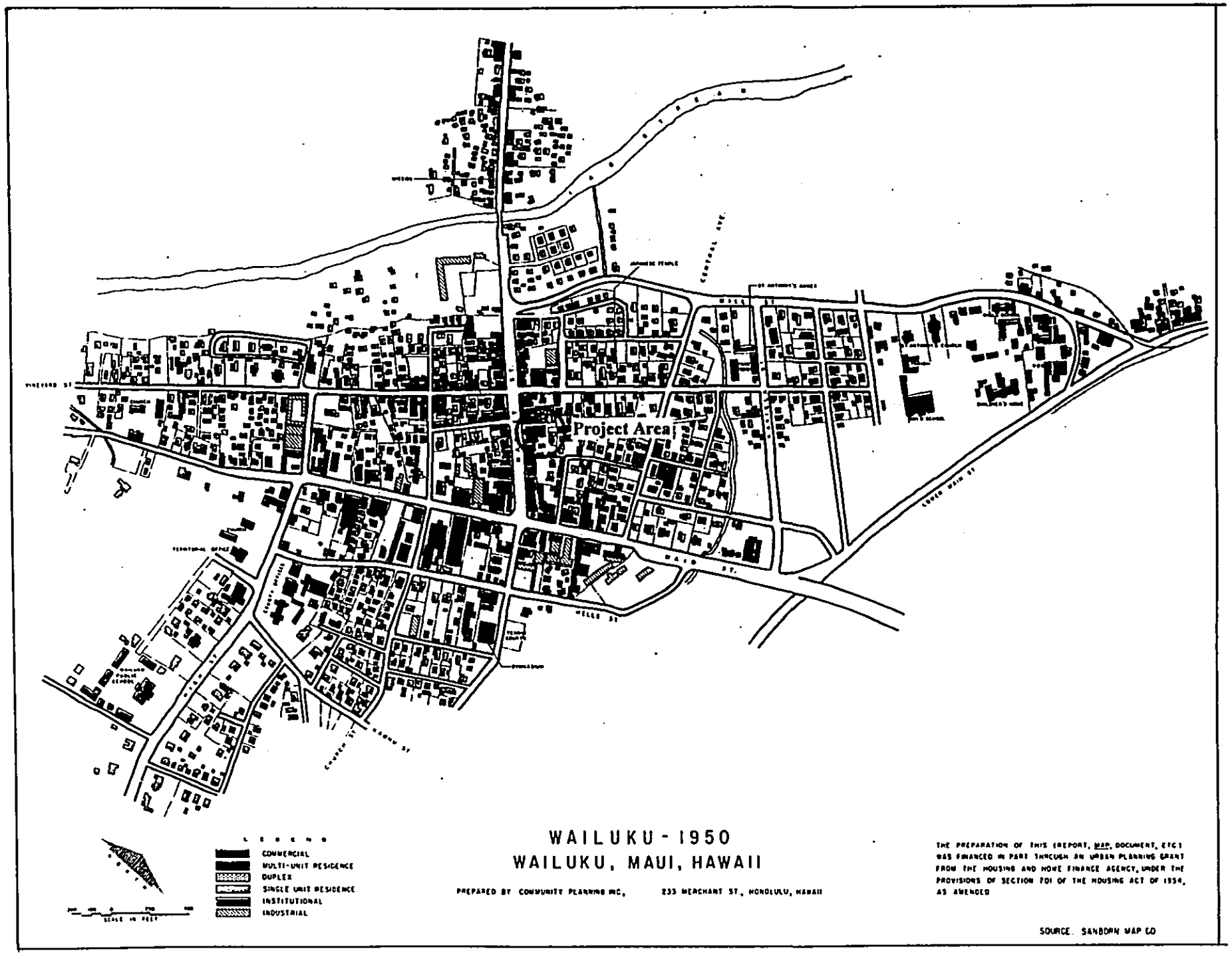


Figure 9. Map of Wailuku Town in 1950 by Sanborn Map, Co. (Community Planning, Inc.)

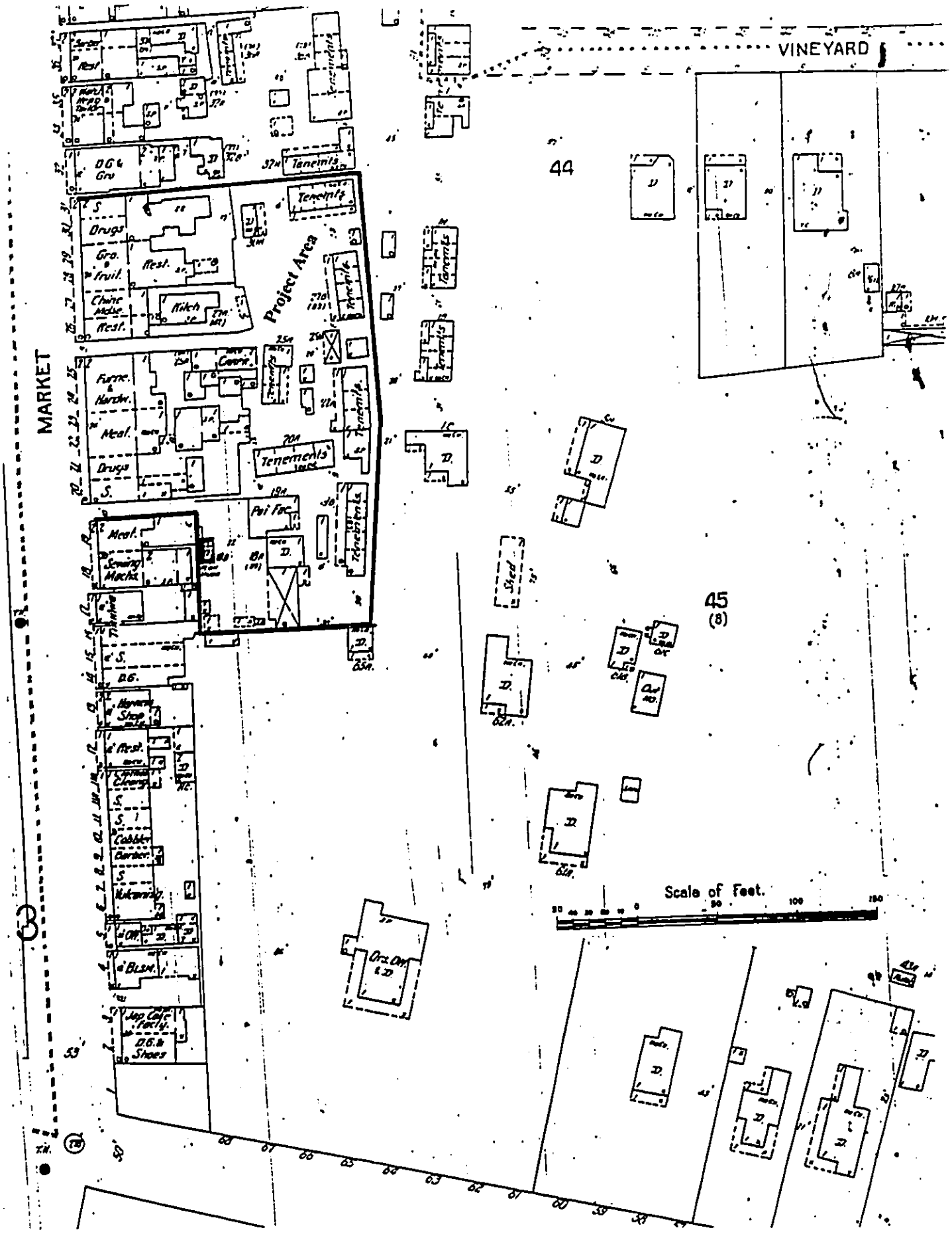


Figure 10. Portion of 1914 Fire Insurance Map Showing Project Area. (Sanborn Map Co.)

an exposed section of a former sand borrow pit, designated Site 50-50-04-2797 (Rotunno-Hazuka et al. 1994). In 1995, a subsurface sampling phase, in which 95 backhoe trenches were excavated in pre-selected locations in a 300+ acre proposed development area, resulted in the discovery of six new burials in three separate localities. A predictability model for burial location was tested, but the results showed that the placement of burials in the dune area was inconsistent, if not random (Pantaleo and Sinoto 1995). Monitoring procedures, ongoing since 1996, during construction of a golf course and residential subdivisions have encountered more burials and shed new light on burial practices as well as the traditional utilization of the Wailuku Sand Hills. The additional data indicates that promontories may have been favored for the interment of solitary burials, but that multiple burials have so far all appeared in geographical association with the original complex at Site 2797. Some kind of territorial boundaries may be influencing the location of the multiple burials (Sinoto et al. pending).

Several investigations have been completed in areas to the east and northeast of the current project area, along Waiale Road and along Lower Main Street including, Fredericksen (1990, 1992,1995,1998), Dunn and Spear (1995), Burgett and Spear (1995, 1996), and Hammatt and Chiogioji (1996). The most predominant remains have been human burials along with other remains of prehistoric and historic cultural activities, such as midden, artifacts, and subsurface features. No surface remains have been encountered in this largely urbanized area.

Human skeletal remains were also identified at the Maui Homeless Shelter construction site which has been designated Site 50-50-04-2916 (Donham 1992). A number of burials have also been encountered during the installation of a sewer line along Waiale Road and construction of the low income housing project. Multiple burials, along with other cultural remains, have been discovered in connection with the widening of Lower Main Street (Spear et al. 1998).

A few other studies have been undertaken in `Iao Valley and in the *mauka* slopes above Wailuku Town including Connolly (1974), Kennedy, et al. (1992), and Fredericksen (1997). No significant prehistoric remains were reported from these studies. Connolly, the only one to encounter any cultural remains, concluded that the remains were all historic period in origin and commented that, "No positive structural evidence of a prehistoric occupation was observed..." within his study area (Connolly 1974:ii).

In terms of the immediate vicinity of the current project area in the central area of Wailuku Town, archaeological procedures within this urbanized area are limited primarily to monitoring of subsurface utility improvements, building renovations, or demolitions as warranted. Since many of these procedures have only been undertaken recently or are currently still on-going, results are not yet readily available.

SETTLEMENT PATTERN

The high degree of cultivation within the *ahupua'a* of Wailuku and the adjacent *ahupua'a* within the district gives evidence that a substantial population would have been established there during the pre-contact period (Hammatt 1998:5). According to Cordy, the settlement of Wailuku represented one of two (perhaps three) early-populated areas on Maui (Cordy 1991:198-199).

Based on the foregoing historic and archaeological indicators, it seems probable that the region comprising the lower slopes of Wailuku *ahupua`a* were settled following the earlier occupation of the immediate shoreline areas and along the coastal portions of `Iao Stream. The ideal conditions fostered an increasingly stratified, agriculturally-oriented society; and sustained an expanding population into the late prehistoric or protohistoric period. At this time, population growth generated the establishment of extensive agricultural complexes in the upland valleys of west Maui. These populations appear to have been clustered in either coastal or upland regions, with less productive areas, such as the Wailuku Sand Hills, left unsettled. The margins of the dunes, however, that interfaced with the alluvial flats extending from `Iao Valley were also probably occupied during the latter prehistoric period or the mid-1400s (Donham 1996:3.6).

These intermediate zone population centers are characterized by extensive dryland terrace and irrigated pondfield agricultural systems with dispersed, rather than centralized, residential structures throughout and on the margins of these agricultural complexes. Additionally, religious structures were significant components of both the coastal and upland population centers.

In neighboring Waikapu *ahupua`a*, recent studies undertaken in connection with golf course and resort construction have documented agricultural and residential complexes on the upland slopes adjacent to Waikapu Valley (Brisbin et al. 1991). In addition to lending credence to early historic reports of large populations occupying the upland regions, research indicates extensive and intensive agricultural development of this area during the late prehistoric and perhaps into early historic times (Brisbin et al. 1991:7).

With the advent of urbanization relatively early in Wailuku, much of the prehistoric resources have been severely impacted, if not destroyed. Thus, the inland occupation patterns manifest in neighboring *ahupua`a* are important as a reflection of what once may have existed in Wailuku *ahupua`a*.

SITE EXPECTABILITY

Traditional land use and the nature of cultural remains most likely to be encountered, are dependent on the physiography of the project area. Since the current area is located on the lower slopes and some distance away from `Iao Stream, the subsurface remains of prehistric dry land agricultural features, such as terraces, mounds, and walls; together with habitation features are expectable. In addition, historic remains in the form of subsurface features, artifacts, and samples are expectable. Buried structural remains, refuse pits, and other evidence of historic occupation can be anticipated.

METHODOLOGY

Archaeological and historical literature research was undertaken not only to gain an understanding of the prehistoric and historic background of the project area, but also to enhance predictability of the nature and extent of potential cultural resources in the project area. This research was conducted at the State Historic Preservation Division (SHPD) library of the Department of Land and Natural Resources (DLNR) in Kapolei, the State Survey Office of the Department of Accounting and General Services (DAGS), the Bureau of Conveyances and Land Management Branch of DLNR, the Hawaii State Library, and the Hamilton Library at the University of Hawaii, all in Honolulu. Additional research was undertaken at the Wailuku and Kahului Public Libraries, the Maui library of the SHPD/DLNR, and the Maui Community College Library archives.

The initial, walk-through surface survey of the project area revealed no significant surface cultural manifestations. The ensuing subsurface testing took place during two separate occasions. The first consisted of monitoring during the excavation of four backhoe test trenches for geotechnical evaluations. The second was conducted in conjunction with the current archaeological inventory survey to determine the presence/absence of buried cultural remains. Backhoe trenching was conducted at eight selected localities, using a Ford 555B backhoe with a .50m wide bucket, provided by Maui County. The trenches were placed with the dual criteria of

testing potentially sensitive areas considered most likely to contain subsurface cultural deposits while at the same time, providing a representative sampling of the entire project area.

Trench positions were plotted onto the project area map. A stratigraphic profile of a representative column on a side-wall was recorded for each trench. A color photographic record, in 35mm format, was obtained for each trench and soil colors were described in reference to Munsell color designations.

Post-field procedures were undertaken in the Archaeological Services Hawaii field laboratory on Maui. These tasks included cleaning, processing, sorting, classifying, cataloguing, and tabulating *of collected artifacts and samples. Representative samples were also photographically recorded* in color on digital format using a Sony Mavica camera. Data synthesis, report writeup, and production were completed by Aki Sinoto Consulting in Honolulu.

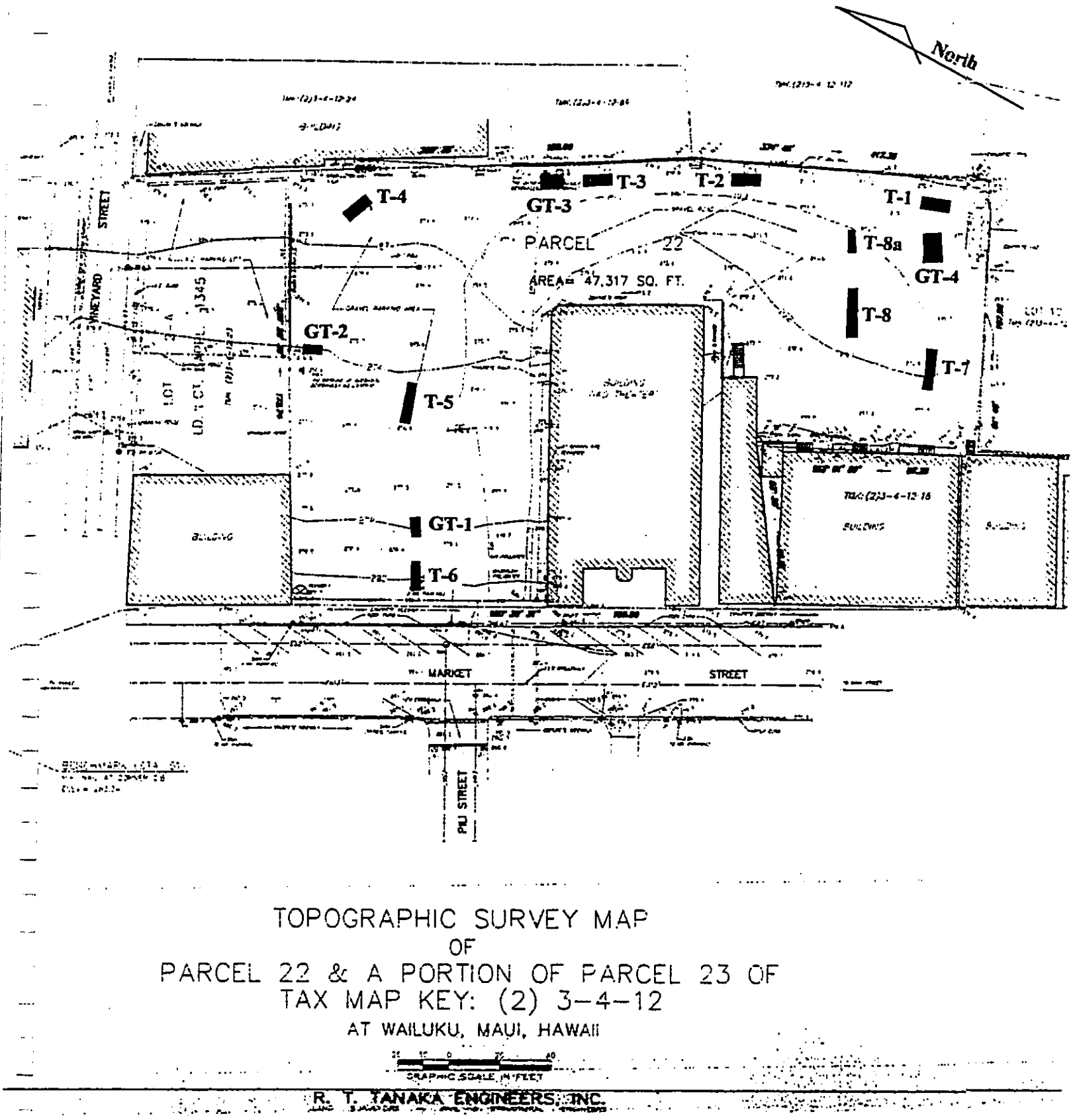
The personnel consisted of Lisa Rotunno-Hazuka as supervisor, Diane Guerrero as archaeological monitor, Aki Sinoto as project director, and Jeffrey Pantaleo as principal investigator. All procedures followed generally accepted archaeological methods and standards. All artifacts, samples, field notes, maps, and photographs generated in connection with the current project will be curated and deposited at the Archaeological Services Hawaii office in Wailuku, Maui.

SURVEY RESULTS

During the initial surface assessment encompassing the total project area. no surface cultural remains were encountered within the vacant areas of the project parcel. Localities with potential subsurface cultural sensitivity were selected for backhoe testing. These primarily consisted of areas in between the four geotechnical test trench locations and along the periphery of the parcel where disturbance was considered to be potentially less than in the central areas. These localities underwent subsurface sampling through backhoe trenching during the ensuing testing phase. A total of 8 backhoe trenches were excavated (Fig. 11) for the purpose of archaeological sampling. No significant cultural remains were identified in the trenches excavated during the inventory survey. One historic period refuse pit was exposed in one of the geotechnical test trenches. Artifacts and sample materials recovered from this feature are discussed in a following section.

A total of twelve backhoe trenches were excavated, selectively located to sample the subsurface conditions within the project parcel. T-1 was located near the southeastern corner, with T-2 and T-3 along the eastern periphery, T-4 at the northeastern corner, T-5 in the central portion of the northwest quadrant, T-6 along the western periphery of the northwest quadrant, T-7 near the southwest corner, and T-8 in the central portion of the southeast quadrant. GT-1 (geotechnical trench) was located near the western periphery of the northwest quadrant, GT-2 was located centrally along the northern periphery, GT-3 along the eastern periphery in line with the northern end of the `Iao Theater building, and GT-4 was located near the southeastern corner of the project parcel.

Remnant sections of 5"sewer pipes and pipe trenches were exposed in T-2, T-7, and T-8. An abandoned cess-pool was located in GT-3 at the eastern boundary behind the theater building. After the trench was expanded, this circular feature was found to be constructed of waterworn cobbles and boulders held together by mortar. It was filled with historic-period debris. The 5" pipes were most likely related to the use of this feature. This feature was designated State Site 50-50-04-5092, Feature 2. Debris from demolished buildings, consisting of concrete slab fragments, cement chunks with re-bar, iron beams, and smaller fragments of concrete were exposed in T-4 and T-5. An intact concrete slab, 13 cm in thickness, and at least 10 square meters in area was partially exposed at the eastern end of T-8, directly underlying the surface gravel and overburden only 2-3cm below the present ground surface.



TOPOGRAPHIC SURVEY MAP
OF
PARCEL 22 & A PORTION OF PARCEL 23 OF
TAX MAP KEY: (2) 3-4-12
AT WAILUKU, MAUI, HAWAII

Figure 11. Map of Project Area Showing Backhoe Trench Locations

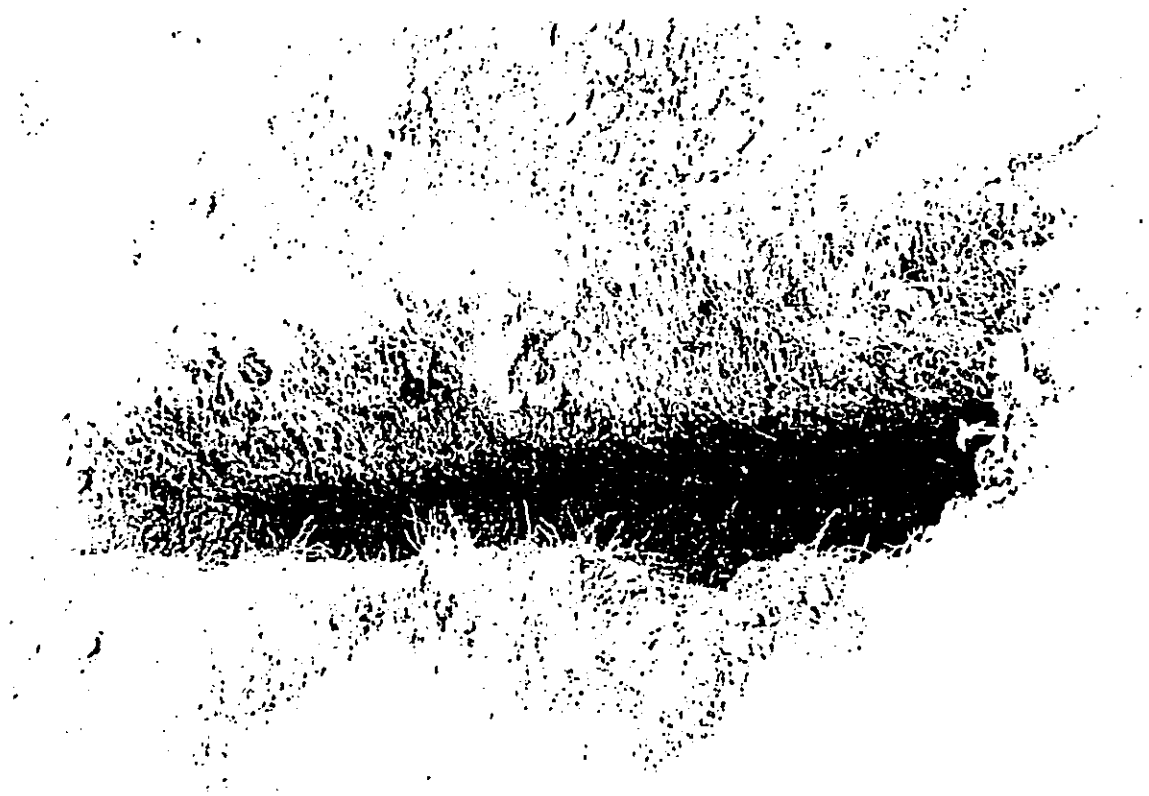


Figure 12. Trench 1 East Face, to North

Figure 13. Trench 2 West Face, to North

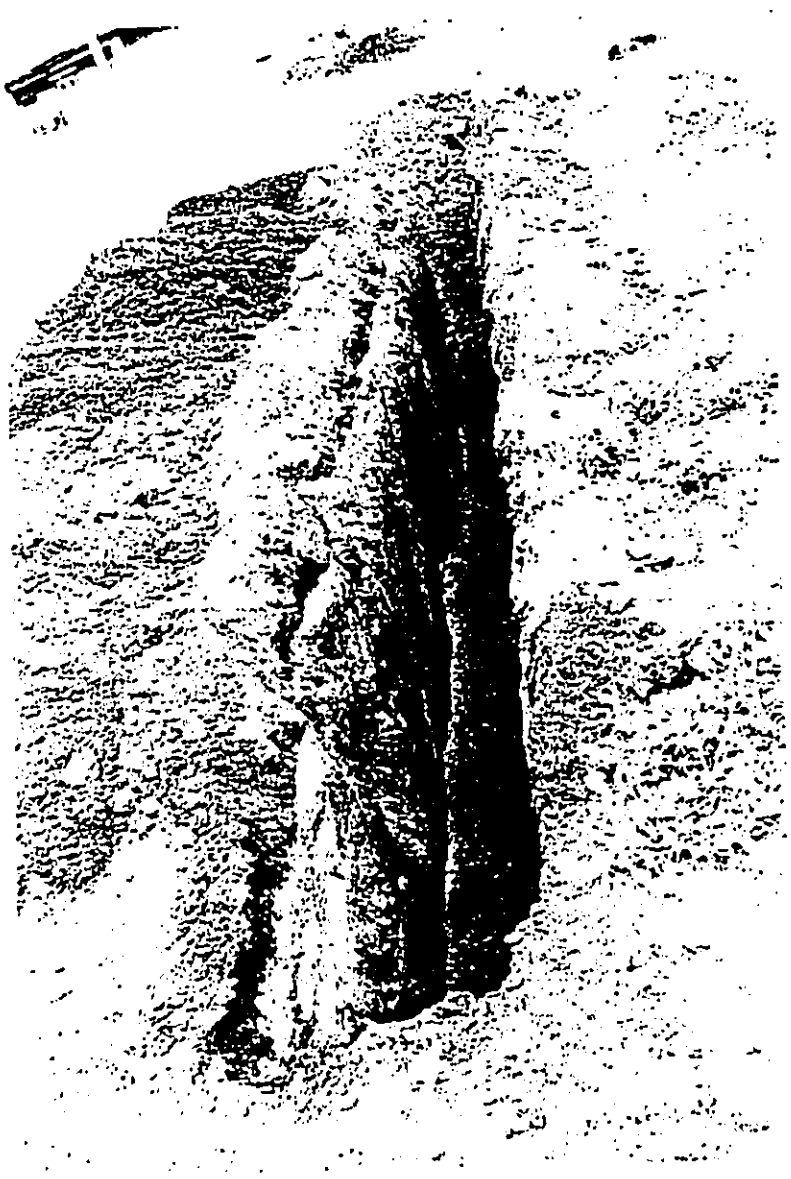


Figure 14. Trench 3 West Face, Note Sand Deposit at South End, to North

Figure 15. Trench 4 East Face, to Northeast

Figure 16. Trench 5 North Face, Note Structural Debris, to West

Figure 17. Trench 6 North Face, to West

Figure 18. Trench 7 North Face, to West

Figure 19. Trench 8 North Face, Note Concrete Slab, to West

Figure 20. Trench 8a North Face, to West

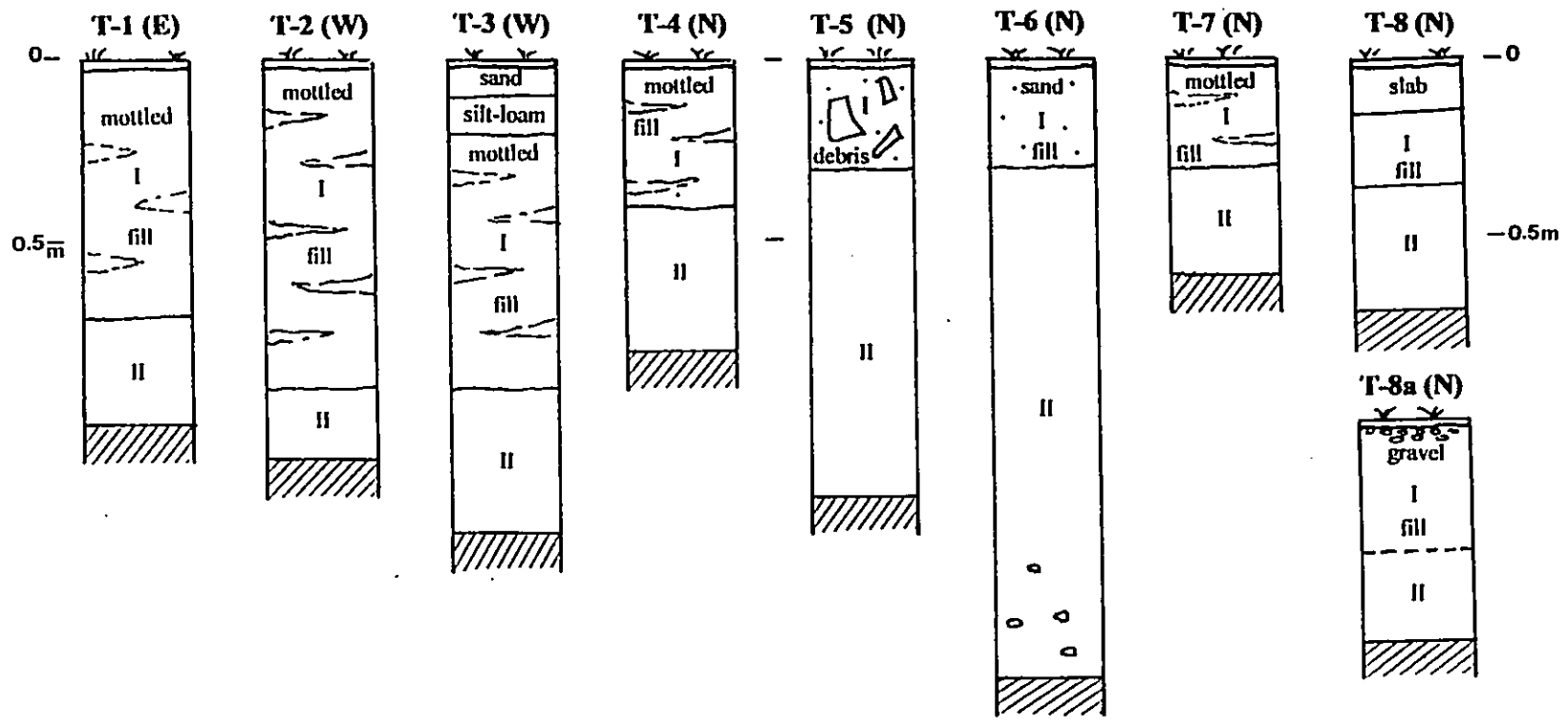


Figure 21. Representative Stratigraphic Columns

Table 1. Backhoe Trench Descriptions

T-	LENGTH	WIDTH	DEPTH	ORIENT.	I	II	CULTURAL
1	7.0m	0.60m	1.0m	310	fill/debris	clay-loam	none
2	7.0m	0.60m	1.0m	318	fill/pipe	"	"
3	8.0m	0.60m	1.3m	308	fill/sand	"	porcelain frag.
4	7.0m	0.70m	0.80m	270	fill/debris	"	none
5	6.0m	0.60m	1.2m	244	debris laden	"	"
6	6.5m	0.50m	1.70m	228	fill from road	"	"
7	8.0m	0.60m	0.60m	220	fill/pipe	"	"
8	7.0m	0.70m	0.70m	225	fill/pipe/slab	"	"
8a	3.0m	0.50m	0.60m	230	fill/pipes	"	"

GT	LENGTH	WIDTH	DEPTH	ORIENT	I	II	CULTURAL
1	3.0m	1.0m	2.8m	220	fill	clay-loam	none
2	2.0m	1.0m	2.6m	310	"	"	"
3	3.5m	1.75m	2.5m	300	fill/sand	"	cess-pool
4	3.5m	2.5m	4.0m	210	refuse pit	refuse pit	historic artifacts

A secondary deposit of a fragment of a white porcelain cup with blue designs along with a few, small, non-diagnostic glass fragments were found within the disturbed fill layer in T-3, at a depth of 80 cm below surface. An historic refuse pit was exposed during the excavation of GT-4 near the southeast corner of the property. This feature was designated State Site 50-50-04-5092, Feature 1. Representative artifactual and sample materials were collected for analyses.

Figures 12- 20 present photographic overviews of each archaeological test trench. Table 1 presents the dimensions and stratigraphic information for each of the 12 trenches. Representative stratigraphic columns for T-1 through 8 are depicted on Figure 21. In all of the trenches, other than localized variations in overburden, fill, depths, and the presence/absence of debris, the silty clay matrix remained constantly homogenous throughout the project area. The layer descriptions are as follows:

Overburden: dark brown (7.5 YR 2.5/2) gravel, sand, silt

Layer I: dark reddish brown to yellowish brown (ranges from 5YR 3/4 to 5/8) predominantly fill, mottled, silt loam, pockets of imported sand, and debris

Layer II: dark brown (5 YR 4/6) compact clay loam, few inclusions of saprolytic rocks with depth, culturally sterile

ARTIFACTS

An historic refuse pit (Site 50-50-04-5092, Feature 1) was exposed in Geotechnical Trench 4 located near the southwest corner of the project parcel. The original trench measured 1 m wide by 2.5 m long and 3 m deep. Upon discovery of the refuse pit feature, the trench was expanded to 2.5 m wide by 3 m long and 4m deep. The feature was filled with glass, porcelain, and metal artifacts along with bone and marine shell samples most likely representing food refuse. A representative sampling of 190 items including fragmented and complete glass bottles, chinaware, and metal artifacts (185), together with bone, coral, and marine shell samples (5) were collected. Diagnostic artifacts included the various accoutrements of daily household activities including beverage, medicinal, ink, and condiment bottles, Japanese porcelain table-wares, metal nails, tea pots, horse shoes, glass buttons, ivory toothbrush handle, *opihi* shells, and pieces of cut (butchered) bone. Representative sampling of the artifact types are depicted on Figures 22-26. Based on the assemblage of recovered artifacts, the age of this feature is estimated to date to the early 1900s.

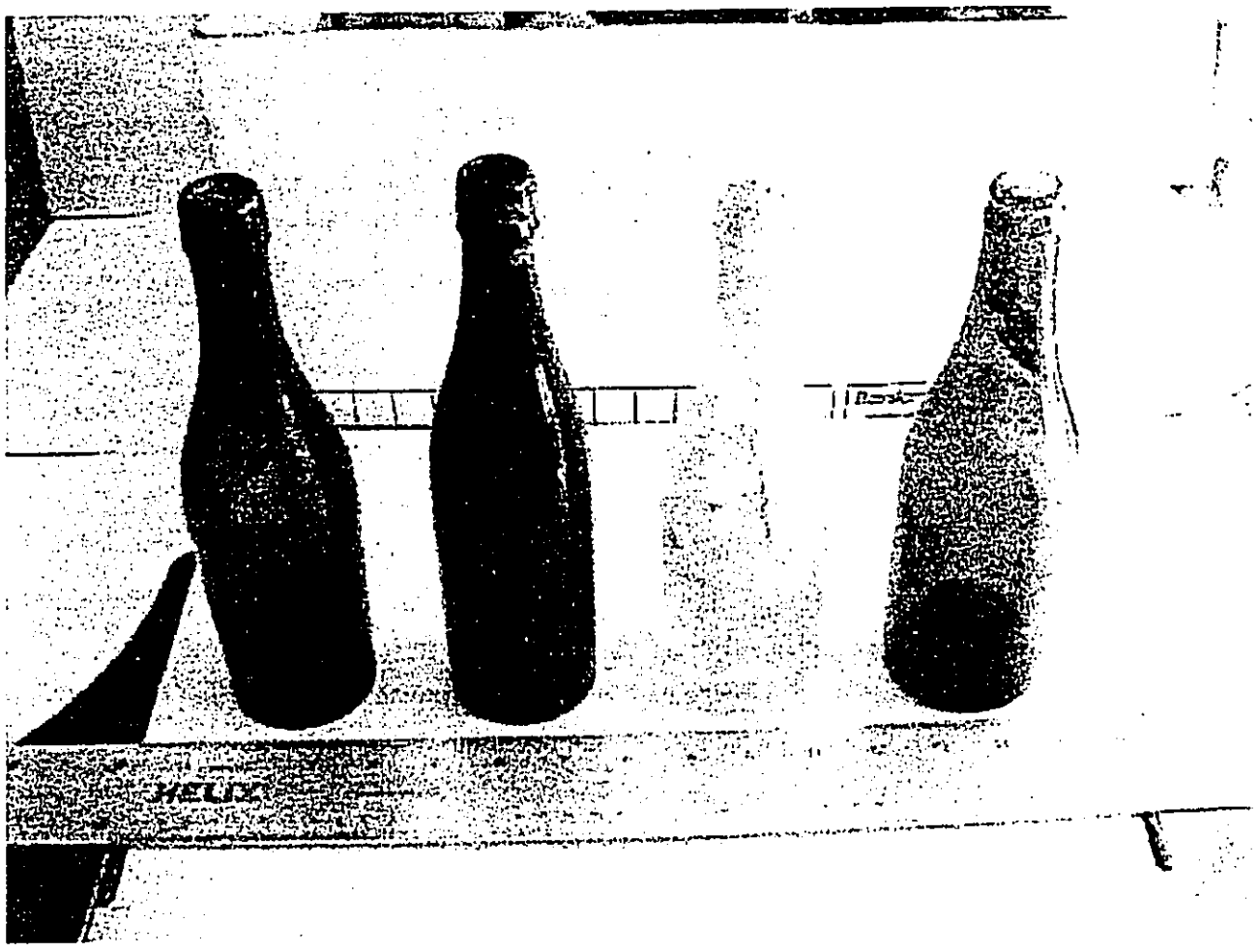


Figure 22. Representative Sample of Complete Glass Beverage Bottles from GT-4

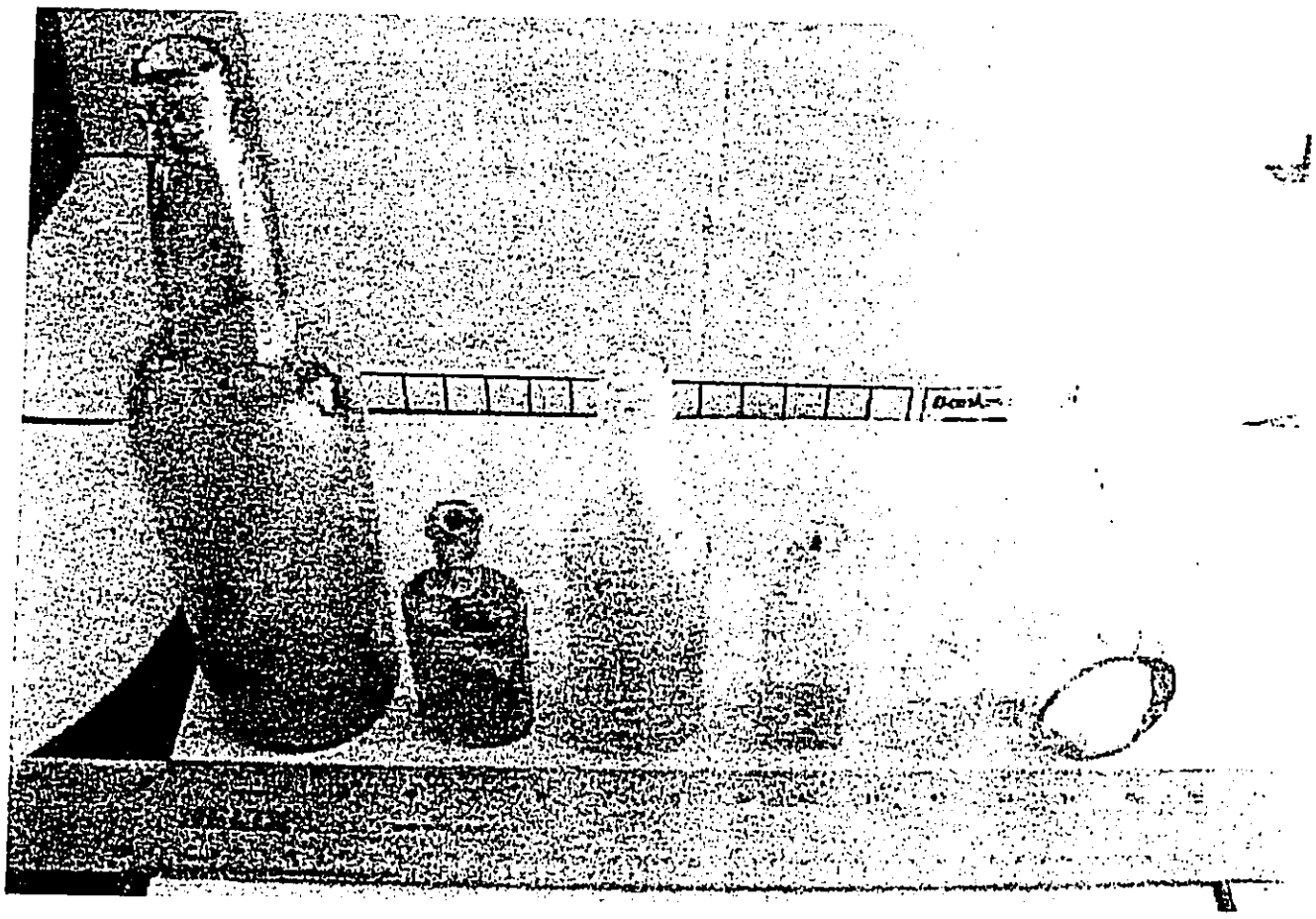
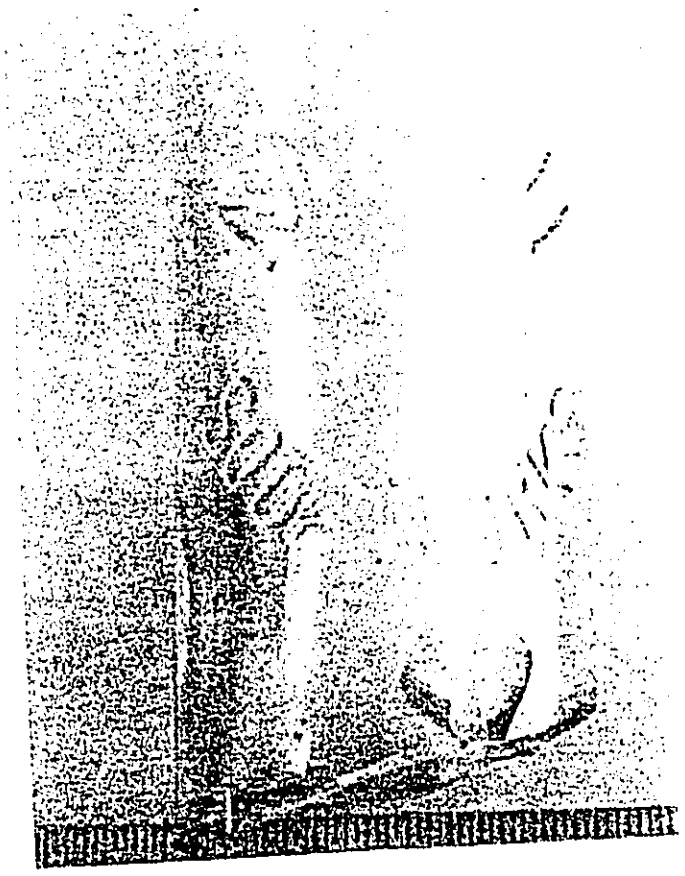


Figure 23. Sample of Condiment, Medicine, Ink, and Soda Bottles from GT-4



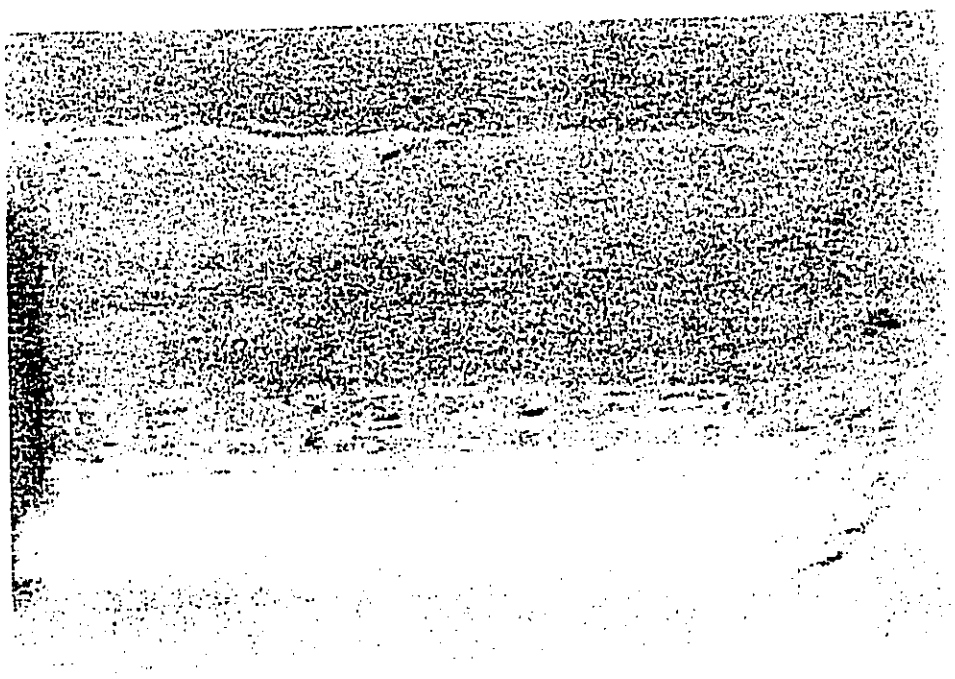


Figure 24. Closeups of Embossed Maker Names on Glass Bottles
(top) Maui Soda Works (bottom) Lea & Perrins

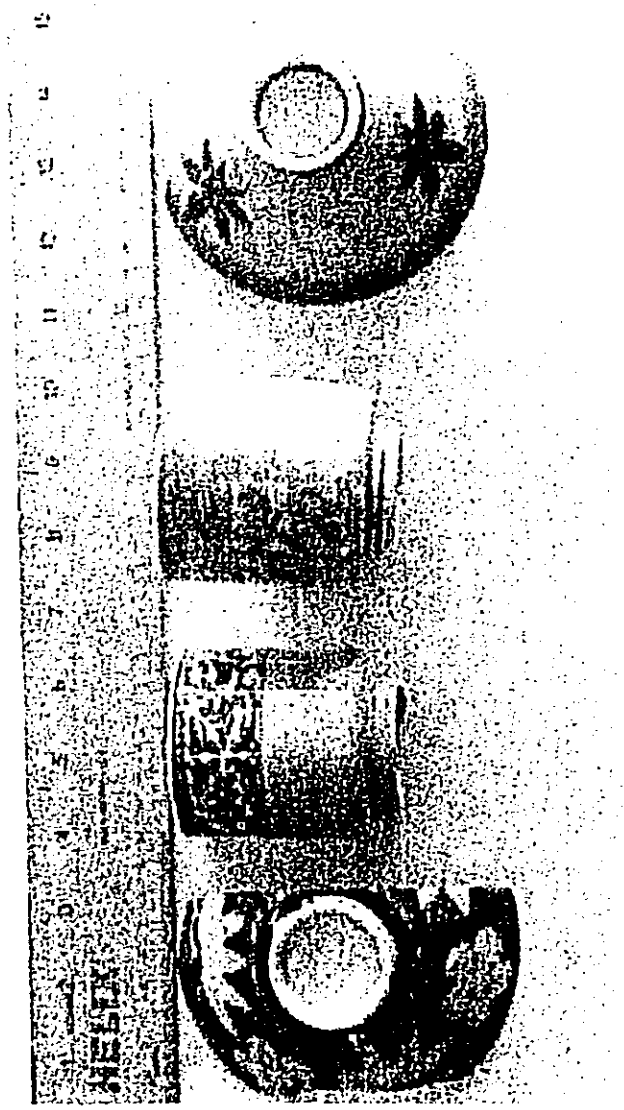


Figure 25. Sample of Japanese Porcelain Rice Bowls and Tea Cups

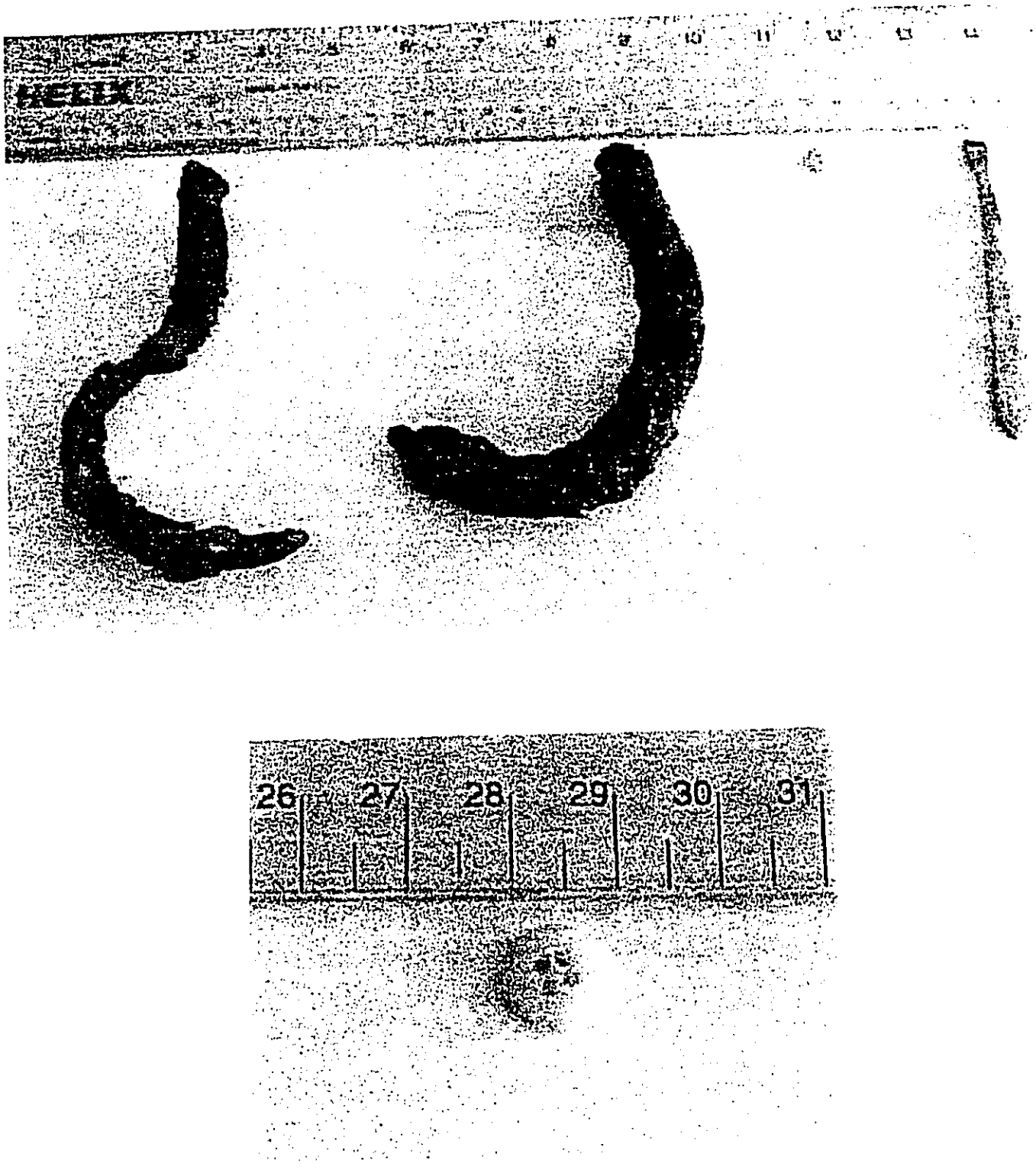


Figure 26. Metal Hooks. Glass Button (detail), and Tooth Brush Handle

Of the 185 artifacts collected, ceramics/sherds (79) and glass bottles/fragments (82) were the most well-represented. The remaining consisted of oil lamp glass (3); undiagnostic glass (1); an ivory toothbrush handle (1); various metal artifacts (18) including square nails, tea pot, buckles, hooks, iron, grates, and an undiagnostic fragment; and a glass button (1). Of the 79 ceramics, 70 are probably Japanese and of the 82 bottles, 12 are probably Japanese medicinal and *sake* containers. The other bottles appear to be Euro-American with 24 soda bottles associated with Maui bottlers. Five samples consisting of *opihi* shells (3), cut cow bone (1), and a coral cobble (1), were also collected.

DISCUSSION

No significant surface remains were present within the cleared, open portions of the project parcel. Eleven out of the total of twelve test trenches produced negative results. The eight test trenches excavated during the current inventory survey and three of the geotechnical test trenches did not produce any significant subsurface features or other buried culturai remains. No evidence of traditional Hawaiian activities was recovered from the project area. However, ample evidence of the extent and nature of the previous ground alterations in the area was revealed through the subsurface testing.

The upper layer in all of the trenches, ranging in depth from 0.35 to 0.90 m below surface, was a mottled fill layer, debris-laden in some of the trenches, indicating extensive previous disturbance. Based on the absence of subsurface features and the lack of any building foundation features, the stratigraphic components associated with any of the occupations of the project area pre-dating 1950 appear to have been truncated, displaced, and possibly redeposited throughout the eastern half of the parcel. This drastic ground surface alteration can most likely be attributed to the demolition, clearing, and grading of the area that took place just prior to or in the early 1950s. The area is remembered as a parking lot from that period. The two historic features that still remain are the Site 50-50-04-5092, Feature 1: refuse pit, and Feature 2:cess pool. Both of these features manifest substantial depth, however, the upper portions of both features appear to have been impacted and are poorly defined.

Analysis of historic maps for the area also indicate that the project parcel had most likely undergone more than one episode of extensive ground alteration. The Sanborn fire insurance map of the area for 1914 (see Fig.10) depicts the same southern and eastern boundary as shown

on the topographic map done in February of 2001 (see Fig. 11). This suggests that the elevation difference between the project area ground surface and the neighboring lots to the south and east was already present in 1914, probably constructed as a terraced foundation for the stores and tenements. Thus, any prehistoric or traditional Hawaiian features that pre-date the early 1900s, may have either been destroyed or buried under fill around the start of the 20th century.

The artifacts recovered from Feature 1 correspond well with the historic background information and chronology regarding a Japanese enclave that included the current project area. Most likely the assemblage is associated with the commercial and residential activities that took place during the late 1800s to early 1900s. This is also well supported by the 1914 fire insurance map.

INITIAL SIGNIFICANCE EVALUATION

Site 50-50-04-5092 is considered to be significant under Criterion D of the Hawaii Register of Historic Places. Criterion D bases the significance of a site on its having yielded or having the potential to yield data important to the understanding of the prehistory or history of a locality, region, island, or State.

RECOMMENDATIONS

The results of the current inventory procedures shed light on the past land use of the project area. Although the majority of the test trenches resulted in negative findings in terms of cultural remains, two historic features and evidence for compounded extensive disturbance were recovered. The collected assemblage of artifacts and corresponding historic background data permits a fairly conclusive interpretation of the findings. Thus, no further archaeological procedures appear to be warranted prior to commencement of development activities. However, based on the presence of the two features, as well as the possiblity for buried remains at greater depths, the implementation of archaeological monitoring, during development-related, ground-altering activities in specific areas and below a specified depth, appears to be a prudent and justified course of action. The objectives and appropriate scope of monitoring shall be included in a monitoring plan to be prepared and submitted to the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources for approval.

Wailuku's cultural history is reflected not only in its rich precontact cultural resources but also in its ethnic, residential, and commercial architectural resources developed during the late 19th and the early 20th centuries. Although historical activities have dramatically altered the physical and cultural landscapes of Wailuku, it is still recognized as an integral precontact and postcontact political and religious center that supported a large population. Therefore, to ensure the perpetuation and preservation of Wailuku's irreplaceable resources, its architectural and environmental character must be preserved.

One way that could be accomplished can be stated as a more general recommendation to expand the boundaries of the Wailuku Historic District to include a larger area of "Old Wailuku Town." The revised district should include the numerous social, religious, political, commercial, and industrial structures and landscapes that represent a bygone era that will preserve Maui's historical and cultural past. Through well-planned urban renewal, preservation, restoration, interpretation, and economic revitalization projects, a suitable coexistance of Wailuku's past, present, and future can be effectively implemented.

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APPENDIX "C"

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

September 27, 2001

Ms. Genevieve Salmonson
Director
Office of Environmental Quality Control
236 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

SUBJECT: Draft Environmental Assessment (EA) for **Wailuku Mini-Park**

The following is in response to your comments on the Draft Environmental Assessment for the above referenced project:

1. Two-sided pages: The final document will be printed on two-sided paper to save paper.

2. Maps: A map of the island indicating the project location will be included in the final EA.

3. Cultural Impact Assessment: The site is in the urban setting of Wailuku town. The area was developed as a parking lot for the old Iao Theater and is currently being used for public parking. No gathering of plants occurs since the site is void of vegetation. The site is surrounded by the old Iao Theater building on the south, retail buildings on the west and north, and residential development to the east. It is therefore highly unlikely that the site would be used as a navigational aid by fishermen or sailors. The proposed project would provide a park setting to conduct cultural practices such as hula performances.

4. Sustainable Building Techniques: Every effort to apply sustainable building techniques presented in the guidelines will be made. The final EA will include a description of the techniques which will be implemented.

5. Historic Resources: The final document will include a concurrence of the archaeological report by the Historic Preservation Division. We are very much aware of the historic significance of the Iao Theater and have taken this into consideration in our site planning and building design.

6. Paving and Landscaping: The requirements of HRS 103D-407 (use of recycled glass in paving) and HRS 103D-408 (use of native Hawaiian flora) will be included in our construction contract specifications.

Thank you for your review and comments on the Draft Environmental Assessment. Please feel free to contact me or Mr. Patrick Matsui, Chief of Parks Planning and Development, at (808)270-7387 should you have any other questions on this matter.

Sincerely,

FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Planning and Development
Brian Miskae, Executive Assistant-Mayor's Office

BENJAMIN J. CAYETANO
GOVERNOR

RECEIVED
'01 AUG -6 A11:50
DEPT. OF
PARKS & RECREATION
COUNTY OF MAUI

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

GENEVIEVE SALMONSON
DIRECTOR

Parks & Rec	FYI	HANDLE	SEE ME	COMMENT	DRAFT RESP	FILE
DIR	☐	☐	☐	☐	☐	☐
DEP	☐	☐	☐	☐	☐	☐
ADM	☐	☐	☐	☐	☐	☐
AQ	☐	☐	☐	☐	☐	☐
MAINT	☐	☐	☐	☐	☐	☐
P/D	☑	☑	☐	☐	☐	☐
REC	☑	☐	☐	☐	☐	☐
SP EVT	☐	☐	☐	☐	☐	☐
———	☐	☐	☐	☐	☐	☐

Comments: _____

Today's Date: 8/6/01

Date Due: _____

August 3, 2001

Floyd Miyazono
Department of Parks & Recreation
1580-C Kaahumanu Ave.
Wailuku HI 96793

Attn: Patrick Matsui

Subject: Draft Environmental Assessment (EA) for Wailuku Mini-Park

Dear Mr. Miyazono:

We have the following comments:

1. Two-sided pages: In order to reduce bulk and save on paper, please consider printing on both sides of the pages in the final document.

2. Maps: In the final EA enclose a map of the island with the project location indicated.

3. Cultural impacts assessment:

Act 50 was passed by the Legislature in April of 2000. This mandates an assessment of impacts to local cultural practices by the proposed project. In the final EA include such an assessment. Please keep in mind that this assessment examines *existing* cultural practices, not *past* cultural practices, as in an archeological/historical assessment.

If the subject area is in a developed urban setting, cultural impacts must still be assessed. Many incorrectly assume that the presence of urban infrastructure effectively precludes consideration of current cultural factors. For example, persons are known to gather kauna'oa, 'ilima, 'uhaloa, noni or ki on the grassy slopes and ramps of the H-1 freeway and some state highways on the neighbor islands. Certain landmarks and physical features are used by Hawaiian navigators for sailing, and the lines of sight from landmarks to the coast by fisherman to locate certain fishing spots. Blocking these features by the construction of buildings or tanks may constitute an adverse cultural impact.

For assistance in the preparation refer to our *Guidelines for Assessing Cultural*

Impacts. Contact our office for a paper copy or go to our homepage at *http://www.state.hi.us/health/oeqc/index.html.* You will also find the text of Act 50 linked to this section of our homepage.

4. Sustainable building techniques: Please consider applying sustainable building techniques presented in the "Guidelines for Sustainable Building Design in Hawaii." In the final EA include a description of any of the techniques you will implement. For a paper copy contact our office or go to our homepage at *http://www.state.hi.us/health/oeqc/guidance/sustainable.htm.*

5. Historic resources: The final EA must document a concurrence with the archeological report by the State Historic Preservation Division of DLNR. This is especially vital considering the proximity of the historic Iao Theater and the finding of historic remains during the recent investigation.

6. Paving; landscaping: HRS 103D-407 requires the use of recycled glass in paving materials whenever possible, and HRS 103D-408 requires the use of native Hawaiian flora whenever and wherever possible. For the text of these sections of HRS contact our office for a paper copy or go to our homepage at http://www.state.hi.us/health/oeqc/index.html.

If you have any questions call Nancy Heinrich at 586-4185.

Sincerely,

GENEVIEVE SALMONSON
Director

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

September 25, 2001

Mr. Paul M. Chung
State Highways
Maui District
650 Palapala Drive
Kahului, Hawaii 96732

Dear Mr. Chung:

SUBJECT: WAILUKU MINI-PARK, RESTROOM AND POLICE RESOURCE CENTER

Thank you for your review and no comment on the Draft Environmental Assessment for the Wailuku Mini-Park, Restroom and Police Resource Center.

If there are any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Planning and Development

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MAUI DISTRICT
650 PALAPALA DRIVE
KAHULUI, HAWAII 96732

IN REPLY REFER TO:
HWY-M2.226-01

July 26, 2001

MEMORANDUM

TO: **Patrick Matsui**
COM - Department of Parks and Recreation

FROM: **Paul M. Chung**
State Highways

SUBJECT: **Wailuku Mini-Park, Restroom and Police Resource Center**
TMK:3-4-012: 022

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the subject project. Based on our review, this project should have a minimal impact on our facilities, therefore, we have no objection to this project.

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

/pmc

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

September 25, 2001

Tom Phillips, Chief
County of Maui
Department of Police
55 Mahalani Street
Wailuku, Hawaii 96793

Dear Chief Phillips:

SUBJECT: WAILUKU MINI-PARK, RESTROOM AND POLICE RESOURCE CENTER

Thank you for your review and no comment on the Draft Environmental Assessment for the Wailuku Mini-Park, Restroom and Police Resource Center.

If there are any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Planning and Development

JAMES "KIMO" APANA
MAYOR

OUR REFERENCE
YOUR REFERENCE tv

POLICE DEPARTMENT
COUNTY OF MAUI

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

THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAUPIO R. AKANA
DEPUTY CHIEF OF POLICE

August 6, 2001

MEMORANDUM

TO : FLOYD S. MIYAZONO, PARKS AND RECREATION DIRECTOR

FROM : THOMAS M. PHILLIPS, CHIEF OF POLICE

SUBJECT : TMK: 3-4-012:022
Project Name: Wailuku Mini-Park, Restroom and Police Resource Center
Applicant: County of Maui and Office of Economic Development

X No further recommendation or comment is necessary or desired.

___ Refer to enclosed comments and/or recommendations.

Thank you for giving us the opportunity to comment on this project. We are returning the Draft Environmental Assessment which was submitted for our review.

Assistant Chief Robert Tam Ho
For: THOMAS M. PHILLIPS
Chief of Police

Enclosure

Parks & Rec	FYI	HANDLE	TELL ME	COMMENT	DRAFT RESP	File
DIR	☐	☐	☐	☐	☐	☐
DEP	☐	☐	☐	☐	☐	☐
ADM	☐	☐	☐	☐	☐	☐
AQ	☐	☐	☐	☐	☐	☐
MAINT	☐	☐	☐	☐	☐	☐
P/D	☐	☐	☐	☐	☐	☐
REC	☐	☐	☐	☐	☐	☐
SP EVT	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐

Comments: _____

Today's Date: 8/10/01

Date Due: _____

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

September 25, 2001

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

Dear Mr. Fujiwara:

SUBJECT: WAILUKU MINI-PARK, RESTROOM AND POLICE RESOURCE CENTER

Thank you for your review and no comment on the Draft Environmental Assessment for the Wailuku Mini-Park, Restroom and Police Resource Center.

If there are any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Planning and Development

United States
Department of
Agriculture

Natural
Resources
Conservation
Service

210 Imi Kala St.
Suite 209
Wailuku, HI 96793

USDA

Our People...Our Islands...In Harmony

DATE: August 2, 2001

Mr. Floyd S. Miyazono
Department of Parks & Recreation
1580-C Kaahumanu Avenue
Wailuku, Hawaii 96793

Dear Mr. Miyazono,

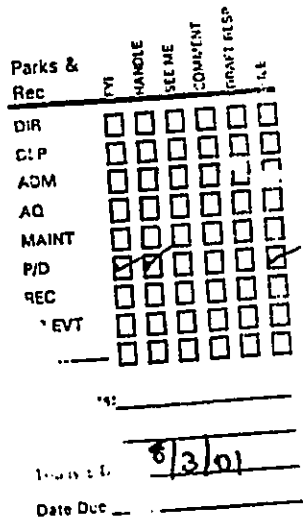
SUBJECT: Wailuku Mini-Park, Restroom, and Police Resource Center

We have reviewed the Draft Environmental Assessment for the subject matter and have no comment to offer.

Thank you for the opportunity in reviewing this project's EA.

Sincerely,

Neal S. Fujiwara
District Conservationist



DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

July 31, 2001

Mr. Herbert S. Matsubayashi
District Environmental Health Program Chief
Maui District Health Office
54 High Street, Room 300
Wailuku, Hawaii 96793

Dear Mr. Matsubayashi:

SUBJECT: Wailuku Mini-Park, Restroom and Police Resource Center
TMK: (2) 3-4-012:022

Thank you for reviewing the Draft Environmental Assessment for the proposed Wailuku Mini-Park, Restroom and Police Resource Center.

We will apply for a noise permit prior to construction should one be required for the project.

Should you have any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

Patrick T. Matsui

FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Planning and Development
Brian Miskae, Mayor's Office

BENJAMIN J. CAYETANO
GOVERNOR

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

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

RECEI
2001 JUL 26 PM
DEPT. OF
PARKS & RECREATION

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
ENVIRONMENTAL PROTECTION AND HEALTH SERVICES
54 HIGH STREET, ROOM 300
WAILUKU, MAUI, HAWAII 96793

JUL 27 2001

Parks & Rec	FYI	HANDLE	SEE ME	COMMENT	DRAFT RESP	FILE
DIR	☐	☐	☐	☐	☐	☐
[illegible]	☐	☐	☐	☐	☐	☐
ADM	☐	☐	☐	☐	☐	☐
AO	☐	☐	☐	☐	☐	☐
PLANT	☐	☐	☐	☐	☐	☐
P D	☐	☑	☐	☐	☐	☐
REC	☐	☐	☐	☐	☐	☐
SP FVT	☐	☐	☐	☐	☐	☐
———	☐	☐	☐	☐	☐	☐

Comments: _____

Today's Date: 7/26/01

Date Due: _____

July 20, 2001

Mr. Floyd S. Miyazono
County of Maui
Department of Parks and Recreation
Planning and Development Division
1580-C Kaahumanu Avenue
Wailuku, Hawai`i 96793

Dear Mr. Miyazono:

Subject: **Wailuku Mini-Park, Restroom and Police Resource Center**
TMK: (2) 3-4-012: 022

Thank you for the opportunity to comment on the Draft Environmental Assessment. The following comments are offered:

> The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46 "Community Noise Control". A noise permit may be required and should be obtained before the commencement of work.

Should you have any questions, please call me at 984-8230.

Sincerely,

Herbert S. Matsubayashi
District Environmental Health Program Chief

c: Phillip Dendel

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

July 26, 2001

Mr. David Craddick, Director
Department of Water Supply
P.O. Box 1109
Wailuku, Hawaii 96793

Dear Mr. Craddick:

SUBJECT: Wailuku Mini-Park, Restroom and Police Resource Center

Thank you for reviewing the Draft Environmental Assessment for the proposed Wailuku Mini-Park, Restroom and Police Resource Center.

We will be using the water conservation measures listed in your letter, dated July 17, 2001, where applicable throughout the project.

Should you have any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

Patrick Matsui for
FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Planning and Development
Brian Miskae, Mayor's Office

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-7109
Telephone (808) 270-7816 • Fax (808) 270-7833

Parks & Rec	FYI	HANDLE	SEE ME	COMMENT	DRAFT RESP	
DIR	☐	☐	☐	☐	☐	☐
DEP	☐	☐	☐	☐	☐	☐
ADM	☐	☐	☐	☐	☐	☐
AQ	☐	☐	☐	☐	☐	☐
MAINT	☐	☐	☐	☐	☐	☐
P/D	☑	☐	☐	☑	☑	☐
REC	☐	☐	☐	☐	☐	☐
SP EVT	☐	☐	☐	☐	☐	☐
Brian M	☑	☐	☐	☐	☐	☐

Comments:

Today's Date: 7/20/01
Date Due: 7/31/01

July 17, 2001

Mr. Floyd S. Miyazono, Director
County of Maui
Department of Parks and Recreation
Planning and Development Division
Wailuku, Hawaii 96793

SUBJECT: Wailuku Mini-Park, Restroom And Police Resource Center

Dear Mr. Miyazono,

Thank you for the opportunity to provide comments on the draft Environmental Assessment (EA) for this project.

This project is served by the Central Maui System. The major source of water for this system is the Iao Aquifer. Rolling annual average groundwater withdrawals from the Iao Aquifer as of June 1, 2001 were 17.671 MGD. The regulatory sustainable yield of this aquifer is 20 MGD. If rolling annual average withdrawals exceed 20 MGD, the State Commission on Water Resource Management will designate Iao Aquifer. The Department is implementing a plan to bring new sources on-line and to mitigate withdrawals. Two wells in North Waihee were brought on-line in 1997 and another two adjacent wells were brought on-line during 2000. No guarantee of water is granted or implied as a result of these comments. Water availability will be reviewed at the time of application for meter or meter reservation.

Water service and fire protection to standards will be required and further determined during the development process. Water use for this park will not be significant, but should still be mitigated using these water conservation measures where applicable:
Use Non-Potable Sources: Use reclaimed or brackish water for irrigation and dust control during construction.
Use Climate-adapted Plants: The project site is located in "Maui County Planting Plan" - Plant Zone 4. We encourage the applicant to review the Maui Planting Plan and attached document and use climate-adapted and salt-tolerant native plants for all landscaping purposes. Native plants adapted to this area, conserve water and further protect the watershed from degradation due to invasive alien species.
Utilize Low-Flow Fixtures and Devices: Maui County Code Subsection 16.20A.680 requires the use of low flow water fixtures and devices in faucets, showerheads, urinals, water closets and hose bibs.
Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day. Refer to the attached handout, "The Costly Drip". The applicant should establish a regular maintenance program.
Prevent Over-Watering By Automated Systems: Provide rain-sensors on all automated irrigation controllers.

Check and reset controllers at least once a month to reflect the monthly changes in evapotranspiration rates at the site.

Should you have any questions, please call our Water Resources and Planning Division at 270-7199.

Sincerely,

David Craddick
Director
emb

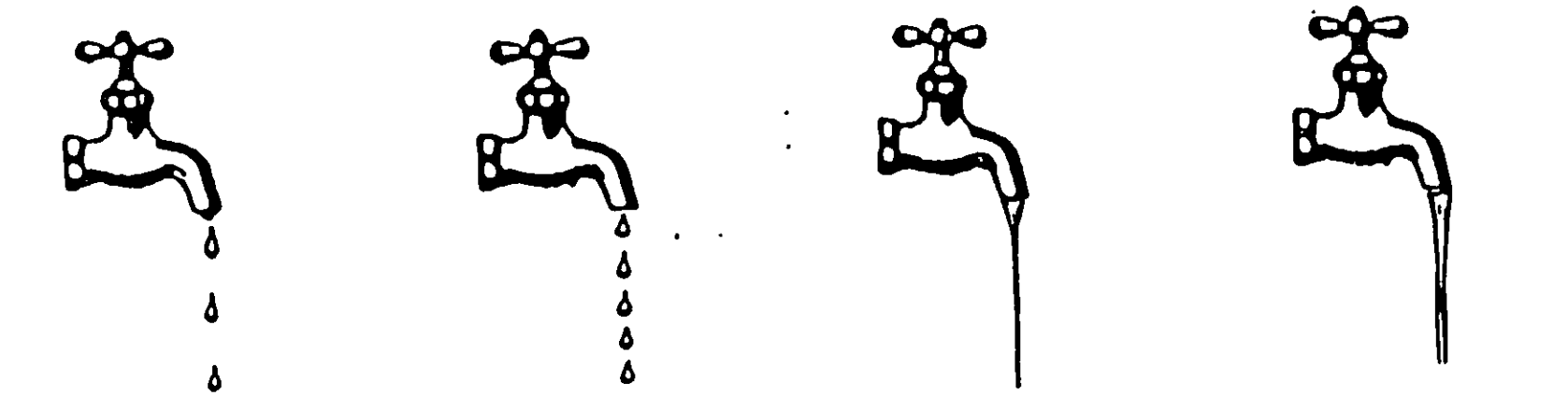
cc: engineering division

attachments:

1) "The Costly Drip"
2) "Saving Water in the Yard: What & How to Plant in Your Area"
3) Ordinance 2108 - "An ordinance amending Chapter 16.20 of the Maui County Code, pertaining to the plumbing code"

C:\WPdocs\EAs EISs\Wailuku Mini-Park EA.wpd

"THE COSTLY DRIP"



Slowly Dripping
Spigot Wastes
15 Gallons a day.

1/32" Leak Wastes
25 Gallons a day.

1/16" Stream Wastes
100 Gallons a Day.

1/8" Stream Wastes
400 Gallons a day.

ORDINANCE NO. 2108

BILL NO. 6 (1992)

Draft 1

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

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

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

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

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

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

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

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

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

pressure.

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

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

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

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

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

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

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

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

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

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

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

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

APPROVED AS TO FORM
AND LEGALITY:

HOWARD M. FUKUSHIMA
Deputy Corporation Counsel
County of Maui
c:\wp51\ords\flows4\pk

WE HEREBY CERTIFY that the foregoing BILL NO. 6 (19 92), Draft 1

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

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

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

DATED AT WAILUKU, MAUI, HAWAII, this 1st day of May , 19 92 .

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

DARYL T. YAMAMOTO, COUNTY CLERK
County of Maui

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

LINDA CROCKETT LINGLE, MAYOR
County of Maui

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

DARYL T. YAMAMOTO, COUNTY CLERK
County of Maui

Passed First Reading on January 17, 1992.
Effective date of Ordinance May 5, 1992.

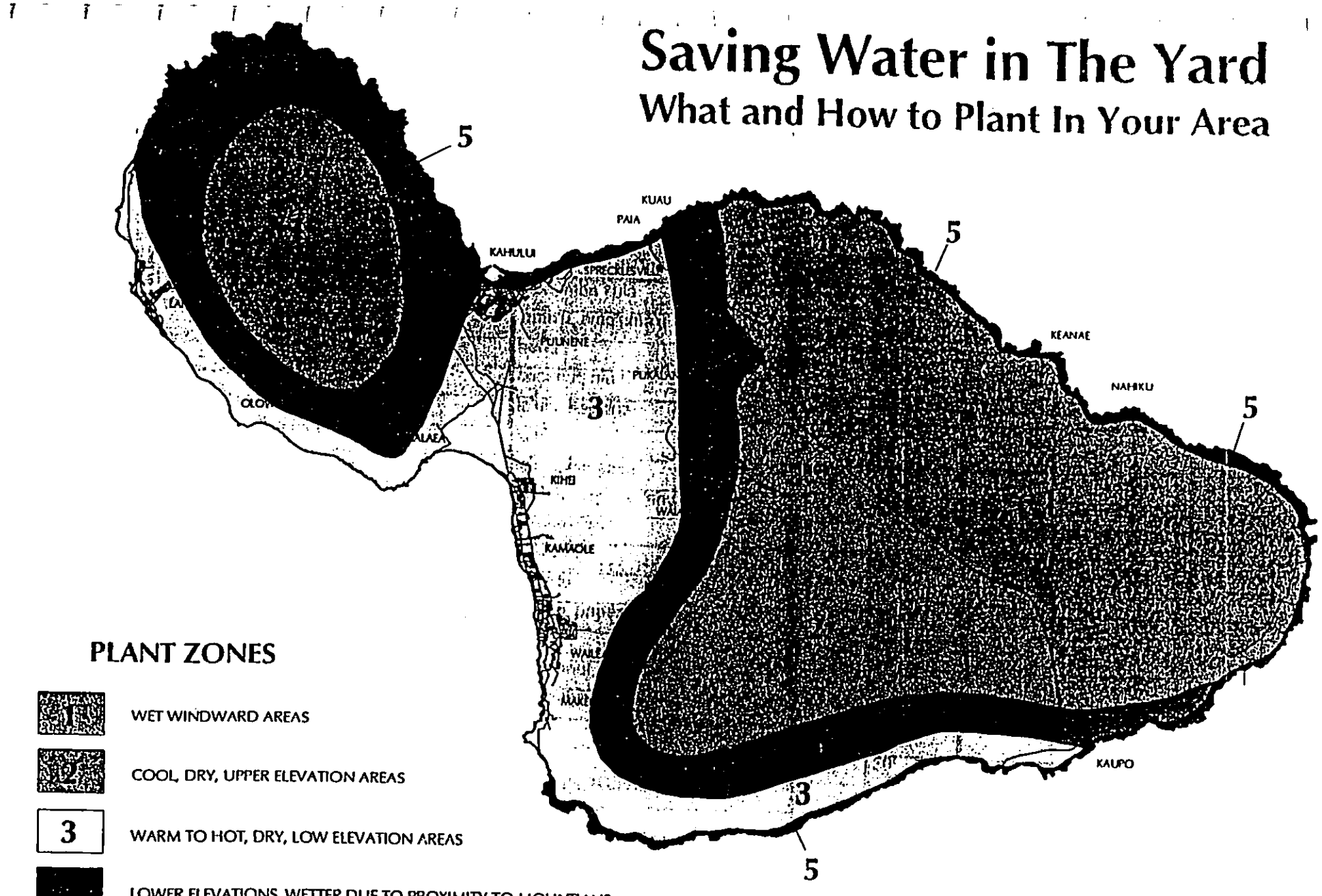
I HEREBY CERTIFY that the foregoing is a true and correct copy of Ordinance No. 2108 , the original of which is on file in the Office of the County Clerk, County of Maui, State of Hawaii.

Dated at Wailuku, Hawaii, on

County Clerk, County of Maui

Saving Water in The Yard

What and How to Plant In Your Area



PLANT ZONES

- 1 — WET WINDWARD AREAS
- 2 — COOL, DRY, UPPER ELEVATION AREAS
- 3 — WARM TO HOT, DRY, LOW ELEVATION AREAS
- LOWER ELEVATIONS, WETTER DUE TO PROXIMITY TO MOUNTIANS
- SALT SPRAY ZONES IN WINDWARD COASTAL AREAS

Map Adapted from:
Maui County Planting Plan

From the Maui County Department of Water Supply

Selection

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

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

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

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

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

Acquiring natives

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

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

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[1] K. Nagata, P.6

[2] K. Nagata, P.9

[3] Nagata, P.9

Soil

Once you have selected your site and the plants you wish to establish there, you must look at the soil conditions on the site. Proper soil is necessary for the successful growth of most native plants, which preform poorly in hard pan, clay or adobe soils. If natives are to be planted in these types of soil, it would be wise to dig planting holes several times the size of the rootball and backfill with 50-75% compost.[4] A large planting hole ensures the development of a strong root system. The plant will have a headstart before the roots penetrate the surrounding poor soil.[5]

It is recommended that native plants not be planted in ground that is more dense than potting soil. If there is no alternative, dig a hole in a mound of soil mixed with volcanic cinder which encourages maximum root development. Fill the hole with water, if the water tends to puddle or drain too slowly, dig a deeper hole until the water does not puddle longer than 1 or 2 minutes.[6] Well-drained soil is one of the most important things when planting natives as you will see in the next section.

Irrigation

Most natives do very poorly in waterlogged conditions. Do not water if the soil is damp. Water when the soil is dry and the plants are wilting. Once established, a good soaking twice a week should suffice. Deep soaking encourages the development of stronger, and deeper root systems. This is better than frequent and shallow watering which encourage weaker, more shallow root systems.

The following is a watering schedule from Kenneth Nagata's Booklet, *How To Plant A Native Hawaiian Garden*:

WATER REQUIREMENT	WATERING FREQUENCY
Heavy	3x / week
Moderate	2x / week
Light	1x / week

Red clay soils hold more water for a longer period of time than sandy soils do. If your area is very sunny or near a beach, things will dry out faster. Even in the area of one garden, there are parts that will need more or less water. Soils can vary and amount of shade and wind differ. After plants are established (a month or two for most plants, up to a year for some trees), you can back off watering.

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[4] Nagata, p. 6

[5] Nagata, p. 8

[6] Nagata, p. 8

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

Fertilizer

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

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

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[7] Bornhorst, p. 19-20

[8] Nagata, p. 6

Propagation

There are many ways to propagate and plant-out native Hawaiian species. One of the most thourough and helpful book is Heidi Bornhorst's book, *Growing Native Hawaiian Plants.* The easiest, and best way to obtain natives for the novice gardener is to get them from a reputable nursery (see appendix c). That way all you will have to do is know how to transplant (if necessary) and plant-out when you are ready. These are the two methods I have listed here.

Transplanting

1. Use pots that are one size bigger than the potted plant is in
2. Get your potting medium ready

Good potting medium is a ½, ½ mixture of peat moss and perlite. If the plant is from a dry or coastal area, add chunks of cinder or extra perlite. If it is a wet forest species, add more peat moss or compost. Be aware that peat moss is very acidic and certain plants react severely to acidity.

If the plant is to eventually be planted into the ground, make a mix of equal parts peat moss, perlite, and soil from the area in which the plant is to be planted. Slow-release fertilizer can be mixed into the potting medium.

3. Once pots, potting medium, fertilizer and water are ready, you can begin re-potting. Keep the plant stem at the same depth it was in the original pot. Avoid putting the plant in too large a pot, as the plant may not be able to soak up all the water in the soil and the roots may drown and rot.

Mix potting medium and add slow-release fertilizer at this time. Pre-wet the medium to keep dust down and lessen shock to the plant. Put medium in bottom of pot. Measure for the correct depth in the new pot. Make sure there is from ½ to 2 inches from the top of the pot so the plant can get adequate water. Try to stand the plant upright and center the stem in the middle of the pot.

Water the plant thoroughly after transplanting. A vitamin B-1 transplanting solution can help to lessen the transplant shock. Keep the plant in the same type of environment as it was before, sun or shade. If roots were broken, trimm off some of the leaves to compensate for the loss.[9]

Planting out

1. Plant most native Hawaiian plants in a sunny location in soil that is well-drained.
2. Make the planting hole twice as wide as the root ball or present pot, and just as deep.

If the soil is clay-like, and drains slowly, mix in some coarse red or bland cinder, coarse perlite or

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[9] Bornhorst, p.20-21

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

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

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

4. Water thoroughly after you transplant.

Mulch

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

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

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

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

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[10] Bornhorst, p. 24

[11] Nagata, p. 7

PLACES TO SEE NATIVES ON:

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

Maui:

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

ZONES

The Maui County Planting Plan has compiled a system of 5 zones of plant growth for Maui County. The descriptions of zones and maps for these zones are as follows:

Zone 1:
Wet areas on the windward side of the island. More than 40 inches of rain per year. Higher than 3,000 feet.

Zone 2:
Cool, dry areas in higher elevations (above 1,000 feet). 20 to 40 inches of rain per year.

Zone 3:
Low, drier areas, warm to hot. Less than 20 inches of rain per year. Sea level to 1,000 feet.

Zone 4:
Lower elevations which are wetter due to proximity of mountains. 1,000 to 3,000 feet.

Zone 5:
Salt spray zones in coastal areas on the windward side.

These zones are to be used as a general guide to planting for Maui County. In addition to looking at the maps, read the descriptions of the zones and decide which zone best fits your area. Plants can be listed in more than one zone and can be planted in a variety of conditions. For best results, take notes on the rainfall, wind, sun and salt conditions of your site. Use the zones as a general guide for selection and read about the plants to decide which best fits your needs as far as care and or function.

PLACES TO BUY NATIVES ON:

Maui:

1. Hoolawa Farms, P.O. Box 731, Haiku, Hawaii, 96708 — 572-4835
   - The largest and best collection of natives in the state
   - They will deliver, but it's worth the drive to go and see!
   - Will propagate upon request

2. Kula True Value Nursery — 878-2557
   - Many natives in stock
   - Get most of their plants from Hoolawa farms
   - They take special requests

3. Kihei Garden and Landscape — 244-3804

4. Maui Garden and Hardware — 877-0447
   - Will bring in special orders

5. Kihana Nursery, Kihei — 879-1165

6. Pukalani Plant Company, Jimmy Jones — 572-8950
   - Commercial wholesale only

7. The Hawaiian Collection
   - Specialize in Sandalwood propagation — 878-1701
   - Will propagate special requests

Zone-specific Native and Polynesian plants for Maui County

Zone 4

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Sh	Artemisia mauiensis var. diffusa	Maui wormwood, 'ahinahina	2'	3'	1,000' to higher	Dry to Medium
Sh	Bidens hillebrandiana ssp. hillebrandiana	ko'oko'olau	1'	2'	sea to 1,000'	Dry to Wet
Sh	Bidens menziesii ssp. menziesii	ko'oko'olau	1'	3'		
Sh	Bidens micrantha ssp. micrantha	ko'oko'olau	1'	3'		
Sh	Cordyline fruticosa	ti, ki	6			
Sh	Dianella sandwicensis	'uki	2'	2'	1,000' to higher	Dry to Medium
Sh	Lipochaeta lavarum	nehe	3'	3'	sea to 3,000'	Dry to Medium
Sh	Osteomeles anthyllidifolia	'ulei, eluehe	4'	6'	sea to 3,000'	Dry to Medium
Sh	Scaevola sericea	naupaka, naupaka-kahakai	6'	8'	sea to 1,000'	Dry to Medium
Sh	Solanum nelsonii	'akia, beach solanum	3'	3'	sea to 1,00'	Dry to Medium
Sh	Styphelia tameiameiae	pukiawe	6'	6'	1,000' to higher	Dry to Medium
Sh	Vitex rotundifolia	pohinahina	3'	4'	sea to 1,000'	Dry to Medium
Sh	Wikstroemia uva-ursi kauaiensis kauaiensis	'akia, Molokai osmanthus				
Sh - Tr	Broussonetia papyrifera	wauke, paper mulberry	8'	6'	sea to 1,000'	Dry to Medium
Sh - Tr	Myoporum sandwicense	naio, false sandalwood	10'	10'	sea to higher	Dry to Medium
Sh - Tr	Nototrichium sandwicense	kulu'i	8'	8'	sea to 3,000'	Dry to Medium
Sh-Tr	Dodonaea viscosa	'a'ali'i	6'	8'	sea to higher	Dry to Medium
Tr	Acacia koa	koa	50' - 100'	40' - 80'	1,500' to 4,000'	Dry to Medium
Tr	Aleurites moluccana	candlenut, kukui	50'	50'	sea to 3,000'	Medium to Wet
Tr	Calophyllum inophyllum	kamani, alexandrian laurel	60'	40'	sea to 3,000'	Medium to Wet
Tr	Canthium odoratum	Alahe'e, 'ohe'e, walahe'e	12'	8'	sea to 3,000'	Dry to Medium
Tr	Charpentiera obovata		15'			
Tr	Cordia subcordata	kou	30'	25'	sea to 1,000'	Dry to Wet
Tr	Diospyros sandwicensis	lama	12'	15'	sea to 3,000'	Dry to Medium
Tr	Hibiscus furcellatus	'akiohala, hau-hele	8'			
Tr	Metrosideros polymorpha var. macrophylla	ohi'a lehua	25'	25'	sea to 1,000'	Dry to Wet
Tr	Morinda citrifolia	indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet

Zone-specific Native and Polynesian plants for Maui County

Zone 4

TYPE: **F** Fern **G** Grass **Gr** Ground Cover **Sh** Shrub **P** Palm **S** Sedge **Tr** Tree **V** Vine

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
F	Psilotum nudum	moa, moa kula	1'	1'	sea to 3,000'	Dry to Wet
F	Sadleria cyatheoides	'ama'u, ama'uma'u				
G	Colubrina asiatica	'anapanapa	3'	10'	sea to 1,000'	Dry to Wet
G	Eragrostis monticola	kalamalo	1'	2'	sea to 3,000'	Dry to Medium
G	Eragrostis variabilis	'emo-loa	1'	2'	sea to 3,000'	Dry to Medium
G	Fimbristylis cymosa ssp. spathacea	mau'u'aki'aki fimbristylis	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	Chamaesyce celastroides var. laehiensis	'akoko	2'	3'	sea to 1,000'	Dry to Medium
Gr	Ipomoea tuboides	Hawaiian moon flower, 'uala	1'	10'	sea to 3,000'	Dry to Medium
Gr	Jacquemontia ovalifolia ssp. sandwicensis	pa'u o hi'iaka	0.5'	6'	sea to 1,000'	Dry to Medium
Gr	Lipochaeta integrifolia	nehe	1'	5'	sea to 1,00'	Dry to Medium
Gr	Peperomia leptostachya	'ala'ala-wai-nui	1'	1'	sea to 3,000'	Dry to Medium
Gr	Plumbago zeylanica	'ilie'e	1'			
Gr	Sida fallax	'ilima	0.5'	3'	sea to 1,000'	Dry to Medium
Gr	Tephrosia purpurea var. purpurea	'auhuhu	2'	2'	sea to 1,000'	Dry to Medium
Gr - Sh	Hibiscus calyphyllus	ma'o hau hele, Rock's hibiscus	3'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	Lipochaeta rockii	nehe	2'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	Lipochaeta succulenta	nehe	2'	5'	sea to 1,000'	Dry to Wet
P	Cocos nucifera	coconut, niu	100'	30'	sea to 1,000'	Dry to Wet
P	Pritchardia arecina	lo'ulu, hawane	40'	10'	1,000' to 3,000'	Dry to Wet
P	Pritchardia forbesiana	lo'ulu	15'			
P	Pritchardia hillebrandii	lo'ulu, fan palm	25'	15'	sea to 1,000'	Dry to Wet
S	Mariscus javanicus	marsh cypress, 'ahu'awa	0.5'	0.5'	sea to 1,000'	Dry to Medium
Sh	Argemone glauca var. decipiens	pua kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	Artemisia australis	'ahinahina	2'	3'	sea to 3,000'	Dry to Medium

Zone-specific Native and Polynesian plants for Maui County

Zone 4

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Tr	Nestegis sandwicensis	olopua	15'	15'	1,000' to 3,000'	Dry to Medium
Tr	Pandanus tectorius	hala, puhala (HALELIST)	35'	25'	sea to 1,000'	Dry to Wet
Tr	Pleomele auwahiensis	halapepe	20'			
Tr	Rauvolfia sandwicensis	hao	20'	15'	sea to 3,000'	Dry to Medium
Tr	Santalum ellipticum	coastal sandalwood, 'ili-ahi	8'	8'	sea to 3,000'	Dry to Medium
Tr	Sophora chrysophylla	mamane	15'	15'	1,000' to 3,000'	Medium
Tr	Thespesia populnea	milo	30'	30'	sea to 3,000'	Dry to Wet
V	Alyxia oliviformis	maile	Vine		sea to 6,000'	Medium to Wet

DO NOT PLANT THESE PLANTS !!!

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

DO NOT PLANT THESE PLANTS !!!

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

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

September 17, 2001

MEMO TO: David Goode, Director of Public Works and Waste Management

FROM: Floyd S. Miyazono, Director

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
WAILUKU MINI-PARK, RESTROOM AND POLICE RESOURCE CENTER

The following is in response to your comments on the draft environmental assessment for the above referenced project:

1. The construction contractor will be required to submit a construction waste disposal/recycling plan to the Department of Public Works and Waste Management for approval prior to construction.

2. We acknowledge that wastewater system capacity is currently available as of July 31, 2001 and that wastewater system capacity cannot be ensured until the time of building permit application.

3. We will submit wastewater contribution calculations at the time of building permit application.

4. Our plans will show the installation of an advance riser at the property line.

5. Ownership of each easement will be indicated. No sewer easements will traverse private property.

6. Plans will be submitted to DCAB for review for accessibility requirements.

7. We will fully comply with the requirements of Public Law 101-336, Americans with Disabilities Act-Title III.

Thank you for your comments on this matter. Please feel free to contact me or Mr. Patrick Matsui, Chief of Parks Planning and Development, at extension 7387 should you have any questions.

c. Patrick Matsui, Chief of Planning and Development
Brian Miskae, Mayor's Office

JAMES "KIMO" APANA
Mayor

DAVID C. GOODE
Director

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

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

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

RALPH NAGAMINE, L.S., P.E.
Land Use and Codes Administration

Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

Solid Waste Division

September 6, 2001

SEP 0 7 2001

MEMO TO: FLOYD S. MIYAZONO, DIRECTOR
DEPARTMENT OF PARKS AND RECREATION

FROM: for DAVID GOODE, DIRECTOR OF PUBLIC WORKS AND WASTE MANAGEMENT Milton Arakawa

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
WAILUKU MINI-PARK, RESTROOM, & POLICE RESOURCE CENTER
TMK: (2) 3-4-012:022

We reviewed the subject draft environmental assessment and have the following comments in addition to our December 22, 2000 letter to Brian Miskae, which still applies:

1. Submit plan for construction waste disposal/recycling.

2. Although wastewater system capacity is currently available as of July 31, 2001, the developer should be informed that wastewater system capacity cannot be ensured until the time of building permit final approval.

3. Wastewater contribution calculations (gpd) are required before building permit is issued.

4. Developer is not required to pay assessment fees for this area at the current time.

5. Plans should show the installation of an advance riser at the property line.

6. Indicate on the plans the ownership of each easement (in favor of which party). Note: County will not accept sewer easements that traverse private property.

7. Please ensure that DCAB reviews plans for accessibility compliance. Gravel parking is not exempt.

8. Public Law 101-336, Americans with Disabilities Act–Title III, requires all places of public accommodation and commercial facilities to be accessible to people with disabilities.

If you have any questions, please call me at 270-7845.

MA:jso
S:\LUCA\CZM\wailukuminipark.wpd

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

September 17, 2001

Jocelyn A. Perreira
Executive Director
Tri-Isle Main Street Coordinator
2035 Main Street, Suite 1
Wailuku, Hawaii 96793

Dear Ms. Perreira:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
WAILUKU MINI-PARK, RESTROOM AND POLICE RESOURCE CENTER

Thank you for your comments on the plans for the above referenced park. Your comments will be taken into consideration as we proceed with the final design and construction of the project.

Please feel free to call me or Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387 should you have any other questions on this matter.

Sincerely,

FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Parks Planning and Development
Brian Miskae, Mayor's Office

Wailuku Main Street Association, Inc.
Tri-Isle Main Street Resource Center
A Non-Profit Organization
2035 Main Street, Ste. 1 • Wailuku, Maui, HI 96793
Tel (808) 244-3888 • Fax (808) 242-2710

Date: September 6, 2001

Total Number of Pages 2 (including cover)

TO: Mr. Floyd Miyazono
Director Parks and Recreation, County of Maui
Attn.: Mr. Pat Matsui

Fax No.: 270-7162

FROM: Jocelyn Perreira, Executive Director/Tri-Isle Main Street Coordinator
Wailuku Main Street Association, Inc./Tri-Isle Main Street Resource Center
Telephone: (808) 244-3888 Fax: (808) 242-2710

MESSAGE: Hard Copy to Follow ☑ Yes ☐ No

As previously reported to your department, we did not receive the Draft EA or your letter dated 07/12/01.

Perhaps the bound report was lost during our move. FYI, our office address is 2035 Main St., Ste. 1, Wailuku.

Please call (808) 244-3888 if you do not receive this FAX complete, or need further clarification of information transmitted.

Wailuku Main Street Association, Inc.
Tri-Isle Main Street Resource Center
A Non-Profit Organization
1942 Main Street, Ste.103 • Wailuku, Maui, HI 96793 • Tel (808) 244-3888 • Fax (808) 242-2710

Project Review
Structure and Design Committee
June 12, 2001
Iao Mini Park, Wailuku

The Structure and Design Committee met to review the plans for the proposed Iao Mini Park In Wailuku. The Committee felt the design was appropriate and well scaled for the project site and offers the following comments:

1. We encourage the use of mature landscape planting especially of the shade trees depicted so that the Park can enjoy shade sooner.

2. We strongly discourage the practice of 'value engineering' so that the integrity of this welcome design remains completely in tact. (For example, patterns in the hardscape paving should not be deleted for minor cost savings.)

3. The committee recognizes that the success of such an urban park depends heavily on maintenance and encourages the drafting of a maintenance plan.

4. The committee felt that vehicles should be prohibited from the grassy area with positive barriers incorporated into the design.

The committee appreciates this opportunity to review this item and present its comments. In general, the park design is well conceived, fits the town's character and will be a welcome addition to Wailuku.

Sincerely,

WAILUKU MAIN STREET ASSOCIATION, INC.
-Tri-Isle Main Street Resource Center-

Jim Niess, AIA
Structure & Design Committee Chair

Jocelyn A. Perreira, Executive Director
Tri-Isle Main Street Coordinator

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

August 30, 2001

Lance Wendel, Fire Plans Examiner
County of Maui
Department of Fire Control
200 Dairy Road
Kahului, Hawaii 96732

Dear Mr. Wendel:

SUBJECT: Wailuku Mini-Park, Restroom and Police Resource Center
TMK: (2) 3-4-012:022

Thank you for reviewing the Draft Environmental Assessment for the proposed Wailuku Mini-Park, Restroom and Police Resource Center.

During the building permit process, the project plans and specifications will be submitted for your review.

Should you have any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Planning and Development
Brian Miskae, Mayor's Office

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

RECEI
'01 AUG 20 P
DEPT. OF
PARKS & RECREATI

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

200 DAIRY ROAD
KAHULUI, MAUI, HAWAII 96732
(808) 270-7561
FAX (808) 270-7919

August 10, 2001

Mr. Floyd S. Miyazono
Director
Department of Parks and Recreation
County of Maui
1580-C Kaahumanu Avenue
Wailuku, Hi. 96793

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
'01 AUG 13 P1:00

Subject: I.D.
TMK: 3-4-012:022
Project Name: Wailuku Mini-Park, Restroom and Police Resource Center

Dear Mr. Miyazono:

Thank you for the opportunity to comment on theWailuku Mini- Park project.

The Department of Fire Control has reviewed the literature for the park project and has no comment at this time, however, the department wishes to reserve the right to comment upon submittal of plans and specifications.

If you have any questions, please call me at 270-7122.

Sincerely,

Lance Wendel
Fire Plans Examiner

Parks & Rec	FYI	HANDLE	SEE ME	COMMENT	DRAFT RESP	FILE
DIR	☐	☐	☐	☐	☐	☐
DEP	☐	☐	☐	☐	☐	☐
ADM	☐	☐	☐	☐	☐	☐
AO	☐	☐	☐	☐	☐	☐
MAINT	☐	☑	☐	☐	☐	☐
P.D	☑	☐	☐	☐	☐	☐
REC	☐	☐	☐	☐	☐	☐
SP. SVT	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐

Comments: _____

Today's Date: 8/20/01

Date Due: _____

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

August 30, 2001

John E. Min, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii

Dear Mr. Min:

SUBJECT: Wailuku Mini-Park, Restroom and Police Resource Center
TMK: (2) 3-4-012:022

Thank you for reviewing the Draft Environmental Assessment for the proposed Wailuku Mini-Park, Restroom and Police Resource Center.

An archaeological survey has been conducted at the project site. We will be submitting a monitoring plan to the State Historic Preservation Division for approval of archaeological monitoring of specific activities in specific locales as a recommendation of the survey.

Should you have any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Planning and Development
Brian Miskae, Mayor's Office

JAMES "KIMO" APANA
Mayor

JOHN E. MIN
Director

CLAYTON I. YOSHIDA
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

August 10, 2001

AUG 1 : 2001

Mr. Patrick Matsui
Chief of Parks Planning and Development
Department of Parks and Recreation
250 South High Street
Wailuku, Hawaii 96793

Dear Mr. Matsui:

RE: Comments on Draft Environmental Assessment (DEA) for Wailuku Mini-Park and Police Resource Center

Thank you for the opportunity to provide you with comments regarding this project. Proposed is an approximately 10,000 square foot park, a public restroom, a police resource center, landscaping, and parking. The project is adjacent and behind the Iao Theater, in the midst of already-developed Wailuku Town.

We reviewed the document and have no concerns with regard to environmental impacts. It seems as if such an amenity to Wailuku would only have positive effects on this urban center. Our only comment would be to work closely with the Department of Land and Natural Resources, Historic Preservation Division, on the potentially significant archeological/cultural resources discovered during trenching for the archeological survey.

If you have any questions, please contact Mr. William Spence, Staff Planner, of this office at 270-7735.

Very truly yours,

JOHN E. MIN
Planning Director

JEM:WRS:smb
c: Clayton Yoshida, AICP, Deputy Planning Director
John F. Summers, Administrative Planning Officer
William Spence, Staff Planner
Project File
General File
(S:\ALL\WILL\AACORESP\2001\wailminipkEA.wpd)

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

August 30, 2001

Gary Gill, Deputy Director
State of Hawaii
Department of Health
PO Box 3378
Honolulu, Hawaii 96801

Dear Mr. Gill:

SUBJECT: Wailuku Mini-Park, Restroom and Police Resource Center
TMK: (2) 3-4-012:022

Thank you for reviewing the Draft Environmental Assessment for the proposed Wailuku Mini-Park, Restroom and Police Resource Center.

As part of the building permit process, the project plans and specifications will be submitted to the Maui District Office for review and approval.

Should you have any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

Floyd Miyazono

FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Planning and Development
Brian Miskae, Mayor's Office

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

2001 AUG 23

DEPT. OF
PARKS & RECREATION
COUNTY

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

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

In reply, please refer to:
File:

01-092/cpo

Parks &
Rec
DIR
ADM
AO
MAINT
P/D
REC
SP EVT

Comments:

Today's Date: 8/23/01

Date Due:

August 20, 2001

Mr. Floyd S. Miyazono
Department of Parks and Recreation
County of Maui
1580 C Kaahumanu Avenue
Wailuku, Maui 96793

Dear Mr. Miyazono:

Subject: Wailuku Mini-Park, Restroom and Police Resource Center

Thank you for allowing us to review and comment on the subject project. We have the following comments to offer at this time:

Wastewater Branch

We have reviewed the document on the subject project submitted which proposes the construction of a park consisting of 10,000 square foot landscaping, hard surface and irrigation, a public restroom and a police resource center.

The proposal further states that the public restroom being proposed on site will generate an insignificant volume of wastewater which will be easily handled by the existing transmission lines located in Market Street. Therefore, as the domestic wastewater generated for this project will be transmitted to the County sewer service system, we have no objections.

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems." We do reserve the right to review the detailed wastewater plans for conformance to applicable rules.

Should you have any questions, please contact the Planning/Design Section of the Wastewater Branch at telephone (808)586-4294.

Sincerely,

GARY GILL
Deputy Director
Environmental Health Administration