HAWAII COMMUNITY DEVELOPMENT AUTHORITY

KAKAAKO KALAELOA

Linda Lingle
Governor

C. Scott Bradley
Chairperson

Anthony J. H. Ching
Executive Director

461 Cooke Street
Honolulu, Hawaii
96813

Telephone
(808) 594-0300

Facsimile
(808) 594-0299

E-Mail
contact@hcdaweb.org

Web site
www.hcdaweb.org

Ref. No.: ENGR 310.5

November 15, 2010

MEMORANDUM

TO: Mr. Herman Tuiolosega, Acting Director
Office of Environmental Quality Control
Department of Health

FROM: Anthony J. H. Ching, Executive Director
Hawai'i Community Development Authority

for

SUBJECT: Final Environmental Assessment ("EA") for the Kalaeloa Life and Safety Improvements and Finding of No Significant Impact ("FONSI"), Kalaeloa, 'Ewa District, Island of O'ahu, Tax Map Key: Roadways in Plat (1) 9-1-013

The Hawai'i Community Development Authority ("HCDA"), State of Hawai'i, hereby issues this Final EA after reviewing public comments received on the Draft EA for the subject project.

In consideration of the potential project impacts and the proposed mitigation measures, the HCDA issues this FONSI after concluding that the proposed mitigation measures will protect the environment and that no harm will result from the proposed roadway improvements to the existing environment, historic or cultural resources, and flora and fauna.

Please publish the notice of availability for this project in the next available Office of Environmental Quality Control ("OEQC") Environmental Notice.

We have enclosed a completed OEQC Publication Form, one copy of the document in PDF format, one copy of the Final EA, and the project summary on disk. If you have any questions regarding this matter, please contact Stephen Miyamoto at 594-0318.

Attachments: 4

Final Environmental Assessment

Prepared in accordance with Hawai‘i Revised Statutes, Chapter 343

Kalaeloa Life Safety Improvements

Kalaeloa Community Development District
Kalaeloa, District of ‘Ewa,
O‘ahu, Hawai‘i
Roadways in Plat (1) 9-1-013

Prepared for:
Hawai‘i Community Development Authority
State of Hawai‘i
461 Cooke Street
Honolulu, Hawai‘i 96813

November 23, 2010

Final Environmental Assessment

Kalaeloa Life Safety Improvements
Kalaeloa Community Development District
Kalaeloa, District of ‘Ewa,
O‘ahu, Hawai‘i
Roadways in Plat (1) 9-1-013

Prepared for:
Hawai‘i Community Development Authority
State of Hawai‘i
461 Cooke Street
Honolulu, Hawai‘i 96813

Prepared by:
R.M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawai‘i 96819-3494
RMTC Reference No.1-21666-0P

November 23, 2010

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List of Abbreviations and Acronyms

AC	Asphalt concrete (pavement)
AASHTO	American Association of State Highway and Transportation Officials
BRAC	Base Realignment and Closure (U.S. Navy)
CCH	City and County of Honolulu
CCH-DTS	City and County of Honolulu, Department of Transportation Services
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
DEA	Draft Environmental Assessment
DOE	State of Hawai‘i, Department of Education
DOH	State of Hawai‘i, Department of Health
DOH-CWB	State of Hawai‘i, Department of Health, Clean Water Branch
DOI	U.S. Department of the Interior
DPP	City and County of Honolulu, Department of Planning and Permitting
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMS	Emergency Medical Services
F-1	Federal zoning, City and County of Honolulu
FEA	Final Environmental Assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FHWA	U.S. Department of Transportation, Federal Highway Administration
FONSI	Finding of No Significant Impact
GP	General Plan of the City and County of Honolulu
HAR	Hawai‘i Administrative Rules
HCDA	Hawai‘i Community Development Authority
HDOT	State of Hawai‘i, Department of Transportation
HDOT-AIR	State of Hawai‘i, Department of Transportation, Airports Division
HDOT-HWY	State of Hawai‘i, Department of Transportation, Highways Division
HECO	Hawaiian Electric Company
HIANG	Hawai‘i Air National Guard
HoLIS	Hawai‘i Land Information System, City and County of Honolulu
HRS	Hawai‘i Revised Statutes
Ldn	Day-night equivalent sound level
NASBP	Naval Air Station Barbers Point
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
OP	Office of Planning, Department of Business, Economic Development and Tourism
ROH	Revised Ordinances of Honolulu
SHPD	State of Hawai‘i, Historic Preservation Division
SHPO	State of Hawai‘i, State Historic Preservation Officer
TMK	Tax Map Key
WWTP	Wastewater Treatment Plant
USCB	U.S. Census Bureau
USFWS	U.S. Fish & Wildlife Service, U.S. Department of the Interior

PROJECT SUMMARY

Project Name	**Kalaeloa Life Safety Improvements, Kalaeloa, O‘ahu, Hawai‘i**
Applicant	State of Hawai‘i, Hawai‘i Community Development Authority
Accepting Authority	Hawai‘i Community Development Authority Anthony J.H. Ching, Executive Director
Location	Kalaeloa, ‘Ewa District, O‘ahu, Hawai‘i
Tax Map Key	N/A (roadways); adjacent to various parcels within Plat (1) 9-1-013
Existing Uses	Existing paved roadways and intersections, including one intersection of a paved road with an unpaved road
Landowner (Roadways)	*State of Hawai‘i, Department of Transportation, Highways Division* – Roosevelt Avenue, Coral Sea Road *City and County of Honolulu* - San Jacinto Street, Tripoli Road, Philippine Sea Road *U.S. Navy (Base Relocation and Closure or BRAC)* – Eisenhower Road
Project Description	“Life safety” (traffic safety) improvements along existing roadways in Kalaeloa, including pavement widening, traffic signage and roadway striping in five locations
State Land Use	Urban
Zoning	F-1 (Military and Federal)
Flood Insurance Rate Map	Zone D (areas in which flood hazards are undetermined); Zone A (within 100-year flood area; no base flood elevations determined); and Zone AE (within 100-year flood area; base flood elevations determined to be 6-7 feet)
Permits and Approvals that May be Required	Federal *U.S. Navy* – Permission for 580-square foot encroachment onto Eisenhower Road State of Hawai‘i *Department of Health* – Noise Permit *Department of Business, Economic Development and Tourism, Office of Planning* – Special Management Area Permit (minor) *Department of Transportation* – Plan review City and County of Honolulu *Department of Planning and Permitting* – Grading Permit

SECTION 1
PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The Hawai‘i Community Development Authority (HCDA), State of Hawai‘i, proposes various roadway safety improvements within the Kalaeloa Community Development District along Roosevelt Avenue and Coral Sea Road. The safety improvements include permanent widening, modifying signage and striping, and intersection realignments. All widening work along Coral Sea Road will occur within existing shoulder areas owned by the State of Hawai‘i except for one proposed 580-square foot encroachment within a U.S. Navy-owned unpaved road.

Kalaeloa Community Development District is an approximately 3,700-acre tract on the ‘Ewa plain in southwest O‘ahu, Hawai‘i (**Figure 1**). It is the site of the former Naval Air Station (NAS) Barbers Point (BP) which was closed in 1999 as an action of the U.S. Department of Defense Base Realignment and Closure Commission (BRAC). About 1,050 acres were retained by the Navy, 472 acres were transferred to other federal agencies, and 2,165 acres were surplus and made available to various state and city agencies. At present, less than half of the surplus land has been conveyed from the Navy (HCDA, 2010).

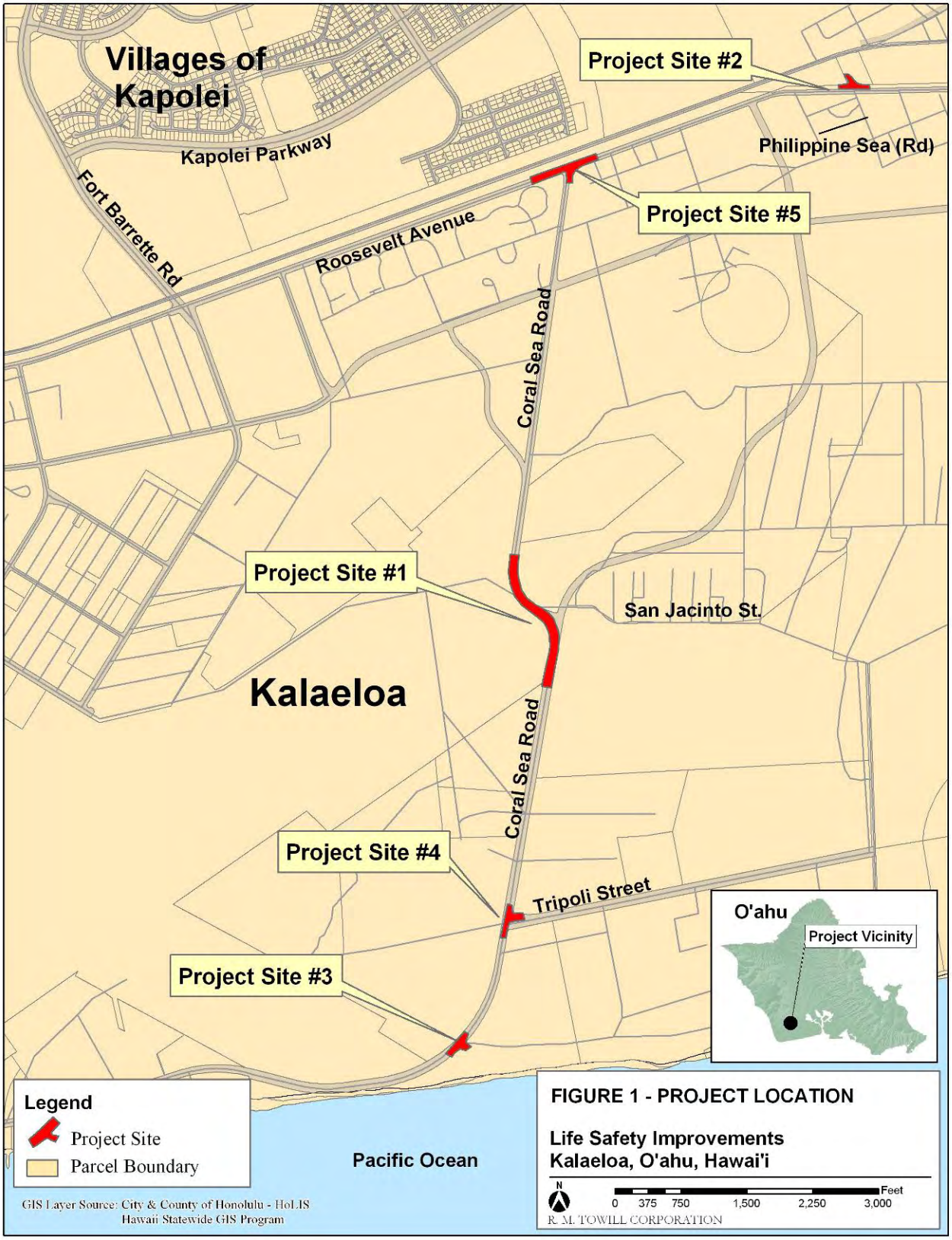
This environmental assessment (EA) is triggered because the project will utilize State of Hawai‘i lands and funds. The EA meets the requirements of Section 343-5, Hawaii Revised Statutes (HRS) and Title 11, Chapter 200 of the Department of Health (DOH) Administrative rules, entitled “Environmental Impact Statement Rules”. HCDA anticipates a Finding of No Significant Impact (FONSI) for the proposed action.

This Final EA is organized into the following sections:

1. *Purpose and Need for Action (current section)*
2. *Affected Environment, Environmental Consequences and Proposed Mitigation*
3. *Consistency with Existing Plans, Policies and Controls*
4. *Permits and Approvals that May be Required*
5. *Agencies, Organizations and Individuals Consulted*
6. *Anticipated Determination and Response to Significance Criteria*
7. *Findings*
8. *References*

1.2 PROJECT PURPOSE

Roadway infrastructure built by the military within Kalaeloa, as part of the NASBP, currently show wear that pose a potential safety hazard. The areas that are being focused on include: eroded shoulders on curves, eroded turn lanes at intersections, and deteriorated pavement at an intersection. HCDA proposes to repair worn pavement and eroded intersections at five (5)


Villages of Kapolei
Kapolei Parkway
Fort Barrette Rd
Roosevelt Avenue
Project Site #2
Philippine Sea (Rd)
Project Site #5
Coral Sea Road
Project Site #1
San Jacinto St.
Kalaeloa
Coral Sea Road
Project Site #4
Tripoli Street
Project Site #3
O'ahu
Project Vicinity
Legend
Project Site
Parcel Boundary
Pacific Ocean
GIS Layer Source: City & County of Honolulu - HoLIS
Hawaii Statewide GIS Program
FIGURE 1 - PROJECT LOCATION
Life Safety Improvements
Kalaeloa, O'ahu, Hawai'i
N
0 375 750 1,500 2,250 3,000 Feet
R. M. TOWILL CORPORATION

intersections to reduce road hazards and improve safety conditions. In addition to roadway repairs, additional signs will be installed to improve driver awareness and safety.

Although long-range infrastructure plans for Kalaeloa call for improvements to all roadways which do not meet regulatory standards, the timing of those improvements is uncertain. HDCA wishes to mitigate safety concerns in the short-term with the proposed life safety improvements.

The ownership of the various roadways was transferred to the State of Hawai'i and the City and County of Honolulu. However, HCDA is responsible for overseeing and facilitating improvements which support further development within the Kalaeloa Community Development District. For this reason, HCDA is serving as the project proponent and funding source on behalf of the owners of the roadways.

1.3 PROJECT DESCRIPTION

1.3.1 Overview

This section describes the proposed action (preferred alternative) and other alternatives considered to meet the overall objective of improving roadway safety in specific areas of Kalaeloa.

Five (5) sites are included in the design as listed in **Table 1**:

Table 1. Project Sites, Length of Road Affected and Graded/Disturbed Area Summary

Project Site #	Site Name	Length of Road Affected (Linear Feet (LF))	Graded/Disturbed Area (Square Feet (SF))	Graded/Disturbed Area (Acres (AC))
1	Coral Sea Road at San Jacinto Street	1,400 LF	19,136 SF	0.44 AC
2	Roosevelt Avenue at Philippine Sea Road	215 LF	0 SF	0 AC
3	Coral Sea Road at Eisenhower Road	350 LF	7,348 SF	0.17 AC
4	Coral Sea Road at Tripoli Street	535 LF	1,269 SF	0.03 AC
5	Roosevelt Avenue at Coral Sea Road	620 LF	6482 SF	0.15 AC
TOTAL		**3,120 LF**	**34,234 SF**	**0.79 AC**

1.3.2 Tax Map Keys (TMKs)

As the roadways within Kalaeloa are not assigned TMKs, the parcels abutting the roadways have been identified to provide context for the five project sites. Adjoining parcels' TMKs and

property owners of record (per the City and County of Honolulu online property records) are shown in **Figure 2**.

Project areas are within the established State roadway right-of-way with one exception (see **Table 2**). HCDA is consulting with the owner of Eisenhower Road, the U.S. Navy Base Relocation and Closure (BRAC) organization, to coordinate the roadway repairs.

Table 2 Encroachment Area, Eisenhower Road

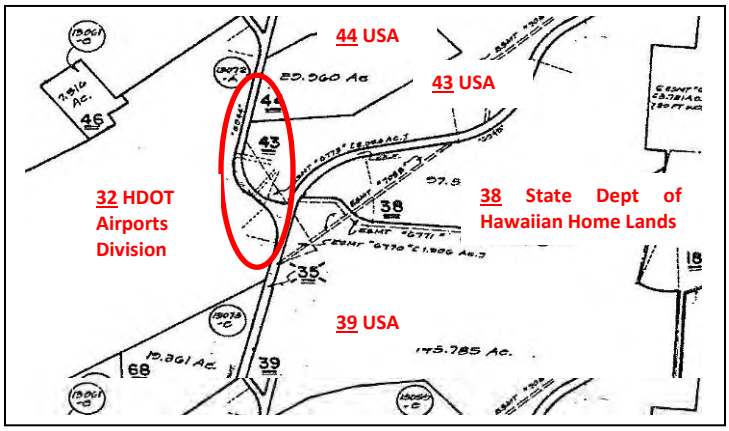
Project Site #	TMK	Owner	Area of Proposed Taking (SF)
3	(1) 9-1-013: 073 (Eisenhower Road)	U.S. Navy	580 SF encroachment

1.3.3 No Action and Delayed Action Alternatives

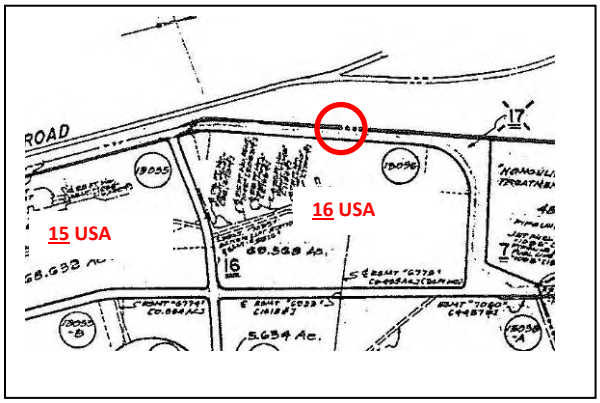
The no-action alternative would include maintaining the status quo and possible re-striping of worn or faded areas as part of the State's roadway maintenance program.

Delayed-action alternatives include roadway improvements (reconstruction) by the State or other entity to bring the roadways up to present design standards to accommodate/support future development of the Development District. Roadway alignments will be made to conform to subdivided roadway rights-of-way.

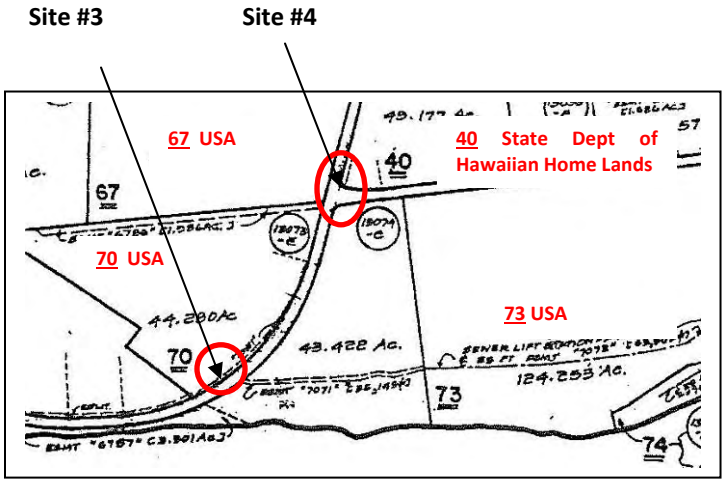
The no-action and delayed action alternatives would not improve traffic safety conditions within specific areas of Kalaeloa. These alternatives were considered but rejected in light of the need for traffic safety improvements.



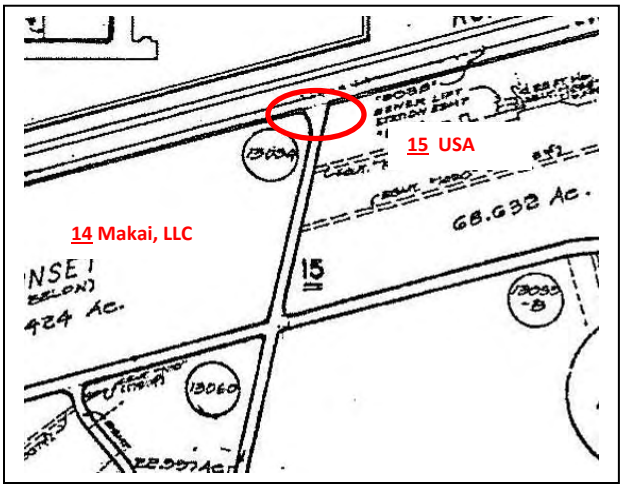
Project Site #1, Coral Sea Road at San Jacinto Street



Project Site #2, Roosevelt Avenue at Philippine Sea Road



Project Site #3, Coral Sea Road at Eisenhower Road
Project Site #4, Coral Sea Road at Tripoli Street



Project Site #5, Coral Sea Road at Roosevelt Avenue

FIGURE 2 – SURROUNDING TAX MAP KEYS, PLAT (1) 9-1-013

Kalaeloa Life Safety Improvements
Kalaeloa, O'ahu, Hawai'i

Source of Detail Maps: City and County of Honolulu Tax Parcel Maps

NOT TO SCALE

1.3.4 Site #1: Coral Sea Road at San Jacinto Street

Graded Area/Disturbed Area:
0.44 acres

Impetus for Improvement
Vehicles run off the road due to lack of visibility, speeding, narrow pavement. Pavement is breaking off along roadway edges (**Figure 4**).

Goal: Enhance traffic safety on this "S" curve by widening and restriping a portion of the roadway.

Estimated Construction Cost: $203.6K

* Site Location	FIGURE 3. Site Location #1

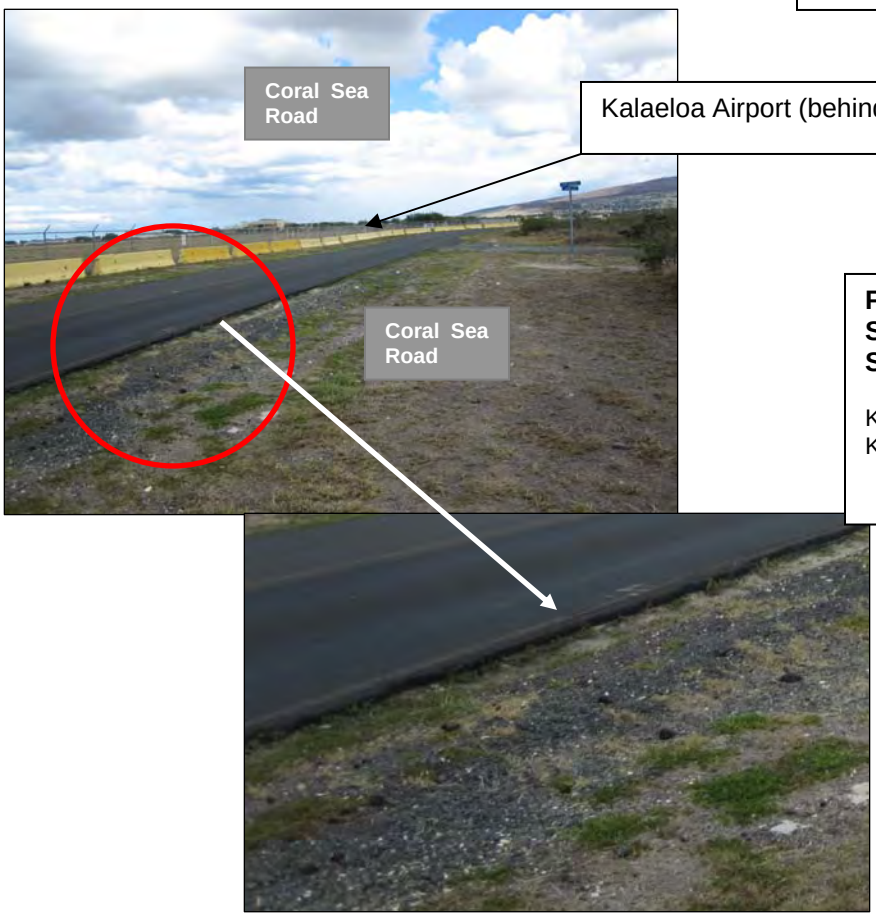


FIGURE 4 – SITE #1 SHOULDER CONDITIONS, CORAL SEA ROAD AT SAN JACINTO ST

Kalaeloa Life Safety Improvements
Kalaeloa, O'ahu, Hawai'i

Preferred Alternative: Provide additional signs and pavement markings.

1. Widen 1,250 linear feet of Coral Sea Road by three feet on each side with asphalt concrete (AC) pavement within the existing right-of-way.
2. Excavate existing shoulder area to install AC pavement.
3. Remove clearing/excavation debris.
4. Install AC pavement.
5. Install double solid yellow stripe and reflective pavement markers on roadway centerline and connect to existing striping on either end.
6. Install white edge stripes and reflective pavement markers and connect to existing striping on either end.
7. Install directional arrow signs along roadway curvature on chain link fence and on posts.

Alternative(s) and Rationale for Elimination from Consideration

1. Install roadway median and edge curbing.
    a. Requires widening the roadway.
    b. May impact the State's plans for future roadway improvements
    c. Cost prohibitive.
2. Realign roadway to minimize the curvature.
    a. Requires subdivision and realignment of the road right-of-way.
    b. Significant schedule impacts
    c. Requires legislative action
    d. Cost prohibitive.
3. Add street lighting and/or flashing warning lights.
    a. Requires installation of underground electrical conduit from a distant source.
    b. Street light pole heights are restricted/prohibited by the runway clear zones of nearby Kalaeloa Airport.
    c. Cost prohibitive.

Figure 5 and **Figure 6** show plan view and typical sections for the proposed roadway widening and restriping work at Site #1, Coral Sea Road at San Jacinto Street. **Figure 7** is the overall site plan for this location.

Figure 5 – Site #1 Plan View (segment)

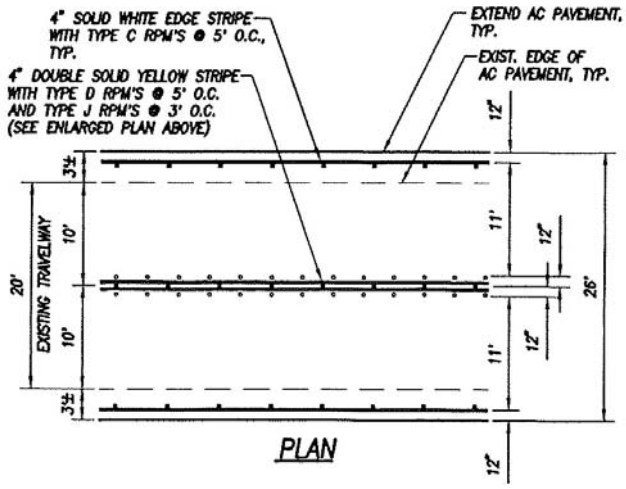
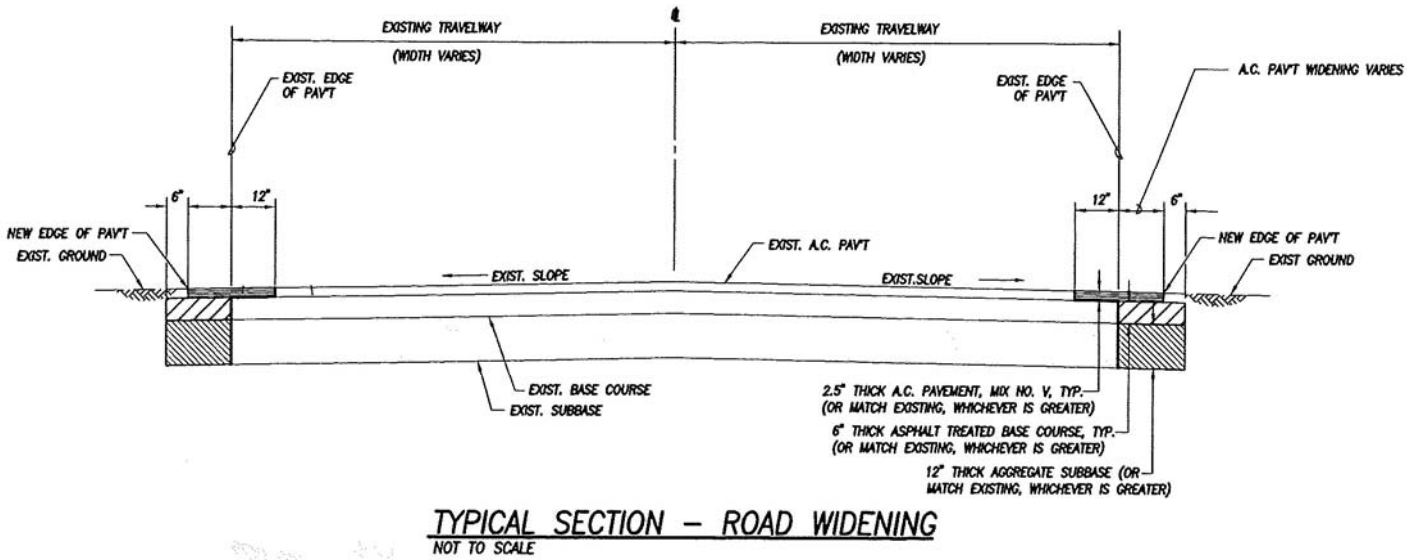
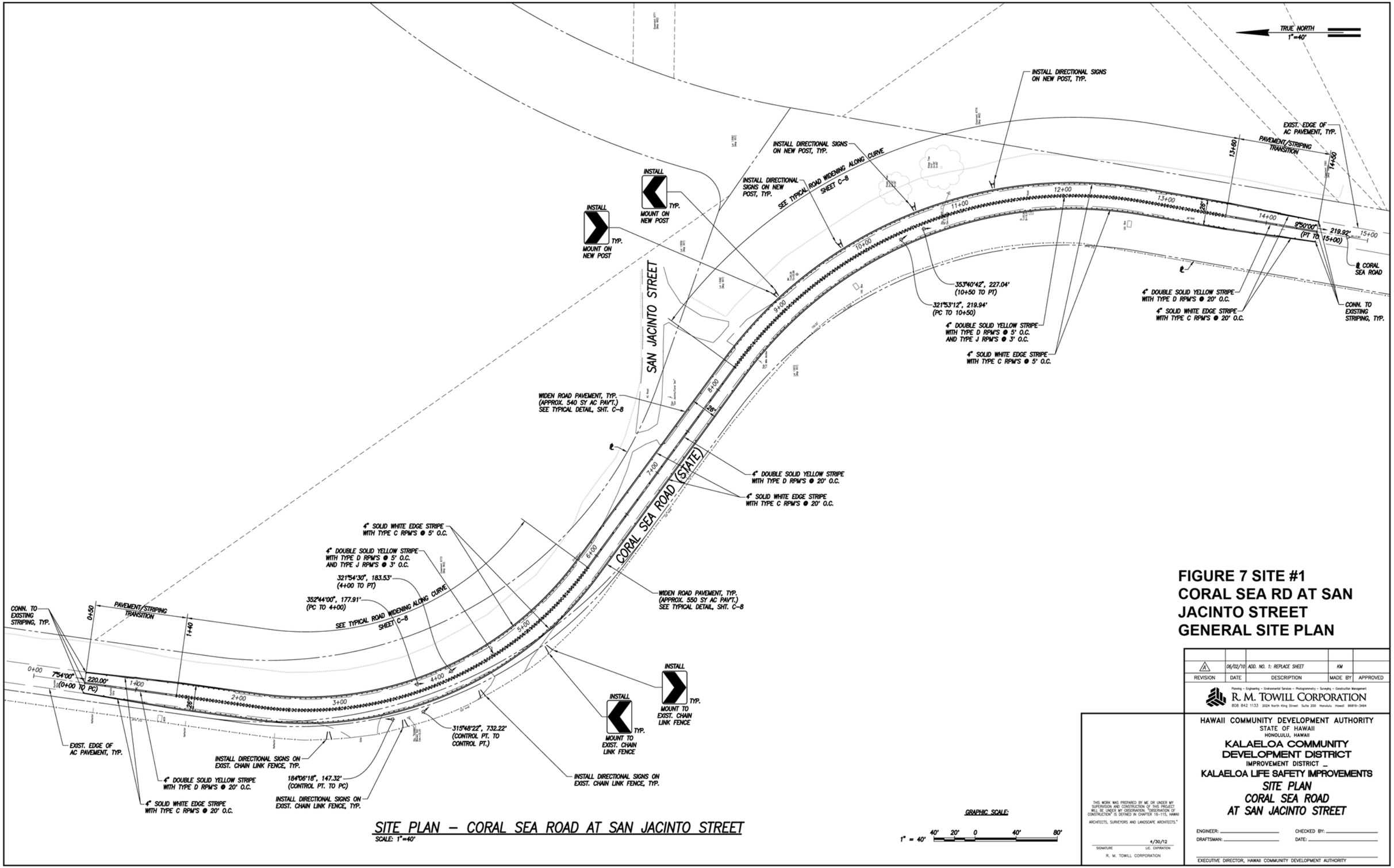


FIGURE 6 – SITE #1 WIDENING TYPICAL SECTION





SITE PLAN – CORAL SEA ROAD AT SAN JACINTO STREET

SCALE: 1"=40'

FIGURE 7 SITE #1 CORAL SEA RD AT SAN JACINTO STREET GENERAL SITE PLAN

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	06/02/10	ADD. NO. 1: REPLACE SHEET	KM	

Planning – Engineering – Environmental Services – Photogrammetry – Surveying – Construction Management
R. M. TOWILL CORPORATION
808 842 1133 2024 North King Street Suite 200 Honolulu Hawaii 96819-3494

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. "OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS."

4/30/12
SIGNATURE LIC. EXPIRATION
R. M. TOWILL CORPORATION

HAWAII COMMUNITY DEVELOPMENT AUTHORITY
STATE OF HAWAII
HONOLULU, HAWAII

KALAELOA COMMUNITY DEVELOPMENT DISTRICT
IMPROVEMENT DISTRICT _
KALAELOA LIFE SAFETY IMPROVEMENTS

SITE PLAN
CORAL SEA ROAD
AT SAN JACINTO STREET

ENGINEER: _____ CHECKED BY: _____
DRAFTSMAN: _____ DATE: _____

EXECUTIVE DIRECTOR, HAWAII COMMUNITY DEVELOPMENT AUTHORITY

FILE	POCKET	FOLDER	NO.

RMTC JOB NO.: 1-21666-0E

1.3.5 Site #2, Roosevelt Avenue at Philippine Sea Road

* Site Location

FIGURE 8 Site Location #2

Graded/Disturbed Area
NONE

Impetus for Improvement
When drivers on Roosevelt Avenue do not recognize the intersection with a private road opposite Philippine Sea Road, they create a hazardous condition with sudden slowing and turning movements.

Goal
Enhance traffic safety on Roosevelt Avenue by providing a more recognizable intersection from a distance.

Estimated Construction Cost
$15.1K

Preferred Alternative: New signs and pavement markings.

Roosevelt Avenue

1. Install new striping and reflective pavement markings along the centerline and edges of Roosevelt Avenue.
2. Install "intersection ahead" traffic signs.

Private Road (Note: Construction may require securing permission from the land owner, Hawaiian Railway Society. No work will be done on private property.

1. Install new striping and reflective pavement markings along the centerline and edges of the road.
2. Install street name signs.

Alternative(s) and Rationale for Elimination from Consideration

1. Install street lighting.
    a. Requires installation of underground electrical conduit.
    b. Higher cost than preferred alternative.

Figure 9 presents the site plan for construction at Site #2, Coral Sea Road at Philippine Sea Road.

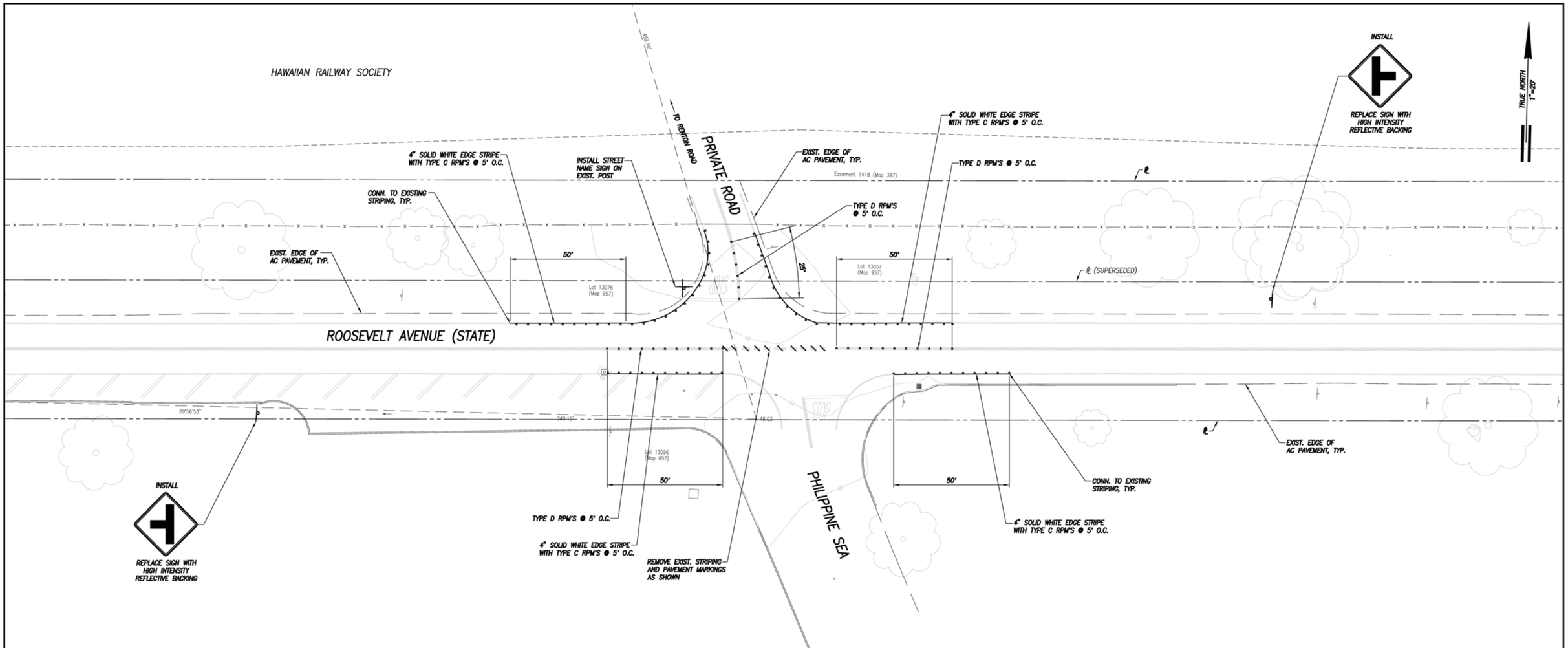


FIGURE 9 SITE #2
ROOSEVELT AVE AT PHILIPPINE SEA RD
GENERAL SITE PLAN

SITE PLAN – ROOSEVELT AVENUE AT PHILIPPINE SEA

SCALE: 1"=20'

GRAPHIC SCALE:

1" = 20' 20' 10' 0 20' 40'

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	06/02/10	ADD. NO. 1: REPLACE SHEET	KM	

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KALAELOA COMMUNITY DEVELOPMENT DISTRICT
IMPROVEMENT DISTRICT _
KALAELOA LIFE SAFETY IMPROVEMENTS

SITE PLAN
ROOSEVELT AVENUE
AT PHILIPPINE SEA

ENGINEER: _____ CHECKED BY: _____
DRAFTSMAN: _____ DATE: _____

EXECUTIVE DIRECTOR, HAWAII COMMUNITY DEVELOPMENT AUTHORITY

RMTC JOB NO: 1-21666-0E

FILE	POCKET	FOLDER	NO.

1.3.6 Site #3, Coral Sea Road at Eisenhower Road

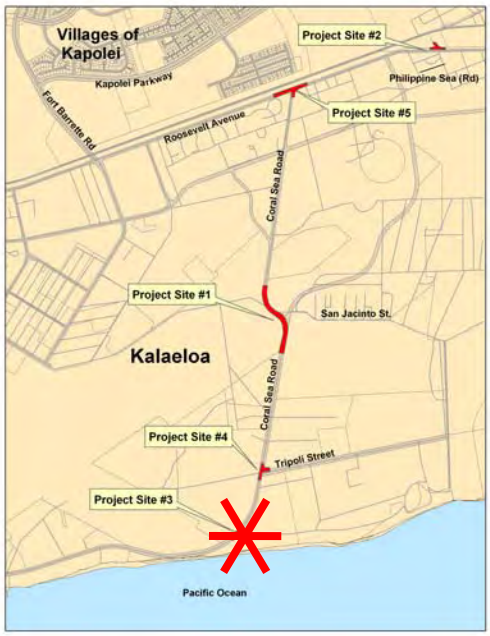
Graded/Disturbed Area
0.17 acres

Impetus for Improvement

1. Drivers take random unpaved paths and create a hazardous condition entering and exiting Coral Sea Road from Eisenhower Road.
2. Random turning movements onto/from Eisenhower Road cause decreased vegetation and increased erosion (**Figure 11**).
3. The existing pavement edge along Coral Sea Road at Eisenhower Road is deteriorating.

Goal
Enhance traffic safety by providing a typical T-intersection.

Estimated Construction Cost: $93.7K



* Site Location

FIGURE 10 Site Location #3

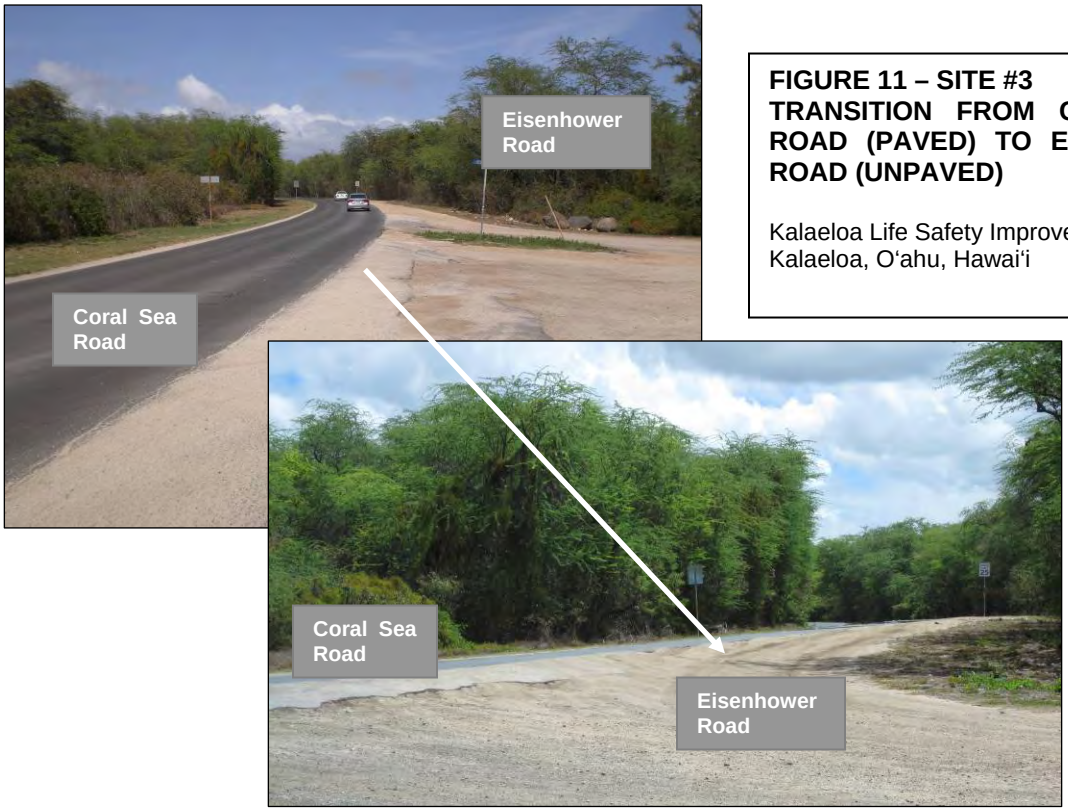


FIGURE 11 – SITE #3 TRANSITION FROM CORAL SEA ROAD (PAVED) TO EISENHOWER ROAD (UNPAVED)

Kalaeloa Life Safety Improvements
Kalaeloa, O'ahu, Hawai'i

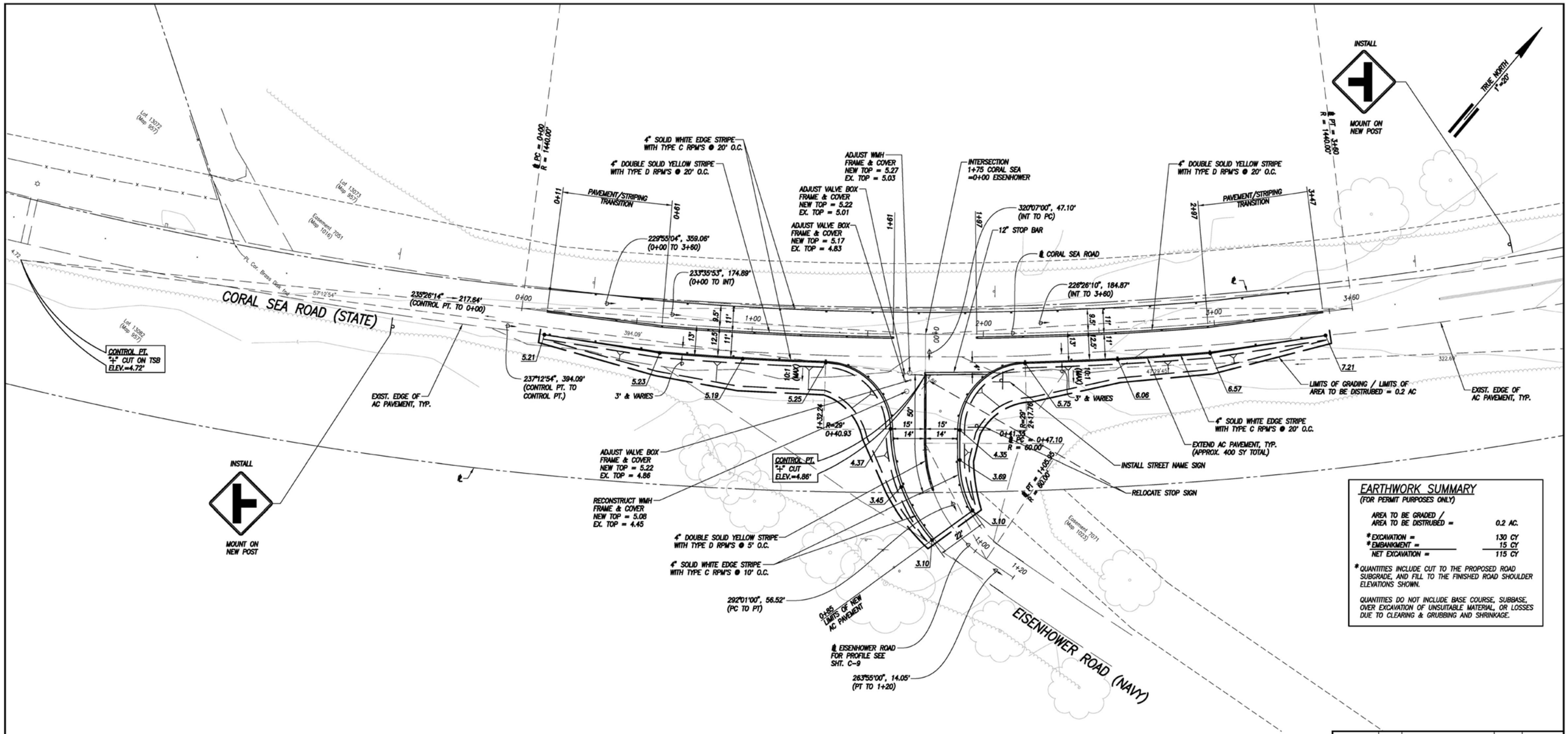
Preferred Alternative: Provide a typical T-intersection.

1. Provide asphalt pavement for proposed intersecting road segment.
    a. Excavate approximately 130 cubic yards (cy) for road sub-base.
    b. Place approximately 15 cy of embankment.
    c. Place aggregate subbase and AC pavement.
2. Widen Coral Sea Road pavement within this project site by three feet and restripe roadway centerline and edges.
3. Relocate stop signs.
4. Reconstruct existing water manhole top and adjust valve box.

Alternative(s) and Rationale for Elimination from Consideration

1. Install roadway median and edge curbing.
    a. Requires widening the roadway in addition to the proposed improvements in the preferred alternative.
    b. Higher cost than preferred alternative.
2. Add street lighting
    a. Requires installation of underground electrical conduit from a distant source.
    b. Cost prohibitive.
    c. Street light pole heights are restricted/prohibited by runway clear zones of nearby Kalaeloa Airport.

Figure 12 presents the site plan for construction at Site #3, Coral Sea Road at Eisenhower Road.



EARTHWORK SUMMARY

(FOR PERMIT PURPOSES ONLY)

AREA TO BE GRADED / AREA TO BE DISTRUBED =	0.2 AC.
* EXCAVATION =	130 CY
* EMBANKMENT =	15 CY
NET EXCAVATION =	115 CY

* QUANTITIES INCLUDE CUT TO THE PROPOSED ROAD SUBGRADE, AND FILL TO THE FINISHED ROAD SHOULDER ELEVATIONS SHOWN.

QUANTITIES DO NOT INCLUDE BASE COURSE, SUBBASE, OVER EXCAVATION OF UNSUITABLE MATERIAL, OR LOSSES DUE TO CLEARING & GRUBBING AND SHRINKAGE.

EDGE PAVEMENT RETURN GRADES

GRAPHIC SCALE:

1" = 20' 20' 10' 0 20' 40'

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KALAELOA LIFE SAFETY IMPROVEMENTS

SITE PLAN
CORAL SEA ROAD
AT EISENHOWER ROAD

ENGINEER: _____ CHECKED BY: _____
DRAFTSMAN: _____ DATE: _____

EXECUTIVE DIRECTOR, HAWAII COMMUNITY DEVELOPMENT AUTHORITY

FIGURE 12

SITE PLAN – CORAL SEA ROAD AT EISENHOWER ROAD

SCALE: 1"=20'

RMTC JOB NO.: 1-21666-OE

FILE	POCKET	FOLDER	NO.

1.3.7 Site #4: Coral Sea Road at Tripoli Street

Graded/Disturbed Area
0.03 acres

Impetus for Improvement
Intersection layout is unclear and the stop sign is frequently ignored by drivers.

Goal
Enhance traffic safety by providing a typical T-intersection.

Estimated Construction Cost: $52.0K

* Site Location

FIGURE 13 Site Location #4

Preferred Alternative: Provide a typical T-intersection.

1. Demolish approximately 70 square yards of existing AC pavement; widen Tripoli Street by three feet (approximately 30 square yards of AC pavement). This results in a net reduction in pavement.
2. Construct AC edge curb.
3. Restripe Coral Sea Road and Tripoli Street with centerline and edge striping; install reflective pavement markers.
4. Relocate stop sign and add "stop ahead" warning sign.

Alternative(s) and Rationale for Elimination from Consideration

1. Install a traffic roundabout.
   a. Requires subdivision and acquisition of additional road right-of-way.
   b. Requires legislative action for land transfers.
   c. May impact State's future roadway plans.
   d. Cost prohibitive.
2. Add street lighting.
   a. Requires installation of underground electrical conduit from a distant source.
   b. Street light pole heights are restricted/prohibited by runway clear zones.
   c. Cost prohibitive.

Figure 14 presents the site plan for construction at Site #4, Coral Sea Road at Tripoli Street.

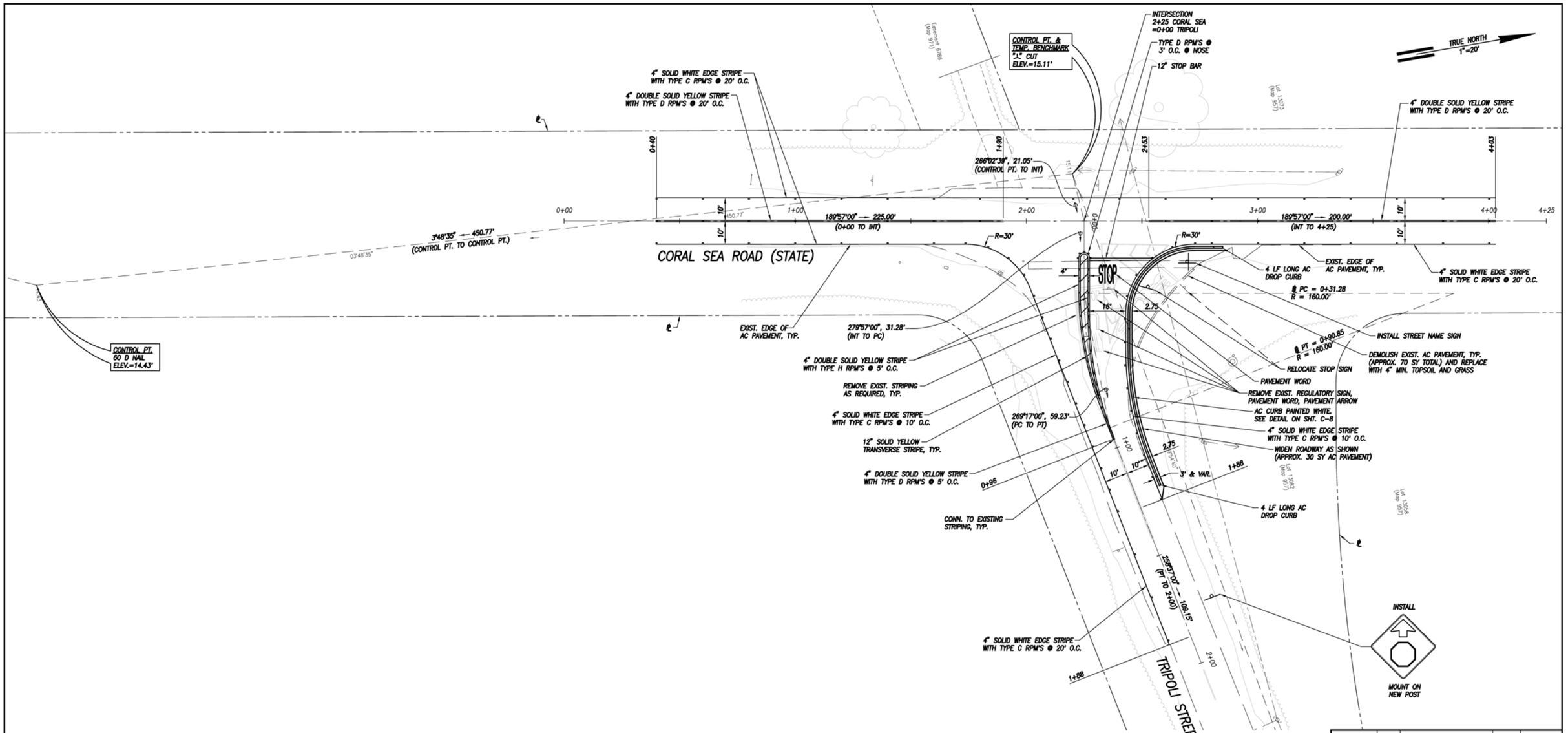

FIGURE 14 SITE #4
CORAL SEA RD AT TRIPOLI ST
GENERAL SITE PLAN

SITE PLAN – CORAL SEA ROAD AT TRIPOLI STREET

SCALE: 1"=20'

GRAPHIC SCALE:

1" = 20' 20' 10' 0 20' 40'

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KALAELOA LIFE SAFETY IMPROVEMENTS

SITE PLAN
CORAL SEA ROAD
AT TRIPOLI STREET

ENGINEER: _____ CHECKED BY: _____
DRAFTSMAN: _____ DATE: _____

EXECUTIVE DIRECTOR, HAWAII COMMUNITY DEVELOPMENT AUTHORITY

FILE	POCKET	FOLDER	NO.

RMTC JOB NO.: 1-21666-OE

1.3.8 Site #5: Roosevelt Avenue at Coral Sea Road

* Site Location

FIGURE 15 Site Location #5

Graded/Disturbed Area
0.15 acres

Impetus for Improvement
Northbound traffic on Coral Sea Road has difficulty entering Roosevelt Avenue due to: 1) the high volume and speed of traffic on Roosevelt Avenue, and 2) the skewed angle of the intersection.

Goals
Enhance traffic safety by "squaring up" the intersection to a right (90-degree) angle and slowing traffic on Roosevelt Avenue. Provide safer and more comfortable turning movements onto Roosevelt Avenue from Coral Sea Road.

Estimated Construction Cost: $87.0K

Preferred Alternative: Modify T-intersection and provide better signs and pavement markings.

1. Widen Roosevelt Avenue by five feet to create wider storage bays for turning movements.
2. Install reduced speed limit signage on Roosevelt Avenue to slow traffic.
3. Realign Coral Sea Road at the intersection (demolish 110 SY of existing AC pavement and add approximately 40 SY of new AC pavement).
4. Restripe Roosevelt Avenue to provide wider median turning lanes and through lanes.
5. Replace striping and signage.

Alternative(s) and Rationale for Elimination from Consideration

1. Install a traffic roundabout at the intersection.
    a. Requires subdivision and acquisition of additional road right-of-way.
    b. Traffic volume ratio of Roosevelt Avenue vs. Coral Sea Road is too high for effective roundabout operation.
    c. Requires legislative action for land transfers.
    d. Cost prohibitive.
2. Signalize intersection
    a. Requires installation of underground electrical conduit from a distant source.
    b. Cost prohibitive.
3. Add stop controls on Roosevelt Avenue approaches.
    a. Traffic volumes are already high along Roosevelt Avenue. This alternative is likely to promote undesirable driver behavior (speeding) elsewhere.

Figure 16 presents the site plan for construction at Site #4, Roosevelt Avenue at Coral Sea Road.

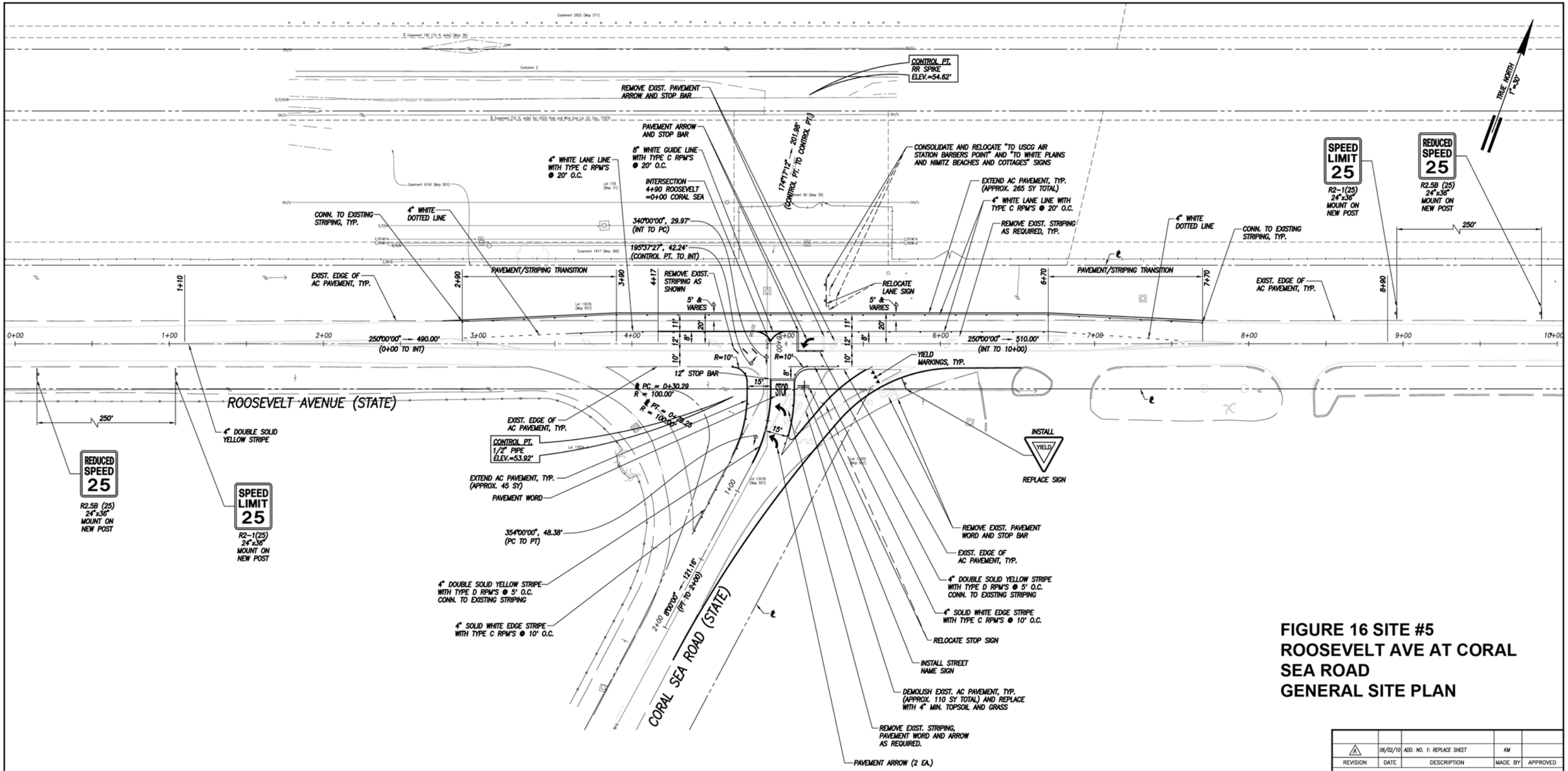

FIGURE 16 SITE #5 ROOSEVELT AVE AT CORAL SEA ROAD GENERAL SITE PLAN

SITE PLAN – ROOSEVELT AVENUE AT CORAL SEA ROAD

SCALE: 1"=30'

GRAPHIC SCALE:

1" = 30' 30' 15' 0 30' 60'

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IMPROVEMENT DISTRICT _
KALAELOA LIFE SAFETY IMPROVEMENTS

SITE PLAN
ROOSEVELT AVENUE
AT CORAL SEA ROAD

ENGINEER: _____ CHECKED BY: _____
DRAFTSMAN: _____ DATE: _____

EXECUTIVE DIRECTOR, HAWAII COMMUNITY DEVELOPMENT AUTHORITY

RMTC JOB NO.: 1-21666-0E

FILE	POCKET	FOLDER	NO.

1.4 ESTIMATED PROJECT SCHEDULE AND COST

The project will be funded by HCDA. State funds have been encumbered and bidding is expected to commence in the third quarter of 2010 with construction in early 2011, depending on the timing of required permits and approvals.

The total estimated project cost for all locations is approximately $577,400, allocated among the five project sites as shown in **Table 3**.

Table 3 Project Sites, Area and Construction Cost Estimates

Site #	Site Name	Grading/Ground Disturbance Area (Acres (AC))	Estimated Cost ($000)
1	Coral Sea Road at San Jacinto Street	0.44 AC	$ 203.6
2	Roosevelt Avenue at Philippine Sea Road	0.00 AC	$ 15.1
3	Coral Sea Road at Eisenhower Road	0.17 AC	$ 93.7
4	Coral Sea Road at Tripoli Street	0.03 AC	$ 52.0
5	Roosevelt Avenue at Coral Sea Road	0.15 AC	$ 87.0
	General Conditions		$ 126.0
TOTAL		**0.79 AC**	**$577,400**

SECTION 2
AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES AND PROPOSED MITIGATION

2.1 INTRODUCTION

This chapter describes the existing environment, potential project effects and proposed mitigation measures. This section is organized as follows:

2.1 Introduction (current section)
2.2 Physical Environment
2.3 Biological Environment
2.4 Socio-economic Environment
2.5 Utilities and Infrastructure
2.6 Transportation: Roadways
2.7 Public Facilities and Services

The discussion of environmental effects includes both direct and indirect effects. Direct effects are those caused by the action and occur at the same place and time. Indirect effects may occur later in time or farther in distance, but are still reasonably foreseeable. The analysis in this chapter also identifies possible cumulative environmental effects. Cumulative effects are defined as the results from the incremental effect of the action when added to other past, present and reasonably foreseeable future actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time. In addition to evaluating the environmental effect of the proposed action, this chapter evaluates the effect of the project alternatives. The environmental analysis in this chapter provides the analytic basis for comparing the alternatives.

2.2 PHYSICAL ENVIRONMENT

2.2.1 Location

The proposed roadway improvements encompass approximately 0.79 acres of land divided into five locations along Coral Sea Road and Roosevelt Avenue in Kalaeloa. Coral Sea Road terminates at Roosevelt Avenue and, for the purposes of this project, extends to Eisenhower Road, a Navy-owned beach accessway parallel to the ocean. One project site, near Philippine Sea Road, involves only signage and roadway striping improvements on Roosevelt Avenue.

2.2.2 Topography

Existing Conditions

The existing topography for the project area is relatively flat and has a gentle slope from Roosevelt Avenue in the north to the Pacific Ocean shoreline in the south. The gradient of the site slopes slightly to the south/southwest.

Project Effects and Proposed Mitigation

The preferred alternative will not affect site topography. Only minor grading will be required to construct the roadway and intersection improvements. A new embankment along Coral Sea Road at Eisenhower Road will address erosion-control concerns in that location but will not alter site topography.

Effect of Alternatives

None of the alternatives will affect the topography of the five locations proposed for improvement.

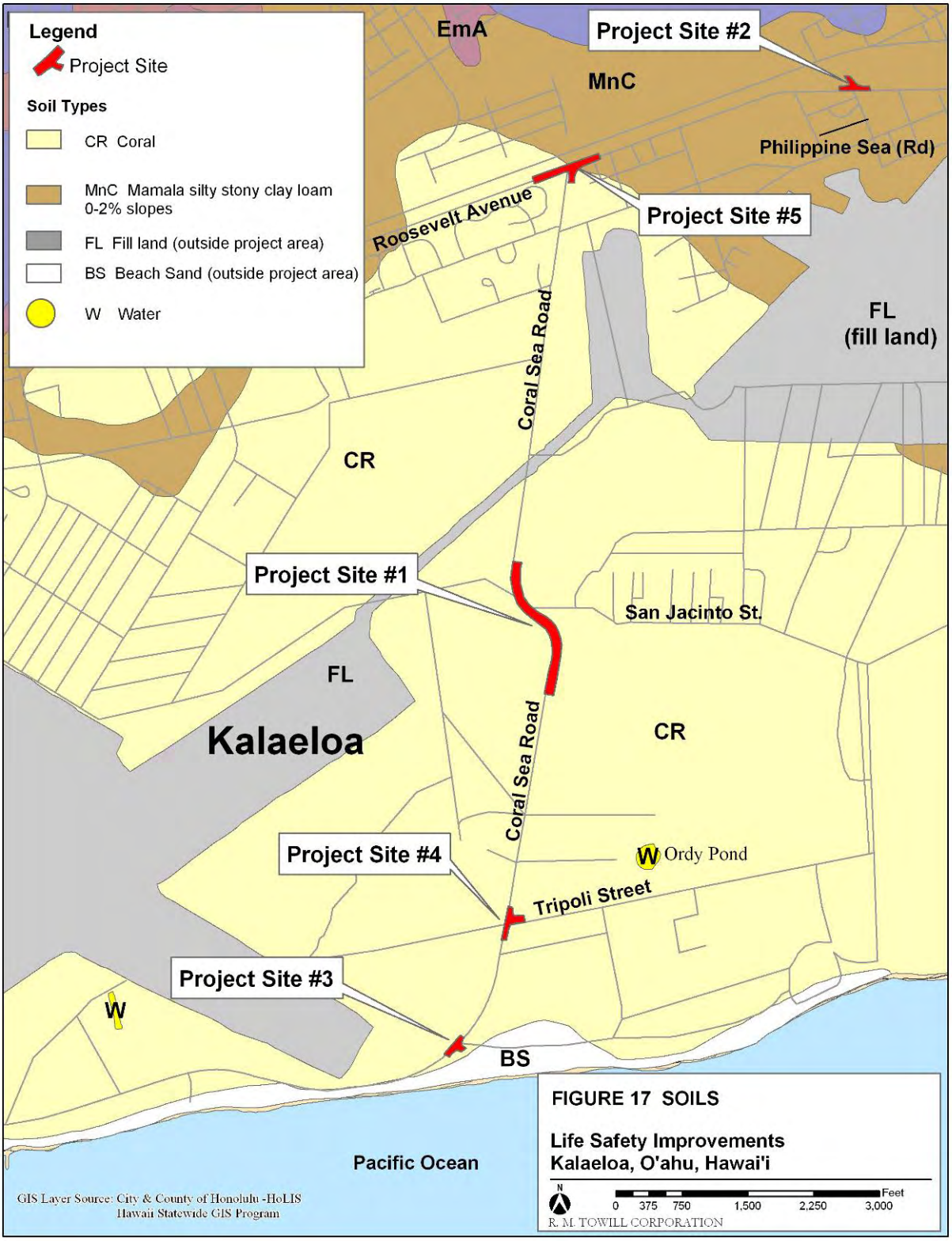
2.2.3 Geology and Soils

Existing Conditions

The project area is on land along the 'Ewa coastal plain of O'ahu, which roughly encompasses the area from Pearl Harbor in the east to Kalaeloa in the west. This plain mainly consists of an emerged, ancient fringing coral reef that formed during periods of higher sea level. This emerged reef is primarily composed of consolidated marine calcareous sediments. It also consists of some layers or alluvium derived from the basaltic uplands to the north of the site (Pacific Geotechnical Engineers, 2005).

The surface of the Pleistocene limestone, where not covered by alluvium or stockpiled material, has characteristic dissolution "pit caves" (Mylroie and Carew 1995), which are nearly universally, but erroneously, referred to as "sink holes" (Halliday 2005). These pit caves, or sinkholes, vary widely in areal extent and depth, with some of the more modest features comparable in volume to five-gallon buckets, while some of the larger features, although usually irregularly shaped, are several meters wide and several meters deep (in CSH, 2010).

According to U.S. Department of Agriculture (USDA) soil survey data (Foote et al. 1972) the sediment within the project area consists almost entirely of Coral Outcrop (CR) (See Figure 17). Coral outcrop (CR) is described as consisting of "coral or cemented calcareous sand on the island of Oahu…Coral outcrop makes up about 80 to 90 percent of the [Kalaeloa] acreage. The remaining 10 to 20 percent consists of a thin layer of friable, red soil material in cracks, crevices, and depressions within the coral outcrop" (Foote et al. 1972). There are Mamala stony silty clay loam soils (MnC) underlying the most northeastern extent of Site #5 (the intersection of Coral Sea Road and Roosevelt Avenue) and Site #2 (the intersection of Roosevelt Avenue and Philippine Sea Road) (in CSH, 2010).


Legend
Project Site
Soil Types
CR Coral
MnC Mamala silty stony clay loam 0-2% slopes
FL Fill land (outside project area)
BS Beach Sand (outside project area)
W Water
EmA
MnC
Project Site #2
Philippine Sea (Rd)
Project Site #5
Roosevelt Avenue
Coral Sea Road
FL (fill land)
CR
Project Site #1
San Jacinto St.
FL
Kalaeloa
CR
Coral Sea Road
Project Site #4
Ordy Pond
Tripoli Street
Project Site #3
W
BS
Pacific Ocean
GIS Layer Source: City & County of Honolulu -HoLIS
Hawaii Statewide GIS Program
FIGURE 17 SOILS
Life Safety Improvements
Kalaeloa, O'ahu, Hawai'i
N
0 375 750 1,500 2,250 3,000 Feet
R. M. TOWILL CORPORATION

Project Effects and Proposed Mitigation

The project improvements will not affect soils or cause erosion. The preferred alternative for Site #3, Coral Sea Road at Eisenhower Road, will reduce erosion by limiting vehicle travel paths to the asphalt pavement and allowing the vegetation to re-establish.

Effect of Alternatives

None of the project alternatives would affect geology or soils in the project area.

2.2.4 Climate and Air Quality

Existing Conditions

Lying in the lee of the Wai‘anae mountain range, the project area is one of the driest areas of O‘ahu with most of the area averaging about 18 inches of rainfall annually (Juvik and Juvik 1998:56), because of its location in the rain shadow of the Ko‘olau Range (Environmental Baseline Survey Report, 1994:3-3). The highest level of rainfall is between the months of October and April (Naval Energy and Environmental Support Activity [NEESA], 1983 as cited in the Environmental Baseline Survey, 1994:3-3) (*in* CSH, 2010).

Trade winds are less pronounced in the ‘Ewa area than other areas of O‘ahu, with local and land breezes prevailing most of the year. Average temperatures on O‘ahu range from 72 degrees Fahrenheit in January to 78.5 degrees Fahrenheit in August.

National Ambient Air Quality Standards (NAAQS) have been established for seven major air pollutants: carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O_3), particulate matter smaller than 10 microns (PM_{10}), particulate matter smaller than 2.5 microns ($PM_{2.5}$), sulfur oxides (SO_x), and lead. Air pollutant levels are monitored by the State Department of Health (DOH) at a network of sampling stations statewide. The State monitors PM_{10}, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO) and ozone (O_3) (Kimura International, Inc., 2009).

Based on ambient air monitoring data, the U.S. Environmental Protection Agency (EPA) has classified the island of O‘ahu and the State of Hawai‘i as being in attainment of the federal standards. The ‘Ewa Plain includes the largest industrial park in the State of Hawai‘i, the James Campbell Industrial Park, located southwest of the project site. Businesses within the industrial park provide a wide range of manufacturing, power generation, construction and waste management services. It includes 100 percent of the State’s oil refining, most of State’s gas manufacturing, and a large percentage of O‘ahu’s electrical generation. Consequently, stationary-source air pollution emissions are concentrated in this area. Air monitoring data collected by the DOH Clean Air Branch indicate that national and state standards have been met in the region (CCH-DTS, 2005).

The DOH operates an air monitoring station in nearby Kapolei. Air quality data from that site and from Sand Island, the only ozone monitoring site, indicate good air quality in the project area.

Project Effects and Proposed Mitigation

The principal source of short-term air quality effects will be construction-related activity. Construction vehicle activity can at times increase automotive pollutant concentrations along adjoining streets as well as on the project site itself. Site preparation and earth moving will create particulate matter (PM) emissions as will construction of the new pavement. Construction vehicle movement on unpaved areas will also generate PM emissions. Given the area's semi-arid climate, there may be an increased potential for fugitive dust. During construction, dust control measures, such as frequent watering of unpaved roadways and areas of exposed soil, will be employed. The soonest possible paving of roadways and temporary grassing of bare areas will also reduce dust emission. Transported or stored soils will be covered. The geographic disbursement of the five project sites will further reduce the probability of air quality problems due to construction. Site #5 is the only location with residential development nearby and improvements at that location are limited to intersection realignment.

Construction activities will employ fugitive dust emission control measures in compliance with provisions of the State DOH Rules and Regulations (Chapter 43, Section 10) and Hawai'i Administrative Rules (HAR) Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33 on Fugitive Dust.

Effect of Alternatives

None of the project alternatives will have a significant affect on long-term air quality. The no action alternative will not have construction-related effects, but also will do nothing to improve roadway safety. None of the design alternatives will increase roadway capacity or the number of vehicles on the road. All alternatives that involve construction will have some minor, short-term air quality effects associated with earthmoving activities and operation of construction equipment.

2.2.5 Natural Hazards

Existing Conditions

The Flood Insurance Rate Map (FIRM) for the island of O'ahu prepared by the Federal Emergency Management Agency (FEMA) identifies flood hazard and flood prone areas. Four project sites are within zone "D" and the fifth, Eisenhower Road area, straddles Zone "A" and Zone "AE". (**Figure 18)**. Definitions of flood zones E, AE and E are provided below.

Sites #1, 2, 4 and 5

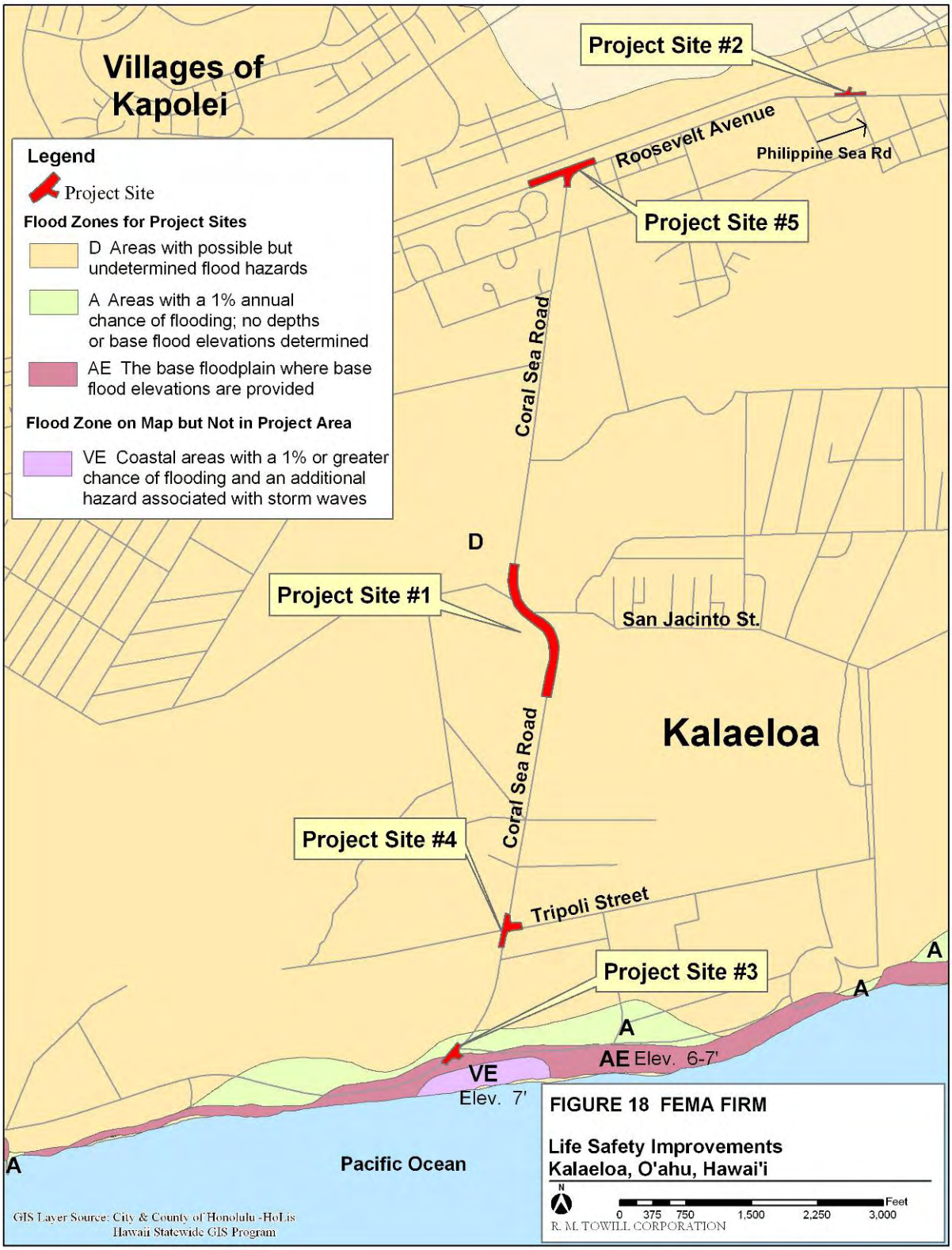
D Areas with possible but undetermined flood hazards.

Site #3

AE Areas in the base floodplain where base flood elevations are provided (for this location, the flood elevation has been determined to be 6-7 feet).

A Areas with a 1% annual chance of flooding; no depths or base flood elevations determined.

Site #3 is also located within the tsunami evacuation zone. See **Figure 19**. The project area is not particularly susceptible to other natural hazards such as earthquakes or volcanic hazards.


Villages of Kapolei
Legend
Project Site
Flood Zones for Project Sites
D Areas with possible but undetermined flood hazards
A Areas with a 1% annual chance of flooding; no depths or base flood elevations determined
AE The base floodplain where base flood elevations are provided
Flood Zone on Map but Not in Project Area
VE Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves
Project Site #2
Roosevelt Avenue
Philippine Sea Rd
Project Site #5
Coral Sea Road
D
Project Site #1
San Jacinto St.
Kalaeloa
Coral Sea Road
Project Site #4
Tripoli Street
Project Site #3
A
A
A
AE Elev. 6-7'
VE
Elev. 7'
A
Pacific Ocean
GIS Layer Source: City & County of Honolulu -HoLis
Hawaii Statewide GIS Program
FIGURE 18 FEMA FIRM
Life Safety Improvements
Kalaeloa, O'ahu, Hawai'i
N
0 375 750 1,500 2,250 3,000 Feet
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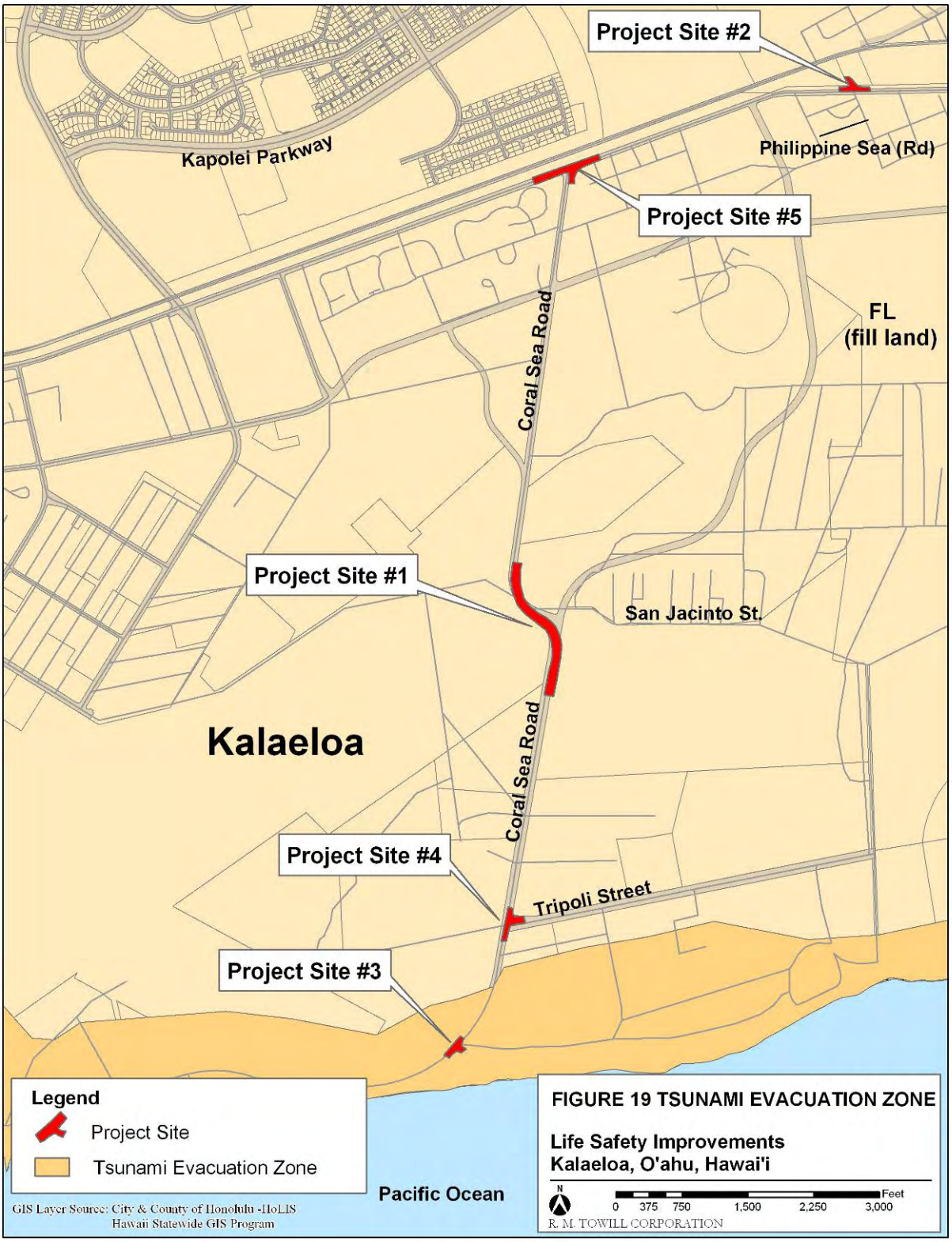

Project Site #2
Kapolei Parkway
Philippine Sea (Rd)
Project Site #5
FL
(fill land)
Coral Sea Road
Project Site #1
San Jacinto St.
Kalaeloa
Coral Sea Road
Project Site #4
Tripoli Street
Project Site #3
Legend
Project Site
Tsunami Evacuation Zone
Pacific Ocean
GIS Layer Source: City & County of Honolulu -HoLIS
Hawaii Statewide GIS Program
FIGURE 19 TSUNAMI EVACUATION ZONE
Life Safety Improvements
Kalaeloa, O'ahu, Hawai'i
N
0 375 750 1,500 2,250 3,000
Feet
R. M. TOWILL CORPORATION

Project Effects and Proposed Mitigation

There will be no short-term construction-related effects or long-term effects on natural hazards or on hazard preparedness. No buildings or other structures will be constructed within the tsunami evacuation zone area and the remainder of the project sites are outside of flood areas and relatively distant from the shoreline.

Effect of Alternatives

None of the project alternatives will effect the occurrence of natural hazards or the effect of these hazards on the area population.

2.2.6 Hydrology

Existing Conditions

Groundwater

The primary drinking water in the Hawaiian Islands is drawn from basal groundwater. Basal groundwater is formed by rainwater percolating down through the residual soils and permeable volcanic rock. The water forms as a lens of drinking water floating on seawater. There are two aquifers beneath the project area. The upper aquifer is listed as unconfined, that is, the aquifer is not confined under pressure beneath relatively impermeable rocks or soil. The groundwater in this upper aquifer is currently in use, considered replaceable, moderately saline, and highly vulnerable to contamination. It is not of drinking water quality nor ecologically important. The lower, deep aquifer is listed as confined within flank-structured (horizontal) basalts. This lower groundwater is of low salinity, considered not of drinking water quality or ecologically important, but currently in use. The deep aquifer is irreplaceable, but of low vulnerability to contamination (Mink and Lau *in* CCH-DTS, 2005).

Surface Water

There are no streams in the project area. The low rainfall and high permeability of the soil and caprock allow water to infiltrate the ground easily. Ordy Pond is the only permanent water body on the former NASBP lands and comprises approximately 3 acres with less than one acre of open water and is located approximately 1,700 feet east from Coral Sea Road.

Project Effects and Proposed Mitigation

The proposed Life Safety Improvements will not adversely affect groundwater or surface water resources.

Effect of Alternatives

None of the proposed alternatives will have direct, indirect or cumulative effects on hydrologic resources in the area.

2.2.7 Noise

Various local and federal agencies have established guidelines and standards for assessing environmental noise effects and noise limits as a function of land use. The State of Hawai'i Community Noise Control Rule, enforced by the DOH, identifies three classes of zoning districts and corresponding maximum permissible noise levels due to stationary noise sources. The Community Noise Control Rule does not specifically address moving sources, such as vehicular or air traffic.

The State of Hawaii Department of Transportation (HDOT) has adopted the Federal Highway Administration's (FHWA) design goals for traffic noise exposure. A traffic noise effect occurs when predicted traffic noise levels "approach" or exceed FHWA's design goals, or when the predicted traffic noise levels "substantially exceed the existing noise levels." "Approach" means at least 1 dB less than FHWA's design goals, and "substantially exceed the existing noise levels" means an increase of at least 15 dB.

The EPA has established a goal to reduce exterior environmental noise to a day-night equivalent sound level (Ldn) not exceeding 65 dBA, and a future goal to further reduce it to no more than 55 dBA. These goals are not intended as regulations, but rather as levels below which the general population will not be at risk from any of the identified effects of noise.

Existing Conditions

Dominant noise sources along Coral Sea Road and Roosevelt Avenue are limited to traffic and aircraft noise from airplanes landing and taking off from Kalaeloa Airport and at Honolulu International Airport. Secondary sources include distant construction noise, birds and wind.

Four of the five project sites are in undeveloped areas with no sensitive noise receptors (which include residences, schools, hospitals and so on). The Roosevelt Avenue site near Philippine Sea Road traverses an area with empty space to the south and industrial facilities of the Hawaiian Railway Society to the north. Only Site #5, the intersection of Roosevelt Avenue and Coral Sea Road, has multi-family residential development on the southwest corner of the intersection. This 43-acre property was purchased in 2005 by a private firm and contains 280 multi-family units.

Project Effects and Proposed Mitigation

During construction, the dominant noise sources will probably be earth-moving equipment such as bulldozers, pavers, and construction trucks. Although these activities will generate noise, there are no noise sensitive developments in proximity to the construction area that would be affected.

All project activities will comply with the Department of Health (DOH) Administrative Rules Chapter 11-46, "Community Noise Control." Where construction noise exceeds or is expected to exceed the State's "maximum permissible" property line noise levels, a permit must be obtained from the DOH) to allow the operation of vehicles, construction equipment, power tools, etc. which emit noise levels in excess of the "maximum permissible" levels. In order to obtain a construction noise permit, the contractor must submit a noise permit application to the DOH describing construction activities for the project. The State may, in turn, require the contractor to

incorporate noise mitigation into the construction plan, conduct noise monitoring, or hold community meetings. The construction contractor will use reasonable and standard practices to mitigate noise, such as the use of combustion powered machinery equipped with mufflers. In addition, the DOH, at its discretion, may require additional mitigation such as temporary noise barriers or time of day usage limits for certain kinds of construction activities.

The project is not expected to generate additional traffic or traffic noise. Therefore the project will not have a significant noise effect on the surrounding community and no mitigation for vehicular traffic noise is required.

Effect of Alternatives

All of the project alternatives, except no action, would have similar temporary construction period noise effects. None of the alternatives would have significant long-term noise effects.

2.3 BIOLOGICAL ENVIRONMENT

2.3.1 Flora and Fauna

Flora

The entire former Naval Air Station was included in botanical surveys conducted by the U.S. Navy. According to the Navy's Final EIS, the endemic 'akoko shrub (*Chamaesyce skottsbergii var. Skottsbergi*), a Federally-listed endangered species, occurs in an area east of Kalaeloa Airport.

There are no listed or candidate threatened or endangered botanical species as set forth by the U.S. Department of the Interior, Fish and Wildlife Service (USFWS) on the project site. There is no critical plant habitat identified for the area.

Vegetation on the former NASBP includes approximately 170 plant species (Botanical Consultations 1984 as cited in US Navy 1999). The dominant vegetation types were kiawe (*Prosopis pallida*) and lowland scrub.

Fauna

Birds were the dominant wildlife identified on the former NABP (Botanical Consultations 1984 as cited in US Navy 1999). Twenty-three (23) species were identified during a survey conducted in 1984 of which 17 were ubiquitous, introduced species; five were indigenous; and one was endemic. Given the highly disturbed nature of the site and lack of native vegetation, birds present would most likely be non-native species or indigenous species common throughout O'ahu such as the kolea (Pacific golden plover; *Pluvialis fulva*). The only mammals likely to be found at the project sites in Kalaeloa given the disturbed nature of the area are the introduced Indian mongoose (*Herpestes aurpounctatus*), rodents and feral cats.

The entire former Naval Air Station was included in terrestrial faunal surveys conducted by the U.S. Navy. Mammalian species that may be expected to appear at the project site include the small Indian Mongoose, rats and feral cats and dogs. The project site is largely devoid of

vegetation and surface water resources and does not constitute a desirable habitat for endangered or threatened bird species. It is possible that transient migratory species, such as the Pacific Golden Plover and Wandering Tattler, may appear at the project site, as the species regularly occur in other open coastal areas of O‘ahu. Other common bird species found throughout Oahu that may appear at the project site include Common Mynas, Red-Whiskered Bulbul, Zebra Doves, and House Sparrows.

The project area contains no listed or candidate threatened or endangered species as set forth by the USFWS.

Potential Effects and Mitigation Measures

Flora
The project area is cleared of vegetation. Construction of the roadway improvements will not create an adverse effect to the flora in this area of O‘ahu. Further, since the project site contains no listed or candidate threatened or endangered botanical species as set forth by the USFWS, construction of roadway improvements will not have an adverse effect to threatened or endangered plant species.

Fauna
The project sites are roadways devoid of vegetation that could be usable habitat for bird species. The project site contains no listed or candidate threatened or endangered faunal species as set forth by the USFWS. Thus, roadway safety improvements will not have an adverse effect on threatened or endangered faunal species.

Effect of Alternatives
Under the no-action alternative, there would be no change to existing site conditions or the biological environment. No threatened or endangered plant species would be affected by any of the build alternatives.

2.4 SOCIO-ECONOMIC ENVIRONMENT

2.4.1 Population and Employment

Population
The population of the State of Hawaii was 1,211,537 in 2000 (USCB 2000). Kalaeloa is located on O‘ahu Census Tract 85 (Barbers Point Housing), which consists of the former NASBP. Census data for 2000 showed the tract population to be 1,311. The total population for the ‘Ewa area in 2000 was approximately 68,000 (DPP, 2008). With the rapid growth in the ‘Ewa area, the population is projected to reach 177,000 by 2030 (DPP, 2008). The current number of personnel stationed at the Hawai‘i Air National Guard at Kalaeloa is approximately 1,290 full- and part-time personnel (HIANG, 2010).

Employment and Earnings
Tourism is the most productive industry on the island of Oahu. Military, government and agriculture are also important sectors of Oahu's economy. Kalaeloa has few tourist attractions drawing visitors to the site with the nearby Ko 'Olina Resort a successful exception. Kalaeloa has historically been dominated by military and industrial use, with residential and other forms of development now growing rapidly in the area. The 'Ewa area is projected to provide people with up to 65,000 nonconstruction jobs by 2030 (DPP, 2008).

Existing Conditions

Population
The population of Kalaeloa decreased significantly with the departure of military personnel and their dependents from the former NASBP. Population in the City of Kapolei, the largest residential community near Kalaeloa, in the year 2000 was 68,718 persons, up from 42,983 persons in 1990 (City and County of Honolulu Department of Planning & Permitting, cited at http://www.kapolei.com/). According to the Estate of James Campbell (www.kapolei.com), the population in Kapolei is projected to continue to grow to 129,200 in 2015, and 173,170 in 2025.

Housing
The greater 'Ewa area has a variety of residential communities, including Kapolei, 'Ewa Villages, 'Ewa Beach, Makakilo, 'Ewa by Gentry, West Loch, Iroquois Point (Navy housing), and Ko 'Olina. According to the 2000 Census, the entire Ewa CCD had 80,101 housing units. In the City of Kapolei, there were 25,332 homes in 2005, and the Department of Planning and Permitting estimates an increase to 44,950, homes by 2020, a 77 percent increase in 15 years. In 2000, 66.5% of the homes in the Ewa CCD were owner-occupied and 33.4% renter occupied. Median housing value was $270,600 at that time, which was about 12 percent below the Countywide median housing value (USCB, 2000).

Employment and Income
The City of Kapolei is one of the fastest-growing job centers in the State, and is projected to become the major employment center for the 'Ewa region. Major employers in the City of Kapolei include the State of Hawai'i, City and County of Honolulu, Bank of Hawai'i, Hawaiian Adventures Water Park, and The Star Advertiser newspaper.

In 2005, the number of jobs in Kapolei was estimated at 24,860. Employment is projected to grow over 85 percent to 46,130 jobs by 2015 and by another 40 percent to 64,720 jobs by 2025 (Estate of James Campbell, 2006). Other employment areas in the greater 'Ewa region include Ko 'Olina resort, Ewa Marina, and Barbers Point Harbor. According to 2000 Census data, the 1999 median household income for the 'Ewa CCD was $62,033. This was slightly higher than the County median of $51,914.

Project Effects and Proposed Mitigation

The roadway repairs will not increase roadway capacity, and will not directly cause or encourage future population growth or an increase in vehicular traffic. However, the roadway improvements will have a positive socio-economic effect by improving traffic safety at the designated sites within Kalaeloa.

As Kalaeloa lands are developed in accordance with the Kalaeloa Master Plan (HCDA, 2006), the addition of new residential, commercial and industrial space is likely to generate additional vehicle trips along Roosevelt Road. Because Coral Sea Road is a beach accessway and dead-ends near the airport, it is not expected to generate significant new traffic.

On a local scale, the project will have construction-related effects on noise, air quality and traffic. Because most of the adjacent land along Coral Sea Road is undeveloped, construction period effects on the area population will be negligible. The project will have positive, short-term economic benefits through HCDA's expenditure of construction funds and construction employment.

Effect of Alternatives

All design alternatives would have short and long-term effects similar to the proposed action. The no action alternative would have no short-term construction related effects, but it will do nothing to improve roadway safety.

2.4.2 Archaeological, Historic, and Cultural Resources

Existing Conditions

Archaeological and Historic Resources

An *Archaeological Field Inspection and Literature Review for the Kalaeloa Life Safety Improvements Project* was conducted by Cultural Surveys Hawai'i, Inc., in August 2010 for this project and is included as **Appendix A**. The report assessed the potential for significant historic properties and potential effects to cultural practices. The scope of work included background research, a review of land use within the vicinity, and field inspection.

The review concluded that due to previous land modifications, there are currently no known surface archaeological features in the project area(s).

> *Based on the heavily disturbed nature of the lands within the current project area, it is likely that any surface archaeological sites were removed prior to or during the construction of the roads. Efforts were made to identify in the field the only three sites indicated to be in the vicinity of the project areas (SIHP #s 50-80-12-1745, -1747 and -1751). It was concluded that these three sites lie at a sufficient distance (70 m +) such that the project will have no impact on these previously identified sites.*

No new archaeological features were observed in close proximity to the project area(s) (CSH, 2010).

Cultural Resources
There are no known sacred sites or traditional cultural resources within the roadway corridors at Kalaeloa. Previous investigations have not shown any evidence of prehistoric agricultural activity such as the production of dry land taro, or the growth of medicinal plants or any other activity associated with activities practiced by modern Native Hawaiians. There are no known cultural practices occurring at this location (HIANG, 2010).

A review of traditional Hawaiian literature, legends and ethnology does not indicate that the project area was associated with any Hawaiian gods, chiefs or heroes, or with storied places. There is no indication that this area was used to collect resources or to conduct traditional cultural practices in the recent past. It is not used for any cultural practices today. It is unlikely that any traditional Hawaiian sites would be found in the project area.

Project Effects and Proposed Mitigation
No further archaeological work is recommended. Since archaeological consultants could not rule out that one or more sinkholes would be exposed in the course of road improvement work, they recommended that the contractor be made aware (through a notation to construction plans) that in the unlikely event of the discovery of a sinkhole greater then three feet in diameter that all work in the immediate vicinity is to stop and that the SHPD be notified to determine the appropriate course of action.

Effect of Alternatives
None of the alternatives considered is expected to have an impact on archaeological, historic or cultural resources.

2.4.3 Visual Resources

Existing Conditions
The project area is quite flat. The Wai'anae Mountains can be seen in the distance to the north along Roosevelt Avenue and Coral Sea Road. Proceeding southward from the multi-family housing on the makai side of the intersection of Coral Sea Road and Roosevelt Avenue, the roadway proceeds through undeveloped portions of the former military base. Views of the Pacific Ocean from the intersection at Eisenhower Road are obstructed by existing vegetation and sand berms.

Project Effects and Proposed Mitigation
Proposed roadway repairs will have no long-term, indirect or cumulative effects on visual resources. The construction of roadway improvements will not alter existing views from Coral Sea Road or Roosevelt Avenue. During the construction period, the visual character of the area will change temporarily due to the presence of equipment and personnel in the immediate vicinity of each project site. However, after completion, Coral Sea Road and Roosevelt Avenue will look substantially the same although with improved intersection conditions.

Effect of Alternatives
None of the project alternatives would have significant direct, indirect or cumulative effects on visual resources in the area.

2.5 UTILITIES AND INFRASTRUCTURE

2.5.1 Drainage

Existing Conditions
Storm water currently sheet flows across the roadways. Sheet flows percolate into the porous corraline soils in the shoulder area. This condition will continue after safety improvements are completed.

Project Effects and Proposed Mitigation
The associated runoff contribution from intersection improvements and nominal widening will be unsubstantial. The proposed three-foot widening on each side of the "S" curve along Coral Sea Road (Site #1) will slightly increase impervious surfaces in the area, but will not significantly increase non-point source pollution. Drainage off the roadway will continue to be via sheet flow into calcareous soils.

Effect of Alternatives
None of the alternatives considered would have an adverse effect on drainage. In order to ensure against the potential for the comingling of stormwater runoff conveying construction related silt and sediments to surface waters, the contractor will be regulated to maintain adequate erosion controls at each of the planned project sites. The controls may include silt fencing, sandbags and filter barriers.

2.5.2 Potable Water

Existing Conditions
There is a separate, Navy-owned potable water system at Kalaeloa. The Navy-owned water facilities include a deep well pumping station, water treatment facilities, two underground storage reservoirs, a transmission main, and distribution system for domestic supply and fire protection. The Navy-owned water system will serve most of the future Kalaeloa development at the former air station.

Existing potable water transmission facilities in the project area include a 24-inch water main beneath Roosevelt Avenue and a 12-inch main beneath the entire length Coral Sea Road. A water manhole is located at the intersection of Coral Sea Road and Eisenhower Road.

Project Effects and Proposed Mitigation

Prior to project construction, the contractor will be requested performed a survey to determine the location of the existing waterlines, and to ensure that they are not adversely affected by construction activity.

The roadway improvements will not have a direct, indirect or cumulative effect on the City and County of Honolulu's potable water supplies, system, or demand or on the Navy-owned water system at Kalaeloa.

Effect of Alternatives

None of the project alternatives will have an effect on potable water supply, systems or demand.

2.5.3 Electrical and Telecommunications

Existing Conditions

Coral Sea Road does not have street lighting. Existing overhead electrical systems run parallel to Roosevelt Avenue and include the following:

> ***Hawaiian Electric Company (HECO) 138 kV/46 kV Pole Line***
> The Hawaiian Electric Company (HECO) electrical system in the area consists of large metal poles with two 138 kV and two 46 kV transmission line circuits mounted on the poles. The transmission pole line is located between the railroad tracks and the Kalaeloa boundary fence.
>
> ***Kalaeloa 12 kV Pole Line***
> This overhead electrical system was formerly part of the NAS Barbers Point electrical system, and is still owned by the Navy. In the project area, it consists of wood poles with one 12 kV circuit mounted on the poles. The distribution pole line runs parallel with Roosevelt Avenue and is located on the makai side of Roosevelt Avenue.
>
> To date, HECO has not acquired the existing Navy electrical system. The poles and overhead circuits for the Navy's Kalaeloa electrical distribution system should have no effect or be affected by the roadway improvements proposed (CCH-DTS, 2005).

Street lights on wooden poles have been placed along Roosevelt Avenue. There is no street lighting along Coral Sea Road. Telecommunications cables also are mounted on the poles along Roosevelt Avenue. There is a separate Navy-owned telephone and communications cable system within Kalaeloa. The project will not affect any of these facilities.

Effect of Alternatives

No alternative considered would affect electrical or telecommunications facilities.

2.5.4 Wastewater Systems

Existing Conditions

There is a separate, Navy-owned wastewater system at Kalaeloa. No sewer facilities exist along Coral Sea Road. An 18-inch sewer force main extends beneath Coral Sea Road from the shoreline area northward to near San Jacinto street, where it veers to the northeast.

Owned and operated by the City and County of Honolulu, the Honouliuli Wastewater Treatment Plant (WWTP) is the regional wastewater treatment facility serving the 'Ewa region. The WWTP is located on Geiger Road, within a half-mile of the intersection of Roosevelt Road and Philippine Sea Road (Site #2).

The Honouliuli WWTP services an area of approximately 76,000 acres, extending from Red Hill to the east, up to Mililani on the north, and to Makakilo and Ko 'Olina to the west. All residential, commercial, industrial and agricultural areas within these boundaries are included in the service area except for Pearl Harbor, Campbell Industrial Park and several small pockets that are served by cesspools or septic tanks. Wastewater treated at the Honouliuli WWTP is discharged into West Mamala Bay through a deep ocean outfall. The plant presently has a design average dry weather flow capacity of 38 mgd, with future plans to further expand its capacity to 51 mgd.

Project Effects and Proposed Mitigation

The project will not have a direct, indirect or cumulative effect on existing wastewater systems. Temporary sanitary facilities will be provided for workers' use during construction and be removed thereafter.

Effect of Alternatives

None of the project alternatives would have any effect on wastewater generation, collection or treatment systems.

2.5.5 Solid Waste

Existing Conditions

The City and County of Honolulu's Department of Environmental Services is responsible for refuse pick up, hauling and disposal from residential areas. Commercial establishments and multi-family residential development contract with private haulers.

Project Effects and Proposed Mitigation

The project will not have short- or long-term effects due to hazardous materials, waste or petroleum products. Construction activities will utilize hazardous materials including paints,

metal, tar, petroleum products and cleaners. All construction materials will be properly used and transported.

The construction contractor will be required to dispose of all debris at approved solid waste disposal or recycling facilities, and in accordance with State and City requirements. The contractor will develop a contingency plan to control accidental spills of petroleum products. Material and equipment necessary for spill clean up will be kept on site. The contractor will comply with Hawai'i Revised Statutes Chapter 103D-407, which stipulates that all highway and road construction and improvement projects funded by the State or County (or roadways that will be accepted as public roads) use a minimum of ten percent crushed glass aggregate in all base course (treated or untreated) and sub base, when the glass is available to the quarry or contractor at a price no greater than that of the equivalent aggregate.

Effect of Alternatives

The build alternatives will result in a very slight increase in solid waste consisting of excavated pavement to be replaced.

2.6 TRANSPORTATION – ROADWAYS

The U.S. Navy retained ownership of the unpaved beach-accessway Eisenhower Road, which dead-ends in Coral Sea Road. Presently the City and County of Honolulu operates and maintains the road and campsite under a license (NO.N627499RP00105) issued by the Navy. Although Coral Sea Road is owned by the State of Hawai'i, Department of Transportation, roadway improvements for this project are the fiscal responsibility of HCDA and City and County of Honolulu.

Existing Conditions

Roosevelt Avenue, an east-west, two-lane roadway with 13-foot lanes and 2-foot wide shoulders, is the perimeter roadway along the northern boundary of Kalaeloa. Coral Sea Road provides north-south access to the shoreline but dead-ends at a restricted-access U.S. Navy recreational area.

The primary traffic generator along Roosevelt Avenue is the Barbers Point Elementary School, currently enrolling about 400 students, on Boxer Avenue between Copahee and Tulagi Avenue. Because the school is approximately 1,500 feet east of Coral Sea Road, it does not directly affect traffic within the project sites.

Project Effects and Proposed Mitigation

The roadway improvement project is not expected to increase traffic but will increase safety for vehicles using the intersections and Coral Sea Road. During construction, effects on traffic will be limited to the five project locations. Traffic control measures will be implemented throughout the construction period to minimize temporary effects on traffic conditions. No road closures are anticipated and one-lane will be open at all times. Traffic will be directed around the work area via traffic cones, signs and flagmen.

Affects of Alternatives

All of the design alternatives would have traffic effects identical to the preferred alternative. The no action alternative would fail to provide the needed safety improvements.

2.7 PUBLIC SERVICES AND FACILITIES

2.7.1 Police

Existing Conditions

The project area is within Honolulu Police Department’s District 8, the Kapolei Waianae police district. District 8 services the communities of Kalaeloa, ‘Ewa, ‘Ewa Beach, West Loch, Kapolei, Makakilo, Campbell Industrial Park, Honokai Hale, Ko ‘Olina, Nānākuli, Mā‘ili, Wai‘anae, Makaha, Makua and Ka‘ena. Its headquarters is the Kapolei Station, at 1100 Kamokila Boulevard.

Project Effects and Proposed Mitigation

The roadway improvements are expected to have minimal effect on the facilities and services of the Police Department. The new project will improve traffic safety in the area, and will not increase demand for police services.

Effect of Alternatives

All of the design alternatives would have a similarly negligible effect on police services.

2.7.2 Fire and Emergency Medical Services

Existing Conditions

The project area is served by the City and County Fire Department’s Kapolei Station (Station 40) at 2020 Lauwiliwili Avenue, Kapolei. This station serves Kapolei and the ‘Ewa communities to the south. The City and County of Honolulu has 18 Emergency Medical Service (EMS) Advanced Life Support Ambulance units and two Rapid Response Paramedic units. The Makakilo EMS Unit is located at the Kapolei Fire Station, and Rapid Response Unit 1 is based at Saint Francis Medical Center West.

Saint Francis Medical Center West is the nearest full service hospital, and is located on Fort Weaver Road, about two miles east of Kalaeloa. This hospital provides emergency care, outpatient, laboratory, x-ray services, and includes medical offices. There are also a number of medical clinics in Kapolei Town, including Kaiser Permanente Hawaii and The Queen’s Health Care Center, as well as smaller clinics and private health care providers.

Project Effects and Proposed Mitigation

The project will not have short or long-term effects on the demand for fire or emergency medical services.

Effect of Alternatives
The alternative sites and alternative design would have effects similar to the proposed action.

2.7.3 Parks

Existing Conditions
Parks in the project vicinity include Pride Field along Roosevelt Avenue and Kapolei Community Park to the north within the Villages of Kapolei residential community. There are three beach parks in the 'Ewa area—'Ewa Beach Park, Onelua Beach Park in 'Ewa Beach and Barbers Point Beach Park in Campbell Industrial Park. Other recreational facilities in the 'Ewa area include eight golf courses (Barbers Point, Coral Creek, Ewa Villages, Hawaii Prince, Kapolei, and Ko 'Olina, New 'Ewa Beach, West Loch). The 'Ewa Villages and West Loch Golf Courses are municipal facilities.

Project Effects and Proposed Mitigation
The project will not affect any of its programs or facilities of the City and County of Honolulu, Department of Parks and Recreation. There will be no short- or long-term, direct, indirect or cumulative effect on parks or other recreational resources in the area.

Effect of Alternatives
None of the project alternatives would have a direct, indirect or cumulative effect on park or recreational resources.

2.7.4 Schools

Existing Conditions
The nearest public school is Barbers Point Elementary School, located on Boxer Avenue between Copahee and Tulagi Avenues in Kalaeloa. The school is operated by the State of Hawai'i Department of Education (DOE). The school is part of the DOE's Kapolei Complex, feeding into Kapolei Middle School and Kapolei High School. Enrollment in 2010 is listed by DOE as approximately 400 students in grades K through 6. Students are drawn from Kalaeloa, Honokai Hale and Upper Makakilo communities. There are also a number of private schools in the nearby Kapolei area, including Island Pacific Academy and Seagull Schools.

Project Effects and Proposed Mitigation
The roadway improvements will not induce residential development in the area or increase school enrollment.

Effect of Alternatives
None of the alternatives considered would have an adverse effect on schools.

SECTION 3
CONSISTENCY WITH EXISTING PLANS, POLICIES AND CONTROLS

3.1 FEDERAL PLANS, POLICIES AND CONTROLS

3.1.1 Clean Water Act (CWA)

CWA Section 401 affirms "States can review and approve, condition, or deny all Federal permits or licenses that might result in a discharge to State waters, including wetlands. States and Tribes make their decisions to deny, certify, or condition permits or licenses primarily by ensuring the activity will comply with State water quality standards." Activities regulated by Section 401 are currently administered by the State of Hawai'i, Department of Health, Clean Water Branch.

CWA Section 402 regulates discharges as part of the National Pollutant Discharge Elimination System (NPDES) permit program. The DOH-CWB administers the provisions of Section 402 through its regulations under HAR, Section 11-55, Water Pollution Control. The primary purpose of Section 11-55 is to ensure that discharges of potential pollutants to state waters are properly treated prior to the discharge. The activities regulated include, but are not limited to, construction stormwater runoff, dewatering and hydrotesting discharges, and other forms of discharges and/or runoff with the potential to discharges untreated pollutants to State waters.

CWA Section 404 requires a permit before dredge or fill material may be discharged into waters of the U. S., including wetlands.

> **Discussion:**
> The proposed project does not involve or require discharges to state waters under CWA Sections 401, 402 or 404.
>
> The proposed project will not require an NPDES Notice of Intent, Form C, Construction Stormwater Permit because the total area of ground disturbance is 0.79 acres including all five sites and staging areas. This total disturbed area falls below the one-acre threshold triggering NPDES Storm Water permits. Construction plans include contractor requirements for implementation of Construction Stormwater Best Management Practices (BMPs) to properly treat stormwater runoff from the project site prior to its final point of discharge.

3.1.2 Endangered Species Act of 1973 (ESA)

The purpose of the ESA is to protect and conserve ecosystems upon which endangered and threatened species are dependent, and to provide for conservation of endangered and threatened species. The ESA is administered by the U.S. Department of Interior through the Fish and

Wildlife Service and the U.S. Department of Commerce through the National Marine Fisheries Service, National Oceanic and Atmospheric Administration.

Discussion:
The proposed project is not anticipated to adversely affect federally- or state-listed threatened or endangered species as there are none identified within the subject project sites. The roadway corridors within the project area have been heavily modified and would provide ill-suited habitat for the establishment or colonization of such species.

Historically, as part of the Navy's transfer of the lands of the former Naval Air Station, the Navy, as a Federal agency, undertook consultation under Section 7 of the Endangered Species Act of 1973, as amended (Act) with the US Department of the Interior Fish and Wildlife Service (USFWS). As documented by the US Navy, on November 24, 1998, the Navy requested USFWS concurrence that the proposed transfer is not likely to adversely affect the Federally endangered plant species *Chamaesyce skollsbergii var. skotlsbergii* (akoko) (HDOT-AIR, 2010).

On December 1, 1998, the USFWS replied, based upon the Navy's assurance that each of the land conveyances will be made through the U.S. Department of the Interior (DOI), the USFWS concurred with the Navy's determination that the proposed transfer is not likely to adversely affect the Federally endangered plant species *Chamaesyce* skollsbergii var. skotlsbergii (akoko) (HDOT-AIR, 2010).

The record of any additional agency comments and the responses to comments will be provided in the Final EA for this project.

3.1.3 Coastal Zone Management Act (CZMA)

The CZMA, enacted in 1972, provides states with financial incentives to develop and implement coastal zone management practices, and limited review power over federal actions affecting the state's coastal zone. The CZMA requires that federally-assisted actions, including federally-funded state and local government projects, be consistent with Hawai'i's CZM Program objectives and policies. The national CZM program is administered by the Office of Ocean and Coastal Resources Management, an office within the U.S. Department of Commerce, National Oceanic and Atmospheric Administration. Provision of the CZMA are administered by the Hawai'i State Office of Planning. Administrative authority is defined by HRS, Chapter 205A (see **Section 3.2.4**).

Discussion:
The proposed roadway is under the jurisdiction of the CZMA. One of the five sites is in the coastal area (Coral Sea Road/Eisenhower Road intersection) and will be the subject of consultation with the State of Hawai'i, Office of Planning, which regulates coastal issues within the Kalaeloa Community Development District under the jurisdiction of HCDA.

3.1.4 National Historic Preservation Act (NHPA)

The NHPA became law in 1966 and was last amended in 2000. The NHPA requires government agencies to evaluate the impact of government-funded construction projects. The goal of the review process is to identify historic properties potentially affected by the proposed project, assess the project’s impacts and seek ways to minimize or mitigate adverse effects. The NHPA is administered by the U.S. Department of Interior, National Park Service and the Advisory Council on Historic Preservation (ACHP). At the State level, the NHPA is implemented by the State Historic Preservation Officer. [In Hawai‘i, the State Historic Preservation Officer is the Chairperson of the Board of Land and Natural Resources.]

Individuals, groups, and organizations (including Native Hawaiian Organizations or NHOs) will be identified as parties who may have an interest in the project and the potential effect it may have on traditional cultural practices. These parties will be contacted in order to identify potentially knowledgeable individuals with cultural expertise and/or knowledge of the study area and vicinity.

> **Discussion:**
> The proposed project is not anticipated to adversely affect any historic properties or traditional cultural practices. Consultation with the State Historic Preservation office will be carried out under Hawai‘i Revised Statutes, Chapter 6E, Historic Preservation (see **Section 3.2.6**).

3.2 STATE OF HAWAI‘I PLANS, POLICIES AND CONTROLS

3.2.1 HRS Chapter 206E, Hawai‘i Community Development Authority (HCDA)

A series of laws and regulatory steps has led to delegation of responsibility for Kalaeloa to HCDA, beginning with the creation of the Authority.

- In 1976, the State Legislature created the HCDA via HRS Chapter 206E to supplement traditional community development methods and revitalize economically depressed or blighted urban areas in the State.
- In 1994, the Hawai‘i State Legislature established the NAS Barbers Point Redevelopment Commission. As the Local Reuse Authority, the Commission was responsible for preparing a plan for the conveyance and subsequent reuse of the surplus land at Kalaeloa.
- In 1996, the NAS Barbers Point Reuse Commission adopted a Community Redevelopment Plan that identified State and City agencies interested in receiving lands and designated proposed uses of the surplus land. The Community Redevelopment Plan further served as the principal guiding document to coordinate the conveyance of surplus lands and in the preparation of an Environmental Impact Statement (EIS) for the disposal and reuse of the surplus land. The Community Redevelopment Plan was amended five times between 1997 and 2001 to respond to changing conditions and circumstances.

- In July 2002, Act 184 of the 2002 Hawai'i State Legislature (SB 2702, SD2, HD2, CD1) transferred redevelopment responsibility for Kalaeloa from the NAS Barbers Point Redevelopment Commission to HCDA. At that point, HCDA assumed responsibility for redevelopment of Kalaeloa, overseeing remaining conveyances, contract administration, promulgation of administrative rules, and other tasks relating to the redevelopment Commission (HCDA, 2006).

Discussion:
This project is being proposed and funded by HCDA in its jurisdictional role over Kalaeloa.

3.2.2 Kalaeloa Master Plan (HCDA)

HCDA prepared the Kalaeloa Master Plan in 2006 to provide overall direction for future land use and development within the Kalaeloa Community Development District. The Master Plan also included design guidelines, implementation recommendations and estimates of future capital expenditures needed for infrastructure and other improvements.

Discussion:
Roadway improvements proposed under this project are not included in the Kalaeloa Master Plan as this project is considered an interim, safety-oriented effort by HCDA. The proposed project will improve current roadway conditions but will not result in roadway facilities that meet present HDOT or City and County of Honolulu design standards.

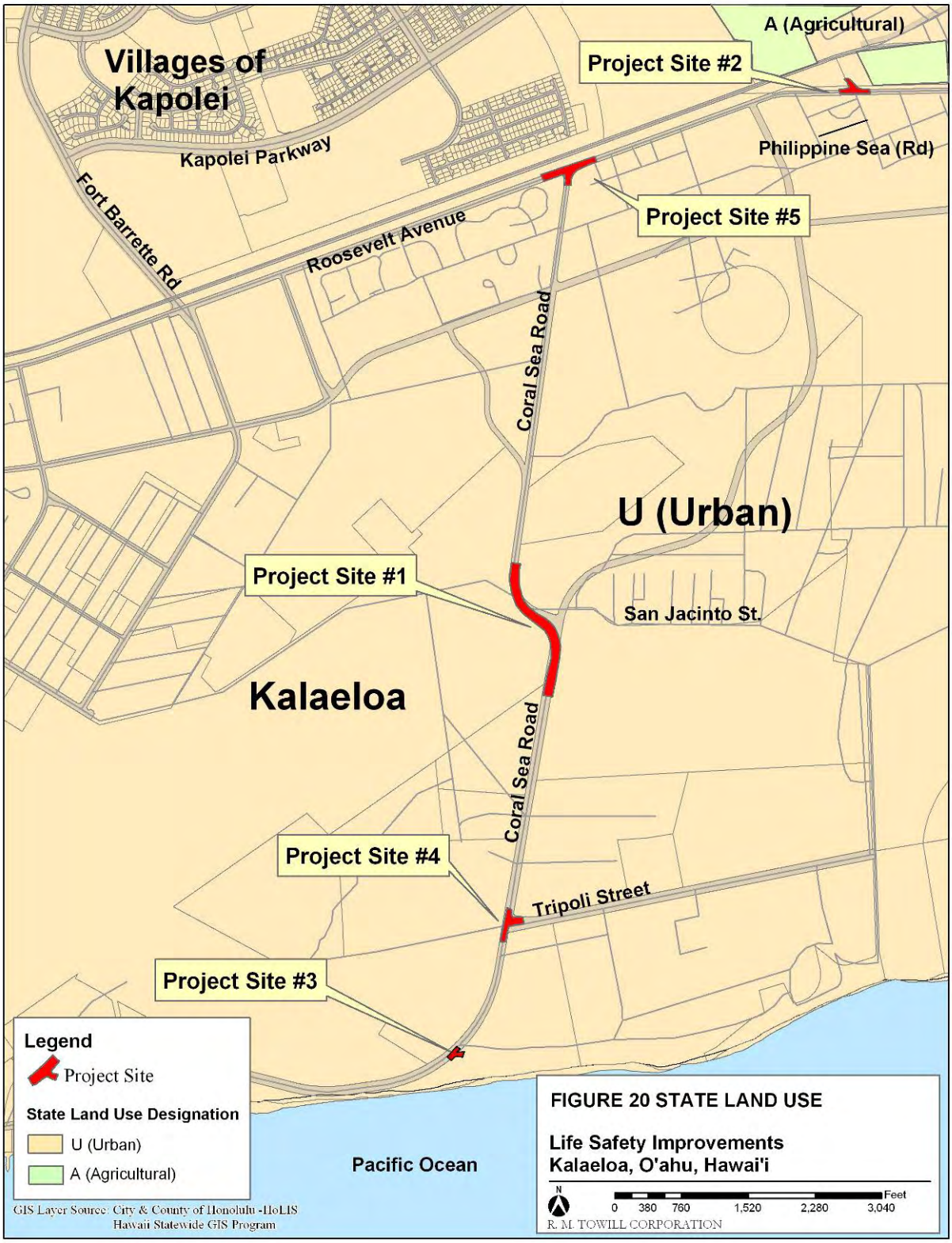
3.2.3 HRS Chapter 205, Land Use Commission

The State Land Use Commission, pursuant to HRS Chapters 205 and 205A and Hawai'i Administrative Rules, (HAR) Chapter 15-15, is empowered to classify all lands in the State of Hawai'i into one of four land use districts: urban, rural, agricultural and conservation. The entire project area and immediately surrounding lands are all within the State's Urban District (**Figure 20**).

Discussion:
Roadway improvements are an acceptable land use and activity within the State Urban District.

3.2.4 HRS Chapter 205A, Coastal Zone Management Program

Under the Hawai'i Coastal Zone Management Program (CZMP) authorized by HRS Chapter 205A, all lands and state jurisdictional waterways in the state are within the coastal zone in recognition of the inherent link between land and sea. The CZMP provides guiding principles for the design and implementation of allowable land and water uses and activities throughout the state. Areas in close proximity to the shoreline


A (Agricultural)
Villages of Kapolei
Project Site #2
Kapolei Parkway
Philippine Sea (Rd)
Fort Barrette Rd
Roosevelt Avenue
Project Site #5
Coral Sea Road
U (Urban)
Project Site #1
San Jacinto St.
Kalaeloa
Coral Sea Road
Project Site #4
Tripoli Street
Project Site #3
Legend
Project Site
State Land Use Designation
U (Urban)
A (Agricultural)
Pacific Ocean
GIS Layer Source: City & County of Honolulu -HoLIS
Hawaii Statewide GIS Program
FIGURE 20 STATE LAND USE
Life Safety Improvements
Kalaeloa, O'ahu, Hawai'i
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0 380 760 1,520 2,280 3,040
Feet
R. M. TOWILL CORPORATION

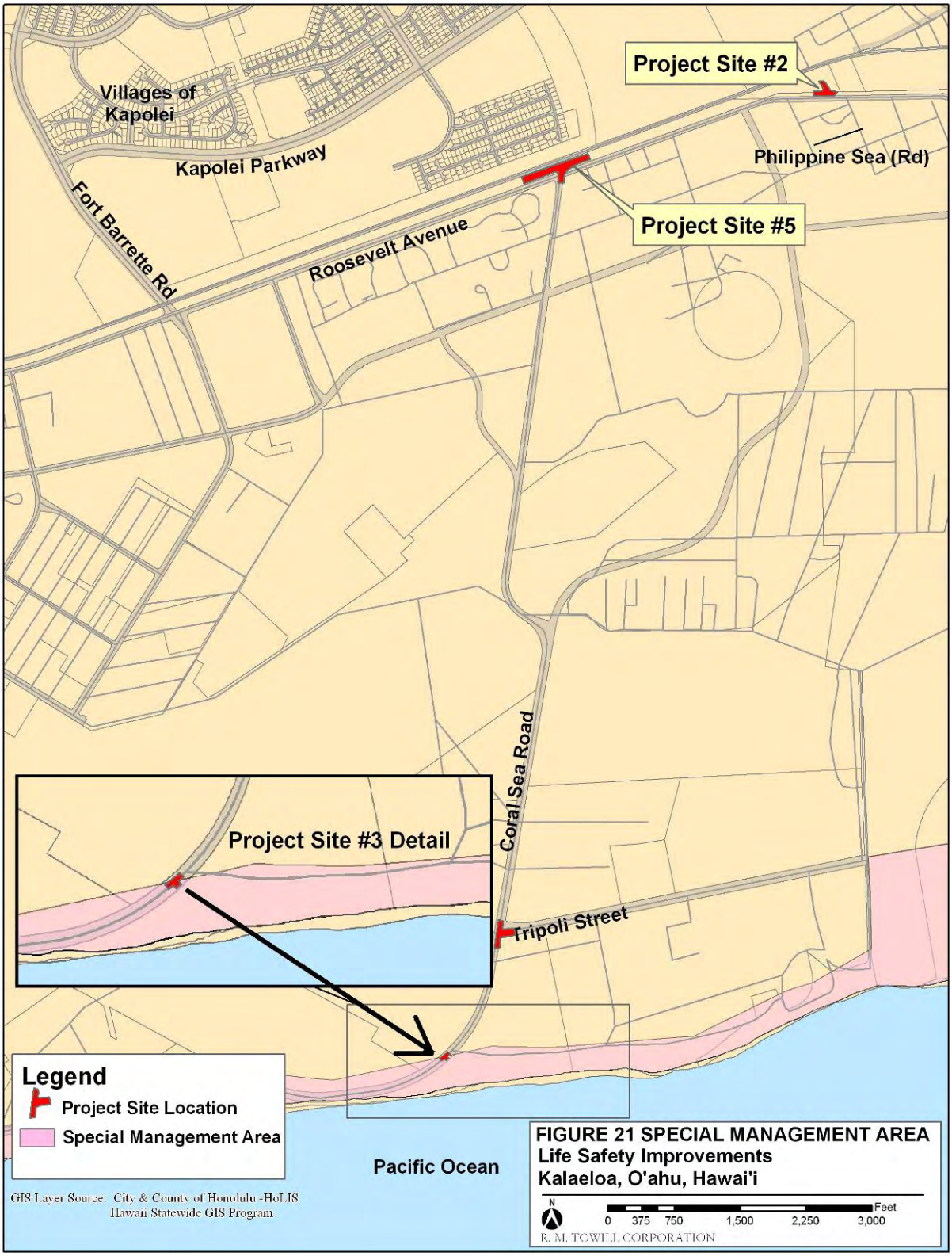
are designated as Special Management Areas (SMAs). Any action within the SMA may require a permit with conditions that help avoid, minimize or mitigate adverse effects on coastal resources.

In 1990, the State Office of Planning (OP) was given the administrative authority to process SMA and Shoreline Setback reviews for development within Community Development Districts (CDDs) for which a Community Development Plan has been developed and approved in accordance with Section 206E-5, HRS.

The subject roadways are under the jurisdiction of the CZMA. One of the five sites is in the coastal area (Coral Sea Road/Eisenhower Road intersection) is in the Special Management Area (**Figure 21**). Proposed work at that site will be the subject of a Special Management Area Permit (minor) with the Office of Planning to address possible effects and mitigation for work performed in the shoreline vicinity. Coordination with the OP, Coastal Zone Management Program, for all proposed development within the Special Management Area of Kalaeloa is required. See **Section 3.2.5** for a discussion of the relevance of the project to the Office of Planning's Hawai'i Administrative Rules, Specifically HAR Chapter 15-150.

Discussion:
The following discussion evaluates the project vs. HRS Section 205A-2, *Coastal zone management program; objectives and policies.* To facilitate review, the objectives and policies have been grouped under ten areas of concern within the coastal area: recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, managing development, public participation, beach protection, and marine resources.

(1) Recreational resources;
Objective:
(A) Provide coastal recreational opportunities accessible to the public.
Policies:
(A) Improve coordination and funding of coastal recreational planning and management; and
(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:
(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;
(ii) Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;
(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;
(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;
(v) Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;
(vi) Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;


Project Site #2
Villages of Kapolei
Kapolei Parkway
Philippine Sea (Rd)
Fort Barrette Rd
Roosevelt Avenue
Project Site #5
Coral Sea Road
Project Site #3 Detail
Tripoli Street
Legend
Project Site Location
Special Management Area
Pacific Ocean
GIS Layer Source: City & County of Honolulu -HoLIS
Hawaii Statewide GIS Program
FIGURE 21 SPECIAL MANAGEMENT AREA
Life Safety Improvements
Kalaeloa, O'ahu, Hawai'i
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R. M. TOWILL CORPORATION

(vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and
(viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.

Discussion:
The project will provide safer conditions along Coral Sea Road, which provides access to public beach areas in the south of Kalaeloa.

(2) Historic resources;

Objective:
(A) Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.
Policies:
(A) Identify and analyze significant archaeological resources;
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and
(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

Discussion:
In preparing this Final EA, RMTC engaged the services of Cultural Surveys Hawai'i, Inc., to perform a literature review and field investigation of archaeological and historic resources on the property. They concluded that the project would have "no effect" on such resources. The SHPD will be asked to review the study and provide concurrence with the "no effect" conclusion under HRS Chapter 6E, *Historic Preservation.*

(3) Scenic and open space resources;

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

Discussion:
The project will not affect any scenic resources. At the project site closest to the shoreline, the ocean is not visible due to heavy vegetation and sand berms between the project site and the ocean.

(4) Coastal ecosystems;

Objective:
(A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.
Policies:
(A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;
(B) Improve the technical basis for natural resource management;
(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;
(D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and
(E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

Discussion:
The project will be conducted a minimum of 280 feet from the shoreline. Construction Best Management Practices will be implemented to maintain water quality and prevent the mixing of pollutants with storm water runoff. There will be minimal increases in impervious surfaces. Therefore, there will be no effect on water quality from construction of the safety improvements.

(5) Economic uses;

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

Discussion:
The proposed project will result in safer roadway access to a public beach area.

(6) Coastal hazards;

Objective:
(A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.
Policies:
(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;
(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;
(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and
(D) Prevent coastal flooding from inland projects.

Discussion:
One of the project sites is in the tsunami evacuation zone and the 100-year flood area. However, no structures are included in the project scope which would be subject to natural hazards or create a point or nonpoint source pollution hazard.

(7) Managing development;

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

Discussion:
Issues pertaining to the project's effects on coastal resources will be reviewed via the established procedures for Special Management Area permitting as set forth in HAR 15-150. See **Section 3.2.5**.

(8) Public participation;

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

(B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and
(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Discussion:
This project will not involve promotion of public awareness of coastal zone management processes. However, the EA documents will be made available for public comment in the Kapolei Library and with the 'Ewa Neighborhood Board and elected officials representing Kalaeloa.

(9) Beach protection;

Objective:
(A) Protect beaches for public use and recreation.
Policies:
(A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;
(B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and
(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

Discussion:
The project will not affect conditions at any public beach. Improvements are well out of the 40-foot shoreline setback area. No structures will be erected as part of the project. Erosion control along Eisenhower Road's intersection with Coral Sea Road will be improved through construction of an embankment. However, this facility will only control erosion within the existing roadway.

(10) Marine resources;

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

Discussion:
The project will not affect any marine resources or ocean processes.

3.2.5 Hawai'i Administrative Rules, Title 15, Chapter 150

The Office of Planning carries out its review of actions within the SMA in the Community Development Districts in accordance with the provisions of Hawai'i Administrative Rules, Title 15, Chapter 150, *Rules Governing Special Management Areas and Shoreline Areas within Community Development Districts and Practice and Procedures before the Office of Planning.*

This project requires evaluation by the Office of Planning under HAR Section 15-150 because the Kalaeloa area is a community development district under HCDA.

Discussion:
The following discussion evaluates the project in relation to HAR Section 15-150-6, *Review guidelines.*

(1) All development in the special management area shall be subject to reasonable terms and conditions set by the lead agency to ensure that:
(A) Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas, and natural reserves is provided to the extent consistent with sound conservation principles;
(B) Adequate and properly located public recreation areas and wildlife preserves are reserved;
(C) Provisions are made for solid and liquid waste treatment, disposition, adverse effects upon special management area resources;
(D) Alterations to existing land forms and vegetation, except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, wind damage, storm surge, landslides, erosion, siltation, or failure in the event of earthquake; and
(E) Artificial light from floodlights, uplights, or spotlights used for decorative or aesthetic purposes does not directly illuminate the shoreline and ocean waters and is not directed to travel across property boundaries toward the shoreline and ocean waters, except as provided in sections 205A-30.5(b) and 205A-7l(b), HRS.

(A) Since the opening of areas of Kalaeloa to the public, Coral Sea Road has provided additional access to the shoreline. Safety improvements along Coral Sea Road will benefit the traveling public by widening along an existing "S" curve and advising them of roadway curves via new signage and striping.

(B) The public recreational facilities accessed via Coral Sea Road are limited to beaches that contain no amenities such as comfort stations.

(C) As the project is confined to roadway improvements, there are no anticipated effects on solid or liquid waste treatment or disposition. Construction debris will be disposed of properly at an approved construction landfill.

(D) The roadway safety improvements will not alter existing land forms. No structures will be constructed that would be susceptible to natural hazards such as floods, wind damage, storm surge, landslides, siltation or failure during an earthquake. The roadway improvements for Site #3 are located within FEMA flood zones A and AE within the 100-year flood zone and within the tsunami evacuation zone.

(E) No electrical improvements are included in the project. Coral Sea Road does not currently have street lights.

(2) No development shall be approved unless the lead agency has first found that:
(A) The development will not have any substantial, adverse environmental or ecological effect except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health and safety, or compelling public interest. Such adverse effect shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect and the elimination of planning options; and

There will be no cumulative effects from this project, as the improvements are intended to remedy specific safety concerns in specific locations.

(2)(B) The development is consistent with the objectives and policies established in section 205A-2, HRS, and the special management area guidelines contained in section 205A-26, HRS.

The safety improvements are consistent with all policies set forth in HRS Section 205A-2.

(3) The lead agency shall seek to minimize, where reasonable:
(A) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough, or lagoon;
(B) Any development which would reduce the size of any beach or other area usable for public recreation;
(C) Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the special management area and the mean high tide line where there is no beach;
(E) Any development which would adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.
(D) Any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast;

(A) The project involves no dredging, filling or otherwise altering any waters of the State of Hawai'i. There are no surface waters within the project area.

(B) The project will not reduce the size of any beach or recreation area.

(C) The project will not reduce or impose restrictions upon public access to the nearby beach. Restrictions on access are already imposed by the U.S. Navy in

shoreline areas of Kalaeloa which were retained under their ownership and control. The area of unpaved Eisenhower Road to be improved under this project will improve the safety of access off Coral Sea Road and reduce the erosion caused by vehicles making wide turns into and out of Eisenhower Road.

(D) Once constructed, the project will have no effect on any existing line of sight.

(E) The project will not adversely affect any of the resource types listed in item (A).

3.2.6 HRS Chapter 6E, Historic Preservation

HRS Section 6E-1, *Declaration of intent*, sets forth goals and requirements for oversight of historic preservation activities and protection of archaeological on the state level. It implements the National Historic Preservation Act on the state level. Specific provisions state:

> *The Constitution of the State of Hawai'i recognizes the value of conserving and developing the historic and cultural property within the State for the public good.*
> *The legislature declares that the historic and cultural heritage of the State is among its important assets and that the rapid social and economic developments of contemporary society threaten to destroy the remaining vestiges of this heritage.*
> *The legislature further declares that it is in the public interest to engage in a comprehensive program of historic preservation at all levels of government to promote the use and conservation of such property for the education, inspiration, pleasure, and enrichment of its citizens.*
> *The legislature further declares that it shall be the public policy of this State to provide leadership in preserving, restoring, and maintaining historic and cultural property, to ensure the administration of such historic and cultural property in a spirit of stewardship and trusteeship for future generations, and to conduct activities, plans, and programs in a manner consistent with the preservation and enhancement of historic and cultural property.*

Section 6E-8, *Review of effect of proposed state projects*, declares that all state projects which may affect historic property must advise the Department of Land and Natural Resources, State Historic Preservation Division (SHPD). For a project to commence, SHPD must review the effect of the proposed project on historic resources and provide written concurrence or non-concurrence. Section 6E-8 states:

> *The department [DLNR] is to provide written concurrence or non-concurrence within ninety days after the filing of a request with the department.*

Discussion:

A review of historical information and resources within the project area was completed for this project by Cultural Surveys Hawai'i, Inc. in August 2010 (**Appendix A**). The conclusions of this investigation, which recommends a determination of "no effect," will be forwarded to SHPD for review and concurrence under HRS Chapter 6E.

If significant historic or cultural features are found during construction, including human skeletal remains or previously-unidentified sinkholes of over three feet in diameter, work in the area shall cease, and the State Historic Preservation Division will be notified.

3.2.7 Act 50, SLH 2000

Act 50, House Bill No. 2895 H.D.1, was enacted in 2000 by the Hawai‘i State Legislature. The purposes of the act are to: (1) Require that environmental impact statements include disclosure of the effects of a proposed action on the cultural practices of the community and State, and (2) Amend the definition of “significant effect” to include adverse effects on cultural practices.

> **Discussion:**
> Individuals, groups, and organizations (including Native Hawaiian Organizations or NHOs) will be identified as parties who may have an interest in the project and the potential effect it may have on traditional cultural practices. These parties will be contacted in order to identify potentially knowledgeable individuals with cultural expertise and/or knowledge of the study area and vicinity.

3.3 CITY AND COUNTY OF HONOLULU PLANS, POLICIES AND CONTROLS

3.3.1 General Plan of the City and County of Honolulu (Last adopted in 2002)

The General Plan for the City and County of Honolulu (GP) is a comprehensive statement of objectives and policies which sets forth the long-range aspirations of O‘ahu residents and the strategies of actions to achieve them. It is the focal point of a comprehensive planning process that addresses physical, social, economic and environmental concerns affecting the City and County of Honolulu. This planning process serves as the coordinative means by which the City and County government provides for the future growth of the metropolitan area of Honolulu (CCH, 2002).

The General Plan contains the following language in its *Objectives and Policies:*

> ***Chapter V. Transportation and Utilities***
> *Objective A: To create a transportation system which will enable people and goods to move safely, efficiently, and at reasonable cost; serve all people, including the poor, the elderly, and the physically handicapped; and offer a variety of attractive and convenient modes of travel.*
>
> *Policy 4: Improve transportation facilities and services in the ‘Ewa corridor and in the trans-Ko’olau corridors to meet the needs to ‘Ewa and windward communities.*
>
> *Policy 5: Improve roads in existing communities to reduce congestion and eliminate unsafe conditions.*

Discussion:
The proposed project will support the above-referenced objectives and policies by improving traffic safety at the five project sites.

3.3.2 Revised Ordinances of Honolulu (ROH) Chapter 24, Article 3, 'Ewa Development Plan

Kalaeloa is located within the 'Ewa Development Plan Area designated by the City and County of Honolulu. The 'Ewa Development Plan (approved by ordinance in 1997, currently undergoing revision) includes guidance for future planning and construction of facility projects and infrastructure systems to carry out the vision for future development of the 'Ewa region.

The 1997 ordinance shows Kalaeloa as an urban development with park area (**Figure 22**).

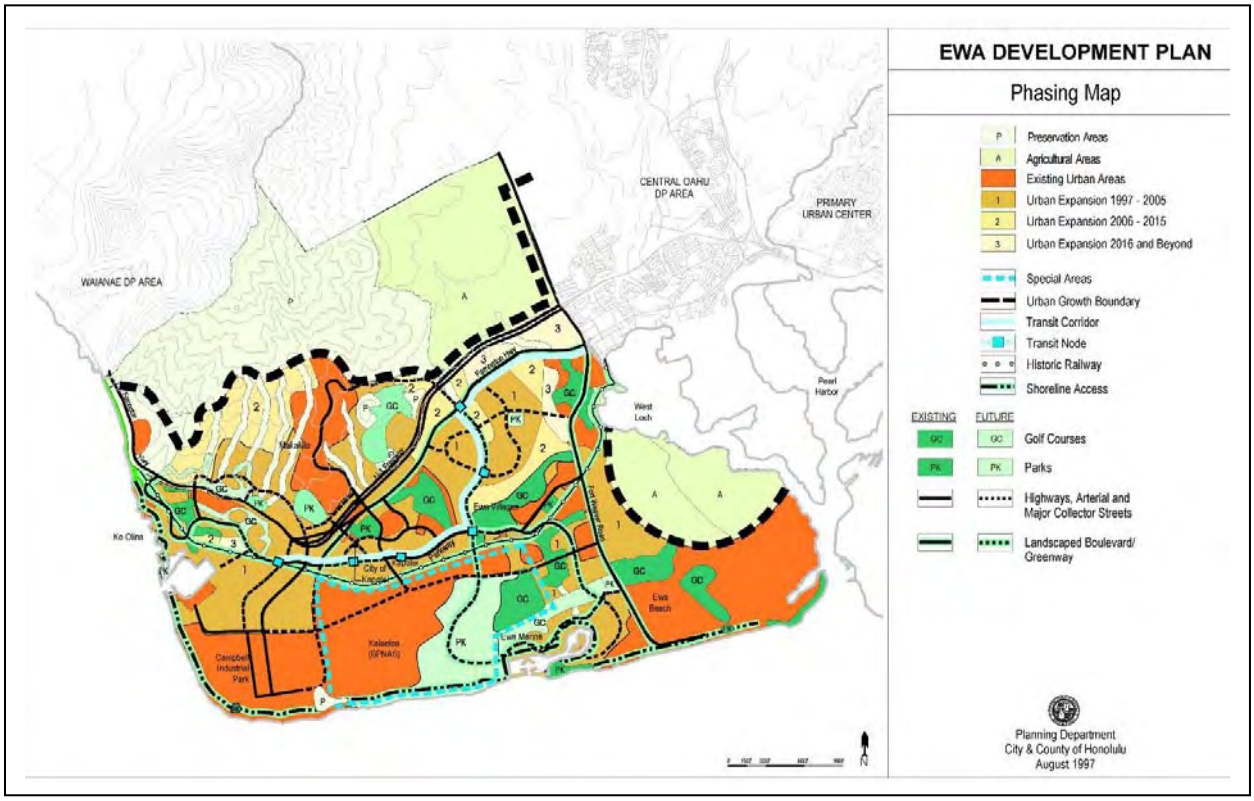


FIGURE 22 – 'EWA DEVELOPMENT PLAN: PHASING MAP
Source: 'Ewa Development Plan (1997)
Note: "Kalaeloa Area" location (red oval) was added to original map legend and map.

The most recently published five-year update document, entitled *Public Review Draft ‘Ewa Development Plan* (CCH, 2008), states the following intent:

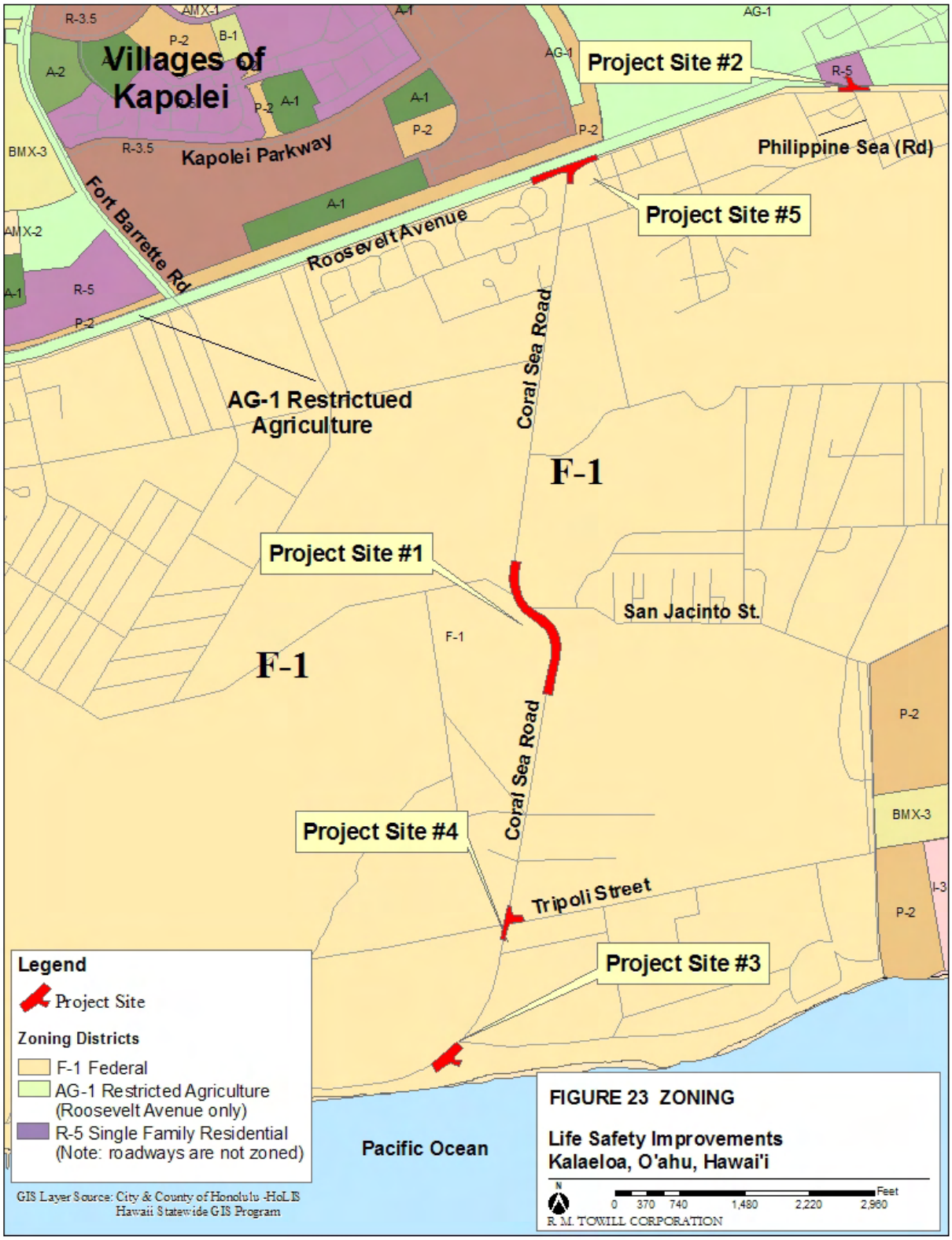
> *The ‘Ewa Development Plan envisions a major Regional Park and Recreation Complex at Kalaeloa to provide needed open space, recreational opportunities, and access to the beaches and ocean. The Kalaeloa Center is envisioned as a major nucleus of community and economic activity, attracting visitors from all of O‘ahu. To be developed on surplus lands at Barbers Point Naval Air Station, it will feature a regional park and commercial sports and recreation facilities. Taking advantage of its extensive land resources, cultural sites, and spectacular ocean setting, it will offer extensive community-oriented recreation facilities, commercial recreation enterprises, and public facilities.*

Discussion:
Coral Sea Road currently provides access to both public beaches and coastal areas which were retained by the U.S. Navy after the closure of NASBP and are closed to the public. The project will provide safer access to ocean areas of Kalaeloa that are open to the public (but contain no restroom facilities). The physical extent of Kalaeloa Regional Park, designated “future” by the City and County of Honolulu, is to be determined in subsequent stages of development of Kalaeloa and formalized via required approvals and agreements between HCDA, the City and County of Honolulu, and the U.S. Navy.

3.3.3 ROH Chapter 21, Land Use Ordinance

The City and County of Honolulu’s Land Use Ordinance is its zoning ordinance, which regulates land use in a manner that will encourage orderly development in accordance with adopted land use policies. The City and County of Honolulu’s HoLIS (Honolulu Land Information System) geographic information system data for Kalaeloa shows the project area as “F-1” zoning, or federal. As shown in **Figure 23**, the project area is zoned F-1, Military and Federal, reflecting the previous and former ownership of Kalaeloa by the U.S. Navy.

Discussion:
Although the City and County of Honolulu generally regulates land use within the urban district, the activities and uses under the jurisdiction of the Hawai‘i Community Development Authority, including Kalaeloa Community Development Area, are exempt from CCH zoning regulation (see **Section 3.2.1**).


Villages of Kapolei
Kapolei Parkway
Fort Barrette Rd
Roosevelt Avenue
Coral Sea Road
Philippine Sea (Rd)
San Jacinto St.
Tripoli Street
Project Site #1
Project Site #2
Project Site #3
Project Site #4
Project Site #5
AG-1 Restrictued Agriculture
F-1
F-1
Pacific Ocean
Legend
Project Site
Zoning Districts
F-1 Federal
AG-1 Restricted Agriculture (Roosevelt Avenue only)
R-5 Single Family Residential (Note: roadways are not zoned)
GIS Layer Source: City & County of Honolulu -HoLIS
Hawaii Statewide GIS Program
FIGURE 23 ZONING
Life Safety Improvements
Kalaeloa, O'ahu, Hawai'i
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3.3.4 ROH Chapter 25, Special Management Area

Coastal Zone Management objectives and policies (Section 205A-2, HRS) and the Special Management Area (SMA) guidelines (Section 25-3.2 ROH) have been developed to preserve, protect, and where possible, to restore the natural resources of the coastal zone of Hawai'i.

Discussion:
Because Kalaeloa is one of HCDA's Community Development Districts, the City and County of Honolulu will not be involved in permitting within the Special Management Area for the proposed project (see **Section 3.2.4**). A SMA minor permit application, however, will be filed with the Office of Planning for the work being performed at Eisenhower Road.

SECTION 4
PERMITS AND APPROVALS THAT MAY BE REQUIRED

4.1 Federal Permits and Approvals that May be Required

- U.S. Navy, Base Realignment and Closure organization (responsible for Eisenhower Road)
    - Authorization for a 580-square foot encroachment onto U.S. Navy Land on Eisenhower Road
    - Right-of-entry to work on Eisenhower Road

4.2 State of Hawai'i Permits and Approvals that May be Required

- Department of Business, Economic Development and Tourism, Office of Planning:
    - Special Management Area Permit (Minor)
- Department of Transportation, Highways Division:
    - Right-of-Entry to work on Roosevelt Avenue and Coral Sea Road
    - Plans Review

4.3 City and County of Honolulu Permits and Approvals that May be Required

- Department of Planning and Permitting
    - Right-of-Entry for work on Tripoli Street, San Jacinto Street and Philippine Sea Road (the latter two roads are not currently operational).
    - Plans Review

SECTION 5
AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED

The following individuals, agencies and organizations were contacted prior to publication of this FEA or via a review copy of the Draft EA following publication in the *Environmental Notice.* Agencies, individuals and organizations providing comments are identified as follows: '*'

5.1 Federal

- Base Realignment and Closure (BRAC), U.S. Navy
- U.S. Fish & Wildlife Service
- National Marine Fisheries Administration
- U.S. Environmental Protection Agency, Region IX, Sole Source Aquifer Program

5.2 State

- Department of Business, Economic Development & Tourism, Office of Planning Department of Transportation
  - Highways Division: Traffic Office; Plans Review; and O'ahu District Office
- Department of Hawaiian Home Lands *
- Department of Land and Natural Resources *
- Department of Health *
  - Environmental Management Division
  - Office of Environmental Quality Control
- Office of Hawaiian Affairs *

5.3 City and County of Honolulu

- Department of Design and Construction, Civil Engineering Branch *
- Department of Planning & Permitting
- Department of Budget & Fiscal Services
- Department of Environmental Services
- Department of Facility Maintenance *
- Fire Department *
- Oahu Civil Defense Agency
- Department of Parks and Recreation
- Police Department *
- Board of Water Supply *

5.4 Other Organizations and Individuals

- Kalaeloa Public Safety Group
- Hawaiian Railway Society
- Hawaiian Electric Company

- Hawaiian TelCom *
- Oceanic Time Warner Cable

5.5 Elected Officials

- Hawai‘i State Senator Mike Gabbard
- Hawai‘i State Representative Sharon Har
- Honolulu City Council Member Todd Apo
- ‘Ewa Neighborhood Board

SECTION 6
ANTICIPATED DETERMINATION AND RESPONSE TO SIGNIFICANCE CRITERIA

6.1 Anticipated HRS Chapter 343 Determination

Based on the information and analysis in this Environmental Assessment, the proposed project is not expected to result in a significant effect on the environment. The State of Hawai‘i, Hawai‘i Community Development Corporation, intends to issue a Finding of No Significant Impact (FONSI), pursuant to requirements of the State of Hawai‘i HRS Chapter 343, and recommends that an Environmental Impact Statement (EIS) not be required.

6.2 Unavoidable Adverse Effects

All potential environmental effects discussed in Chapter 2 can either be avoided or mitigated to the extent that they would not be significant.

6.3 Energy Requirements and Conservation Potential of Various Alternatives and Mitigation Measures

Energy consumption will be required in the short-term for ground clearing, grading, and pavement construction. Because the improvements are strictly to provide increased safety, the project will not increase roadway capacity. Neither the preferred alternative nor any of the alternatives will increase energy requirements in the long-term.

6.4 Relationship of Short-Term Uses and Long-Term Productivity

In the short-term, the project will have temporary construction-related effects, primarily on persons traveling on Roosevelt or Coral Sea Roads and will require a commitment of public (HCDA) construction funds. However, the long-term project benefits outweigh the short-term trade-offs. The roadway improvements will increase the safety of the Kalaeloa roadway network.

6.5 Irretrievable and Irreversible Resource Commitments

Resources that are committed irreversibly or irretrievably are those that cannot be recovered if the project is implemented. The proposed project will involve two types of resources: 1) general industrial resources including capital, labor, fuels and construction equipment; and 2) project-specific resources such as natural resources and land at the affected site. General industrial resources will be spent during project construction and for long-term operation and maintenance of the roadways.

6.6 Significance Evaluation (HAR 200-12)

In determining whether an action may have significant effect on the environment, the applicant or agency must consider all phases of the project, its expected consequences both primary and secondary, its cumulative effect with other projects, and its short and long-term effects. The State of Hawai'i Department of Health Rules Section 11-200-12 (Hawai'i Administrative Rules, revised 1996) establish 13 "Significance Criteria" to be used as a basis for identifying whether significant environmental effect will occur. An agency will determine an action may have a significant effect on the environment if it meets any of the following criteria:

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

Improvements to Kalaeloa are identified in State, City and County, and the landowner's (HCDA's) plans for future urban development. There are no significant biological resources within the project site, including threatened or endangered species or their habitats.

There are no archaeological resources in the project areas. There is no indication that the project area was used to collect resources, to conduct traditional cultural practices in the past, or for present cultural practices. It is unlikely that any traditional Hawaiian sites would be found.

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

The proposed project does not curtail the range of beneficial uses of the environment. The project area is Kalaeloa Community Development District, and identified in City and County land use plans for future urban development. The roadway safety improvements will not curtail these future beneficial uses of the environment.

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

The proposed project is consistent with the environmental policies established in Chapter 344, HRS. As a roadway improvement, the proposed project is consistent with the Chapter 344 policy of *"Establishing communities which provide a sense of identity, wise use of land, efficient transportation…in harmony with the natural environment*…[§344-3 (2)(C)]. It is also consistent with the guidelines on Transportation, which*" Encourage transportation systems in harmony with the lifestyle of the people and environment"* and the guideline to *"Encourage public and private vehicles and transportation systems to conserve energy, reduce pollution emission, including noise, and provide safe and convenient accommodations for their users."* [§344-4(6)]. The project is consistent with Executive Order 12898, Environmental Justice, as there will be no disproportionately adverse effect on minority and low-income communities.

4. Substantially affects the economic or social welfare of the community or state;

The proposed project will not substantially affect the economic or social welfare of the community or State. Construction will have minor, short-term air and noise effects. However, because of the scope of the disturbance and the distance between the five project sites, these effects will be minimal. The project will have a long-term positive effect on local traffic safety, and thus, on the economic and social welfare of the community.

5. Substantially affects public health;

The project will not substantially affect public health. The temporary construction-period effects to air quality and noise are insignificant when weighed against the project's overall positive effects.

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

The roadway extension alone will not generate additional vehicle traffic, population changes or affect public facilities. Kalaeloa lands are already planned for future development. Build out of these areas will occur over the next 10 to 20 years with or without the proposed roadway safety improvements.

7. Involves a substantial degradation of environmental quality;

Construction period effects related to noise and air quality will be temporary and short-term, and will not degrade environmental quality. The project location has no significant botanical or other biological resources. The project will not obstruct views or degrade the visual environment. There will be no change in land use as a result of the project.

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

The proposed action is intended to improve roadway safety in the area. It will not increase roadway capacity or increase traffic. These improvements will not involve a commitment for larger actions.

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

No rare, threatened or endangered species or its habitat will be affected by the project. There are no significant biological resources in the project vicinity.

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

The project will result in short-term construction period increases in fugitive dust and noise. When completed, the roadway improvements will have no effect on air or water quality, nor will they increase vehicular traffic or traffic-associated noise.

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

Four of the five project sites are not within flood plains, erosion-prone areas or near coastal waters. The fifth site, the Coral Sea Road and Eisenhower Road intersection, is closer to the ocean but still nearly 300 feet from the shoreline. That site is in the tsunami evacuation zone but contains no buildings that could be damaged and no residences or businesses where human life would be threatened by a tsunami event. None of the sites is on geologically hazardous land or near an estuary or fresh water.

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

As the entire project is within a relatively flat plain, the project will not affect scenic vistas or view planes identified in county or state plans or studies. The roadway improvements will be at grade, and compatible with the existing roads and surrounding developments.

13. Requires substantial energy consumption.

The project will not require substantial energy consumption. Energy resources will be consumed during project construction. The project will not have indirect or cumulative effects on energy consumption.

SECTION 7
FINDINGS

In accordance with the provisions set forth in HRS Chapter 343, and the significance criteria in Section 11-200-12 of HAR, Title 11, Chapter 200, it is anticipated that the proposed roadway safety improvements will have no significant adverse effects on air quality, water quality, noise levels, social welfare, population, historic sites, or wildlife habitat.

Long-term cumulative and potential secondary effects anticipated are beneficial in the form of increased safety along the existing roadways. Adverse effects will be limited to short-term construction effects that include: release of fugitive dust; potential for increased runoff during severe storm events; increased noise, and traffic congestion (at least along the more-traveled Roosevelt Avenue).

Overall, the long-term benefits of safer roadways within Kalaeloa are believed to outweigh the adverse effects which can be mitigated. Therefore, the determination is that an environmental impact statement (EIS) will not be required, and that a Finding of No Significant Impact (FONSI) will be issued for this project.

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APPENDIX A

Archaeological Field Inspection and Literature Review for the Kalaeloa Life Safety Improvements Project, Cultural Surveys Hawai'i, Inc., August 2010

Archaeological Field Inspection and Literature Review For the Kalaeloa Life Safety Improvements Project, Honouliuli Ahupuaʻa, ʻEwa District, Island of Oʻahu TMK: [1] 9-1-013: (Coral Sea Road Intersections and Roosevelt Ave. at Philippine Sea Rd. Intersection)

Prepared for

R. M. Towill Corporation

Prepared by

Hallett H. Hammatt, Ph.D.

And

David W. Shideler, M.A.

Cultural Surveys Hawaiʻi, Inc.

Kailua, Hawaiʻi

(Job Code: HONOULIULI 44)

August 2010

Oʻahu Office
P.O. Box 1114
Kailua, Hawaiʻi 96734
Ph.: (808) 262-9972
Fax: (808) 262-4950

www.culturalsurveys.com

Maui Office
16 S. Market Street, Suite 2N
Wailuku, Hawaiʻi 96793
Ph: (808) 242-9882
Fax: (808) 244-1994

Management Summary

Reference	Archaeological Field Inspection and Literature Review For the Kalaeloa Life Safety Improvements Project, Honouliuli Ahupua‘a, ‘Ewa District, Island of O‘ahu TMK: [1] 9-1-013: (Coral Sea Road Intersections and Roosevelt Ave. at Philippine Sea Road Intersection)
Date	August 2010
Project Number (s)	Cultural Surveys Hawai‘i Inc. (CSH) Job Code HONOULIULI 44
Investigation Permit Number	CSH carried out the fieldwork for this study under state archaeological fieldwork permit No. 10-10 issued by the State Historic Preservation Division (SHPD), per Hawai‘i Administrative Rules (HAR) Chapter 13-282
Project Location	The project area includes five separate, relatively small sections of the Kalaeloa life Safety Improvements project (designated as “sites”) including: the intersection of Coral Sea Road and Roosevelt Avenue, the intersection of Coral Sea Road and San Jacinto Street, the intersection of Coral Sea Road and Tripoli Street, the intersection of Coral Sea Road and Eisenhower Road, and the intersection of Roosevelt Avenue and Philippine Sea Road (approximately 1 km east of the intersection of Coral Sea Road and Roosevelt Avenue). These study areas are located on the eastern side of the former Barbers Point Naval Air Station, Honouliuli Ahupua‘a, ‘Ewa District, O‘ahu - as depicted on the 1998 U.S. Geological Survey 7.5-minute Series Topographic Map, ‘Ewa Quadrangle (present Figure 1). All proposed work is understood as within existing road right-of-ways.
Land Jurisdiction	Kalaeloa Community Development Area: Hawai‘i Community Development Authority (project proponent and funding source for roadway safety improvements) Roosevelt Avenue and coral Sea Road: State of Hawaii, Department of Transportation – Highways Division Tripoli Street, San Jacinto street and Philippine Sea Road: City and County of Honolulu Eisenhower Road: Base Realignment and Closure, U.S. Navy.
Agencies	The project is for the Hawaii Community Development Authority (HCDA), State of Hawai‘i. The landowner is understood as the State Department of Transportation. The study is prepared for the review of the SHPD / Department of Land and Natural Resources (DLNR)

Project Description	The proposed project includes the following site specific work: • At the intersection of Coral Sea Road and San Jacinto Street (Site # 1) widening Coral Sea Road 2 feet on either side within the right-of-way, • At the intersection of Roosevelt Avenue and Philippine Sea Road (Site # 2) the work appears to be exclusively new striping and pavement markings, • At the intersection of Coral Sea Road and Eisenhower Road (Site # 3) widening of the existing intersection (and some possible re-configuration), • At the intersection of Coral Sea Road and Tripoli Street (Site # 4) adding of a curb and signage is anticipated (no new pavement), and • At the intersection of Coral Sea Road and Roosevelt Avenue Street (Site # 5) there will be straightening of the T-intersection, installation of speed bumps and striping, and creation of wider pavement.
Project Acreage	The total of the five areas of improvements is less than 1.0 acre.
Historic Properties Potentially Affected	Due to previous land modifications, there are currently no known surface archaeological features in the project area(s).
Historic Preservation Regulatory Context	This document was prepared (as per Hawaii Administrative Rules 13-275-3) to provide the department with information as to the number of historic properties within the proposed project area, their significance, the impact of the proposed project on the historic properties, and any proposed mitigation measures. A letter of determination is requested from the State Historic Preservation Division.
Recommendations	Based on the heavily disturbed nature of the lands within the current project area, it is likely that any surface archaeological sites were removed prior to or during the construction of the roads. Efforts were made to identify in the field the only three sites indicated to be in the vicinity of the project areas (SIHP #s 50-80-12-1745, -1747 and -1751). It was concluded that these three sites lie at a sufficient distance (70 m +) such that the project will have no impact on these previously identified sites. No new archaeological features were observed in close proximity to the project area(s). No further archaeological work is recommended. However, since there are known sinkholes in the vicinity (within approximately 70 + m) we recommend that the contractor be made aware (through a notation to project plans) that in the unlikely event of the discovery of a sinkhole greater then 3 feet in diameter that all work in the immediate vicinity is to stop and that the SHPD be notified.

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Section 1 Introduction

1.1 Project Background

At the request of R. M. Towill Corporation, Cultural Surveys Hawai‘i, Inc. (CSH) prepared this Archaeological Field Inspection and Literature Review study for the Hawaii Community Development Authority (HCDA), State of Hawai‘i Kalaeloa Life Safety Improvements Project, Honouliuli Ahupua‘a, ‘Ewa District, Island of O‘ahu.

The project includes safety improvements at four intersections of Coral Sea Road (with Roosevelt Ave., San Jacinto Street, Tripoli Street, and Eisenhower Road) and safety improvements at Roosevelt Avenue at the Philippine Sea Road Intersection. In general terms these study areas are all located on the eastern side of the former Barbers Point Naval Air Station, as depicted on the 1998 U.S. Geological Survey 7.5-minute Series Topographic Map, ‘Ewa Quadrangle (Figure 1), a Tax Map Key (Figure 2), aerial photograph (Figure 3), and project location map (Figure 4). The land jurisdiction and funding for the project area are controlled by the Hawai‘i Community Development Authority.

The proposed project includes the following site specific work:

- At the intersection of Coral Sea Road and San Jacinto Street (Site # 1) widening Coral Sea Road 2 feet on either side within the right-of-way,
- At the intersection of Roosevelt Avenue and Philippine Sea Road (Site # 2) the work appears to be exclusively new striping and pavement markings,
- At the intersection of Coral Sea Road and Eisenhower Road (Site # 3) widening of the existing intersection (and some possible re-configuration),
- At the intersection of Coral Sea Road and Tripoli Street (Site # 4) adding of a curb and signage is anticipated (no new pavement), and
- At the intersection of Coral Sea Road and Roosevelt Avenue (Site # 5) there will be straightening of the T-intersection, installation of speed bumps and striping, and creation of wider pavement.

Due to previous land modifications, there are currently no known surface archaeological features in the immediate project area(s). The three closest previously identified sites (SIHP #s 50-80-12-1745, -1747 and -1751) were confirmed in the field to lie at a sufficient distance (70 m +) as not to be impacted by the proposed project.

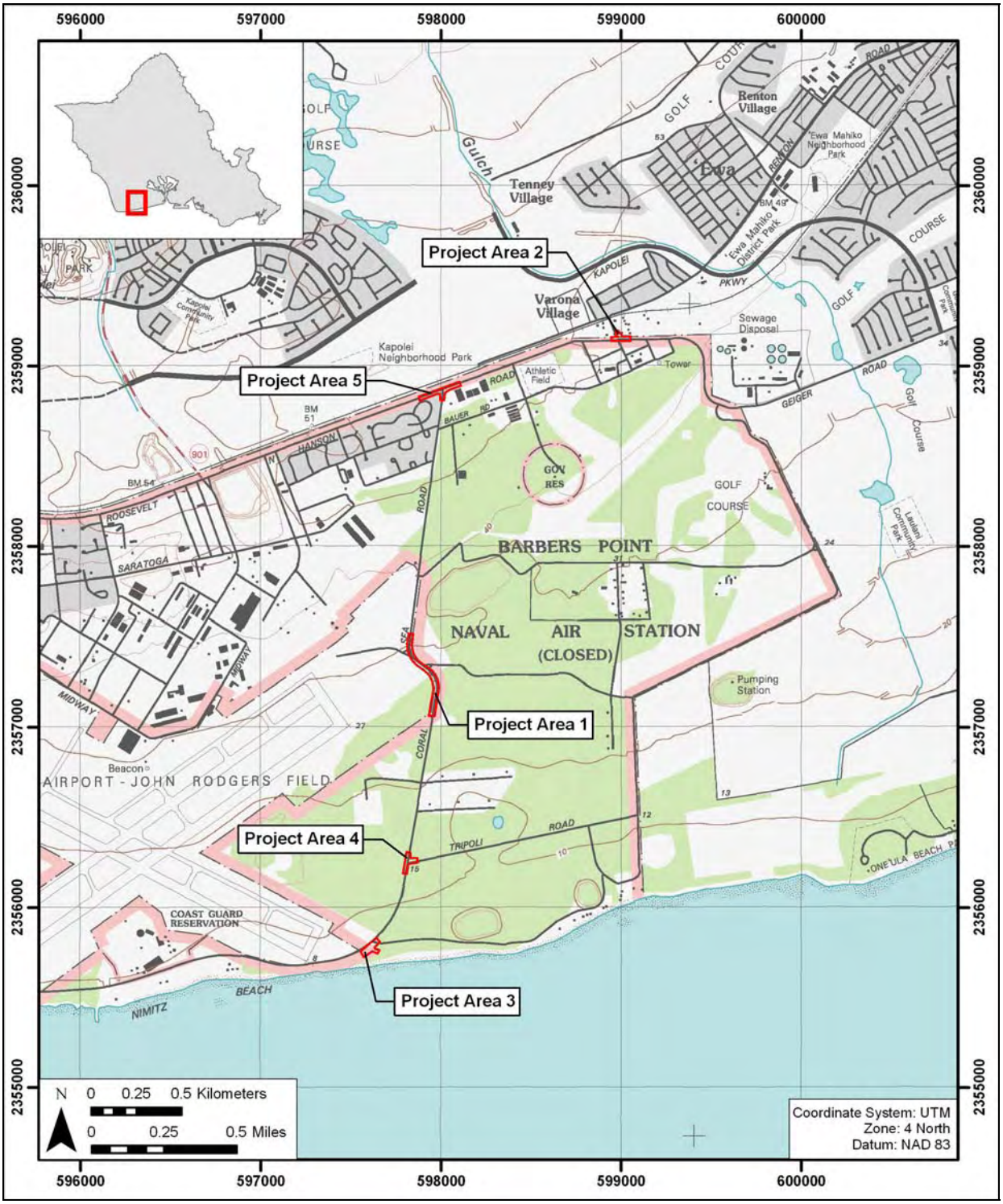


Figure 1. Portion of the 1998 U.S. Geological Survey 7.5-minute series topographic map, ‘Ewa quadrangle showing project area(s)

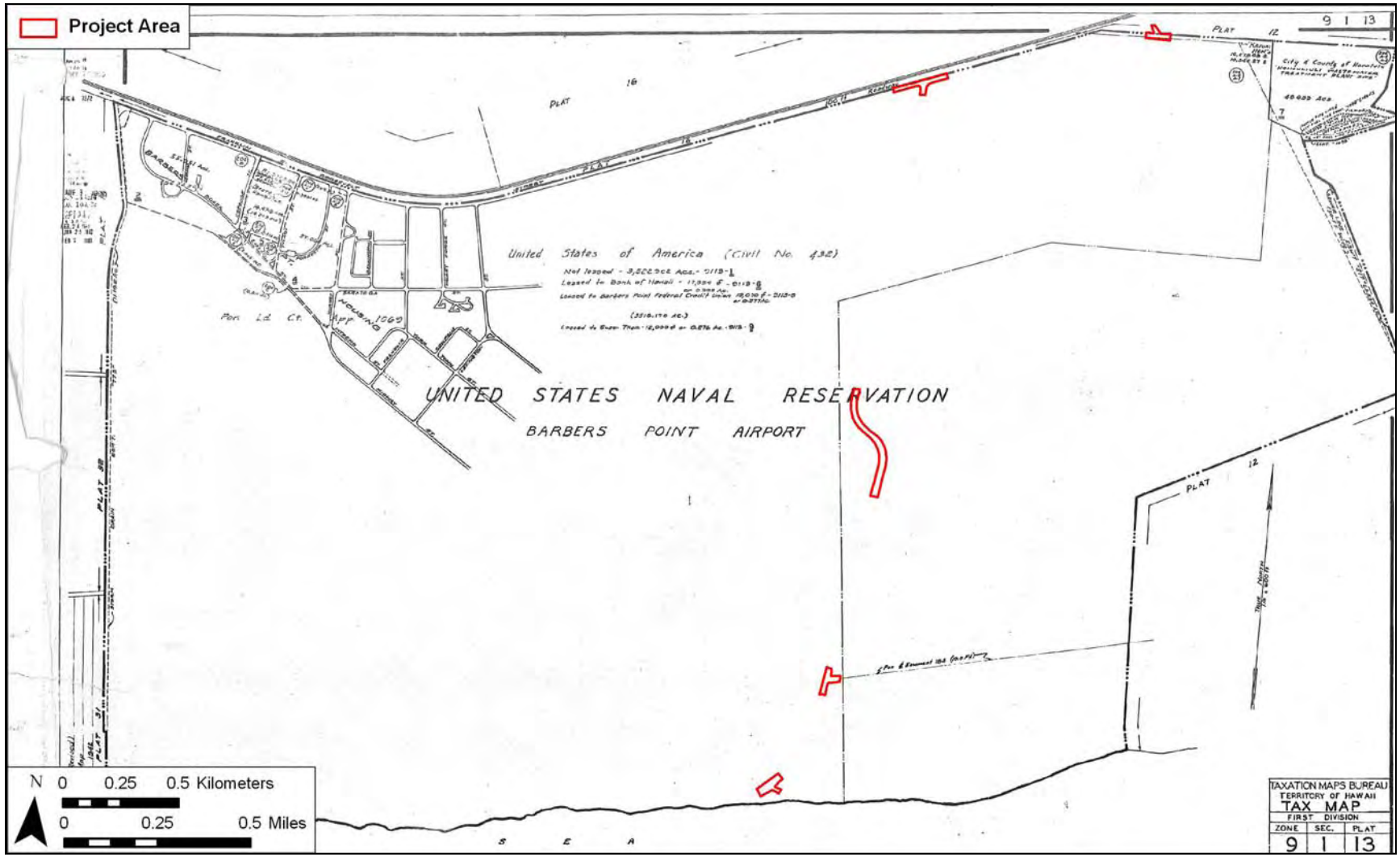


Figure 2. Tax Map Key (TMK) Plat map 9-1-013 showing project area(s)

Figure 3. Aerial photograph showing the project area(s)

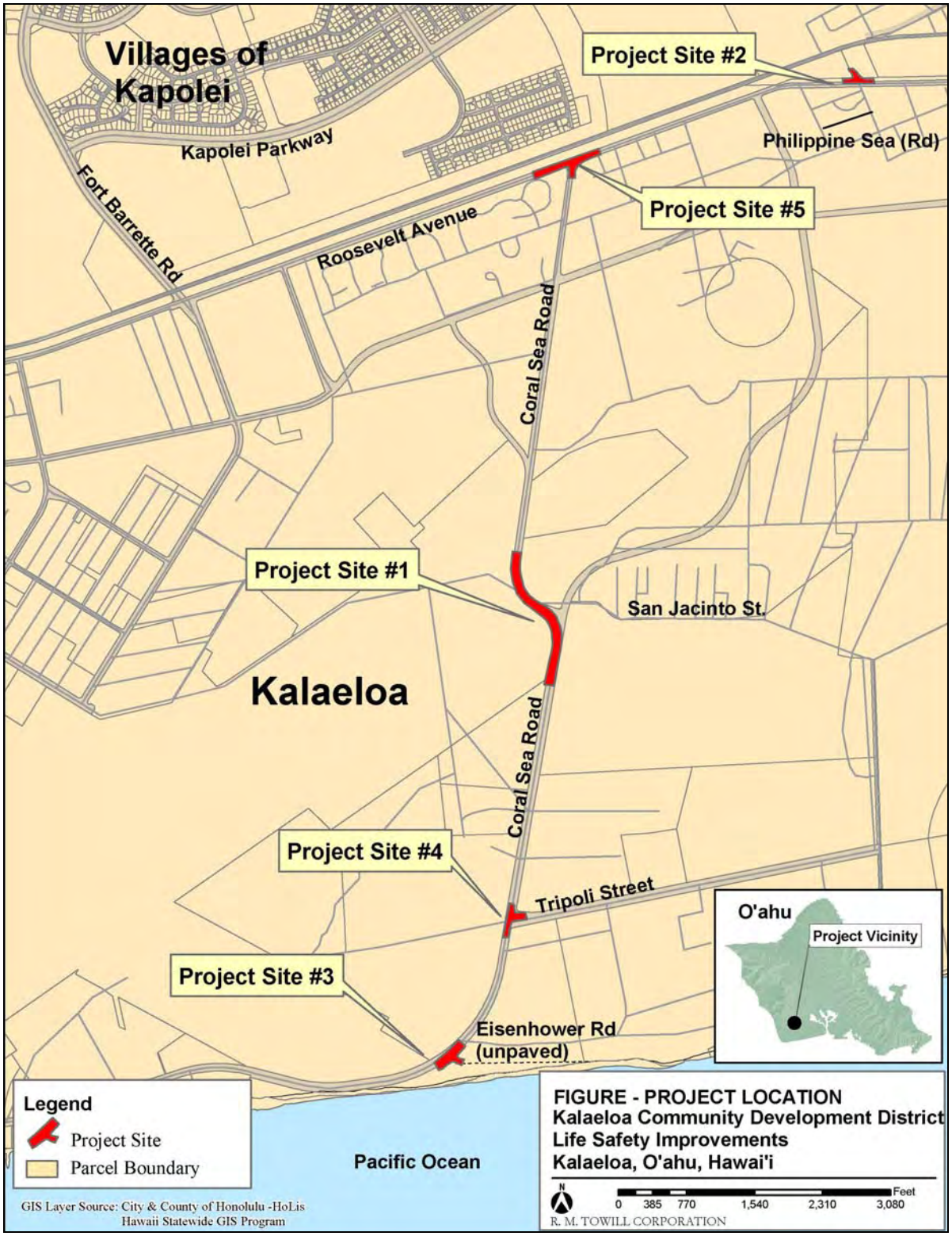


Figure 4. Kalaeloa Community Development District Life Safety Improvements showing five study areas (from R. M. Towill Corporation)

1.2 Environmental Setting

1.2.1 Natural Environment

The project area is located on the ‘Ewa plain, south of the Wai‘anae Mountain Range in the southwest corner of O‘ahu. The terrain generally consists of limestone and alluvial deposits, overlying flows of the Wai‘anae volcanic series (Macdonald et al. 1983:423). Lands within the project area are level to gently sloping, with elevations ranging from 4-11 m (13-36 ft.). According to U.S. Department of Agricultural (USDA) soil survey data (Foote et al. 1972) the sediment within the project area consists almost entirely of Coral Outcrop (CR) (Figure 5). Coral outcrop (CR) is described as consisting of “coral or cemented calcareous sand on the island of Oahu…Coral outcrop makes up about 80 to 90 percent of the acreage. The remaining 10 to 20 percent consists of a thin layer of friable, red soil material in cracks, crevices, and depressions within the coral outcrop” (Foote et al. 1972). There are Mamala stony silty clay loam soils (MnC) underlying the most northeastern extent of Project Area 5 (the intersection of Coral Sea Road and Roosevelt Avenue) and Project Area 2 (the intersection of Roosevelt Avenue and Philippine Sea Road).

The surface of the Pleistocene limestone outcrop, where not covered by alluvium or stockpiled material, has characteristic dissolution “pit caves” (Mylroie and Carew 1995), which are nearly universally, but erroneously, referred to as “sink holes” (Halliday 2005). These pit caves, or sinkholes, vary widely in areal extent and depth, with some of the more modest features comparable in volume to five-gallon buckets, while some of the larger features, although usually irregularly shaped, are several meters wide and several meters deep. In traditional Hawaiian times, the areas of exposed coral outcrop were undoubtedly more extensive.

Lying in the lee of the Wai‘anae mountain range, the project area is one of the driest areas of O‘ahu with most of the area averaging about 18 inches of rainfall annually (Juvik and Juvik 1998:56), because of its location in the rain shadow of the Ko‘olau Range (Environmental Baseline Survey Report, 1994:3-3). The highest level of rainfall is between the months of October and April (Naval Energy and Environmental Support Activity [NEESA], 1983 as cited in the Environmental Baseline Survey, 1994:3-3). In pre-contact Hawai‘i the project vicinity would have been mostly lowland coastal dry shrub and grassland, but this area has been extensively disturbed and transformed by human activity with most of the land now dominated by a variety of exotic grasses, weeds, and shrubs or graded and grubbed bare. These grasses and shrubs, along with pockets of *kiawe* (*Prosopis pallida*), castor bean (*Ricinus communis*), *klu* (*Acacia farnesiana*) and *haole koa* (*Leucana glauca*) forest, and various exotic weeds and grasses.

1.2.2 Built Environment

Lands within the project area have been heavily disturbed by the previous development of the Barbers Point Naval Air Station. The current project area is the northeastern section of the Kalaeloa Community Development District.

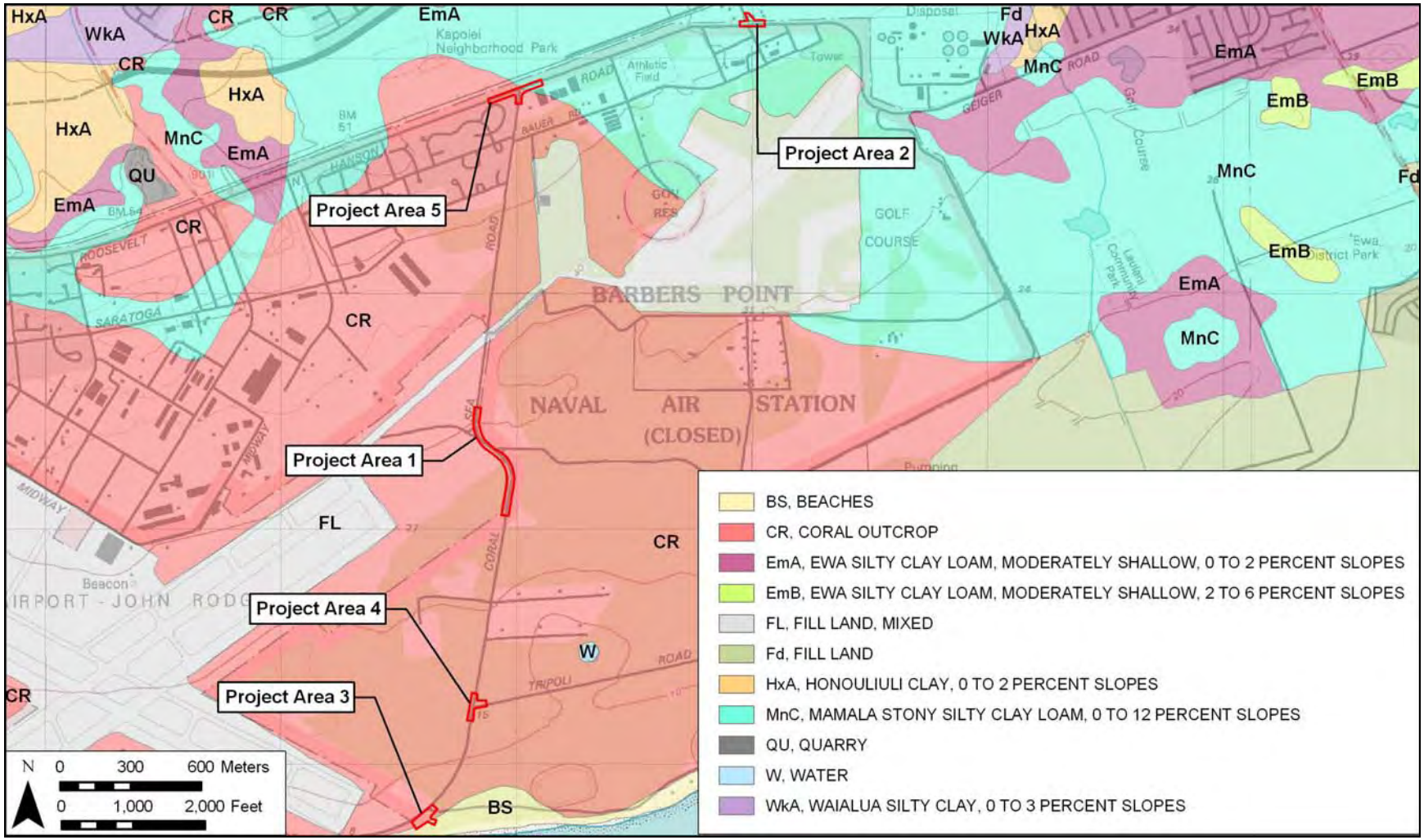


Figure 5. Overlay of Soil Survey of the State of Hawai‘i (Foote et al. 1972), indicating sediment types within the project area

West of the project area is the James Campbell Industrial Park. The industrial park is fully developed, with large warehouses and factories. The expanding Kapolei Business Park is located west of the project area. The business park is also zoned for industrial use, with several existing buildings.

The project area and vicinity have been drastically altered by historic and modern land use including grading, grubbing and runway construction. It is assumed that much of this land alteration was associated with the establishment of the Barbers Point Military Reservation in 1921 and particularly between 1937 and 1942 at the time of the establishment of substantial additional attendant military infrastructure.

Section 2 Background Research

2.1 Historic Background Research

2.1.1 Mythological and Traditional Accounts and Early Historic Period

Various legends and early historical accounts indicate that the *ahupua‘a* of Honouliuli (Figure 6) was once heavily populated by pre-contact Hawaiians. This substantial settlement is attributable for the most part to the plentiful marine and estuarine resources available at the coast, as well as lowlands fronting the west loch of Pearl Harbor (Kaihuopala‘ai) suitable for wetland taro cultivation. In addition, forest resources along the slopes of the Wai‘anae Range, as suggested by E.S. and E.G. Handy, probably acted as a viable subsistence alternative during times of famine and/or low rainfall.

> The length or depth of the valleys and the gradual slope of the ridges made the inhabited lowlands much more distant from the wao, or upland jungle, than was the case on the windward coast. Yet the wao here was more extensive, giving greater opportunity to forage for wild foods during famine time [Handy and Handy 1972:469-470].

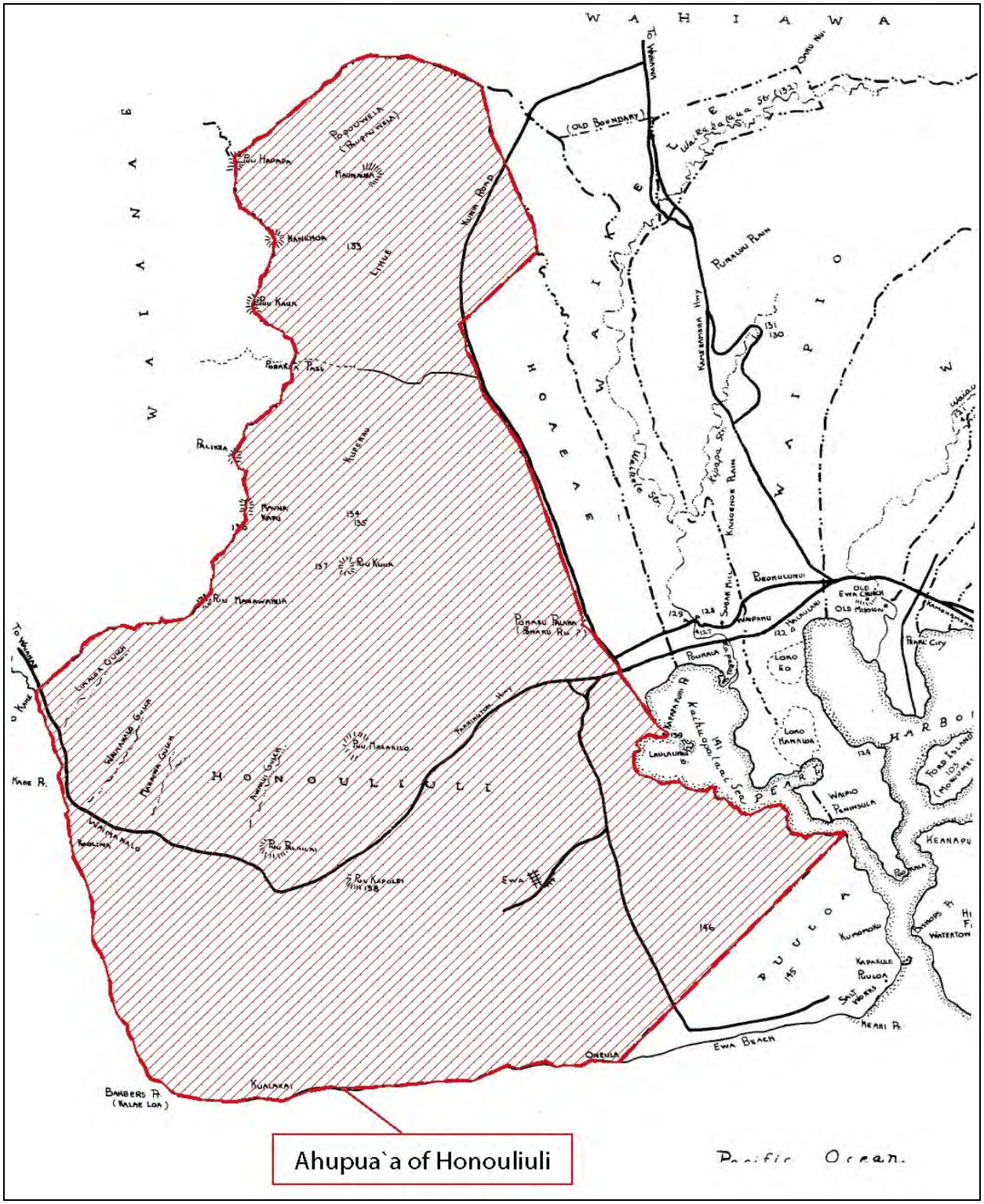
John Papa ‘Ī‘ī describes a network of Leeward O‘ahu trails that in later historic times encircled and crossed the Wai‘anae Range, allowing passage from West Loch to the Honouliuli lowlands, past Pu‘u Kapolei and Waimānalo Gulch to the Wai‘anae coast and onward, circumscribing the shoreline of O‘ahu (‘Ī‘ī 1959:96-98). Following ‘Ī‘ī’s description, a portion of this trail network would have passed close to the present Farrington Highway alignment.

The Hawaiian *ali‘i* were also attracted to this region. One historical account of particular interest refers to an *ali‘i* residing in Ko‘olina, 6 kilometers to the northwest of the project area:

> Ko‘olina is in Waimānalo near the boundary of ‘Ewa and Wai‘anae. This was a vacationing place for chief Kākuhihewa and the priest Napuaikamao was the caretaker of the place. Remember reader, this Ko‘olina is not situated in the Waimānalo on the Ko‘olau side of the island but the Waimānalo in ‘Ewa. It is a lovely and delightful place and the chief, Kākuhihewa loved this home of his [*Ke Au Hou* July 13, 1910 in Sterling and Summers 1978:41].

Other early historical accounts of the general region typically refer to the more populated eastern portion of the ‘Ewa district, where missions and schools were established and subsistence resources were perceived to be greater. However, the presence of archaeological sites along the barren coral plains and coast of southwest Honouliuli Ahupua‘a indicate that pre-contact and early post-contact populations also adapted to less inviting areas, despite the environmental hardships.

Barbers Point was originally named “Point Banks” by Captain Nathaniel Portlock in 1786 in honor of the naturalist on Cook’s first voyage into the pacific, Joseph Banks. At that time Joseph Banks was president of the Royal Society in London (Environmental Baseline Survey Report, 1994:3-19). Point Banks was renamed Barber’s Point after Captain Henry Barber’s ship ran


Ahupua`a of Honouliuli
Pacific Ocean
W A H I A W A
W A I A N A E
H O A E A E
W A I P I O
H O N O U L I U L I
P U U O A
Pu Hapapa
Kaneohe
Pu Kaua
Palikea
Pu Kuua
Pu Makakilo
Pu Palailai
Pu Kapolei
Ewa
Ewa Beach
Oneula
Kualakai
Barbers Pt.
Kaloi Gulch
Waimanalo Gulch
Honouliuli Gulch
Waimalo
Kaloi
Kaie R.
To Waianae
Kunia Road
Kunia Rd.
Pearl City
Waipio Peninsula
Keanapu
Kuwanoku
Kapakule
Puuloa
Salt Works
Keahi Pt.
Waiawa
Waipio
Pearl Harbor
Ford Island
Waiau
Waiawa Stream
Kipapa Stream
Kipapa Plain
Kunia Plain
Kamehameha Hwy
Waipahu
Waikele
Pearl City
Old Ewa Church
Old Mission
Lono Eo
Lono Hanaiola
Pohakea
Pearl Harbor
Waipio Peninsula
Keanapu
Kuwanoku
Kapakule
Puuloa
Salt Works
Keahi Pt.
Ewa Beach
Oneula
Kualakai
Barbers Pt.
(Kalae Loa)
Kaie R.
Waimanalo
Kaolina
Pohakea Pass
Kunia Road
Kamehameha Hwy
Farrington Hwy
Waipahu
Pearl City
Waiau
Waiawa Stream
Kipapa Stream
Kipapa Plain
Kunia Plain
Kamehameha Hwy
Waikele
Waiau
Waipio
Waiawa
Pearl Harbor
Ford Island

aground on October 31, 1796. Subsequent to western contact in the area, the landscape of the ‘Ewa plains and Wai‘anae slopes was adversely affected by the over-harvesting of the sandalwood forest, and particularly by the introduction of domesticated animals and exotic plant species. Domesticated animals including goats, sheep and cattle were brought to the Hawaiian Islands by Captain George Vancouver in the early 1790s, and were allowed to graze freely about the land for some time after. L.A. Henke reports the existence of a longhorn cattle ranch in Wai‘anae by circa 1840 (in Frierson 1972:10).

During this same time, perhaps as early as 1790, exotic plant species were introduced to and flourished in the area. The following dates of specific vegetation introduced to Hawai‘i are given by R. Smith and outlined by Frierson (1972:10-11):

> “early”, c. 1790: Prickly pear cactus (*Opuntia tuna*); *Haole koa* (*Leucaena glauca*); Guava (*Psidium guajava*)
>
> 1835-1840: Burmuda [sic] grass (*Cynodon dactylon);* Wire grass (*Eleusine indica)*
>
> 1858: Lantana (*Lantana camara)*
>
> The *kiawe* tree was also introduced during this period, either in 1828 or 1837 [Frierson 1972:11].

2.1.2 Mid- to late-1800s

Following the Māhele of 1848, 99 individual land claims in the *ahupua‘a* of Honouliuli were registered and awarded by King Kamehameha III. The present study area appears to have been included in the largest award (Royal Patent 6071, LCA 11216, *‘Āpana* 8) granted in Honouliuli Ahupua‘a to Miriam Ke‘ahi-Kuni Kekau‘ōnohi on January 1848 (Native Register). Kekau‘ōnohi acquired a deed to all unclaimed land within the *ahupua‘a*, totaling 43,250 acres.

Kekau‘ōnohi was one of Liholiho’s (Kamehameha II’s) wives, and after his death, she lived with her half-brother, Luanu‘u Kahala‘i‘a, who was governor of Kaua‘i. Subsequently, Kekau‘ōnohi ran away with Queen Ka‘ahumanu’s stepson, Keli‘i-ahonui, and then became the wife of Chief Levi Ha‘alelea. Upon her death on June 2, 1851, all her property was passed on to her husband and his heirs. When Levi Ha‘alelea died, the property went to his surviving wife, who in turn leased it to James Dowsett and John Meek in 1871 for stock running and grazing.

In 1877, James Campbell purchased most of Honouliuli Ahupua‘a -including the current project area- for a total of $95,000. He then drove off 32,347 head of cattle belonging to Dowsett, Meek, and James Robinson and constructed a fence around the outer boundary of his property (Bordner and Silva 1983:C-12). By 1881, the Campbell property of Honouliuli prospered as a cattle ranch with “abundant pasturage of various kinds” (Briggs in Haun and Kelly 1984:45).

In 1889, Campbell leased his property to Benjamin Dillingham, who subsequently formed the Oahu Railway and Land Company (O.R. & L.) as the result of a franchise granted by King Kalākaua in 1886. In 1889, Dillingham opened the first nine miles of narrow gauge track on the King’s birthday. To attract business to his new railroad system, Dillingham subleased all land

below 200 feet to William Castle who in turn sublet the area to the Ewa Plantation Company for sugar cane cultivation (Frierson 1972:15).

Ewa Plantation Co. grew quickly and continued in full operation up into modern times. As a means to generate soil deposition on the coral plain and increase arable land in the lowlands, the Ewa Plantation Co. installed ditches running from the lower slopes of the mountain range to the lowlands and then plowed the slopes vertically just before the rainy season to induce erosion (Frierson 1972:17).

2.1.3 1900s

Twentieth century land use in the vicinity of the project area included transportation along the former O.R. & L. alignment that ran roughly parallel to the coast 500 m inland. Passenger totals on the O.R. & L. line increased throughout the first half of the twentieth century. In 1908, a total of 446,318 people rode on the line. This total rose to approximately 1,200,000 by 1922 and 1943 saw an all time high of 2,642,516 passengers. Throughout WWII, the railway served a critical function in moving both personnel and equipment.

The development of a better road system and more cars on the island began to cut into passenger totals on the O.R. & L. According to the National Register of Historic Places Inventory forms on file at SHPD/DLNR, on December 12, 1947, all operations outside of Honolulu ceased. In 1950, the U.S. Navy purchased the track and right-of-way from Pearl Harbor to the Naval Ammunition Depot (NAD) access road in Nānākuli for $1.00 in the name of “National Defense”. The NAD maintained this 25.5-mile stretch of track until the early 1950s when a 6.5-mile stretch from Pearl Harbor to Waipahu was ceded to the state of Hawai‘i. A further 6 miles was reverted to the state in 1954 after a heavy flood. The final 13-mile stretch was in use until 1968 and was ceded to the state in 1980.

A 1919 Fire Control (War Department) quad map (Figure 7) shows no development near the three seaward intersections and only the OR&L near the two Roosevelt Avenue Intersections (the OR&L alignment is parallel to but approximately 60 m north of Roosevelt Avenue). A U. S. Coast and Geodetic Survey Magnetic Survey Station and a sisal farm lie west of the project area(s) and ‘Ewa Town lies to the east by the ‘Ewa railroad station. The 1928 U.S. Geological Survey map (Figure 8) shows roads, the Oahu Railway and the Magnetic Observatory, but no development of the Naval Air Station. A 1943 war department map (Figure 9) shows substantial development of the area with the establishment of the Roosevelt Avenue, Coral Sea Road (although it then ran straight to the sea east of the present *makai* southwesterly arc) and Philippine Sea Road alignments. A spur railroad is shown extending down the east side of the north portion of Coral Sea Road. Tripoli Road (Road 216A) appears as a major route. It is perhaps not surprising that during time of war new military bases would not be shown in detail on maps available for widespread distribution. In the 1953 U.S. Geological Survey map (Figure 10) the Naval Air Station is fully depicted and it is evident that there is a large amount of infrastructure present at this time, much of which is not present today. The project’s relationship to Ewa Field (south of Philippine Sea Road and well away from the present project areas) is clearly shown. A 1977 photograph (Figure 11) shows very extensive grading particularly at the Coral Sea Road/San Jacinto intersection area.

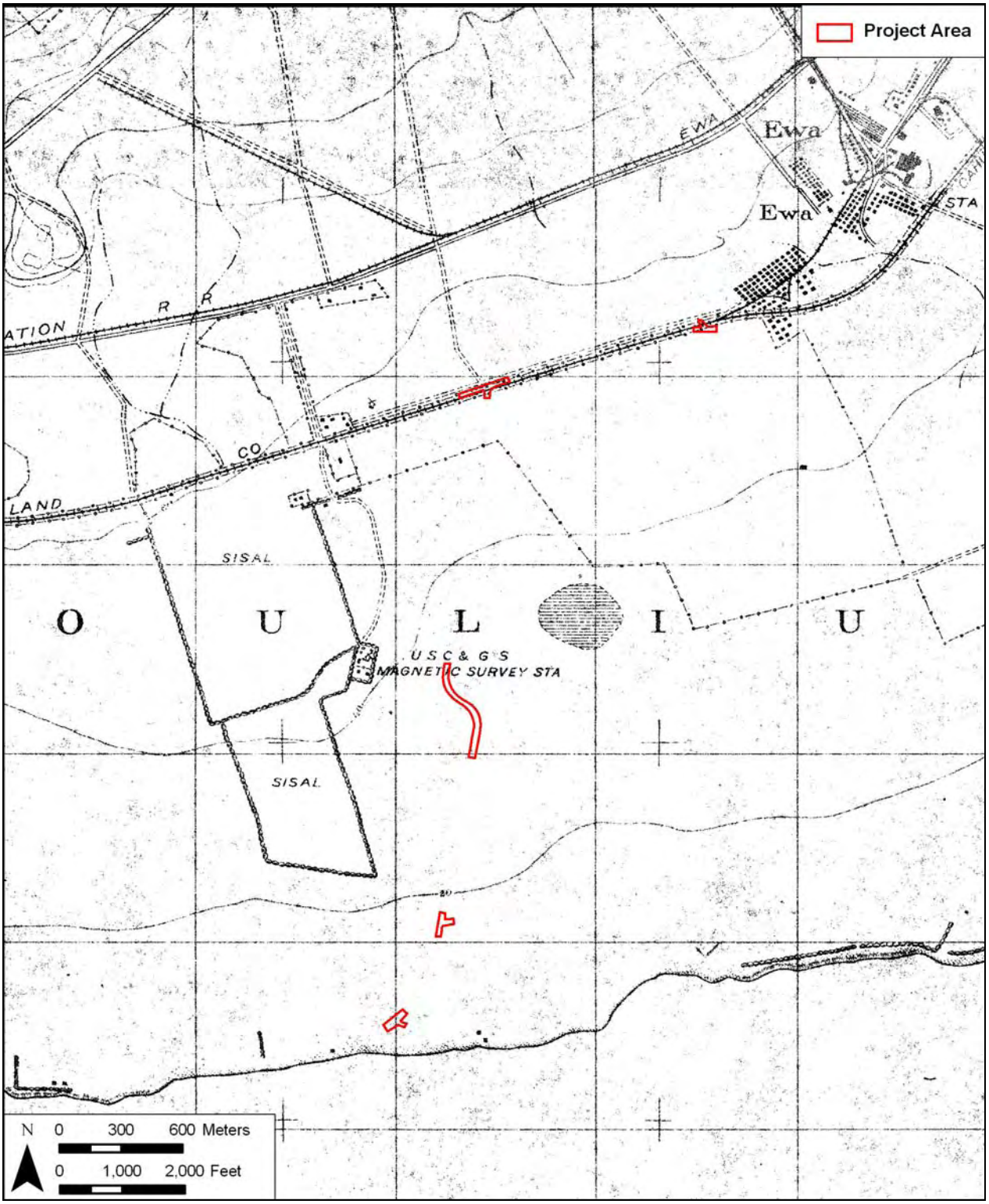


Figure 7. 1919 War Department Fire Control map Barbers point quad showing project area(s)

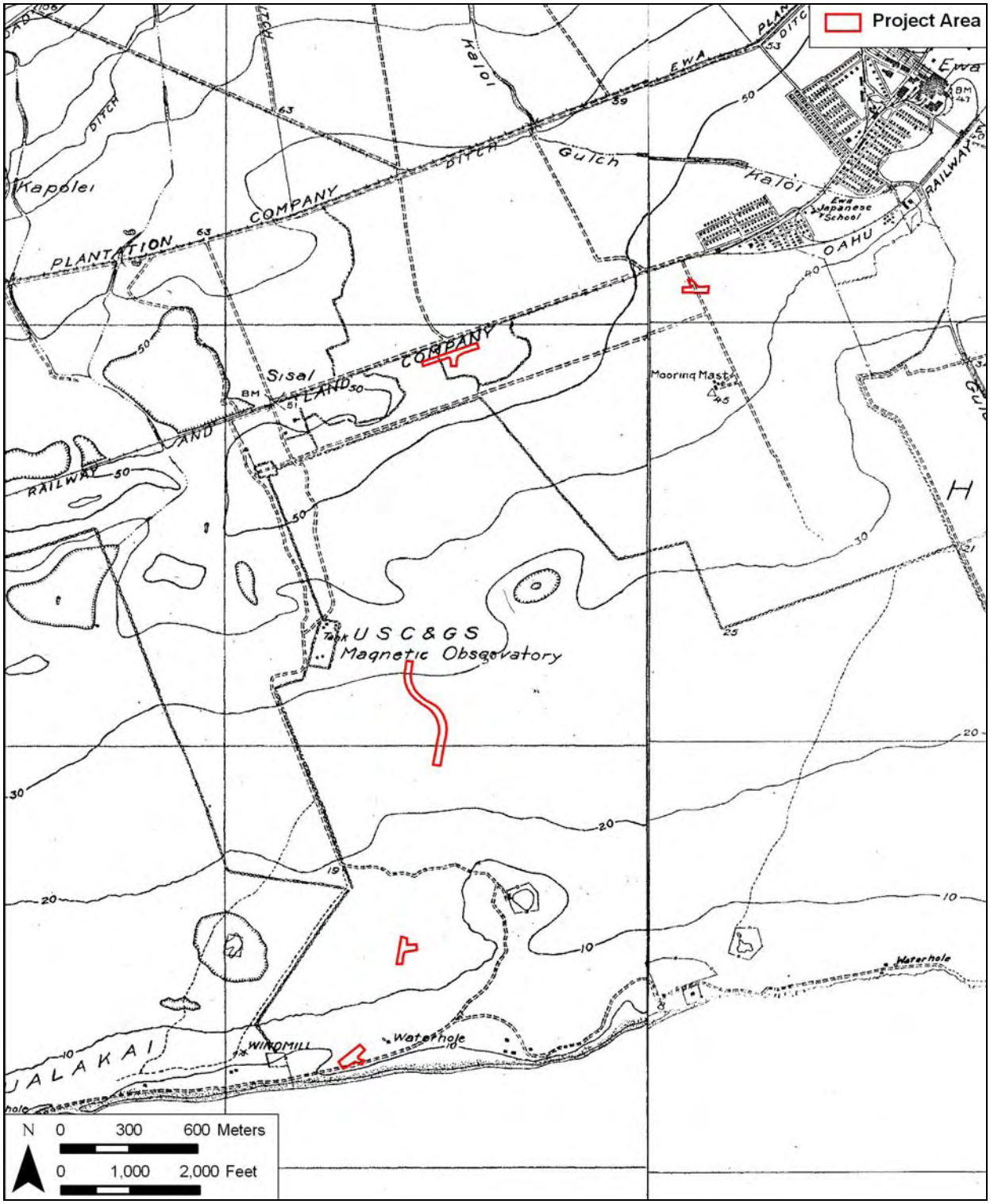


Figure 8. 1928 U.S. Geological Survey Topographic Map, ‘Ewa Quadrangle, showing project area(s)

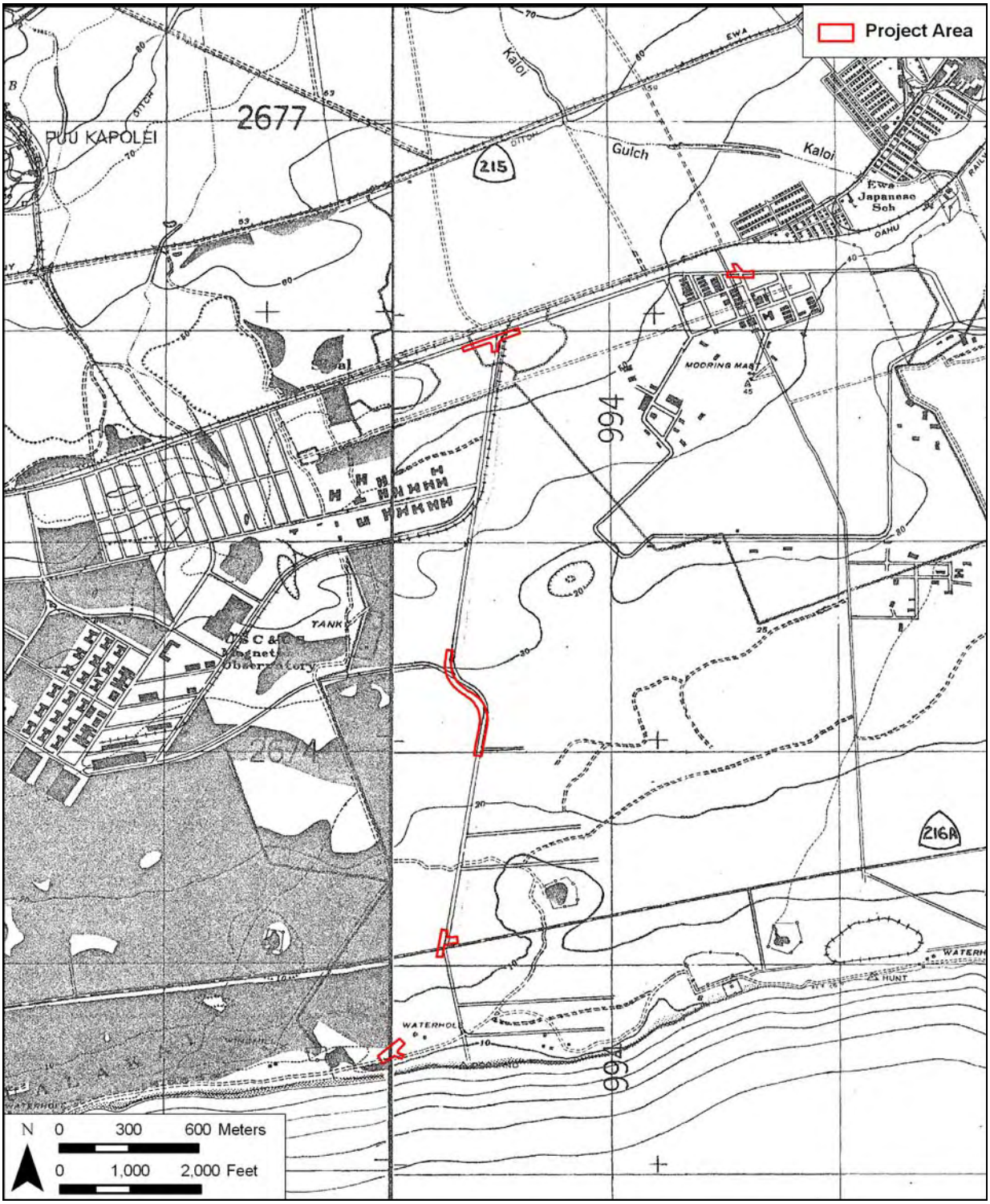


Figure 9. 1943 War Department map showing the location of project area(s)

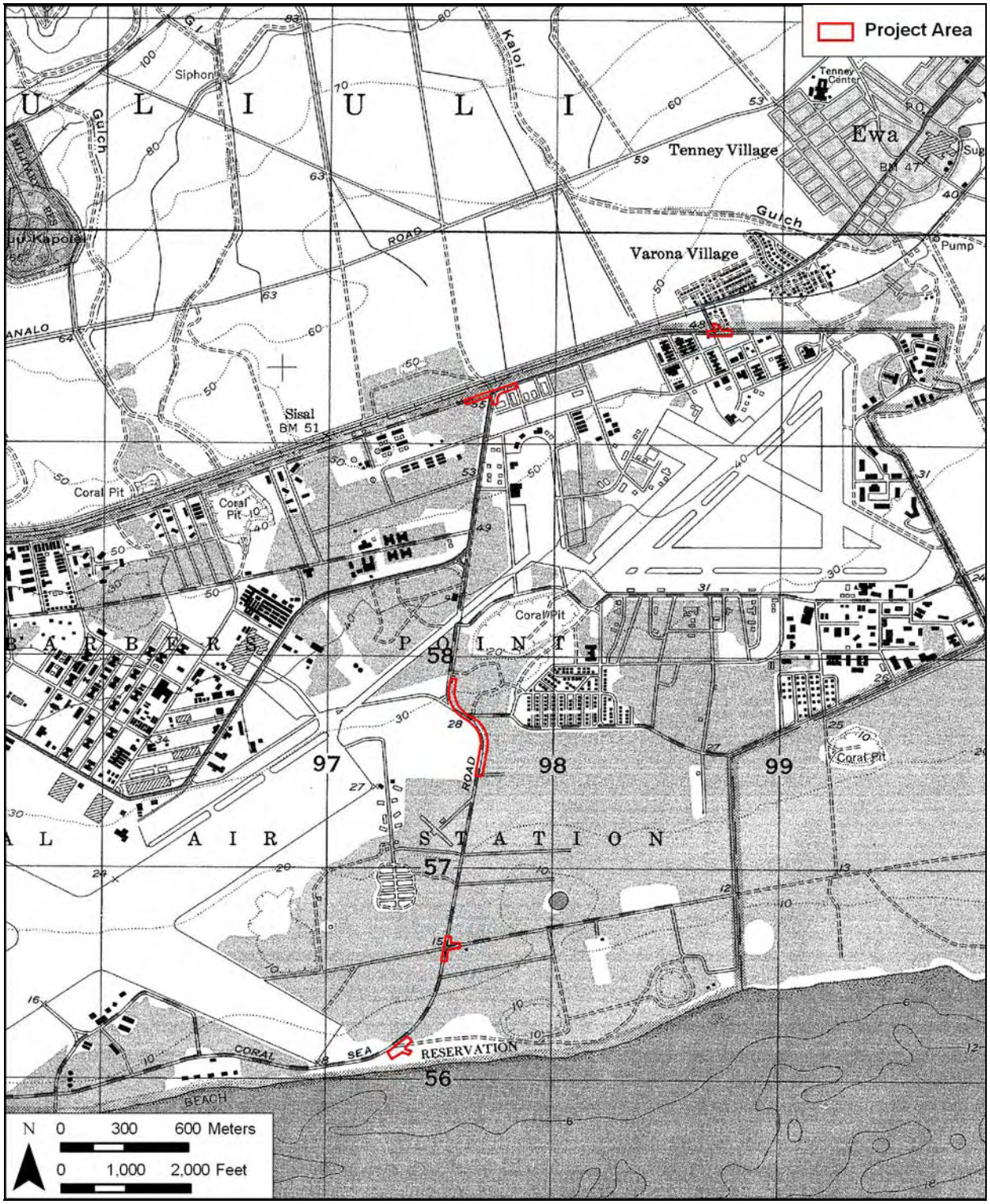


Figure 10. U. S. Geological Survey 1953 ‘Ewa quadrangle showing the location of project area(s)

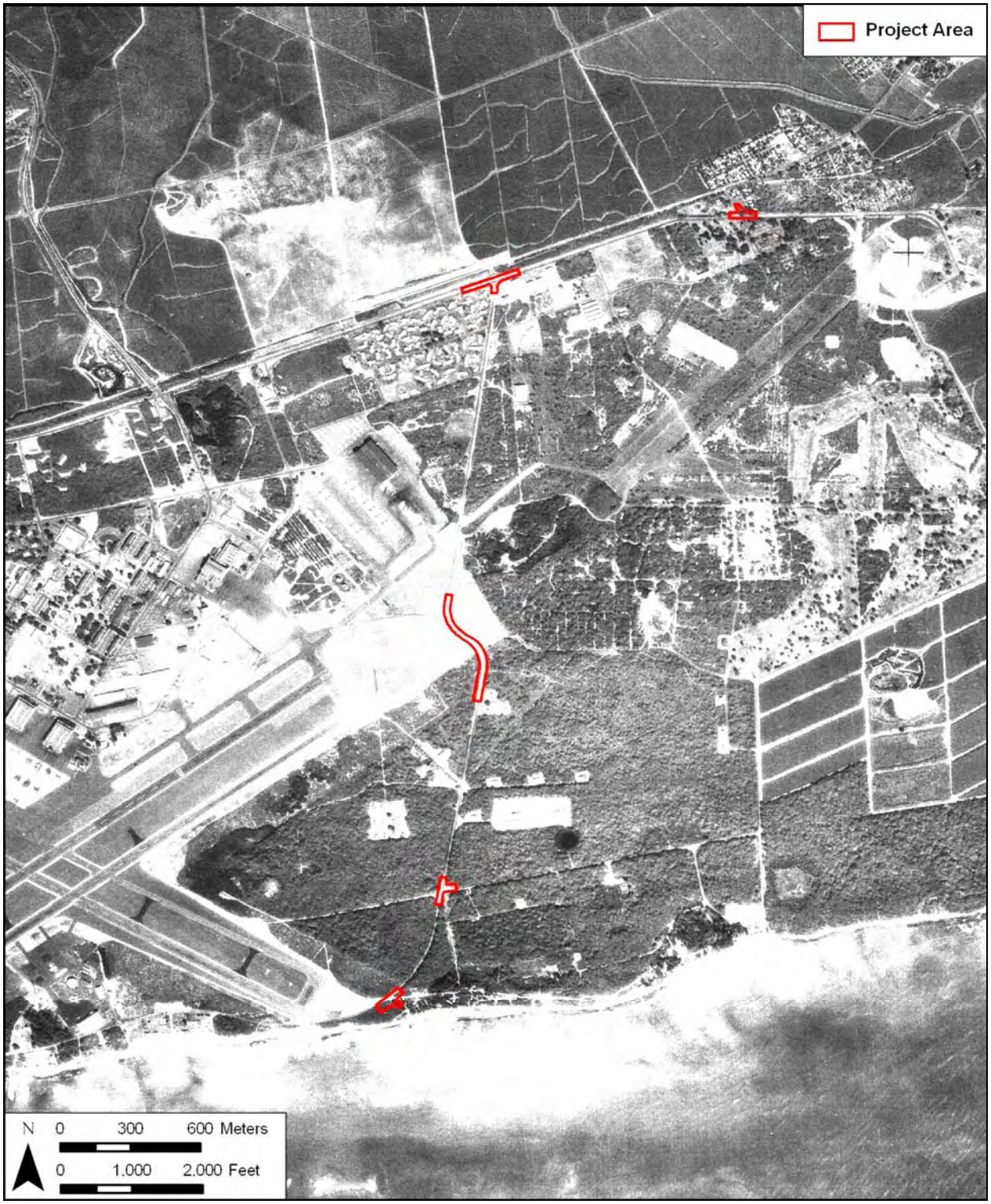


Figure 11. 1977/78 U.S. Geological Survey Orthophotograph showing the project area(s)

2.2 Review of Past Archaeological / Paleontological Studies

2.2.1 Overview of Archaeological Studies in Western Honouliuli

An overview of archaeological studies in the west half of Honouliuli Ahupua‘a is presented in Table 1 with projects in the immediate vicinity shown in Figure 12. A discussion of archaeological findings germane to the present project area follows.

Table 1. Archaeological and Related Studies in Western Honouliuli Ahupua‘a

Reference	Nature of Study	General Location of Study
Thrum 1907	*Heiau* study	Hawaiian Islands
McAllister 1933	All island survey	O‘ahu Island
Kikuchi 1959	Site letter report	Barbers Point
Lewis 1970	Reconnaissance survey	Barbers Point (harbor area)
Frierson 1972	Study of land use & vegetation change	Honouliuli
Barrera 1975	Reconnaissance survey	Barbers Point (harbor area)
Clark and Connolly 1975	Reconnaissance survey	Barbers Point (harbor area)
Oshima 1975	Reconnaissance survey	Barbers Point
Sinoto 1976	Cultural resources survey	Barbers Point (harbor area)
Bordner 1977	Reconnaissance survey	Kalo‘i Gulch
Davis 1978	Scholarly paper	Barbers Point (harbor area)
Davis and Griffin 1978	Archaeological Survey	Barbers Point (harbor area)
Hawai‘i Marine Research Inc. 1978	Geoarchaeological reconnaissance	Barbers Point (harbor area)
Kirch 1978	Land snail study	Barbers Point (harbor area)
Sinoto 1978	Archaeological & Paleontological salvage	Barbers Point (harbor area)
Barrera 1979	Archaeological Survey	West Beach
Clark 1979	Reconnaissance survey	Barbers Point (harbor area)
Cleghorn 1979	Reconnaissance survey	Barbers Point
Davis 1979a	Emergency excavations	Barbers Point (harbor area)
Davis 1979b	Emergency excavations	Barbers Point (harbor area)
Davis 1979c	Emergency excavations	Barbers Point (harbor area)
Komori and Dye 1979	Archaeological testing	West Beach
Sinoto 1979	Cultural resources survey	Barbers Point (harbor area)
Davis 1980	Research design	Barbers Point
Kirch and Christensen 1980	Land snail study	Barbers Point (harbor area)
Christensen and Kirch 1981	Land snail study	Barbers Point (harbor area)
Hammatt and Folk 1981	Archaeological and Paleontological Investigation	Barbers Point (harbor area)
Davis 1982	Academic paper	Barbers Point
McCoy et al. 1982	Proposal for investigations	Barbers Point (harbor area)

Reference	Nature of Study	General Location of Study
Neller 1982	Scholarly study	Barbers Point
Olson 1982	Fossil avifauna study	Barbers Point
Ahlo and Hommon 1983	Reconnaissance survey	Barbers Point
Bordner and Silva 1983	Reconnaissance survey	Waimānalo Gulch
Ahlo and Homon 1984	Test excavations	Barbers Point
Barrera 1984	Archaeological Status Report	West Beach
Hammatt 1984	Reconnaissance survey	Kahe Point
Haun and Kelly 1984	Research resign	Naval Air Station
Tuggle 1984	Survey report	Naval Air Station
Neller 1985	Review and evaluation	West Beach
Barrera 1986	Archaeological Investigations	West Beach
Davis and Haun 1986	Intensive survey and test excavations	West Beach
Davis et al. 1986 a and b	Research design	West Beach
Haun 1986a	Reconnaissance survey	Kapolei Town
Haun 1986b	Reconnaissance survey	Kapolei Town
Davis and Haun 1987 a and b	Intensive survey & test excavations	West Beach
Rosendahl 1987a	Reconnaissance survey	Kapolei Town
Rosendahl 1987b	Survey report	Kapolei Town
Welch 1987	Reconnaissance survey	Naval Air Station
Davis 1988	Reconnaissance survey	HECO Station Barbers Point
Bath 1989a	Petroglyph study	Waimānalo Gulch
Bath 1989b	Burial documentation	Kahe
Burgett and Rosendahl 1989	Subsurface archaeological testing	North of O.R.&L.
Davis 1989	Archaeological investigations	HECO Station Barbers Point
Hammatt and Shideler 1989a	Archaeological assessment	Barbers Point (harbor area)
Hammatt and Shideler 1989b	Reconnaissance survey	Kahe
Sinoto 1989	Letter report	Barbers Point
Carlson and Rosendahl 1990	Inventory survey	Kaomi Loop Subdivision
Cleghorn and Davis 1990	Archaeological and paleontological investigation	Barbers Point (harbor area)
Davis 1990b	Archaeological and paleontological investigation	Barbers Point (HECO area)
Davis 1990a	Archaeological and paleontological study (Ph.D. dissertation)	Barbers Point (harbor area)
Kawachi 1990	SHPD Burial Recordation	Canal at east end of Ōla‘i Street
Rosendahl 1990	Letter report	Kapolei Town
Kennedy 1991	Subsurface testing	Pu‘u o Kapolei
Folk 1991	Reconnaissance survey	Drainage channel

Reference	Nature of Study	General Location of Study
Hammatt et al. 1991	Inventory survey	Makaīwa Hills
Hammatt and Shideler 1991	Archaeological assessment	Barbers Point (harbor area)
Haun et al. 1991	Survey report	Naval Air Station
Burgett and Rosendahl 1992	Inventory survey	Barbers Point (harbor area)
Hammatt and Folk 1992	Subsurface testing	Barbers Point (drainage beach berm)
Erkelens 1992	Archaeological survey	Naval Air Station
Glidden et al. 1993	Data recovery excavations	Paradise Cove
Jones 1993	Fossil coral reefs study (Ph.D. dissertation)	Hawaiian Islands
Landrum 1993	Reconnaissance and subsurface testing	Naval Air Station
Miller 1993	Data recovery	Barbers Point (harbor area)
Hammatt and Shideler 1994	Archaeological assessment	Barbers Point (harbor area)
Hammatt et al. 1994	Inventory survey	Barbers Point (harbor area)
Davis 1993	Archaeological and paleontological investigation	Barbers Point (harbor area)
Hammatt and Shideler 1995	Data recovery plan	Barbers Point (harbor area)
Jourdane 1995	Burial documentation	Paradise Cove
McIntosh and Cleghorn 1999	Archaeological Archival Research	12 mile Water Reclamation Transmission Line
McDermott et al. 2000	Data recovery	Barbers Point (harbor area)
Sinoto and Titchenal 2002	Archaeological Inventory Survey	Desalination facility S of E end of Ōla‘i Street
Cordy and Hammatt 2003	Archaeological Assessment	Barbers Point, North of O.R.&L.
O‘Hare et al. 2004	Documentation of Plantation Infrastructure	North of O.R.&L.
Terry et al. 2004	Archaeological Inventory Survey of Two Sinkholes	North of O.R.&L.
Hoffman et al. 2005	Archaeological Inventory Survey	South of O.R.&L.
O’Hare et al. 2006	Archaeological Assessment and Cultural Impact Evaluation	H-1 Freeway Access at Palailai Interchange and Makakilo Interchange
McDermott, et al., 2006	Archaeological Inventory Survey	Proposed 345-Acre Kapolei Harborside Center
Hammatt and Shideler 2007	Archaeological Inventory Survey	Kapolei Corporation Yard
Tulchin et al. 2007	Archaeological Inventory Survey	Hawai‘i Raceway
Groza et al. 2008	Archaeological Assessment	Kapolei industrial development

Reference	Nature of Study	General Location of Study
Thurman et al. 2009	Archaeological Literature Review and Field Inspection	25-acre parcel TMK: [1] 9-1-032:001
Altizer, and Hammatt 2010	Archaeological Literature Review and Field Inspection Report	For the I C Sunshine Solar Energy Project, Honouliuli Ahupua‘a, ‘Ewa District, O‘ahu TMK: [1] 9-1-032:001

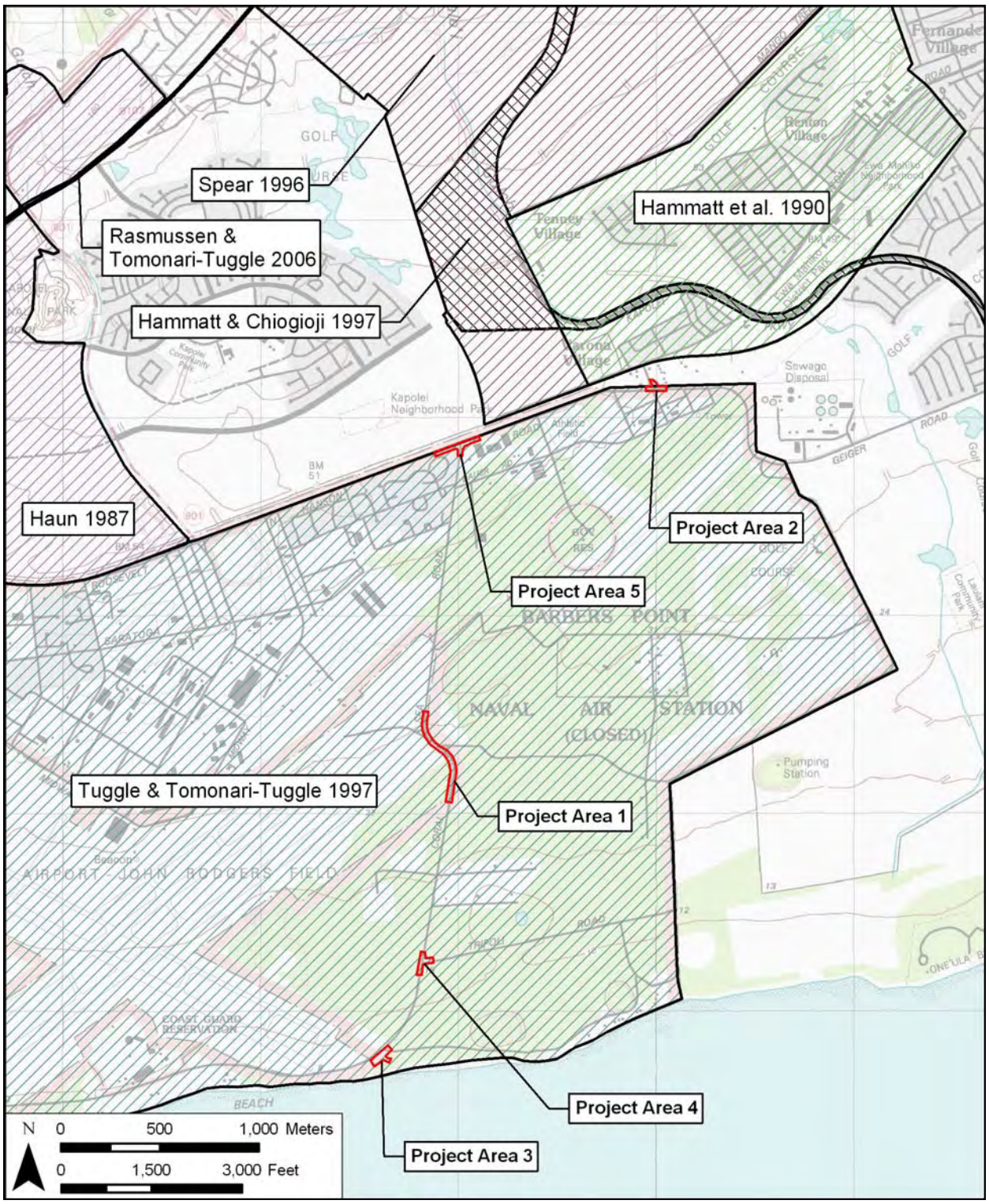


Figure 12. U.S. Geological Survey 7.5-minute series topographic map, ‘Ewa quadrangle (1998), showing areas of archaeological study near the project area(s) (see following figure for details on sites in the vicinity)

In 1977, Aki Sinoto (1978) undertook salvage archaeological and paleontological excavations in the proposed barge harbor area. Sinoto's work for the Corps of Engineers (1978) included preliminary sampling and analytical studies of avifaunal remains and terrestrial gastropods (land snails) and a geological study of the emerged coral reef based on the excavation of one sinkhole.

In late 1977 and early 1978, an archaeological survey was conducted by the Archaeological Research Center of Hawaii in the deep draft port facility area. (Davis and Griffin 1978).

In 1977, Barber’s Point Archaeological District was assigned Site # 50-80-12-2888 and listed on the National Register of Historic Places (based on the SHPD’s Hawai‘i/National Register web site, http://www.hawaii.gov/dlnr/hpd/hpgreeting.htm).

To complete the archaeological survey of the entire area to be affected by the harbor and support facilities, the USACE contracted for survey of the areas designated as Optional Area 1 and Study Area 1a (Davis 1978) and Area 1b (Sinoto 1978). Those surveys by Davis and Sinoto located numerous archaeological sites, as well as sinks of late Pleistocene to early Holocene age that are of considerable paleontological interest.

Sinoto’s (1979) work shows that, although sinks containing remains of extinct species are dispersed throughout his study area, only 3 out of 19 sinks tested (or 16%) contained extinct species. However, this amounts to a considerable number of sinks as Sinoto estimated the total number of testable sinks in the 1979 study area as between 1,100 and 2,500 (Sinoto 1979:34). The majority of Sinoto’s New Disposal Site Area has been utilized for chemical dumps and coral stockpiling. That portion which remains is the site of the proposed Sinkhole Reserve and Park, comprising approximately 7 acres located well west of the current project area.

In 1979, Bertell Davis carried out “emergency excavations” (Davis 1979a, 1979b, 1979c) within the area he had previously designated as Area II, located east of the easternmost corner (the *mauka*, Diamond Head corner) of the present harbor open water. These excavations were carried out in advance of the quarry expansion operation (which preceded the harbor expansion) and it is believed that all sites in this area were salvaged or lost.

Also in 1979, an archaeological reconnaissance survey was conducted of a proposed waterline route down the east side of Kalaeloa Boulevard and then east along the north side of Malakole Road. “No archaeological sites were found along the proposed waterline route,” and it was noted that: “this area is either presently in sugar cane cultivation or has been used for this purpose in the past” (Cleghorn 1979:5).

Hammatt and Folk (1981) undertook archaeological testing and salvage excavations in three adjoining parcels designated Study Areas 1A, 1B and Optional Area. Of 138 archaeological sites, 88 sites were tested and 26 were excavated. Associated paleontological studies show that the limestone solution sinks and surrounding terrain were a major habitat of many fossil birds. Appendix 1 of their report, by Storrs Olson and Helen James, lists over 30 species of extinct fossil birds identified at Barber’s Point.

The most voluminous study (Cleghorn and Davis 1990) started in 1982 and concentrated in the area just northeast of the main bend of Malakole Road. A “final draft” (Davis 1993) report documents that research as did Bertell Davis’ Ph.D. dissertation (1990).

The extensive archaeological and paleontological research conducted prior to development of West Beach (Ko‘olina) is the second area of the ‘Ewa Plain in which major data recovery was accomplished. Barrera (1979, 1984, 1986) conducted preliminary surveys and Davis (1986) undertook intensive survey and data recovery. Over 600 sinkholes were identified in the area along with around 180 surface sites, many of them similar in function to those at Barbers Point.

In 1984 and 1985, Haun conducted an archaeological inventory survey of Barbers Point Naval Air Station consisting of 1,310 acres (Haun 1991 as cited in the Environmental Baseline Survey Report, 1994:3-21) identifying 42 separate sites (50-80-12-1717 through 50-80-12-1758). The sites in the immediate vicinity are listed and briefly described in Table 2 (below) and each of them is individually marked in Figure 13. Of the 42 identified sites, 39 were recommended for registration in the National Register of Historic Properties.

Table 2. Archaeological Sites documented in the east portion of the former Barbers Point Naval Air Station (adapted from Environmental Baseline Survey Report, Table 3-2)

Site #	Site Type	Origin	Number of Features	Comments
1729	Sinkhole	Pre-historic	1	Disturbed, currently used as a dump
1730	Habitation complex	Pre-historic	18	Fair/poor condition
1731	Habitation/Burials	Pre-historic	3	Good/poor condition
1732	Habitation/Agricultural	Pre-historic	22	Good/poor condition
1734	Habitation/Agricultural	Pre-historic	43	Condition not stated
1735	Habitation complex	Pre-historic	25	Condition not stated
1736	Habitation complex	Pre-historic	40	Fair/very poor condition
1737	Habitation complex	Pre-historic	21	Good/fair condition
1738	Agricultural enclosure walls	Pre-historic	2	Fair/poor condition
1739	Multi-use	Pre-historic/ Historic	8	Condition not stated; sinkhole, cairns, C-shapes; military use
1740	Site complex	Pre-historic	6	Condition not stated; Burials?, platform, cairn, enclosure, etc.
1741	Modified Sinkhole	Pre-historic	1	Good condition
1743	Modified Sinkhole	Pre-historic	1	Condition not stated; possible agricultural use
1744	Habitation complex	Pre-historic	4	Poor condition
1745	Agricultural	Pre-historic	2	Fair condition

Site #	Site Type	Origin	Number of Features	Comments
1746	Site complex	Pre-historic	?	Condition not stated; cairn, (Burial?), agricultural mounds, stone trail
1747	Site complex	Pre-historic	3	Fair/poor condition; C-shape, sinkholes; bird bone in deposit
1748	Habitation/Historic	Pre-historic/ Historic	?	Condition not stated; platforms, C-shape, trail, wall, etc.
1749	Historic or Military	Historic	5	Condition not stated
1750	Site complex	Pre-historic	5	Fair/poor condition; walls, cairn, sinkhole, possible U-shape
1751	Military wall	Historic	1	Condition not stated
1752	Habitation	Pre-historic	12	Condition not stated; One upright – possible shrine
1753	Site complex	Pre-historic	13	Good condition; Trail, sinkholes, upright, L & U shapes …
1754	Habitation complex	Pre-historic	?	Fair/poor condition; Modified sinkholes, enclosures, cairns
1755	Habitation complex	Pre-historic	12	Good/fair condition; enclosures, sinkhole, cairn, U-shape …
1756	Habitation complex	Pre-historic	3	Condition not stated; Pre-historic or historic wall; possible burial
3721	Habitation complex	Pre-historic	5	Fair/poor condition; 2 enclosures, alignment, C- and L-shape
3722	Boundary wall	Historic	1	Poor condition; Sisal plantation wall

None of these (Haun 1991) sites appears to be within 400 m of the present “Project Site” #2, #3 or #5. However, it appears that site 1745 (a pre-Contact agricultural site) is approximately 80 m west of “Project Site 1”, that site 1747 (Site complex) is approximately 80 m NE of “Project Site 4” and site 1751 (a military wall) is approximately 80 m SE of “Project Site 4”. The location of certain WWII buildings recommended for preservation are shown in relation to the project area in Figure 14 (none are close to the present project areas).

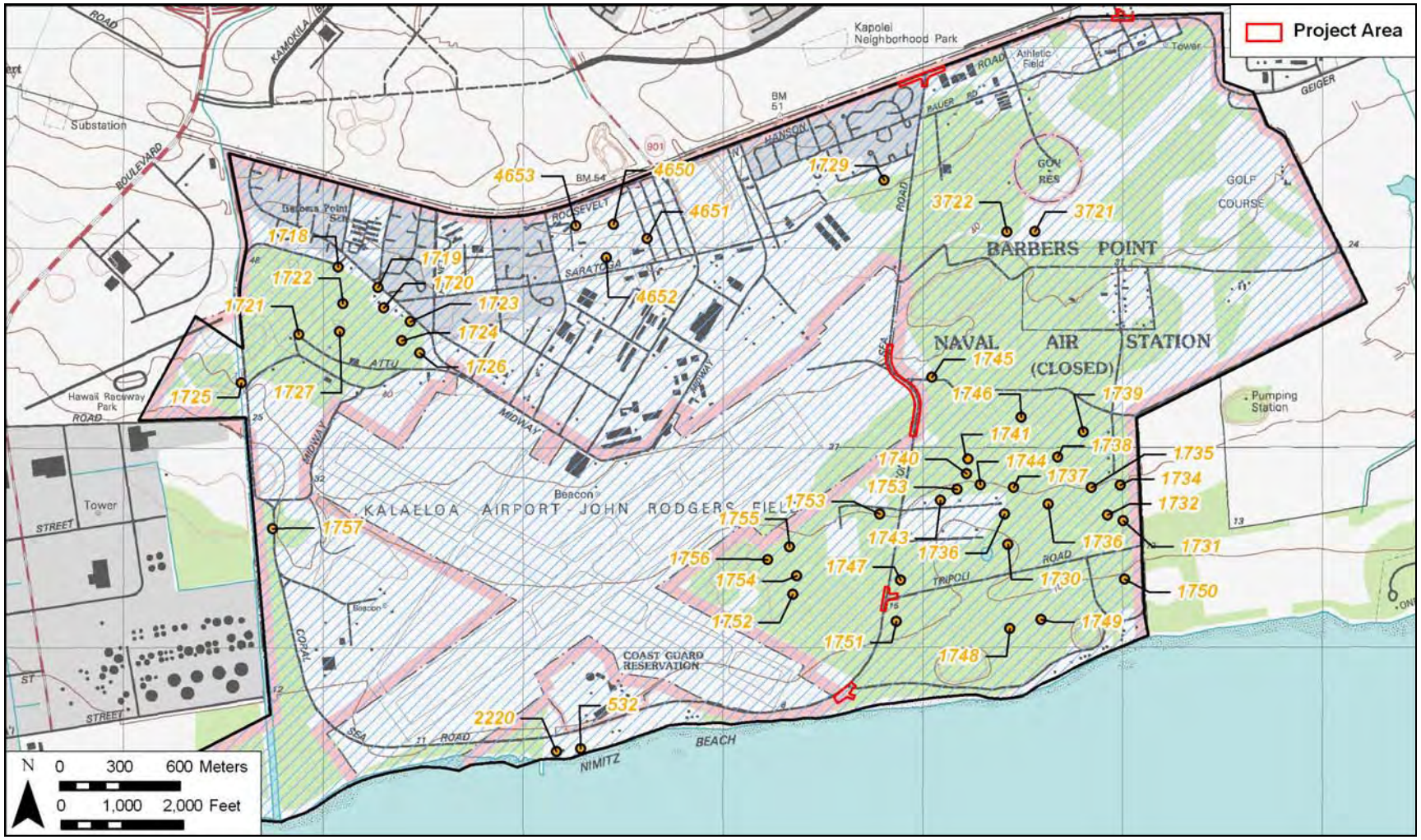


Figure 13. U.S. Geological Survey 7.5-minute series topographic map, ‘Ewa quadrangle (1998), showing previously identified sites in the vicinity of the project area: Sites and Site numbers are from the Environmental Baseline Survey (EBS), 1994:3-24 (Note: sites 1736 and 1753 are both intentionally shown with two location dots as reported)

Figure 14. 1998 U.S. Geological Survey 7.5-minute series topographic map, ‘Ewa quadrangle showing the location of the WWII buildings recommended for preservation in relation to the project area.

In 1985, Haun reported on a survey of the Naval Air Station at Barbers Point (Haun 1985). Haun’s (1986) archaeological reconnaissance survey for the ‘Ewa Town Center/Secondary Urban Center study covered an area of approximately 1,400 acres approximately 2 km north of the present project area. A study by Burgett and Rosendahl (1989) involved the excavation of seventy-two backhoe test trenches in a 360-acre portion of the Haun study area. There were no significant finds.

A preliminary reconnaissance survey conducted by Haun (1986a) covered approximately 200 acres on the *mauka* side of Farrington Highway. Only one site was identified, an irrigation ditch that extended from the northwestern edge of his project area to a quarry at the northeastern edge. The ditch was described as “constructed of concrete and stone. Elevated flumes constructed of timbers and galvanized steel bridge the gulches” (Haun 1986a:3).

Haun’s (1986b) preliminary reconnaissance survey of a 1,400-acre parcel was conducted on both the *mauka* and *makai* side of Farrington Highway, and surrounded the 200-acre parcel surveyed earlier in 1986. One previously recorded site was known to have once been in his project area, a portion of the Oahu Railroad and Land Company right-of-way (Site 50-80-12-9714). The additional sites Haun (1986b) identified included an irrigation ditch (a portion of the same site –4341 identified during the 200-acre survey), a military structure, and a rock wall that paralleled the irrigation ditch.

In 1988 Shapiro and Rosendahl carried out sinkhole excavations at a 60-acre Camp Malakole industrial subdivision site. Some 500 sinkholes were identified and a 5% sample (25 sinkholes) was selected for testing but was later reduced to 15 sinkholes. Although some cultural use was indicated by the presence of shell midden, volcanic glass, coral abraders and a bone fishhook fragment the cultural value was suggested to be low. Although a fairly intact *Branta* species goose was recovered the paleontological value was also suggested to be low.

Bertell Davis carried out three studies (1988, 1989, 1990) at the location of a 20-acre parcel proposed for a HECO generating station on the north side of Ōla‘i Street to the south of the present study area. Some 15+ sinkholes were identified, 13 were recorded and tested and extensive excavation was undertaken at 4 of the sinkholes. Extinct bird bones were identified in all four of these sinkholes. A human burial was encountered in sinkhole site 4099-1. This burial was of particular interest as it was dated to AD 1422-1664 and appeared to show signs of syphilis (understood as a post-contact disease) (Davis 1990:33-37).

Between 1989 and 1994 Hammatt and Shideler produced a number of archaeological assessments of the Barbers Point area. A detailed discussion of the creation of the preserve area that is centrally located along the north side of Malakole Road is included in the report (Hammatt and Shideler 1989:33-36).

In 1991, Hammatt et al. conducted an archaeological inventory survey on a 1,915-acre Makaīwa Hills project area located 4 km to the north, *mauka* of Farrington Highway, identifying 34 sites (Hammatt et al. 1991).

In 1991, an overview survey of Barbers Point conducted by Ogden identified 280 sites from the World War I era and the development of the base during World War II from 1941 through 1945 (Yoklavich, Drolet, and Drolet, 1992 as cited in the Environmental Baseline Survey Report, 1994:3-25). This survey included inspection of the 42 sites previously found in Haun’s

1984-1985 survey. All of the sites from Haun’s excavation and 83 of the 280 sites documented by Ogden were deemed eligible for the NRHP.

In 1992, an archaeological inventory survey and testing (Rosendahl, Haun and Davis 1992) was conducted by Paul H. Rosendahl, Inc. (PHRI) (cited in Environmental Baseline Survey Report, 1994:3-25). The survey was conducted on 17 acres on the west end of the Kalaeloa Airport runways and uncovered 20 sites. These previously unrecorded sites were state site numbers SIHP 50-80-12-4548 though 50-80-12-4567. These sites are depicted on Figure 13.

In 1992 an archaeological reconnaissance and limited subsurface testing survey was undertaken by Ogden (Landrum and Schilz, 1993). The survey consisted of a 42 acre parcel in which 6 sites were identified, each individually depicted on Figure 12. The sites identified were given SIHP site numbers 50-80-12-4649 through 50-80-12-4567 and consist of 3 plantation walls and 3 traditional Hawaiian habitation sites. Radiocarbon samples taken from the Hawaiian habitation sites brought back dates from the late-prehistoric period, A.D. 1655 to 1778.

In 1993 International Archeological Research Institute, Inc. (IARII) (as cited in the Environmental Baseline Survey Report, 1994:3-25) conducted an archaeological inventory survey of three separate areas of Barbers Point in 1992 and 1993. The survey was conducted of three separate areas of Barbers Point including a 55 acre parcel located northwest of the current project area. This 55 acre parcel uncovered 274 features, none of which have been assigned permanent site numbers. In 1991 Haun recorded five sites, 27 features, in this same area.

Lynn Miller (1993) produced a report on her findings in a 31-acre parcel located just to the southeast of the present Deep Draft Harbor. Her research covers some 20 features at two state sites (2710 and 2711) that included enclosures, sinkhole caves, and a single burial.

To the northwest of the current project area Hammatt et al. (1994) and McDermott et al. (2000) conducted an archaeological inventory survey and a large archaeological data recovery project respectively in lands just south of the OR&L alignment. This work resulted in the creation of two archaeological preserve areas. SIHP site 50-80-12-9633 is a cave that was found to contain human remains and part of a wooden canoe (described in Hammatt et al. 1994:93-94).

Because of its function as a burial site, the cave was not excavated and the remains were protected in the state in which they were discovered. Another sinkhole burial 50-80-12-4907D was identified during the McDermott et al. 2000 study. Just east of that fenced preserve is another smaller preserve area surrounding the very large sinkhole SIHP site 50-80-12-9545.

O’Leary and Hammatt (2005) conducted an archaeological literature review and field inspection of the Fort Barrette road for a widening project. This project identified four cultural resources/historic properties. First is a previously unrecorded, disarticulated segment of concrete irrigation piping. A segment of retaining wall and former railroad bed, formerly part of a railroad siding connected to the O. R. & L, was observed and appears to be a component feature of previously recorded SIHP # 50-80-12-5919, the historic remnant of Fort Barrette. Pu‘uokapolei, SIHP # 50-80-12-138, is a site with traditional cultural significance to Native Hawaiians and appears to still have prehistoric features including a petroglyph and a rock mound. Lastly a section of the O. R. & L. right-of-way (SIHP# 50-80-12-9714), a section of railroad that is still partially in use today.

McIntosh and Cleghorn (1999) carried out archival research for the Honouliuli wastewater treatment plant including a 12-mile pipeline. They conclude the likelihood of encountering surface archaeological sites is low but that “there is the possibility of encountering subsurface resources in the form of sinkholes containing cultural materials and possibly human burials” (McIntosh and Cleghorn 1999:i).

In 2002 Sinoto and Titchenal carried out an archaeological inventory survey of a 30-acre area south of the east end of Ōla‘i Street identifying three sites two cultural and one paleontological. Cultural features included a circular enclosure, a capped sinkhole, a cist-like structure and a lime kiln. A curious bone toggle artifact believed to be “probably human” was the only *iwi* recovered (Sinoto and Titchenal 2002:58). Thirteen species of birds including many extinct species were identified.

Cordy and Hammatt (2003) made a study of a land parcel northwest of the current project area, across the O.R.&L. Several sinkholes were noted as of potential archaeological interest. The study also documented the presence of a historic chicken farm as well as other twentieth century architectural remains, including a Quonset hut. Two follow-up studies of plantation infrastructure (O‘Hare et al. 2004) and two of these sinkholes (Terry et al. 2004) further addressed cultural resources north across the O.R.&L. alignment.

O’Leary and Hammatt (2005) conducted an archaeological literature review and field inspection for the Fort Barrette road widening project. This project identified four cultural resources/historic properties. 1) A previously unrecorded, disarticulated segment of concrete irrigation piping which was not recommended by CSH as eligible for either the State or National Register of Historic Places because it lacks integrity. 2) A segment of retaining wall and former railroad bed, formerly part of a railroad siding connected to the O. R. & L was observed and appears to be a component feature of previously recorded SIHP # 50-80-12-5919, the historic remnant of Fort Barrette. 3) Pu‘uokapolei, SIHP # 50-80-12-138, is a site with traditional cultural significance to Native Hawaiians and appears to still have prehistoric features including a petroglyph and a rock mound. 4) A section of the O. R. & L. right-of-way (SIHP# 50-80-12-9714), a section of railroad that is still partially in use today.

Hoffman (et al. 2005) identified several archaeological and historic sites as part of an archaeological inventory survey. This investigation noted that a portion of their project area had been greatly affected by past land use, particularly the limestone quarry operation. However, there were still remnant archaeological features preserved within the less disturbed *kiawe* thickets. The types of features documented included sinkholes and stacked limestone wall segments and enclosures.

McDermott (et al. 2006) conducted an archaeological inventory survey investigation on an approximately 345-acre parcel northwest of the current project area. Extensive land modification associated with commercial agricultural, quarrying, green waste processing, and materials stockpiling activities was observed throughout the study area. Six historic properties were identified within the less-disturbed portions of the study area, including an improved drainage channel, a portion of the O. R. & L. right-of-way, a portion of the Barbers Point Archaeological District, a previously designated sinkhole preserve area (Hammatt and Shideler 1989a), and two pre-contact enclosures.

Tulchin (et al. 2007) conducted an archaeological inventory survey of the former 65.8 acre Hawai‘i Raceway Park, to the west of the current project area. A limestone sinkhole was identified and determined to be a natural geological feature with no cultural materials. Their project area showed substantial land modification associated with the Hawai‘i Raceway Park and no historic properties were identified.

2.3 Background Summary and Predictive Model

The one general observation regarding the archaeology of the ‘Ewa Plain is that there was more pre-contact utilization of the area than might be expected given its present day uninviting ambiance and “marginal ecology” (Sinoto 1976:71). Based on archaeological findings in the vicinity of the current project suggests that this was a fairly high activity area. Finds related to pre-contact habitation and agriculture remain fairly extensive in the general vicinity. The general absence of finds within 80 m of the present project area may relate to modern ground disturbance rather than their true absence.

Prior to extensive historic and modern land alteration, this area of Honouliuli would be expected to yield the remnants of traditional Hawaiian temporary habitations used during forays for marine resources and/or evidence of opportunistic seasonal agriculture and possibly burials. Based on ethnographic accounts and past archaeological investigations in the vicinity, limestone sinkholes on the ‘Ewa Plain were used for agriculture and burial interment, with the largest overhangs used for temporary shelter. The sinkholes are also recognized as storehouses of data on more than a score of previously unknown, extinct bird species.

Based on the heavily disturbed nature of the lands within the current project area, it is likely that any surface archaeological sites were removed prior to or during the construction of the airstrip and associated infrastructure. However, excavations may prove to uncover areas that have not been heavily graded or covered with imported fill material and may contain intact limestone sinkhole features with valuable cultural and paleoenvironmental deposits.

Section 3 Results of Field Inspection

A brief field inspection was carried out on August 2, 2010 by David W. Shideler, M.A. under the overall supervision of Hallett H. Hammatt Ph.D. visiting all five of the project intersections. These are discussed below in order of the client assigned numbering.

3.1 Project Area 1 intersection of Coral Sea Rd. and San Jacinto St.

The Project Area 1 intersection (intersection of Coral Sea Road and San Jacinto Street) was accessed via Roosevelt Avenue and Coral Sea Road. San Jacinto Street, which extends eastward from an S-curve on Coral Sea Road, was once paved but the pavement is badly deteriorated (in contrast to the well paved Coral Sea Road). The eastern shoulder of Coral Sea Road in this vicinity has been graded level and cleared of vegetation (Figure 15 and Figure 16). Where not cleared of vegetation the vicinity is characterized by a dry scrub forest of *haole koa* with some *kiawe* and knee-high wiry exotic grasses. The land surface is indeed raised reef limestone or "Coral outcrop" with little soil present. No archaeological features were observed in the immediate vicinity. An attempt was made to explore the relationship to previously designated site SIHP # 50-80-12-1745. Information on this site was limited to identification as a pre-contact agricultural site with two features (nature of features unknown but thought to likely be mounds). No agricultural features were observed. A couple of fairly large sinkholes were observed quite close to the indicated location of SIHP # 50-80-12-1745 (but on the south side of San Jacinto Street) at a distance of approximately 80 m east of intersection of Coral Sea Road and San Jacinto Street. More sinkholes may be present in this immediate area.

3.2 Project Area 2 intersection of Roosevelt Ave. and Philippine Sea Rd.

The Project Area 2 intersection (intersection of Roosevelt Avenue, and Philippine Sea Road) was accessed via Roosevelt Avenue (Figure 19 to Figure 22). This is a four-way intersection (with the seaward extension of Philippine Sea Road blocked off with "Jersey Barriers"). The exposed soil was consistent with the Mamala stony silty clay loam soils indicated in soil studies (see Figure 5). Vegetation in the vicinity is dry, short grass with significant expanses of exposed earth. No archaeological features were observed and none are believed to be present in the vicinity. There were no historic preservation concerns.

3.3 Project Area 3 intersection of Coral Sea Rd. and Eisenhower Rd.

The Project Area 1 intersection (intersection of Coral Sea Road and Eisenhower Road) was accessed via Roosevelt Avenue and Coral Sea Road. Eisenhower Road is basically an unimproved track heading off through the ironwood trees to parallel the coast to the east (Figure 23 to Figure 26). Fairly thick *kiawe* dominates the north part of the intersection. The land surface is indeed raised reef limestone or "Coral outcrop" with frequent exposures of the limestone at the surface. While there is significant sand in the intersection this appears to be relatively recent

Figure 15. General view Project Area 1 intersection of Coral Sea Road (paved at left) and San Jacinto Street (old pavement at right), view to northwest

Figure 16. General view Project Area 1 intersection of Coral Sea Road (paved at left) and San Jacinto Street (old pavement at right), view to southeast

Figure 17. General view of sinkhole in vicinity of SIHP -1745 approximately 100 m east of Project Area 1 intersection of Coral Sea Road and San Jacinto Street, view to south

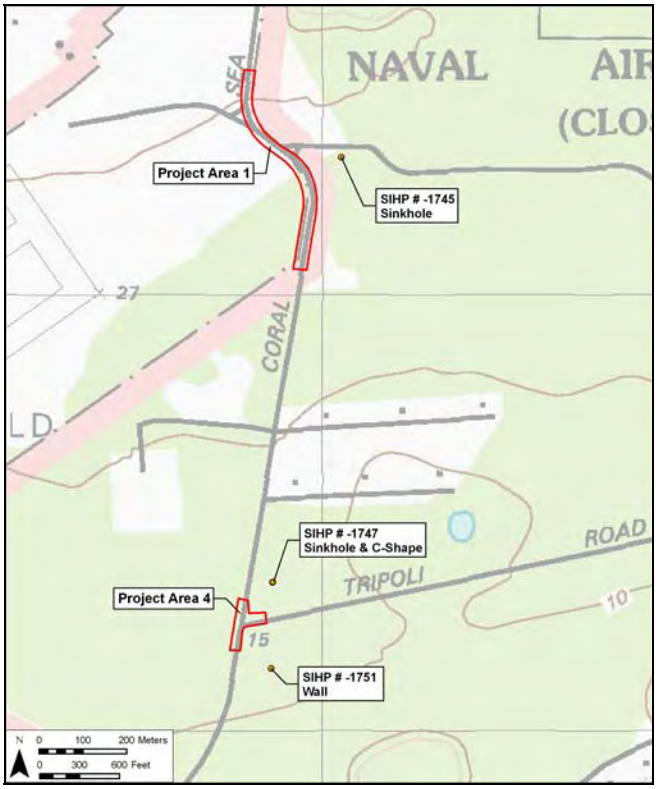


Figure 18. Locations of three previously recorded sites (SIHP #s 50-80-12-1745, -1747 and -1751) observed in the vicinity of Project Area 1 and Project Area 4

Figure 19. General view Project Area 2 intersection of Roosevelt Avenue (paved in background) and Philippine Sea Road (pavement center foreground), view to southeast

Figure 20. General view Project Area 2 intersection of Roosevelt Avenue (paved at right/center) and Philippine Sea Road (pavement left mid-ground), view to southeast

Figure 21. General view Project Area 2 intersection of Roosevelt Avenue (paved at mid-ground) and Philippine Sea Road (pavement right mid-edge), view to southwest

Figure 22. General view Project Area 2 intersection of Roosevelt Avenue (paved at mid-ground) and Philippine Sea Road (center), view to northwest

Figure 23. General view Project Area 3 intersection of Coral Sea Road (paved at left) and Eisenhower Road (unpaved at right), view to northeast

Figure 24. General view Project Area 3 intersection of Coral Sea Road (paved in foreground) and Eisenhower Road (unpaved at right), view to east

Figure 25. General view Project Area 3 intersection of Coral Sea Road (paved at right) and Eisenhower Road (unpaved extending off to left), view to southwest

Figure 26. General view Project Area 3 intersection of Coral Sea Road (paved in background) and Eisenhower Road (unpaved in foreground), view to west

deposition as the result of vehicular activity. The eastern shoulder of Coral Sea Road is cleared back close to 10 m and it appears all improvements will be within this cleared area.

3.4 Project Area 4 intersection of Coral Sea Rd. and Tripoli St.

The Project Area 4 intersection (intersection of Coral Sea Road and Tripoli Street) was accessed via Roosevelt Avenue and Coral Sea Road. The eastern shoulder of Coral Sea Road in this vicinity has been graded level and cleared of vegetation (Figure 27 to Figure 29). Where not cleared of vegetation the vicinity is characterized by a dry scrub forest of particularly dense *kiawe* with some *haole koa*. The land surface is indeed raised reef limestone or “Coral outcrop” with little soil present. No archaeological features were observed in the immediate vicinity. An attempt was made to explore the relationship to previously designated sites SIHP # 50-80-12-1751 to the southeast and SIHP # 50-80-12-1747 to the northeast (see Figure 18). The site -1751 “military wall was positively identified (Figure 30) at a distance of 80 m southeast of the Coral Sea Road and Tripoli Street intersection. The identification of SIHP # - 1747, described as a “Site Complex” including a “C-shape, sinkholes; bird bone in deposit” was less certain but sinkholes were observed in the indicated area (Figure 31) 70 m to the northeast of the Coral Sea Road and Tripoli Street intersection as was a small possible C-shape (Figure 32).

3.5 Project Area 5 intersection of Coral Sea Rd. and Roosevelt Ave.

The Project Area 5 intersection (intersection of Coral Sea Road and Roosevelt Avenue) was accessed via Roosevelt Avenue. This was a relatively developed area with subdivisions on the southwest and north sides and warehouses on the southeast side of the intersection (Figure 33 to Figure 36). The land surface is raised reef limestone or “Coral outcrop” with little soil present. The immediate intersection is short dry grass with substantial exposures of the ground surface. No archaeological features were observed and none are believed to be present in the vicinity. There were no historic preservation concerns.

Figure 27. General view Project Area 4 intersection of Coral Sea Road (paved in mid-ground) and Tripoli Street (paved in center extending to left), view to east

Figure 28. General view Project Area 4 intersection of Coral Sea Road (paved in foreground) and Tripoli Street (paved in center extending to left), view to southeast

Figure 29. General view Project Area 4 intersection of Coral Sea Road (paved at left) and Tripoli Street (paved extending to right), view to north

Figure 30. View of SIHP -1751 Military Wall, located approximately 100 m southeast of Project Area 4 intersection of Coral Sea Road and Tripoli Street, view to north

Figure 31. General view of sinkhole possibly associated with SIHP 1747 located approximately 100 m northeast of Project Area 4 intersection of Coral Sea Road and Tripoli Street, view to east

Figure 32. General view of possible C-shape possibly associated with SIHP 1747 located approximately 100 m northeast of Project Area 4 intersection of Coral Sea Road and Tripoli Street, view to east

Figure 33. Project Area 5 intersection of Coral Sea Road (paved at left) and Roosevelt Avenue (paved in background), view to north

Figure 34. Project Area 5 intersection of Coral Sea Road (paved at left) and Roosevelt Avenue (paved in mid-ground), view to northwest

Figure 35. Project Area 5 intersection of Coral Sea Road (paved at left) and Roosevelt Avenue (paved at right), view to southwest

Figure 36. Project Area 5 intersection of Coral Sea Road (paved at right) and Roosevelt Avenue (paved at left) view to northeast

Section 4 Summary and Recommendations

The proposed project involving improvements at five intersections is understood to involve minimal land alteration entirely within existing road corridors. No archaeological sites or other cultural resources have been reported within 70 m of the project area(s).

Based on the heavily disturbed nature of the lands within the current project area, it is likely that any surface archaeological sites were removed prior to or during the construction of the roads. Efforts were made to identify in the field the only three sites indicated to be in the vicinity of the project areas (SIHP #s 50-80-12-1745, -1747 and -1751). It was concluded that these three sites lie at a sufficient distance (70 m +) such that the project will have no impact on these previously identified sites. No new archaeological features were observed in close proximity to the project area(s).

No further archaeological work is recommended. However, since there are known sinkholes in the vicinity (within approximately 70 + m) we recommend that the contractor be made aware (through a notation to project plans) that in the unlikely event of the discovery of a sinkhole greater then 3 feet in diameter (larger sink holes having a greater likelihood of significant archaeological and/or paleontological finds) that all work in the immediate vicinity is to stop and that the SHPD be notified.

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APPENDIX B
COMMENTS RECEIVED ON THE DRAFT EA

Comment Received From:	Date:	Comment(s):
Hawaiian Telcom	October 25, 2010	No comments
Office of Hawaiian Affairs	October 26, 2010	No comments
Honolulu Fire Department	October 27, 2010	No comments
Honolulu Police Department	October 28, 2010	No comments
Board of Water Supply	November 1, 2010	No comments
Dept. of Hawaiian Home Lands	November 3, 2010	No comments
Dept. of Facility Maintenance	November 3, 2010	No comments
Dept. of Design and Construction	November 4, 2010	No comments
Dept. of Land and Natural Resources	November 8, 2010	No comments
Hawaiian Railway Society	November 12, 2010	Consider lighting at the intersection; identification of depression in roadway
Dept. of Parks and Recreation	November 5, 2010	No comments

Hawaiian Telcom

October 25, 2010

R.M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819
Attention: Chester Koga

Dear Mr. Koga:

Subject: **Draft Environmental Assessment**
Kalaeloa Life Safety Improvements

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the subject project.

Hawaiian Telcom does not have any comments to offer at this time. Please continue to include us during the design stages of the project.

If you have any questions or require assistance in the future on this project, please call Les Loo at 546-7761.

Sincerely,

Lynette Yoshida

Lynette Yoshida
Senior Manager – OSP Engineering
Network Engineering & Planning

cc: File [Barbers Point]

PO Box 2200 • Honolulu • Hi 96841

PHONE (808) 594-1888

FAX (808) 594-1865

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

HRD10/5305

October 26, 2010

Mr. Anthony Ching
State of Hawai'i, Hawai'i Community Development Authority
461 Cooke Street
Honolulu, HI 96813

RE: Draft Environmental Assessment Consultation
Kalaeloa Life Safety Improvements
Honouliuli, Island of O'ahu
Tax Map Key: (1) 9-1-013

Aloha e Mr. Ching,

The Office of Hawaiian Affairs (OHA) is in receipt of an October 8, 2010 letter initiating consultation ahead of a draft environmental assessment (DEA) for the proposed construction roadway improvements to reduce hazards and improve safety conditions within the Kalaeloa Community Development project (project). It is our understanding the project will entail roadway repair work at five (5) intersections, pavement widening, traffic signage and roadway striping. OHA applauds your efforts to provide life safety and roadway safety improvements along existing roadways in Kalaeloa. The proposed improvements include modifying safety-oriented signage and striping, repair of eroded pavement, and intersection realignments are proposed.

We concur with the statement that no long-term impacts are anticipated to result from the development of the project. Thank you for the opportunity to provide comments. Should you have any questions, please contact Kathryn Keala at 594-0272 or Kathyk@oha.org.

'O wau iho nō me ka 'oia'i'o,

Clyde W. Nāmu'o
Chief Executive Officer

c: Chester Koga, R.M. Towill Corporation

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

PETER B. CARLISLE
MAYOR

KENNETH G. SILVA
FIRE CHIEF

ROLLAND J. HARVEST
DEPUTY FIRE CHIEF

October 28, 2010

Mr. Chester Koga
R. M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koga:

Subject: Draft Environmental Assessment
Kalaeloa Life Safety Improvements
Ewa District, Oahu, Hawaii

In response to your letter of October 8, 2010, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material provided and determined there will be no significant impact to its services.

Should you have any questions, please call Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151.

Sincerely,

ROLLAND J. HARVEST
Acting Fire Chief

RJH/SY:bh

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

PETER B. CARLISLE
MAYOR

LOUIS M. KEALOHA
CHIEF

DELBERT T. TATSUYAMA
RANDAL K. MACADANGDANG
DEPUTY CHIEFS

OUR REFERENCE DMK-DK

October 27, 2010

Mr. Chester Koga
R. M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koga:

This is in response to your letter of October 8, 2010, requesting comments on a Draft Environmental Assessment for the Kalaeloa Life Safety Improvements project in Ewa.

This project should have no significant impact on the facilities or operations of the Honolulu Police Department.

If there are any questions, please call Captain Mitchell Kiyuna or Major Michael Moses of District 8 (Kapolei/Waianae) at 692-4253.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By
DAVE M. KAJIHIRO
Acting Assistant Chief of Police
Support Services Bureau

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

PETER B. CARLISLE, MAYOR

RANDALL Y. S. CHUNG, Chairman
ANTHONY R. GUERRERO, JR.
WILLIAM K. MAHOE
THERESIA C. McMURDO
ADAM C. WONG

GEORGE "KEOKI" MIYAMOTO, Ex-Officio
MICHAEL D. FORMBY, Ex-Officio

WAYNE M. HASHIRO, P.E.
Manager and Chief Engineer

DEAN A. NAKANO
Deputy Manager

November 1, 2010

Mr. Chester Koga
R. M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koga:

Subject: The Letter Dated October 8, 2010 Requesting Comments on the Draft Environmental Assessment for the Kalaeloa Life Safety Improvements

This area is served by a private water system. Water service for this project should be coordinated with the U.S. Navy who is providing water to this area.

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,

PAUL S. KIKUCHI
Chief Financial Officer
Customer Care Division

LINDA LINGLE
GOVERNOR
STATE OF HAWAI'I

KAULANA H. R. PARK
CHAIRMAN
HAWAIIAN HOMES COMMISSION

ANITA S. WONG
DEPUTY TO THE CHAIRMAN

ROBERT J. HALL
EXECUTIVE ASSISTANT

STATE OF HAWAI'I
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX 1879
HONOLULU, HAWAI'I 96805

November 3, 2010

Mr. Chester Koga
RM Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koga:

Subject: Draft Environmental Assessment for Kalaeloa Safety Improvements, Kalaeloa, Oahu

We have reviewed the Draft Environmental Assessment (DEA) for the proposed various safety improvements in Kalaeloa, Oahu, Hawaii and have no comment on the report.

Thank you for the opportunity to review the DEA.

Should you have any questions, please do not hesitate to call me at 808-620-9451.

Aloha and mahalo,

Linda Chinn, Administrator
Land Management Division

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

PETER B. CARLISLE
MAYOR

GEORGE "KEOKI" MIYAMOTO
ACTING DIRECTOR

IN REPLY REFER TO:
DRM 10-848

November 3, 2010

R. M. Towill Corporation
Attn: Mr. Chester Koga
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koga:

Subject: Draft Environmental Assessment (DEA)
Kalaeloa Life Safety Improvements
Kalaeloa Community Development District

Thank you for the opportunity too review and provide comments to the DEA dated September 28, 2010 for the proposed roadway improvements to reduce hazards and improve safety conditions at 5 locations within the Kalaeloa Community Development District.

We have no comments to offer as the only City roadway affected is a short section of Tripoli Street at its intersection with State owned Coral Sea Road. The proposed improvements at the intersection will not have an adverse affect on our maintenance operations of Tripoli Street.

Should you have any questions, please call Charles Pignataro of the Division of Road Maintenance, at 768-3697.

Sincerely,

George "Keoki" Miyamoto
Acting Director

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 768-8480 • FAX: (808) 768-4567
WEB SITE: www.honolulu.gov

PETER B. CARLISLE
MAYOR

COLLINS D. LAM, P.E.
ACTING DIRECTOR

DIRECTOR

CDD-P 10- 390027

November 4, 2010

Mr. Chester Koga, AICP
Planning Project Coordinator
R. M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koga:

Subject: Draft Environmental Assessment
Kalaeloa Life Safety Improvements
Kalaeloa, Ewa, Oahu, Hawaii
TMK: Adjacent to 9-1-13

We reviewed the above Draft Environmental Assessment and have no comments to offer.

Thank you for the opportunity to comment.

If there are any questions, please contact me at 768-8480.

Very truly yours,

Collins D. Lam, P.E.
Acting Director

GS:lal

LINDA LINGLE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 8, 2010

R.M. Towill Corporation
2024 North King Street Suite 200
Honolulu, Hawaii 96819

Attention: Mr. Chester Koga

Ladies and Gentlemen:

Subject: Draft Environmental Assessment for the Kalaeloa Life Safety Improvements

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

Other than the comments from Division of Aquatic Resources, Engineering Division, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0414. Thank you.

Sincerely,

Marlene E. Ulrich
for Russell Y. Tsuji
Administrator

LINDA LINGLE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 19, 2010

MEMORANDUM

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

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DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Draft Environmental Assessment for Kalaeloa Life Safety Improvements
LOCATION: Island of Oahu
APPLICANT: RM Towill Corporation on behalf of Hawaii Community Development Authority

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by November 5, 2010.

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

Attachments

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

Signed: _____
Date: 10/22/10

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/CharleneUnoki
Ref: DEAKalaeloaLifeSafetyImprovements
Oahu.800

COMMENTS

(X) **We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zones D, A and AE. The National Flood Insurance Program does not have any regulations for developments within Zone D, however, it does regulate developments within Zones A and AE as indicated in bold letters below.**

( ) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

(X) **Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.**

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

(X) **Mr. Robert Sumitomo at (808) 768-8097 or Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.**

( ) Mr. Carter Romero at (808) 961-8943 of the County of Hawaii, Department of Public Works.

(X) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.

( ) Ms. Wynne Ushigome at (808) 241-4980 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

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

( ) Additional Comments:_____

( ) Other: _____

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

Signed: _____
CARTY CHANG, CHIEF ENGINEER

Date: 10/28/10

LD

LINDA LINGLE
GOVERNOR OF HAWAII

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

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STATE OF HAWAII

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DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 19, 2010

MEMORANDUM

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Attachments

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

Signed: F Quitta
Date: 10-22-10

Chester Koga, AICP
R.M. Towill Corporation
2024 N King St., Suite 200
Honolulu, HI 96819-3470

Referencing: Draft Environmental Assessment, Kalaeloa Life Safety Improvements
Page 11….1.3.5, Site #2
Roosevelt Ave at Philippine Sea Rd.

1. Due to numerous accidents at this location after dark and the fact there are two bus stops serving said intersection (one eastbound, one westbound) I feel strongly that lighting should be considered for pedestrian safety and to help identify the intersection.
2. A severe depression exists directly in front of the eastbound bus stop at the edge of the roadway. When eastbound traffic goes around stopped traffice for private road they end up being jolted by the depression. You can't see this at night.

If you have any Questions please contact Robert Yatchmenoff at the HRS…681-5461

Sincerely,
Robert Yatchmenoff

DEPARTMENT OF PARKS AND RECREATION

CITY AND COUNTY OF HONOLULU

KAPOLEI HALE, 1000 ULUOHIA STREET, STE. 309 • KAPOLEI, HAWAII 96707
Phone: (808) 768-3003 • FAX: (808) 768-3053 • Internet: www.honolulu.gov

PETER B. CARLISLE
MAYOR

LESTER K. C. CHANG
ACTING DIRECTOR

RICHARD HARU
DEPUTY DIRECTOR

November 5, 2010

Mr. Chester Koga
R. M. Towill Corporation
2024 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koga:

Subject: Draft Environmental Assessment
Kalaeloa Life Safety Improvements
Ewa District, Island of Oahu

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Kalaeloa Life Safety Improvements.

The Department of Parks and Recreation has no comment, as the proposed project will not impact any program or facility of the Department. You may remove us as a consulted party to the balance of the EIS process.

Should you have any questions, please contact Mr. John Reid, Planner, at 768-3017.

Sincerely,

LESTER K. C. CHANG
Acting Director

LKCC:jr
(388206)