BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO. (P)1236.1

'01 APR -6 P12:00

APR - 5 2001

TO: Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control

Subject: Hawaii Army National Guard Armory
Final Environmental Assessment for
Hawaii National Guard Armory Master Plan
DAGS Job No. 15-14-7054

The Department of Accounting and General Services, has reviewed the Final Environmental Assessment (FEA) for the subject project and has made a Finding of No Significant Impact (FONSI). Please publish the notice of availability for this project in the April 23, 2001, issue of The Environmental Notice.

We have enclosed a completed OEQC Publication form and four (4) copies of the FEA. Please be advised that the Project Summary has not changed since the publication of the Draft EA.

If there are any questions, please have your staff contact Mr. Lance Maja of the Planning Branch at 586-0483.

GORDON MATSUOKA
Public Works Administrator

LM:mo
Attachments
c: Mr. Richard Miyabara, GYA Architects, Inc. w/o attach
Mr. Glenn Tadaki, Munekiyo & Hiraga, Inc. w/o attach
Major Rodney Graham, HIARNG w/o attach

LOS F. For the majority of multilane highways with free-flow speeds between 45 and 60 mph, passenger-car speeds at capacity range from 40 to 55 mph but are highly variable and unpredictable within that range.

Level of Service F represents forced or breakdown flow. It occurs either at a point where vehicles arrive at a rate greater than the rate at which they are discharged or at a point on a planned facility where forecast demand exceeds computed capacity. Although operations at such points (and on sections immediately downstream) will appear to be at capacity, queues will form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages. Average travel speeds with queues are generally less than 30 mph. Note that the term "LOS F" may be used to characterize both the point of the breakdown and the operating condition within the queue. It must be remembered, however, that it is the point of breakdown that causes the queue to form and that operations within the queue are generally not related to defects along the highway segment over which the queue extends. Chapters 3 and 6 contain more detailed discussions of the use and application of LOS F and of the analysis of breakdown conditions.

"Highway Capacity Manual," Special Report 209, Transportation Research Board, Third Edition, 1994.

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level of Service (LOS) criteria are given in Table 1. As used here, total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. In situations where the degree of saturation is greater than about 0.9, the amount of average total delay is also dependent on the length of the analysis period.

Table 1: Level-of-Service Criteria for Unsignalized Intersections

Level of Service	Average Total Delay (Sec/Veh)
A	≤5.0
B	>5.0 and ≤1.0
C	>10.0 and ≤20.0
D	>20.0 and ≤30.0
E	>30.0 and ≤45.0
F	>45.0

"Highway Capacity Manual," Special Report 209, Transportation Research Board, Third Edition, 1994.

APPENDIX C

CAPACITY ANALYSIS CALCULATIONS
EXISTING PEAK HOUR TRAFFIC ANALYSIS

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... MOKULELE HWY @ ACCESS ROAD
ANALYST..... CK
TIME OF ANALYSIS.....
DATE OF ANALYSIS..... 10-14-1999
OTHER INFORMATION.... AM PEAK

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS.....	2
PERCENTAGE OF BUSES.....	0
PERCENTAGE OF RECREATIONAL VEHICLES.....	0
DESIGN SPEED (MPH).....	60
PEAK HOUR FACTOR.....	.91
DIRECTIONAL DISTRIBUTION (UP/DOWN).....	57.7 / 42.3
LANE WIDTH (FT).....	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)...	6
PERCENT NO PASSING ZONES.....	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.95	.98
B	2.2	2	2.5	1	.95	.98
C	2.2	2	2.5	1	.95	.98
D	2	1.6	1.6	1	.95	.98
E	2	1.6	1.6	1	.95	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 1942
ACTUAL FLOW RATE: 2134

LOS	SERVICE FLOW RATE	V/C
A	393	.15
B	704	.27
C	1122	.43
D	1676	.64
E	2619	1

LOS FOR GIVEN CONDITIONS: E

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... MOKULELE HWY @ ACCESS ROAD
ANALYST..... CK
TIME OF ANALYSIS.....
DATE OF ANALYSIS..... 10-14-1999
OTHER INFORMATION.... PM PEAK

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS.....	2
PERCENTAGE OF BUSES.....	0
PERCENTAGE OF RECREATIONAL VEHICLES.....	0
DESIGN SPEED (MPH).....	60
PEAK HOUR FACTOR.....	.96
DIRECTIONAL DISTRIBUTION (UP/DOWN).....	43.2 / 56.8
LANE WIDTH (FT).....	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)...	6
PERCENT NO PASSING ZONES.....	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.98
B	2.2	2	2.5	1	.96	.98
C	2.2	2	2.5	1	.96	.98
D	2	1.6	1.6	1	.96	.98
E	2	1.6	1.6	1	.96	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 2184
ACTUAL FLOW RATE: 2275

LOS	SERVICE FLOW RATE	V/C
A	395	.15
B	708	.27
C	1128	.43
D	1685	.64
E	2633	1

LOS FOR GIVEN CONDITIONS: E

APPENDIX D

CAPACITY ANALYSIS CALCULATIONS
EXISTING OFF-PEAK HOUR TRAFFIC ANALYSIS

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... Mokulele Hwy @ Access Road
ANALYST..... CK
TIME OF ANALYSIS..... Off-Peak Hours
DATE OF ANALYSIS..... 10-25-1999
OTHER INFORMATION....

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS.....	2
PERCENTAGE OF BUSES.....	0
PERCENTAGE OF RECREATIONAL VEHICLES.....	0
DESIGN SPEED (MPH).....	60
PEAK HOUR FACTOR.....	.92
DIRECTIONAL DISTRIBUTION (UP/DOWN).....	54.2 / 45.8
LANE WIDTH (FT).....	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)...	6
PERCENT NO PASSING ZONES.....	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.98	.98
B	2.2	2	2.5	1	.98	.98
C	2.2	2	2.5	1	.98	.98
D	2	1.6	1.6	1	.98	.98
E	2	1.6	1.6	1	.98	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 1491
ACTUAL FLOW RATE: 1621

LOS	SERVICE FLOW RATE	V/C
A	401	.15
B	720	.27
C	1146	.43
D	1713	.64
E	2676	1

LOS FOR GIVEN CONDITIONS: D

APPENDIX E

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2002 PEAK HOUR TRAFFIC
ANALYSIS WITHOUT PROJECT

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... MOKULELE HWY @ ACCESS ROAD
ANALYST..... CK
TIME OF ANALYSIS.....
DATE OF ANALYSIS..... 10-14-1999
OTHER INFORMATION.... YEAR 2002 AM PEAK WITHOUT PROJECT

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS.....	2
PERCENTAGE OF BUSES.....	0
PERCENTAGE OF RECREATIONAL VEHICLES.....	0
DESIGN SPEED (MPH).....	60
PEAK HOUR FACTOR.....	.91
DIRECTIONAL DISTRIBUTION (UP/DOWN).....	57.7 / 42.3
LANE WIDTH (FT).....	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)...	6
PERCENT NO PASSING ZONES.....	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.95	.98
B	2.2	2	2.5	1	.95	.98
C	2.2	2	2.5	1	.95	.98
D	2	1.6	1.6	1	.95	.98
E	2	1.6	1.6	1	.95	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 2158
ACTUAL FLOW RATE: 2371

LOS	SERVICE FLOW RATE	V/C
A	393	.15
B	704	.27
C	1122	.43
D	1676	.64
E	2619	1

LOS FOR GIVEN CONDITIONS: E

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... MOKULELE HWY @ ACCESS ROAD
ANALYST..... CK
TIME OF ANALYSIS.....
DATE OF ANALYSIS..... 10-14-1999
OTHER INFORMATION.... YEAR 2002 PM PEAK WITHOUT PROJECT

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS.....	2
PERCENTAGE OF BUSES.....	0
PERCENTAGE OF RECREATIONAL VEHICLES.....	0
DESIGN SPEED (MPH).....	60
PEAK HOUR FACTOR.....	.96
DIRECTIONAL DISTRIBUTION (UP/DOWN).....	43.2 / 56.8
LANE WIDTH (FT).....	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)...	6
PERCENT NO PASSING ZONES.....	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.98
B	2.2	2	2.5	1	.96	.98
C	2.2	2	2.5	1	.96	.98
D	2	1.6	1.6	1	.96	.98
E	2	1.6	1.6	1	.96	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 2427
ACTUAL FLOW RATE: 2528

LOS	SERVICE FLOW RATE	V/C
A	395	.15
B	708	.27
C	1128	.43
D	1685	.64
E	2633	1

LOS FOR GIVEN CONDITIONS: E

APPENDIX F

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2002 OFF-PEAK HOUR TRAFFIC
ANALYSIS WITHOUT PROJECT

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... Mokulele Hwy @ Access Road
ANALYST..... CK
TIME OF ANALYSIS..... Off-Peak Hours
DATE OF ANALYSIS..... 10-25-1999
OTHER INFORMATION.... Year 2002 w/out project

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS.....	2
PERCENTAGE OF BUSES.....	0
PERCENTAGE OF RECREATIONAL VEHICLES.....	0
DESIGN SPEED (MPH).....	60
PEAK HOUR FACTOR.....	.92
DIRECTIONAL DISTRIBUTION (UP/DOWN).....	54.2 / 45.8
LANE WIDTH (FT).....	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)...	6
PERCENT NO PASSING ZONES.....	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.98	.98
B	2.2	2	2.5	1	.98	.98
C	2.2	2	2.5	1	.98	.98
D	2	1.6	1.6	1	.98	.98
E	2	1.6	1.6	1	.98	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 1657
ACTUAL FLOW RATE: 1801

LOS	SERVICE FLOW RATE	V/C
A	404	.15
B	724	.27
C	1152	.43
D	1722	.64
E	2690	1

LOS FOR GIVEN CONDITIONS: E

APPENDIX G

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2002 PEAK HOUR TRAFFIC
ANALYSIS WITH PROJECT

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... MOKULELE HWY @ ACCESS ROAD
ANALYST..... CK
TIME OF ANALYSIS.....
DATE OF ANALYSIS..... 10-14-1999
OTHER INFORMATION.... YEAR 2002 AM PEAK WITH PROJECT

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS.....	2
PERCENTAGE OF BUSES.....	0
PERCENTAGE OF RECREATIONAL VEHICLES.....	0
DESIGN SPEED (MPH).....	60
PEAK HOUR FACTOR.....	.91
DIRECTIONAL DISTRIBUTION (UP/DOWN).....	57.6 / 42.4
LANE WIDTH (FT).....	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)...	6
PERCENT NO PASSING ZONES.....	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.95	.98
B	2.2	2	2.5	1	.95	.98
C	2.2	2	2.5	1	.95	.98
D	2	1.6	1.6	1	.95	.98
E	2	1.6	1.6	1	.95	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 2163
ACTUAL FLOW RATE: 2377

LOS	SERVICE FLOW RATE	V/C
A	393	.15
B	704	.27
C	1122	.43
D	1676	.64
E	2619	1

LOS FOR GIVEN CONDITIONS: E

Center For Microcomputers In Transportation
University of Florida
512 Weil Hall
Gainesville, FL 32611-6585
Ph: (352) 392-0378

Streets: (N-S) Mokulele Hwy (E-W) Access Road
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... CK
Date of Analysis..... 10/20/99
Other Information.....Year 2002 AM Peak with Project
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	> 0	< 0
Stop/Yield			N			N						
Volumes		1245	2	4	913					1		1
PHF		.91	.91	.91	.91					.95		.95
Grade		0			0						0	
MC's (%)				0						0		0
SU/RV's (%)				2						2		2
CV's (%)				0						0		0
PCE's				1.01						1.01		1.01

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	*5.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	1368	
Potential Capacity: (pcph)	281	
Movement Capacity: (pcph)	281	
Prob. of Queue-Free State:	1.00	

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	1370	
Potential Capacity: (pcph)	381	
Movement Capacity: (pcph)	381	
Prob. of Queue-Free State:	0.99	

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	2375	
Potential Capacity: (pcph)	86	
Major LT, Minor TH Impedance Factor:	0.99	
Adjusted Impedance Factor:	0.99	
Capacity Adjustment Factor due to Impeding Movements	0.99	
Movement Capacity: (pcph)	85	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
WB L	1	85 >	131	27.9	0.0	D	27.9
WB R	1	281 >					
SB L	4	381		9.5	0.0	B	0.0

Intersection Delay = 0.0 sec/veh

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... MOKULELE HWY @ ACCESS ROAD
ANALYST..... CK
TIME OF ANALYSIS.....
DATE OF ANALYSIS..... 10-14-1999
OTHER INFORMATION.... YEAR 2002 PM PEAK WITH PROJECT

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS.....	2
PERCENTAGE OF BUSES.....	0
PERCENTAGE OF RECREATIONAL VEHICLES.....	0
DESIGN SPEED (MPH).....	60
PEAK HOUR FACTOR.....	.96
DIRECTIONAL DISTRIBUTION (UP/DOWN).....	43.3 / 56.7
LANE WIDTH (FT).....	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)...	6
PERCENT NO PASSING ZONES.....	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.98
B	2.2	2	2.5	1	.96	.98
C	2.2	2	2.5	1	.96	.98
D	2	1.6	1.6	1	.96	.98
E	2	1.6	1.6	1	.96	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 2432
ACTUAL FLOW RATE: 2533

LOS	SERVICE FLOW RATE	V/C
A	395	.15
B	709	.27
C	1129	.43
D	1687	.64
E	2635	1

LOS FOR GIVEN CONDITIONS: E

Center For Microcomputers In Transportation
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512 Weil Hall
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Ph: (352) 392-0378

Streets: (N-S) Mokulele Hwy (E-W) Access Road
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... CK
Date of Analysis..... 10/20/99
Other Information.....Year 2002 PM Peak with Project
Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0 > 0		< 0
Stop/Yield			N			N						
Volumes		1049	1	1	1378					2		4
PHF		.96	.96	.96	.96					.95		.95
Grade		0			0						0	
MC's (%)				0						0		0
SU/RV's (%)				2						2		2
CV's (%)				0						0		0
PCE's				1.01						1.01		1.01

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	*5.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	1093	
Potential Capacity: (pcph)	387	
Movement Capacity: (pcph)	387	
Prob. of Queue-Free State:	0.99	

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	1094	
Potential Capacity: (pcph)	516	
Movement Capacity: (pcph)	516	
Prob. of Queue-Free State:	1.00	

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	2530	
Potential Capacity: (pcph)	73	
Major LT, Minor TH Impedance Factor:	1.00	
Adjusted Impedance Factor:	1.00	
Capacity Adjustment Factor due to Impeding Movements	1.00	
Movement Capacity: (pcph)	73	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
WB L	2	73 >	159	23.5	0.0	D	23.5
WB R	4	387 >					
SB L	1	516		7.0	0.0	B	0.0

Intersection Delay = 0.1 sec/veh

APPENDIX H

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2002 OFF-PEAK HOUR TRAFFIC
ANALYSIS WITH PROJECT

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... Mokulele Hwy @ Access Road
ANALYST..... CK
TIME OF ANALYSIS..... Off-Peak Hours
DATE OF ANALYSIS..... 10-25-1999
OTHER INFORMATION.... Year 2002 w/ Project

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	2
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.92
DIRECTIONAL DISTRIBUTION (UP/DOWN)	52.1 / 47.9
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	6
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.99	.98
B	2.2	2	2.5	1	.99	.98
C	2.2	2	2.5	1	.99	.98
D	2	1.6	1.6	1	.99	.98
E	2	1.6	1.6	1	.99	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 1725
ACTUAL FLOW RATE: 1875

LOS	SERVICE FLOW RATE	V/C
A	406	.15
B	729	.27
C	1160	.43
D	1734	.64
E	2709	1

LOS FOR GIVEN CONDITIONS: E

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Ph: (352) 392-0378

Streets: (N-S) Mokulele Hwy (E-W) Access Road
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... CK
Date of Analysis..... 10/20/99
Other Information..... Year 2002 Off-Peak w/ Project (enter site)

Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	0	0
Stop/Yield			N			N						
Volumes		898	46	68	759							
PHF		.92	.92	.92	.92							
Grade		0			0							
MC's (%)				0								
SU/RV's (%)				2								
CV's (%)				0								
PCE's				1.01								

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	*5.50	3.40

Worksheet for TWSC Intersection

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	1026	
Potential Capacity: (pcph)	556	
Movement Capacity: (pcph)	556	
Prob. of Queue-Free State:	0.87	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
SB L	75	556		7.5	0.5	B	0.6

Intersection Delay = 0.3 sec/veh

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512 Weil Hall
Gainesville, FL 32611-6585
Ph: (352) 392-0378

Streets: (N-S) Mokulele Hwy (E-W) Access Road
Major Street Direction.... NS
Length of Time Analyzed... 60 (min)
Analyst..... CK
Date of Analysis..... 10/20/99
Other Information..... Year 2002 Off-Peak w/ Project (exit sit
e)

Two-way Stop-controlled Intersection

	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	> 0	< 0
Stop/Yield			N			N						
Volumes		898	0	0	759					46		68
PHF		.92	.92	.92	.92					.95		.95
Grade		0			0						0	
MC's (%)				0						0		0
SU/RV's (%)				2						2		2
CV's (%)				0						0		0
PCE's				1.01						1.01		1.01

Adjustment Factors

Vehicle Maneuver	Critical Gap (tg)	Follow-up Time (tf)
Left Turn Major Road	5.00	2.10
Right Turn Minor Road	5.50	2.60
Through Traffic Minor Road	6.00	3.30
Left Turn Minor Road	*5.50	3.40

Worksheet for TWSC Intersection

Step 1: RT from Minor Street	WB	EB
Conflicting Flows: (vph)	976	
Potential Capacity: (pcph)	443	
Movement Capacity: (pcph)	443	
Prob. of Queue-Free State:	0.84	

Step 2: LT from Major Street	SB	NB
Conflicting Flows: (vph)	976	
Potential Capacity: (pcph)	587	
Movement Capacity: (pcph)	587	
Prob. of Queue-Free State:	1.00	

Step 4: LT from Minor Street	WB	EB
Conflicting Flows: (vph)	1801	
Potential Capacity: (pcph)	158	
Major LT, Minor TH Impedance Factor:	1.00	
Adjusted Impedance Factor:	1.00	
Capacity Adjustment Factor due to Impeding Movements	1.00	
Movement Capacity: (pcph)	158	

Intersection Performance Summary

Movement	Flow Rate (pcph)	Move Cap (pcph)	Shared Cap (pcph)	Avg. Total Delay (sec/veh)	95% Queue Length (veh)	LOS	Approach Delay (sec/veh)
WB L	48	158 >	258	26.1	2.7	D	26.1
WB R	73	443 >					
SB L	0	587		6.1	0.0	B	0.0

Intersection Delay = 1.7 sec/veh

Appendix D

Preliminary Engineering Report

PRELIMINARY ENGINEERING REPORT

FOR

MAUI ARMY NATIONAL GUARD ARMORY

Pulehunui, Wailuku, Maui, Hawaii

Prepared for

GYA Architects, Inc.

By

Austin, Tsutsumi & Associates, Inc.
Civil Engineers • Surveyors

June 2000
Revised March 2001

PRELIMINARY ENGINEERING REPORT

FOR

MAUI ARMY NATIONAL GUARD ARMORY

PUUNENE AIRPORT AREA

At

Pulehunui, Wailuku, Maui, Hawaii

Tax Map Key: (2) 3-8-08: 01

I. INTRODUCTION

The purpose of this report is to summarize the preliminary civil engineering design criteria for Maui Army National Guard Armory. It evaluates the existing site conditions and defines requirements for grading, drainage, sewer, water utilities, and other site improvements.

II. PROPOSED PROJECT

The project site is a 30-acre parcel of land located in Puunene, Kula, Maui, Hawaii. This site is designated by Tax Map Key (2) 3-8-08: 01. The project consists of improvements for a proposed Hawaii Army National Guard facility.

III. EXISTING CONDITIONS

A. ADJACENT LAND USES

The project site is located at a partially abandoned airfield, which consists of a paved airstrip and remnants of abandoned accessory structure. A portion of the airstrip is being used by a crop dusting operator.

The site is surrounded mainly by actively cultivated sugarcane, dry brush, and kiawe trees. To the west is Mokulele Highway, a main thoroughfare connecting South and Central Maui. Also adjacent to the site is the existing Maui Raceway Park. The future M.E.O. Transportation Facility abuts the ease side of the project site.

B. TOPOGRAPHY AND SOIL CONDITIONS

The project site generally slopes 0% to 3% in a southwesterly direction. The existing paved airstrip covers a major portion of the project site. The remaining portion of the project site consists of dry brush and kiawe trees.

The soil classification for this area is predominantly Pulehu Cobbly Silt Loam (PrA) and Ewa Cobbly Silty Loam (EcA) and described in the United States Department of Agriculture Soil Conservation service's publication "Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii".

C. CLIMATE

The area is generally warm and sunny throughout the year. Mean annual temperature is 75 degrees Fahrenheit and annual rainfall ranges between 10 and 30 inches, most of which occurs during the few winter cyclonic "Kona" storms. Northeasterly trades prevail during the dry season, typically May through September. During the rainy season, October through April, wind conditions vary, shifting to strong southerly winds which accompany the "Kona" storms. Rain patterns in this area of Maui are infrequent but generally strong.

D. FLOOD ZONE

The project site is located in an area designated Flood Zone "C". Flood Zone "C" is an area of minimal flooding. Flood zone information is obtained from Flood Insurance Rate Maps (FIRM) as prepared by the Federal Emergency Management Agency (FEMA).

E. WATER SYSTEM

Existing waterlines in Mokulele Highway and Mehameha Loop will be utilized to provide both domestic and fire protection requirements. An existing 6" cast iron waterline is located along Mokulele Highway. Existing 36" concrete and 18" cast iron waterlines, which service South Maui, are located in the nearby Mehameha Loop.

F. SEWER SYSTEM

There is no underground gravity sewer system owned by the County of Maui within the surrounding area. There is an existing septic sewer system within the area which appears to be abandoned.

G. DRAINAGE SYSTEM

Runoff typically sheet flows in a southerly direction towards the southwest corner of the project site. It appears there is no existing underground drainage system within the project site.

Runoff generated on the existing site is approximately 89.1 cubic feet per second (cfs). The existing runoff was calculated using the Rational Method as described in the "Rules for the Design on Storm Drainage Facilities in the County of Maui", by the Department of Public Works and Waste Management. Calculations are based on a 50-year 1-hour storm recurrence interval. Refer to Appendix for calculations.

The offsite runoff was calculated at 163.6 cfs, with a recurrence interval of 100 year based on a 24 hour storm. This offsite runoff will be allowed to pass through the project site.

IV. PROPOSED IMPROVEMENTS

A. WATER PLAN

A new 12" waterline will be installed from the project site, connecting to an existing 36" transmission line located in the vicinity of Mehameha Loop/Mokulele Highway intersection. This will provide for both domestic and fire protection requirements for the subject project.

B. SEWER PLANS

The County of Maui has no immediate plans to provide sewer service in the area. They do have a long range master plan for a central treatment plant, force mains and gravity lines. Therefore, a new septic sewer system will be utilized for the project.

C. GRADING AND DRAINAGE PLANS

Grading for the proposed improvements will involve excavation and embankment for the construction of building pads, parking areas and roadways. Erosion control measures and best management practices will be implemented during the construction period to minimize soil loss and erosion hazards. A detailed grading and erosion control plan will be prepared and submitted to the County of Maui, Department of Public Works and Waste Management for approval. An application for a National Pollutant Discharge Elimination System (NPDES) permit will be submitted to the State Department of Health for review and approval. Refer to Exhibit 2.

The proposed drainage plan for the project requires site grading and installation of an underground drainage system. Increases in runoff due to the proposed development will be captured into a proposed retention system. Refer to Exhibit 2.

The Rational Method was used to calculate the onsite post development storm runoff. A runoff rate of approximately 91.8 cfs was calculated for the developed site using a 50-year recurrence interval based on a one-hour storm. See appendix for hydrological calculations.

V. CONCLUSION

The proposed improvements for the project will be designed to produce no adverse effects to existing facilities or to the surrounding environment. All improvements will be designed in accordance with the applicable regulatory agencies.

EXISTING CONDITIONS

AREA:

Grass=13.5 Acres
Paved=16.5 Acres
Total=30 acres

RUNOFF COEFFICIENT:

Cgrass=0.30
Cpaved=0.95
Cavg=0.66

RAINFALL INTENSITY:

Length of Reach=2340 feet
Average Slope=1.92 %
Tc=15.6 min
Intensity=4.5 in/hr

Q=CIA
Q=(0.66)*(4.5 in/hr)*(30 Acres)
Q=89.1 cfs

*Based on a 50 Year (1 Hr) Storm.

PROJECT: MAUI ARMY NATIONAL GUARD ARMORY (PRE-DEVELOPMENT)	JOB NO. M98538	BY: RRR	DATE: 4/7/00
		CHKD:	DATE:
		SHT NO 1	OF 2

AUSTIN, TSUTSUMI & ASSOCIATES, INC. CIVIL ENGINEERS & SURVEYORS
HONOLULU, HAWAII
WAILUKU, MAUI, HAWAII

PROPOSED CONDITIONS

AREA:

Grass=12.5 Acres
Roof=1.0 Acres
Paved=16.5 Acres
Total=30 acres

RUNOFF COEFFICIENT:

Cgrass=0.30
Croof=0.95
Cpaved=0.95
Cavg=0.68

RAINFALL INTENSITY:

Length of Reach=2340 feet
Average Slope=1.92 %
Tc=15.6 min
Intensity=4.5 in/hr

Q=CIA
Q=(0.68)*(4.5 in/hr)*(30 Acres)
Q=91.8 cfs

*Based on a 50 Year (1 Hour) Storm

PROJECT: MAUI ARMY NATIONAL GUARD ARMORY (POST-DEVELOPMENT)	JOB NO. M98538	BY: RRR	DATE: 4/7/00	
		CHKD:	DATE:	
		SHT NO 2	OF 2	

AUSTIN, TSUTSUMI & ASSOCIATES, INC. CIVIL ENGINEERS & SURVEYORS
HONOLULU, HAWAII
WAILUKU, MAUI, HAWAII

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)
Copyright 1989, Streamline Technologies, Inc.

ARMORY
2/26/01

BASIN NAME	ARMORY
NODE NAME	1
UNIT HYDROGRAPH	UH484
PEAKING FACTOR	484.
RAINFALL FILE	SCSI-24
RAIN AMOUNT (in)	10.00
STORM DURATION (hrs)	24.00
AREA (ac)	166.00
CURVE NUMBER	61.00
DCIA (%)	.00
TC (mins)	110.00
LAG TIME (hrs)	.00
BASIN STATUS	OFFSITE

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
ARMORY	163.56	11.00	5.02	

Project: Maui Army National Guard Armory
Job #: 98538

PRELIMINARY DOMESTIC WATER CONTRIBUTION CALCULATION

Structure	*Area (sf)*	*Type of Use*	*Contributions*		*Average daily wastewater contribution(gpd)*
Post Exchange	5000	Store	140 gal/1000 sf		700
Armory	38560	Storage/Industrial Employee	140 gal/1000 sf		5398.4
Flammable Storage Facility	400	Storage/Industrial Employee	140 gal/1000 sf		56
State Storage Facility	500	Storage/Industrial Employee	140 gal/1000 sf		70
Hawaii Air National Guard Storages	6000	Storage/Industrial Employee	140 gal/1000 sf		840
				Total	7064.4
				Say	7100 GPD

Ref.: Water System Standards, State of Hawaii, 1985

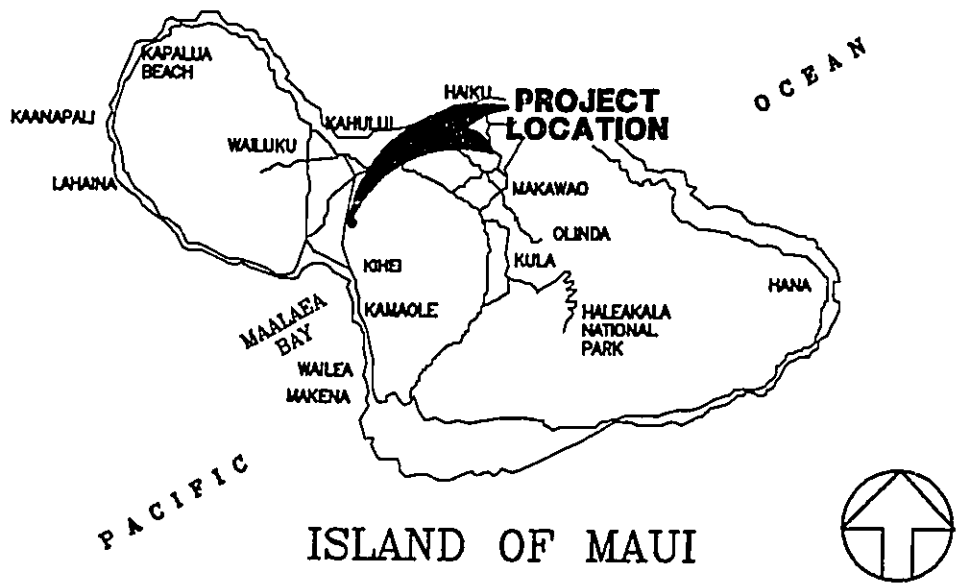
6/20/00

Project: Maui Army National Guard Armory
Job #: 98538

PRELIMINARY WASTEWATER CONTRIBUTION CALCULATION

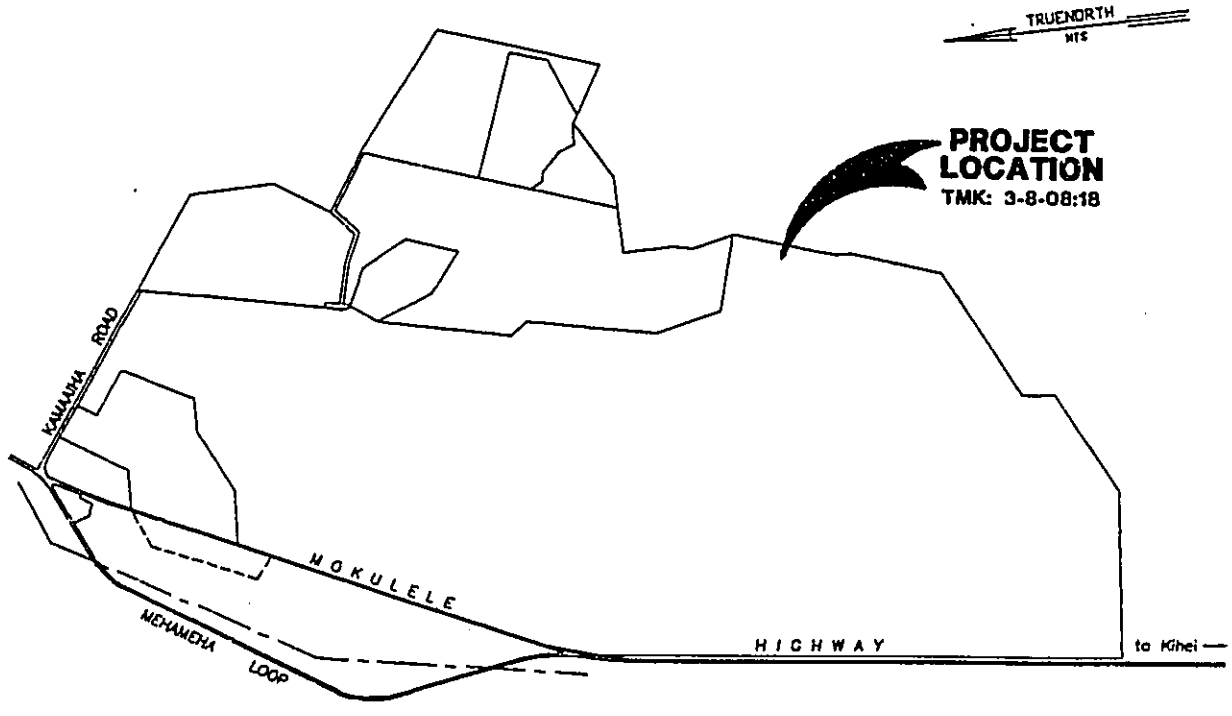
Structure	*Area (sf)*	*Type of Use*	*Contributions*	*Standards*	*Average daily wastewater contribution(gpd)*
Post Exchange	5000	Store	1 capita/200 sq. ft.	15 gal/employee/day	375
Armory	38560	Storage/Industrial Employee	1 capita/500 sq. ft.	25 gal/employee/day	1928
Flammable Storage Facility	400	Storage/Industrial Employee	1 capita/500 sq. ft.	25 gal/employee/day	20
State Storage Facility	500	Storage/Industrial Employee	1 capita/500 sq. ft.	25 gal/employee/day	25
Hawaii Air National Guard Storages	6000	Storage/Industrial Employee	1 capita/500 sq. ft.	25 gal/employee/day	300
				Total	2648
				Say	2,700 GPD

Ref.:Wastewater Flow Standards, Wastewater Reclamamtion Div., County of Maui 6/20/00



ISLAND OF MAUI

PROJECT LOCATION MAP



VICINITY MAP

GRADING AND DRAINAGE REPORT

MAUI ARMY NATIONAL GUARD ARMORY

PULEHUNUI, WAILUKU, MAUI, HAWAII

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS • SURVEYORS
HONOLULU, HILO, WAILUKU, HAWAII

LOCATION AND VICINITY MAP

EXHIBIT

1

JOB NO: M98538
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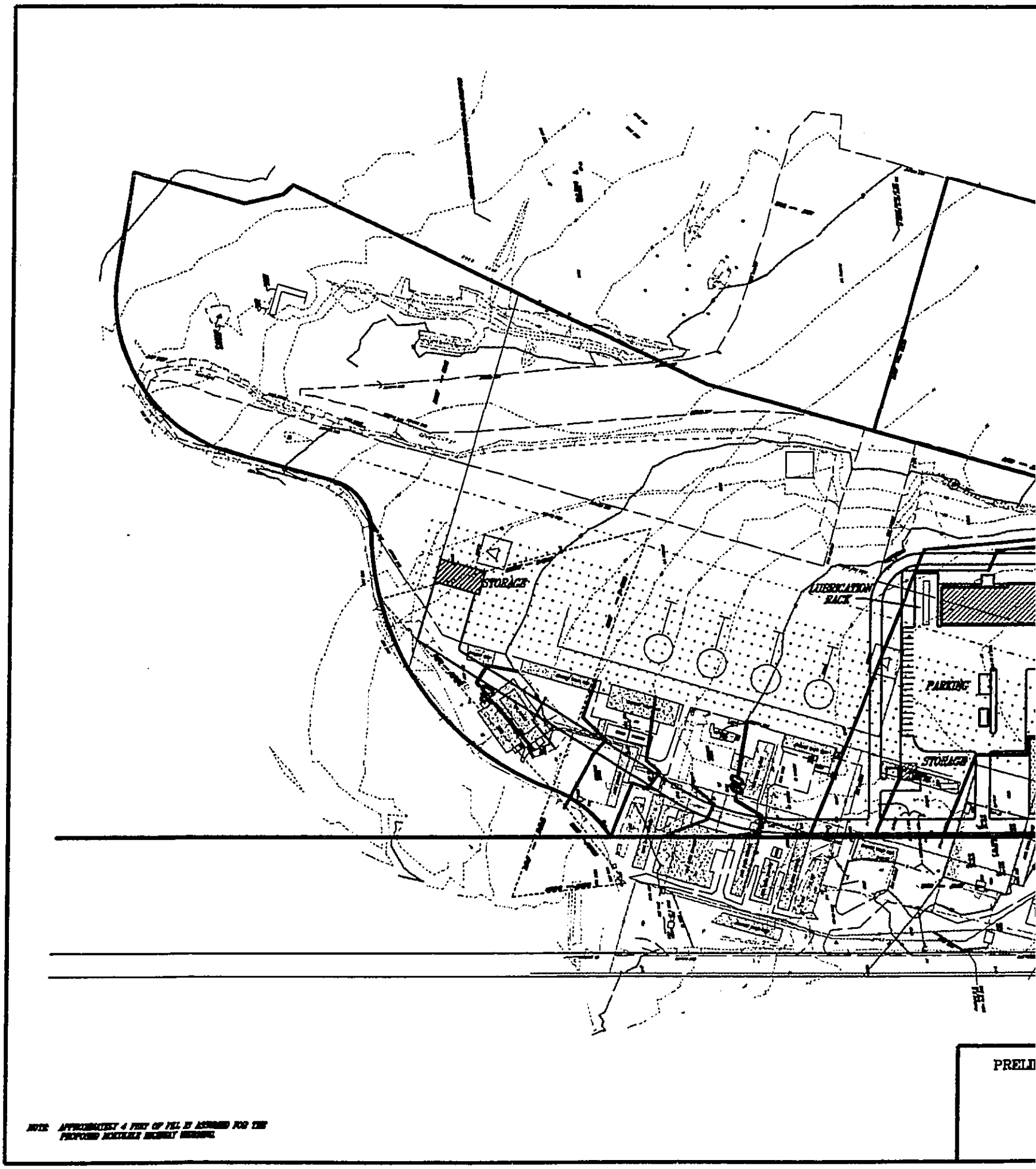
3/20/00



NOTE: APPROXIMATELY 4 FEET OF FILL IS ASSUMED FOR THE PROPOSED MODULAR MODULAR BUILDING.

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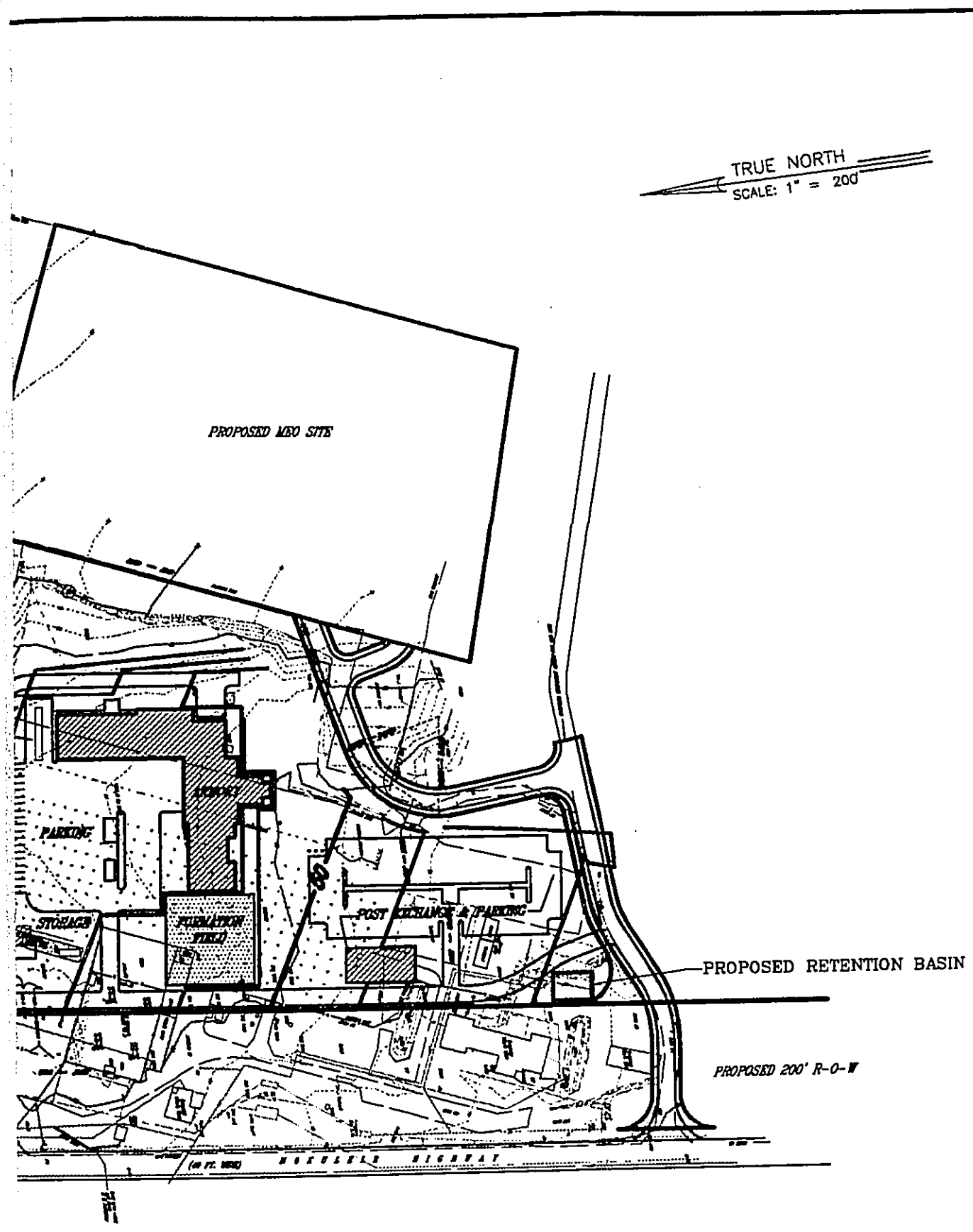


PRELIMINARY GRADING AND DRAINAGE REPORT

MAUI ARMY NATIONAL GUARD ARMORY

PULEHUNUI, WAILUKU, MAUI, HAWAII

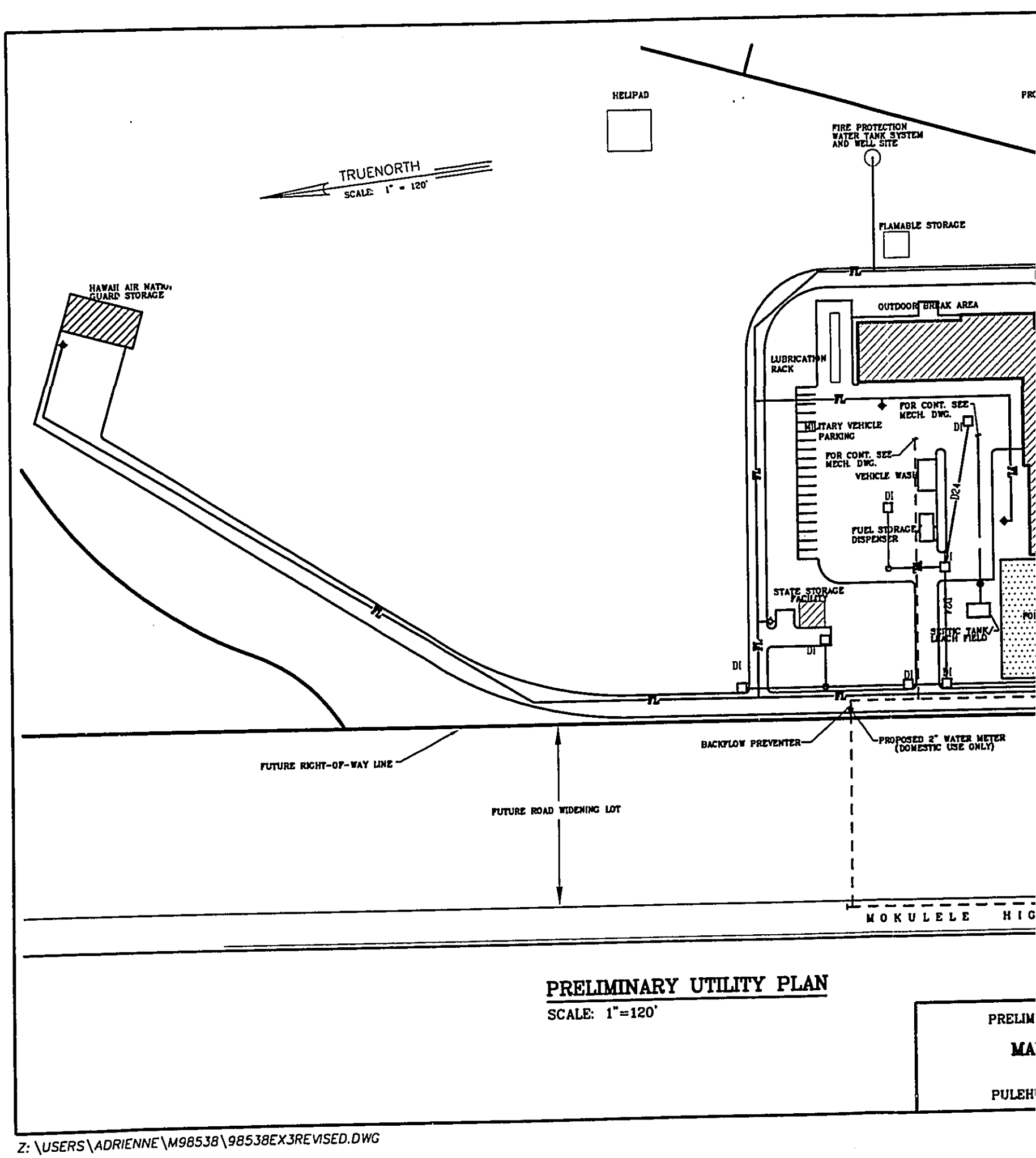
AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS • SURVEYORS
HONOLULU, HILO, WAILUKU, HAWAII

PRELIMINARY GRADING PLAN

EXHIBIT

2

6/9/00



PRELIMINARY UTILITY PLAN

SCALE: 1"=120'

PRELIM
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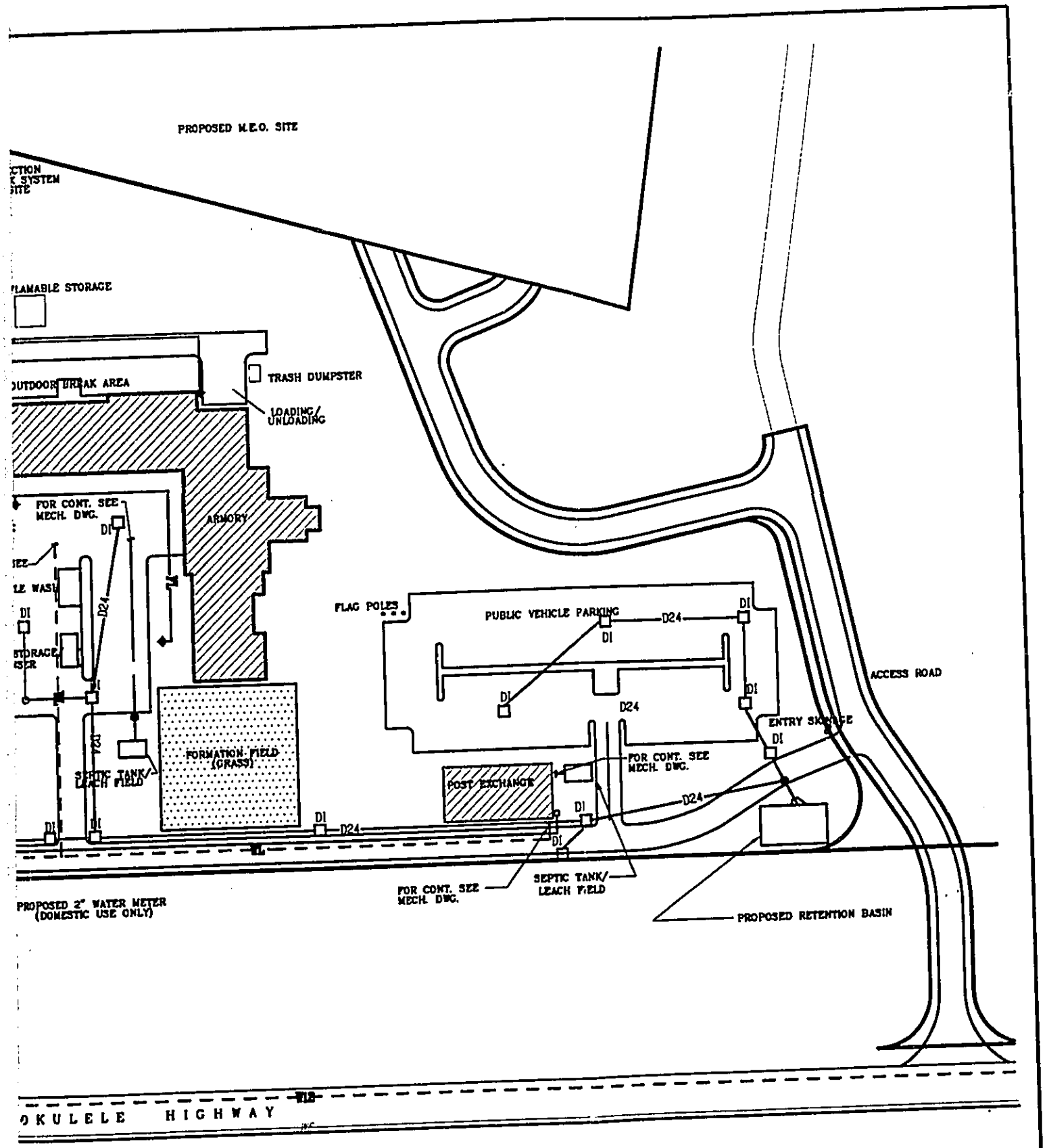


PRELIMINARY ENGINEERING REPORT

MAUI ARMY NATIONAL GUARD ARMORY

PULEHUNUI, WAILUKU, MAUI, HAWAII

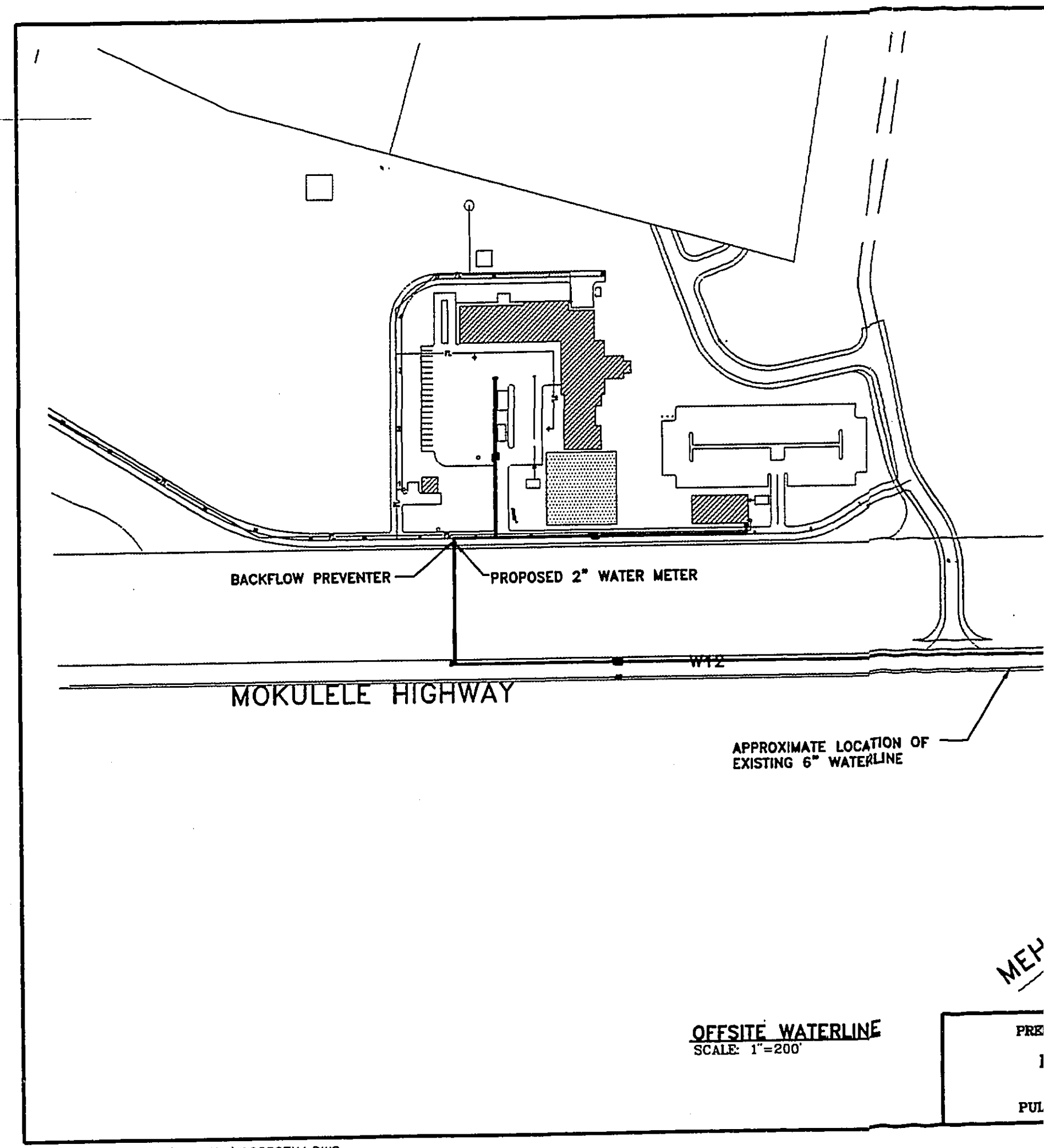
AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS • SURVEYORS
HONOLULU, HILO, WAILUKU, HAWAII

PRELIMINARY UTILITY PLAN

EXHIBIT

3

3/19/01



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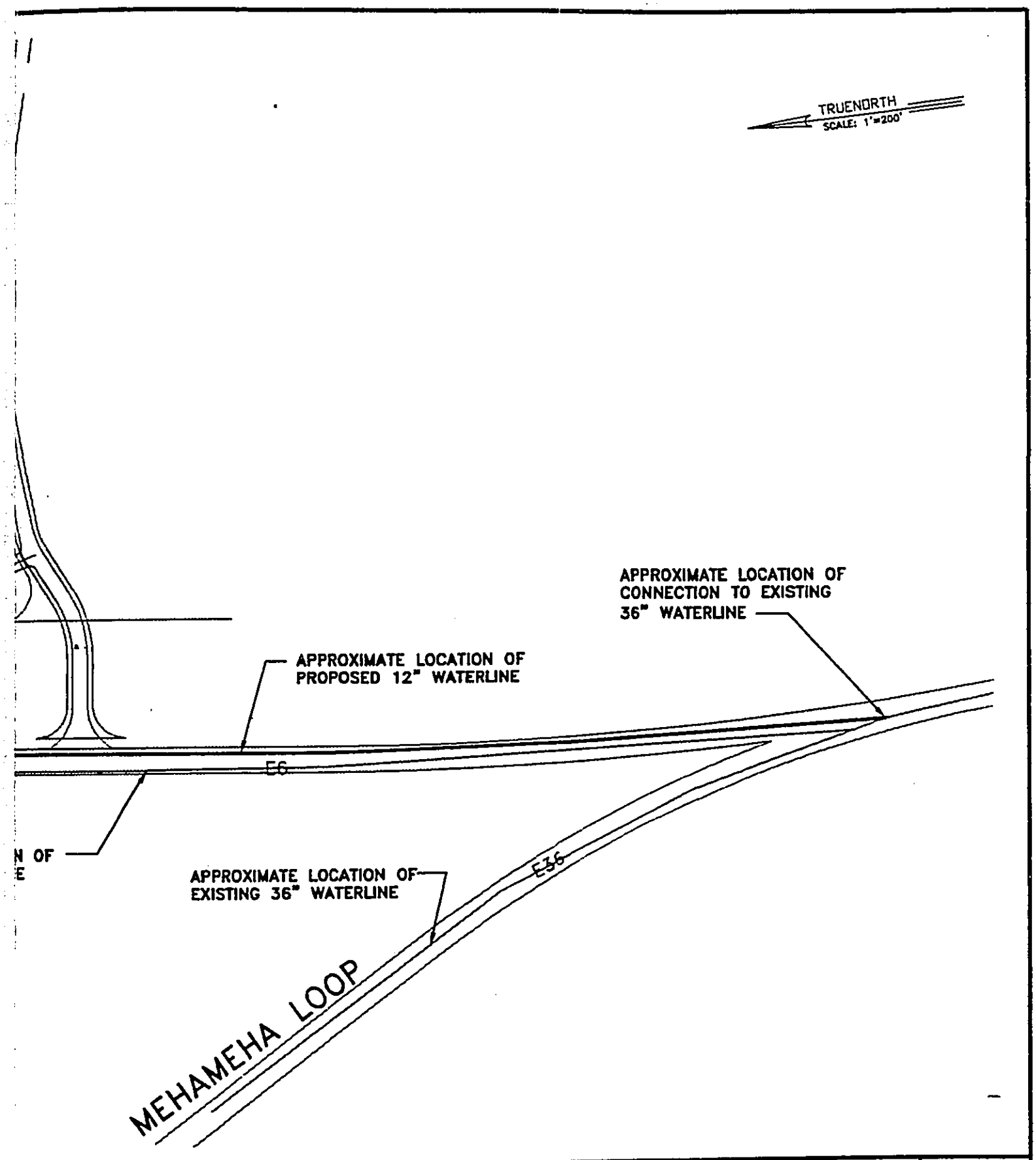


PRELIMINARY ENGINEERING REPORT

MAUI ARMY NATIONAL GUARD ARMORY

PULEHUNUI, WAILUKU, MAUI, HAWAII

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS • SURVEYORS
HONOLULU, HILO, WAILUKU, HAWAII

OFFSITE WATERLINE

EXHIBIT

4

3/23/01

2001-04-23-MA-FEA-

Final Environmental Assessment

HAWAII ARMY NATIONAL GUARD'S PUUNENE ARMORY AND RELATED IMPROVEMENTS

Prepared for:

Hawaii Army
National Guard,
State of Hawaii
by the
Dept. of Accounting
& General Services,
State of Hawaii

April 2001

MUNEKIYO & HIRAGA, INC.

Final Environmental Assessment

HAWAII ARMY NATIONAL GUARD'S PUUNENE ARMORY AND RELATED IMPROVEMENTS

April 2001

Prepared for:

Hawaii Army
National Guard,
State of Hawaii
by the
Dept. of Accounting
& General Services,
State of Hawaii

MUNEKIYO & HIRAGA, INC.

Final Environmental Assessment
for
Hawaii Army National Guard's
Puunene Armory and Related Improvements

Pulehunui, Maui, Hawaii
Tax Map Key:
(2) 3-8-08: Por. 01
DAGS Job No. 15-14-7054

This Document is prepared pursuant to Chapter 343, Hawaii Revised Statutes

Responsible Officer: Raymond H. Sato **Date:** 4/4/01

Raymond H. Sato, State Comptroller
Department of Accounting and General Services

Prepared For:

State of Hawaii
Department of Accounting and General Services
1151 Punchbowl Street
Honolulu, Hawaii 96813

Prepared By:

Munekiyo & Hiraga Inc.

April 2001

CONTENTS

LIST OF FIGURES

Chapter I

Project Overview

I. PROJECT OVERVIEW

A. PROJECT LOCATION, EXISTING USE, AND LAND OWNERSHIP

The applicant, the State of Hawaii, Department of Accounting and General Services (DAGS), proposes the consolidation and relocation of two (2) existing Hawaii Army National Guard facilities (HIARNG) to Pulehunui, Maui, Hawaii. These existing facilities include an Organizational Maintenance Shop (OMS) located in Paukukalo and the armory of "C" Company, 2nd Battalion, 299th Infantry situated in Kahului.

Identified by TMK 3-8-08: por. 01 and consisting of approximately 30 acres, the subject property occupies a portion of the old Puunene Airport (aka, Maui Airport) and the former Naval Air Station Puunene. See Figure 1. Remnants of the Naval Air Station's runways and taxiways, including a crop dusting facility for Murrayair, Ltd., comprise the majority of the project site, while remnants of the airport's structural foundations encompass the western and southern portions of the site. The remaining and intervening portions of the site are vegetated by kiawe, klu, and other dry shrubs and grasses.

The project site is bordered on the north by sugar cane fields, on the east by remnants of the old airport, on the south by a paved access road to the Maui Raceway Park, and on the west by Mokulele Highway, a two-lane, asphalt paved State roadway. Access to the site is presently provided from Mokulele Highway via the Maui Raceway Park access road.

The land underlying the subject property is owned by the State of Hawaii. The project site is located in the State "Agricultural" district and is designated "Project District 10" and "Agricultural" by the Kihei-Makena Community Plan and Maui County zoning, respectively.

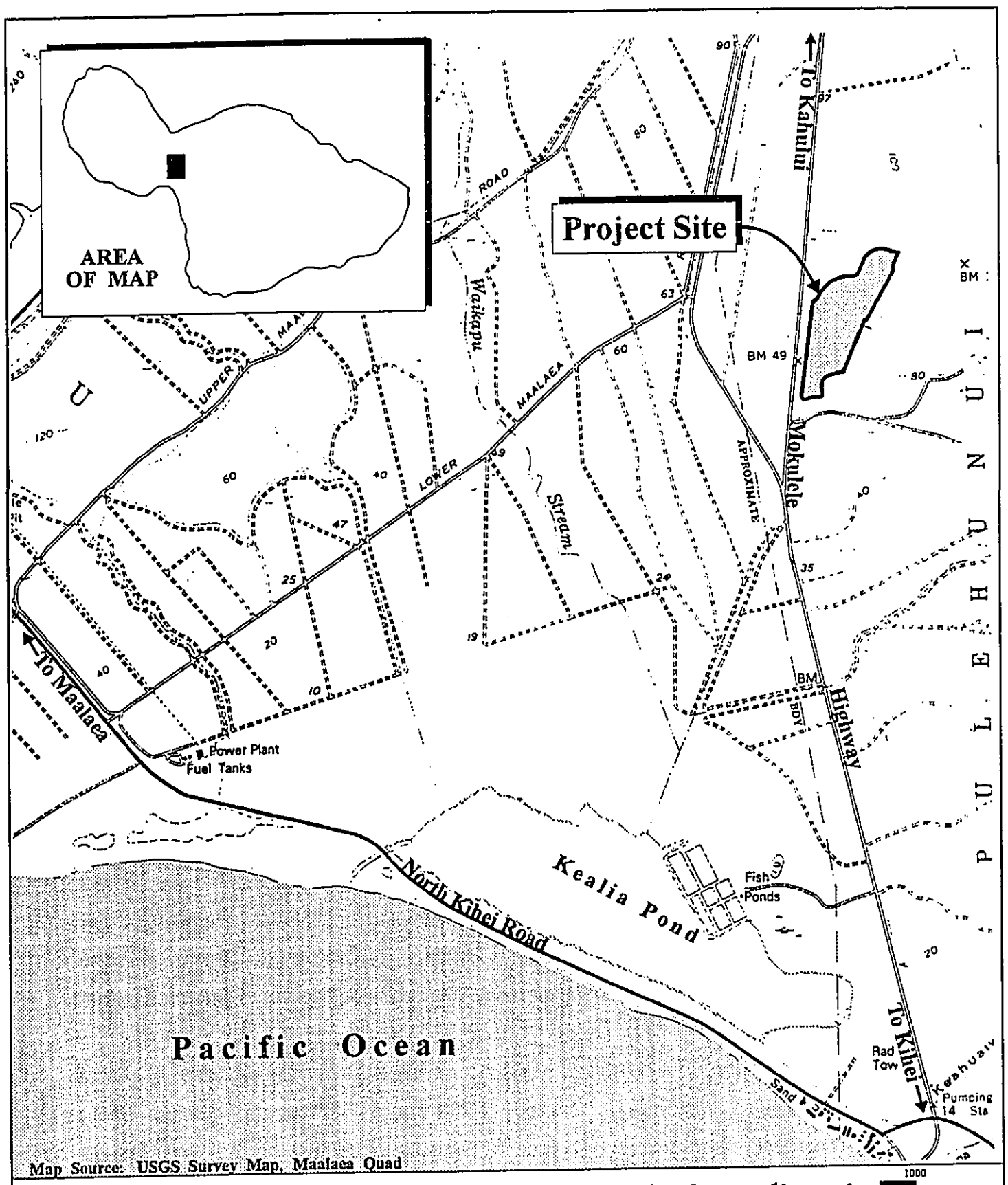


Figure 1 Hawaii Army National Guard's Puunene Armory and Related Improvements

Regional Location Map

Prepared for: State Department of Accounting and General Services

MUNEKIYO & HIRAGA, INC.

B. BACKGROUND

In May 1995, Helber Hastert & Fee, Planners, Inc. prepared a master plan for the Puunene Airport area. This area, which includes the project site, encompasses 1,875 acres of State-owned land formerly occupied by the old Puunene Airport and Naval Air Station Puunene. Of this acreage, 1,500 acres are used for sugarcane cultivation by Hawaiian Commercial & Sugar Co., Ltd. (HC&S), a subsidiary of Alexander & Baldwin, Inc. which holds the general lease (S-4197) for this land. About 371 acres of this land is uncultivated and is categorized as "waste land" by the lease. Much of this "waste land", which encompasses an area of approximately 273 acres, is located at the site of the former Puunene Naval Air Station. Portions of runway and taxiway remnants from the old Airport and Naval Air Station are currently used for crop dusting and recreational purposes. Designated as the "County Project Area" by the master plan, this 273-acre area is planned for non-agricultural uses and is located within the limits of Project District 10. The "County Project Area" is further subdivided into a "Government Complex" for State and County facilities and a "Recreational Complex" for motorized sports.

As noted in the master plan, the proposed project was originally planned for 30 acres of land at the south end of the Mehameha Loop intersection with Mokulele Highway. Subsequently, however, this site was included as part of the 16,518 acres of public lands that was transferred to the Department of Hawaiian Home Lands. The Board of Land and Natural Resources approved the transfer of these lands with a provision that these lands remain in sugar production until sugar no longer remained a viable commodity within the State.

As the result of these occurrences, a new location for the HIARNG facility

was provided in the "Government Complex" portion of the County Project Area in an area designated for State baseyard uses. This location is the site of the proposed project.

C. *REASONS JUSTIFYING THE REQUEST*

The size, age of the structures, and lack of space for expansion make the existing facilities inadequate for current HIARNG needs. Due to these reasons, the armory and OMS operations will be consolidated and relocated to a new centralized site within Project District 10. This project district encompasses 561 acres and is located in the vicinity of the old Puunene Airport. The project site is included in an area of approximately 257 acres adjacent to Mokulele Highway that is not planted in sugar cane.

Of the remaining project district lands, about 125 acres, including and adjacent to the site of the Hawaiian Cement quarry, are intended for heavy industrial use, while most of the remaining 189 acres, between Mokulele Highway and Mehameha Loop, are planted in sugar cane and will remain as such until sugar production no longer remains a viable commodity within the State.

The objective of this project district is to establish an expansion area that will meet future recreational needs and provide areas for industrial activities, including governmental facilities whose locations are better suited away from urban areas. Future governmental uses include the Maui Economic Opportunity, Inc. (MEO) transportation facility to the east of the property, as well as State and County baseyards, maintenance, and training facilities. In addition to these adjoining uses, recreational users, as well as the County fairgrounds are intended for this project district.

In this regard, the proposed project will provide an area for governmental

facilities that is in consonance with the objectives of Project District 10.

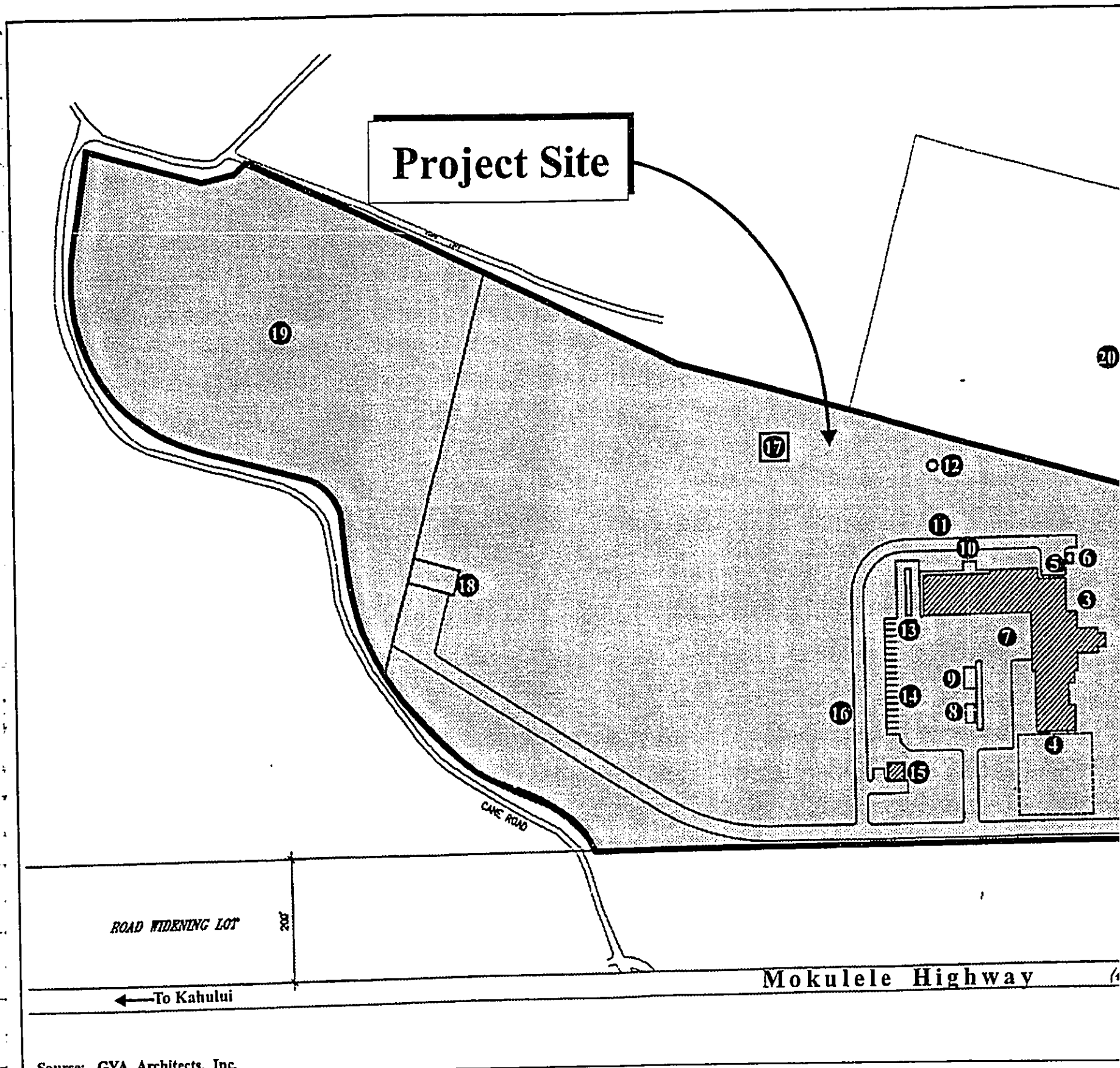
On a short-term basis, the proposed project will benefit the island's economy by providing employment during construction and supporting construction-related suppliers and services. Upon completion, the project will provide immediate and long-term benefits by improving the training and operational efficiency of HIARNG personnel.

D. ***PROPOSED DEVELOPMENT***

The proposed project involves the consolidation and relocation of existing HIARNG facilities to a 30-acre site in the vicinity of the old Puunene Airport. See Figure 2.

Conceptually, the new armory will be about 29,000 square feet and will include classrooms, offices, restrooms/showers, locker and storage rooms, and special function and physical fitness areas. See Figure 3 and Figure 4. Other armory improvements include a kitchen, a break area, an assembly hall, a learning center, and a library/classroom. The new OMS building will be approximately 6,600 square feet and include offices, workbays, restrooms/showers, locker and storage rooms, and special function areas. Refer to Figure 3 and Figure 4. Other OMS improvements include about 22,000 square feet for a wash platform, a lube/inspection rack, a service access apron, and military vehicle storage. A helipad, a State storage facility, a Civil Defense warning siren, an area for a future post exchange, and parking spaces for vehicles owned by armory and OMS personnel will also be provided on the project site. Refer to Figure 2.

The proposed helipad will be designed and operated in accordance with Federal Aviation Administration (FAA) standards. In addition to serving

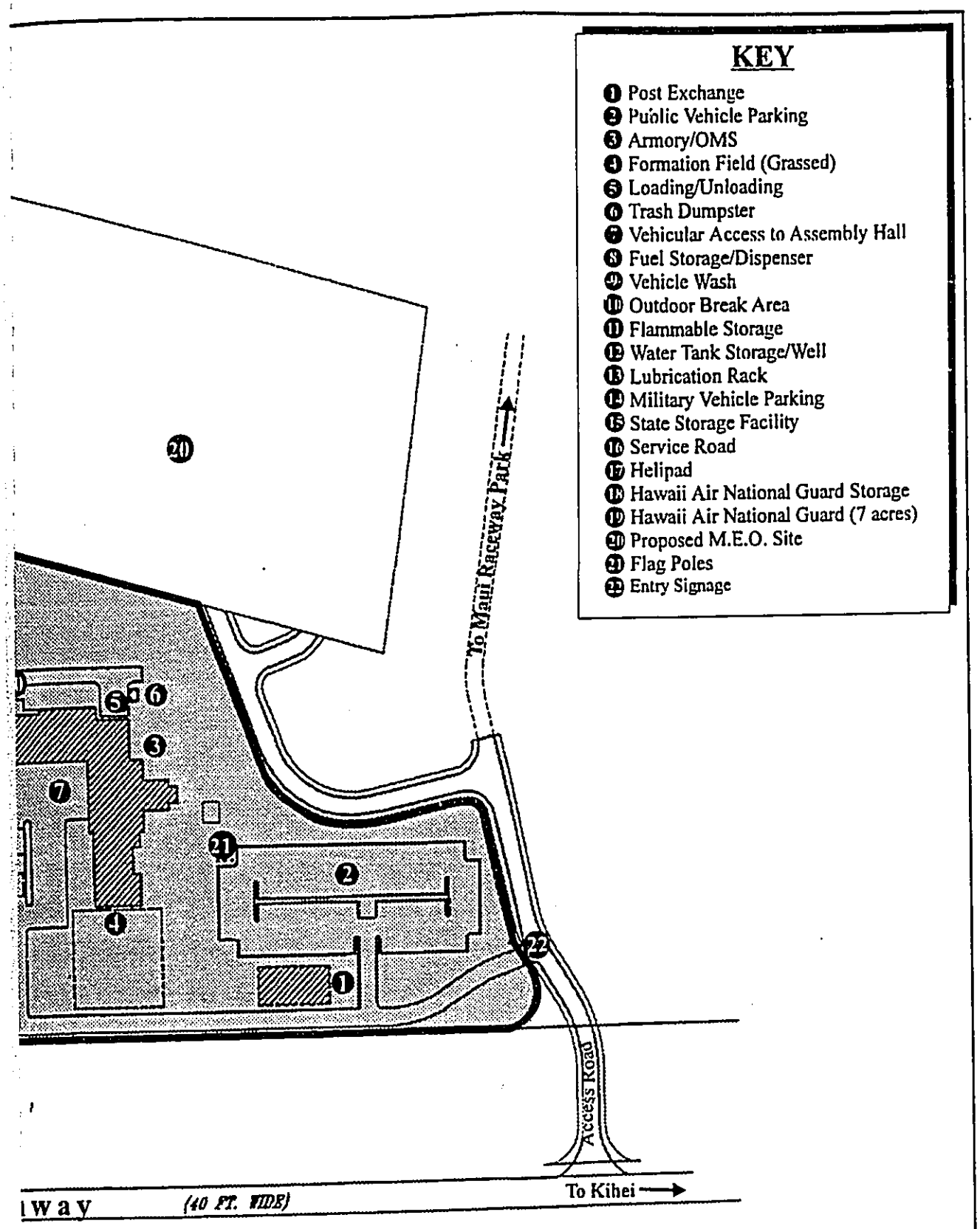


Source: GYA Architects, Inc.

Figure 2

Hawaii Army National Guard's Puun
Armory and Related Improvement
Preliminary Site Plan

Prepared for: State of Hawaii, Dept. of Accounting & General Services



ard's Puunene
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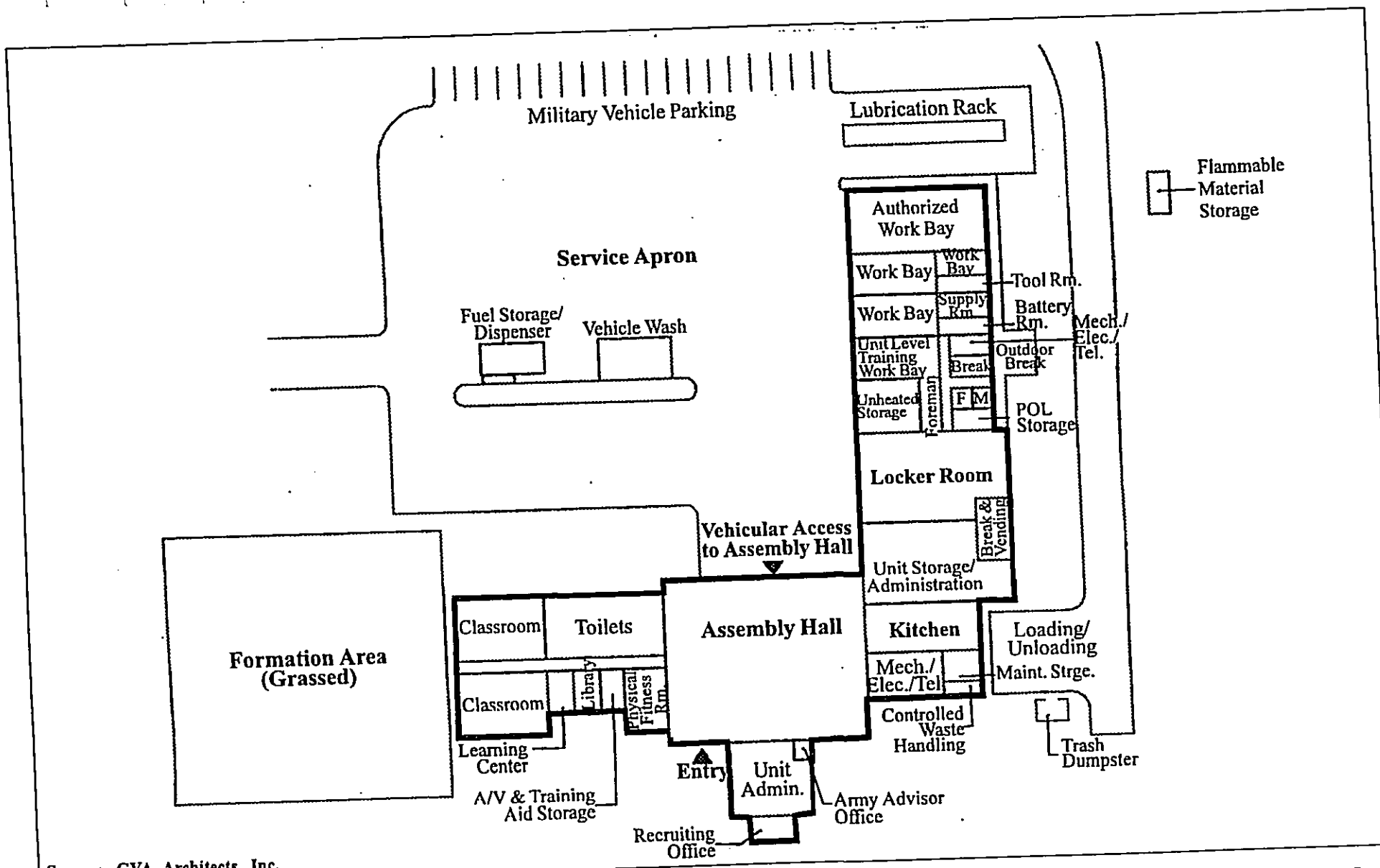
MUNEKIYO & HIRAGA, INC.



Source: GVA Architects, Inc.

NOT TO SCALE

Figure 3

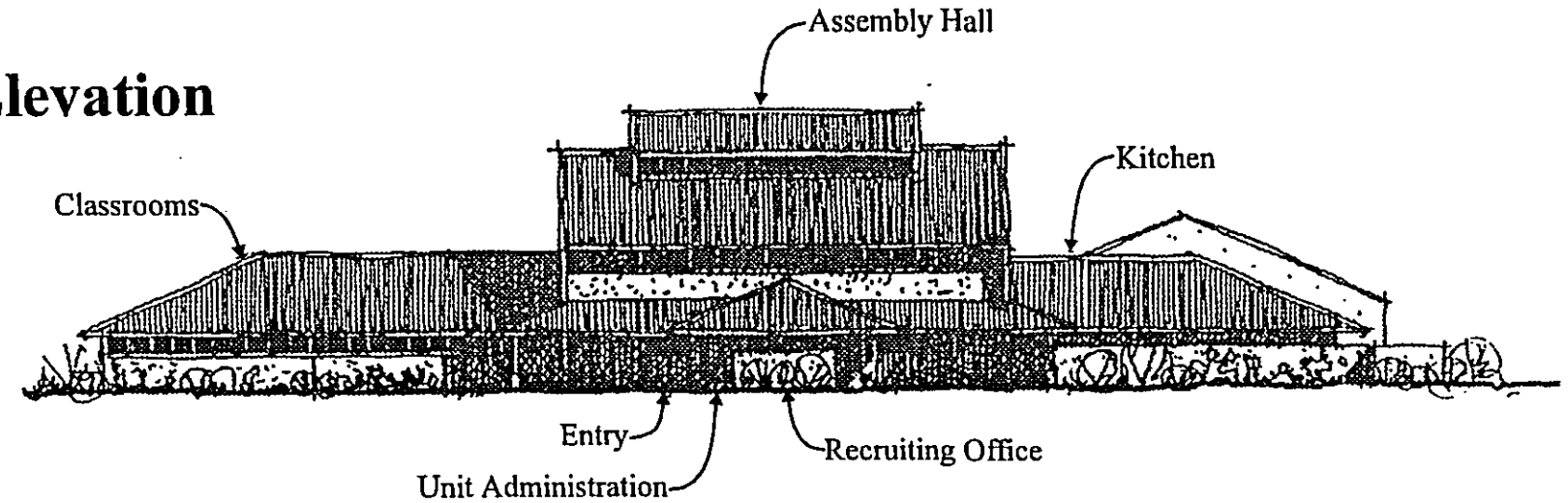
Hawaii Army National Guard's Puunene Armory and Related Improvements

Preliminary Armory/OMS Floor Plan

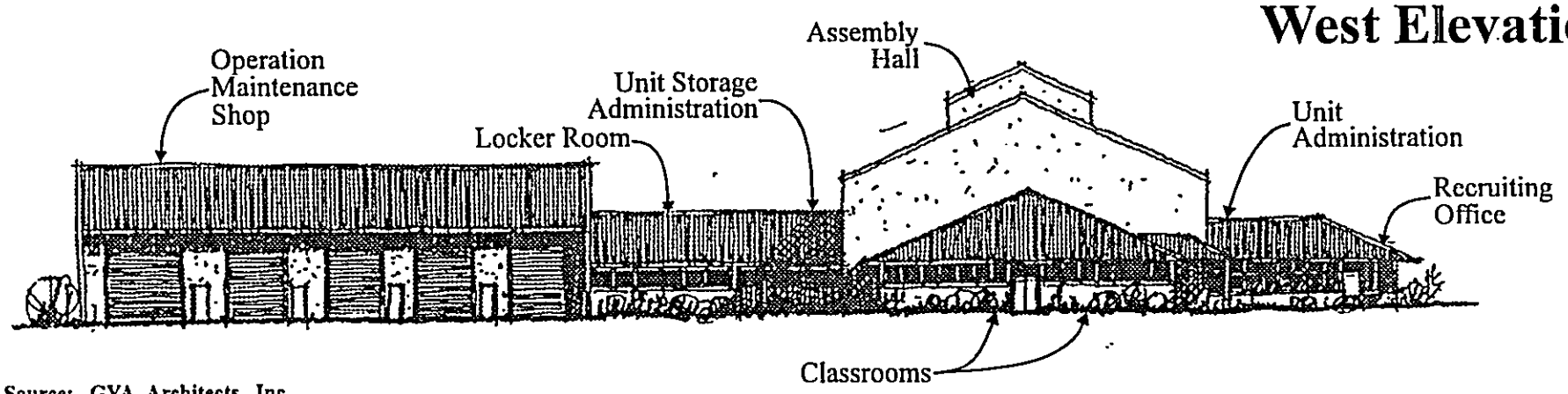
MUNEKIYO & HIRAGA, INC.

Prepared for: State of Hawaii, Dept. of Accounting & General Services

South Elevation



West Elevation



Source: GVA Architects, Inc.

Figure 4

Hawaii Army National Guard's Puunene Armory and Related Improvements

Conceptual Building Elevations

NOT TO SCALE

Prepared for: State of Hawaii, Dept. of Accounting & General Services

MUNEKIYO & HIRAGA, INC.

as a stop-over point for helicopters carrying cargo and personnel during HIARNG training exercises within the State, the helipad will be used to support civilian authorities as well as be available for emergency medical use. Helipad use (for HIARNG training exercises) is expected to average two (2) takeoffs and two (2) landings over one weekend period per month. During annual training exercises, which are held over a two-week period at Schofield Barracks on Oahu or the Pohakuloa Training Area on the Big Island, helipad use is expected to involve three (3) to five (5) takeoffs and three (3) landings during the beginning and end of this period, respectively.

The HIARNG currently utilizes CH-47 (cargo) and UH-60 (utility) helicopters. Flight tracks for approaching and departing helicopters will be formulated to avoid residential areas; no night flights will be involved nor will helicopters be stationed at the project site. In addition, no refueling or maintenance activities will be performed at the site.

In addition, a 7.0 acre area for future Hawaii Air National Guard (HIANG) uses will be provided on the project site. Refer to Figure 2. Preliminarily, this area will include a bulk equipment storage area, a training area with antenna farms for communication system exercises, and a 6,000 square feet office/storage facility which will be utilized to support U.S. government space mission programs.

The estimated cost for the proposed project is approximately $11.0 million; construction of the project is anticipated to take about twelve (12) months and will commence upon the receipt of all applicable regulatory permits and approvals.

The proposed project will involve the use of State lands and funds, as well

as the construction of helicopter facilities; accordingly, an Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawaii Revised Statutes (HRS). Since the proposed project will also include the use of Federal funds, a separate EA will be prepared by the HIARNG for processing on a separate basis in accordance with the provisions of the National Environmental Policy Act (NEPA) of 1969.

In addition, since the project site is in the State "Agricultural" district and is designated "Agricultural" by County zoning, applications for a State Land Use Commission Special Use Permit and County Conditional Permit will be prepared for the proposed project.

Chapter II

Description of the Existing Environment

II. DESCRIPTION OF THE EXISTING ENVIRONMENT

A. PHYSICAL SETTING

1. Surrounding Land Uses

The project site is located in the vicinity of the old Puunene Airport, approximately 2.0 miles from Kihei and 6.0 miles from Kahului. This area is centrally located between the major population centers of Central, South, and West Maui. The lands surrounding the project area are currently utilized for sugar cane cultivation by HC&S.

Other land uses in the vicinity include the Maui Humane Society's facility located on Mokulele Highway, about 1.0 mile to the north of the project site, and Hawaiian Cement's quarry operations situated approximately 1.3 miles to the east of the site.

2. Climate

The Kihei Coast is generally sunny, warm and dry during the entire year. In Kihei Town, the average annual high temperature is 86 degrees Fahrenheit with the average low temperature being 63 degrees Fahrenheit. June through August are historically the warmer months of the year while the cooler months are January to March.

Average rainfall distribution in the Kihei-Makena region varies from under 10 inches per year to 20 inches per year in the higher elevations. Rainfall in the Kihei-Makena region is highly seasonal, with most of the precipitation occurring in the winter months.

Northeast tradewinds prevail approximately 80 to 85 percent of the time. Winds average 10 to 15 miles per hour during afternoons

with slightly lighter winds during mornings and nights.

Between about October and April, the southerly winds of Kona storms may be felt. These storm winds, as well as the trades, are occasionally strong enough to damage vegetation and structures.

In the absence of tradewinds and of nearby storms, winds may become light and variable.

3. ***Topography and Soils***

The project site generally slopes from 0 to 3 percent in a southwesterly direction. Remnants of the former Naval Air Station's runways and taxiways cover the majority of the site.

Underlying the proposed site is the Pulehu-Ewa-Jaucas soil association. See Figure 5. This series consists of well-drained soils on alluvial fans and stream terraces and in basins. These soils were developed in alluvium washed from basic igneous rock.

The soil types specific to the project site are Ewa cobbly silty clay loam (EcA), 0 to 3 percent slopes and Pulehu cobbly silt loam (PrA), 0 to 3 percent slopes. See Figure 6. Ewa cobbly silty clay loam (EcA) occurs on alluvial fans and terraces and is mostly used for sugar cane cultivation. Permeability is moderate, runoff is very slow, and the erosion hazard is no more than slight. This soil is cobbly on the surface. Pulehu cobbly silt loam (PrA) is also used for sugar cane cultivation and is found in basins and on alluvial fans and stream terraces. Permeability is moderate, runoff is slow, and the erosion hazard is no more than slight. This soil contains many cobblestones on the surface and occasionally throughout the

LEGEND

① Pulehu-Ewa-Jaucas association

② Waiakoa-Keahua-Molokai association

③ Honolua-Olelo association

④ Rock land-Rough mountainous land association

⑤ Puu Pa-Kula-Pane association

⑥ Hydrandepts-Tropaquods association

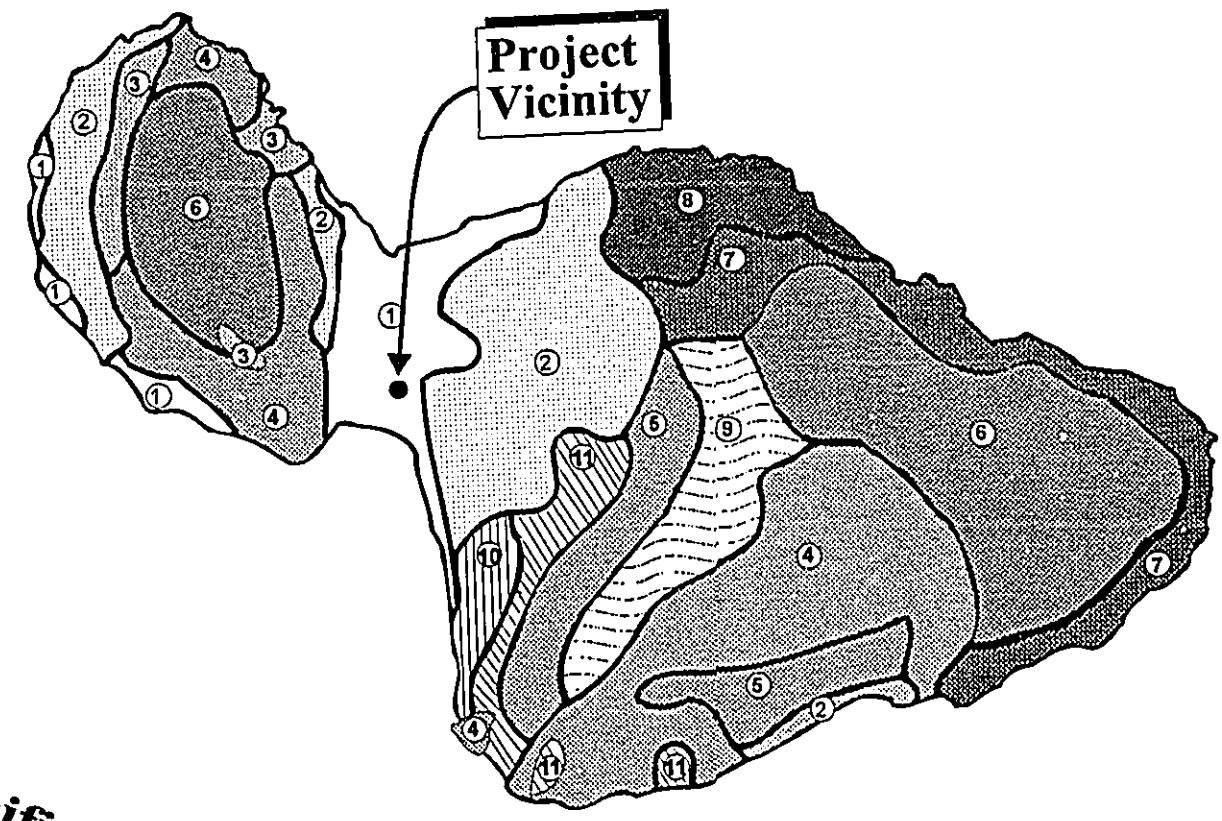
⑦ Hana-Makaalae-Kailua association

⑧ Pauwela-Haiku association

⑨ Laumaia-Kaipoipoi-Olinda association

⑩ Keawakapu-Makena association

⑪ Kamaole-Oanapuka association



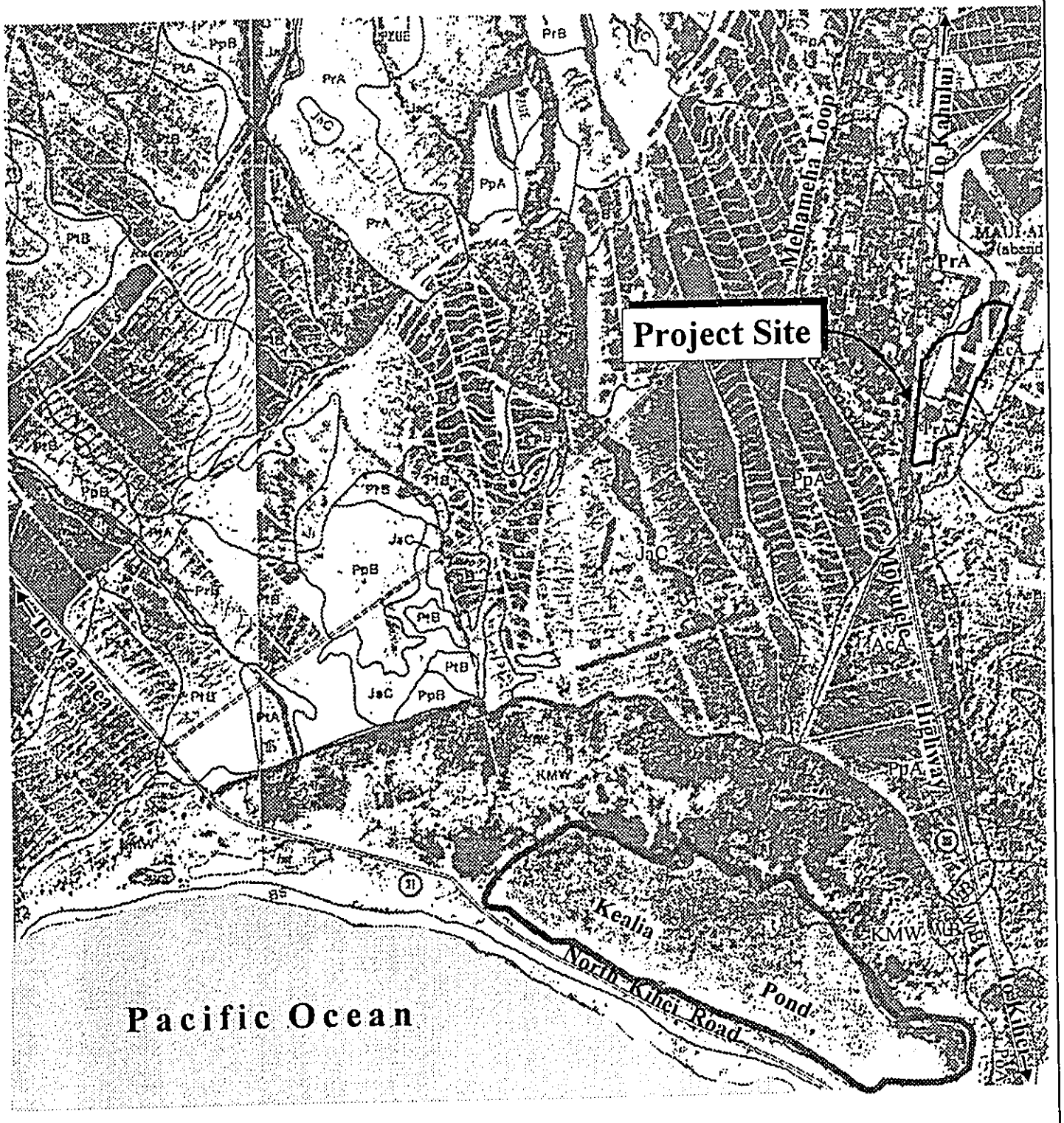
Map Source: USDA Soil Conservation Service

NOT TO SCALE

Figure 5 Hawaii Army National Guard's
Puunene Armory and Related Improvements
Soil Association Map

MUNEKIYO & HIRAGA, INC.

Prepared for: State of Hawaii, Department of Accounting and General Services



Map Source: USDA, Soil Conservation Service

Figure 6 Hawaii Army National Guard's Puunene Armory and Related Improvements

Soil Classification Map

Prepared for: State of Hawaii, Department of Accounting and General Services

MUNEKIYO & HIRAGA, INC.

profile. Coral sand may occur at a depth of 20 to 36 inches.

The University of Hawaii Land Study Bureau's Detailed Land Classification - Island of Maui, establishes a soil productivity rating from "A" to "E", with "A" reflecting the highest level of productivity and "E" representing the poorest. This rating system is based on factors such as slope, drainage, rainfall, texture, stoniness, elevation, clay properties, and machine tillability. The project site has a soil productivity rating of "E", which is very poorly suited for agricultural production, and "U", which represents lands which are already in urban use. The lands on the site rated "U" correspond to the area comprising the old Puunene Airport.

In 1977, the State Department of Agriculture established a classification system for identifying Agricultural Lands of Importance to the State of Hawaii (ALISH), primarily, but not exclusively on the basis of soil characteristics. The three (3) classes of ALISH lands are: "prime", "unique", and "other". As indicated by the ALISH map, the project site falls within the "prime" agricultural land category. See Figure 7.

The State Department of Agriculture notes that the classification of agricultural lands does not in itself constitute a designation of any area to a specific land use but should serve as a decision-making tool for various land use options for the production of food, feed, forage, and fiber crops in Hawaii.

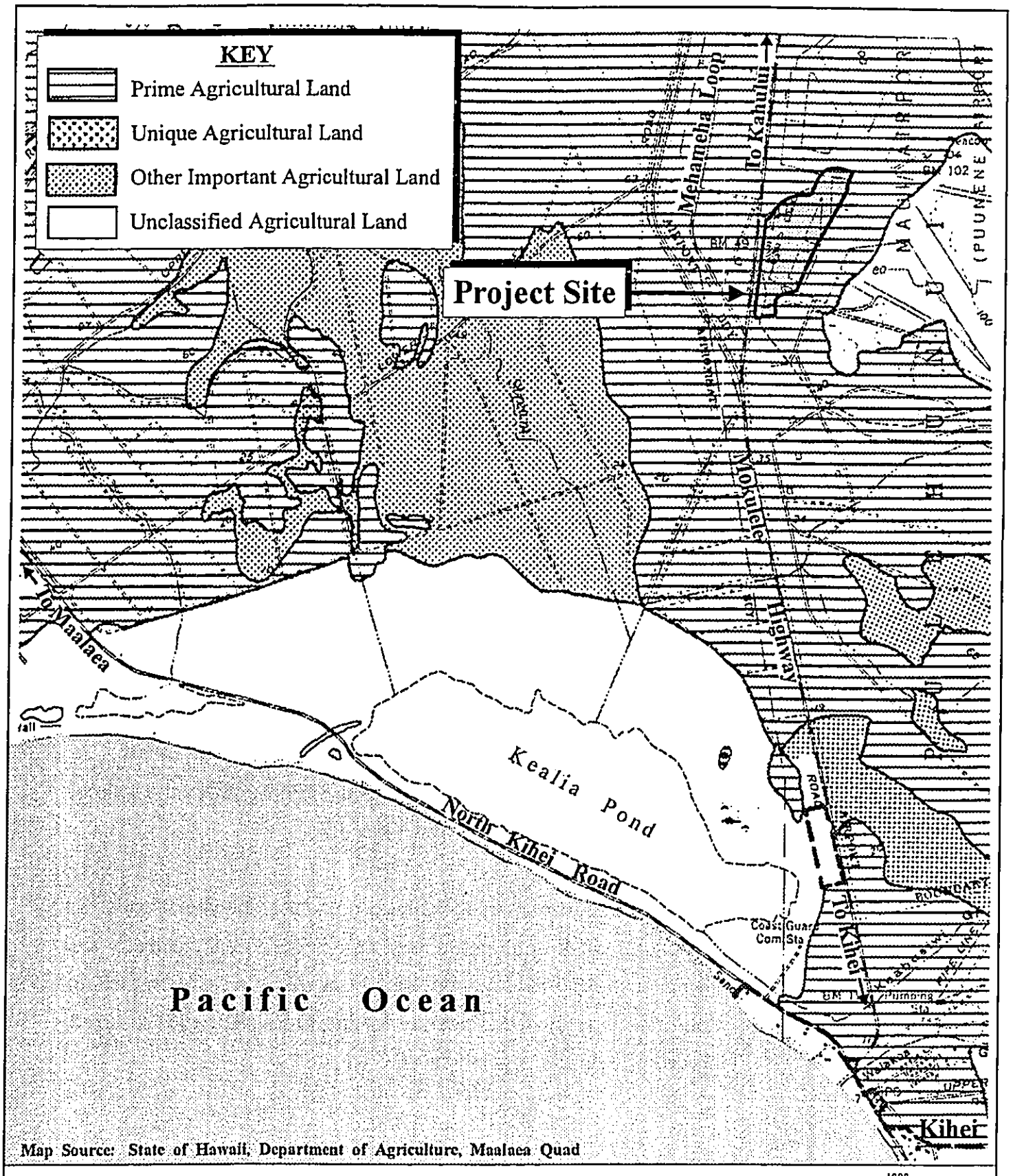


Figure 7 Hawaii Army National Guard's Puunene Armory and Related Improvements
ALISH Map

Prepared for: State of Hawaii, Department of Accounting and General Services

MUNEKIYO & HIRAGA, INC.

4. ***Flood and Tsunami Hazard***

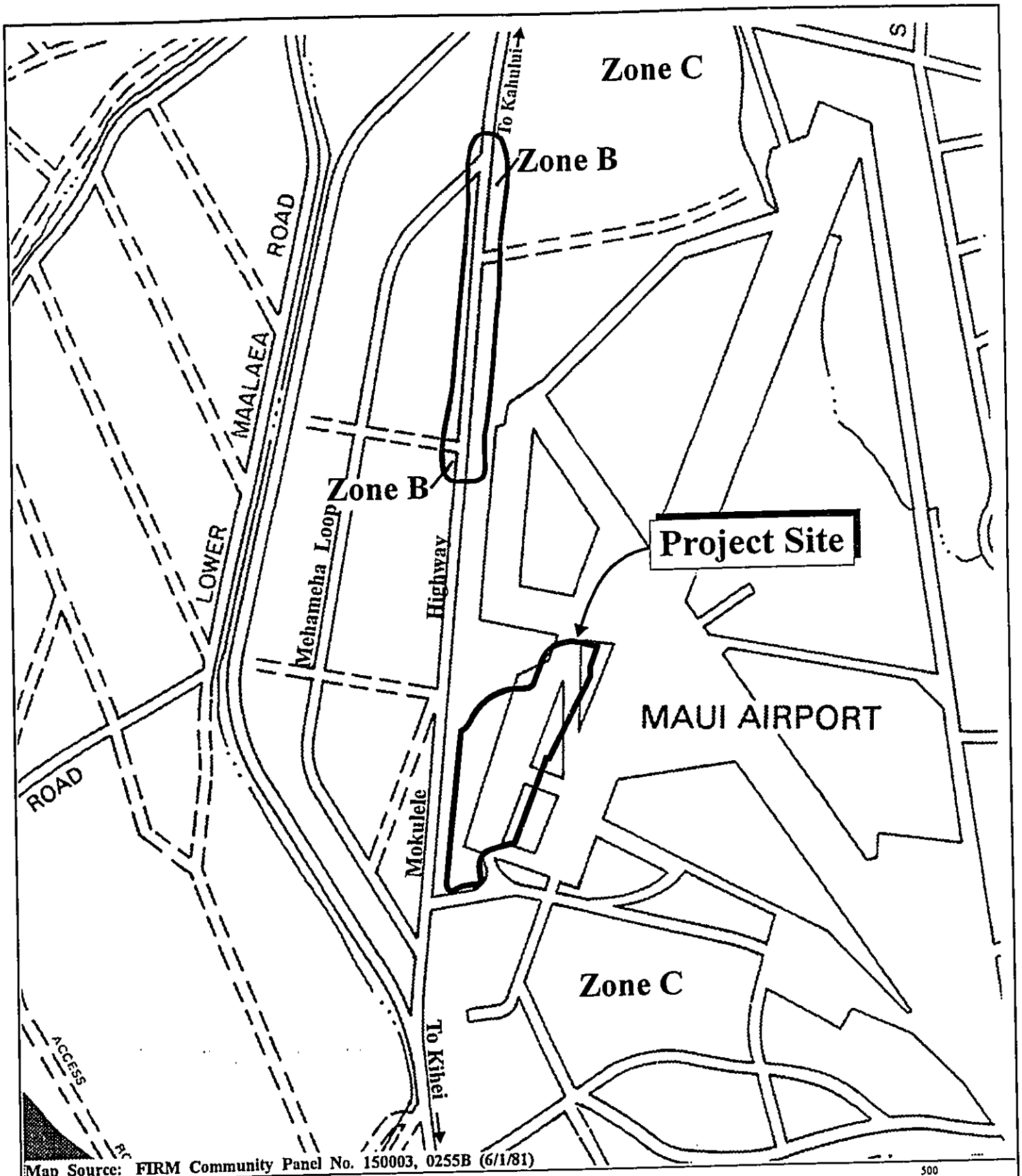
As indicated by the Flood Insurance Rate Map (FIRM) for the region, the subject property is located in an area designated Zone "C", an area of minimal flooding. See Figure 8. The project site is located well beyond the limits of tsunami inundation.

5. ***Flora and Fauna***

Lands surrounding the project area are presently planted in sugar cane. The project site itself has been utilized in the past for sugar cane cultivation, as well as for airport operations. The implementation of these past uses has resulted in the removal of plant life typically found in the area, such as kiawe, koa haole, and various weeds and grasses.

Presently, remnants of the old Puunene Airport occupy the majority of the project site. Existing vegetation on the remaining portions of the site is characterized by kiawe, klu, and other dry shrubs and grasses. There are no known rare, threatened, or endangered plant species in the vicinity of the subject property.

Animal life in the vicinity is typical of species found in the urbanized areas of Kihei. Exotic species of birds commonly found in the region include the House Finch, Northern Cardinal, and Gray and Black Francolin. Feral mammals generally found in the area include cats, rats, mice, and mongoose. There are no known rare, threatened, or endangered species of fauna or avifauna found in the vicinity of the project site. In addition, the U.S. Department of the Interior's National Wetlands Inventory Map does not reveal any wetland areas located within or in close proximity of the subject property.



Map Source: FIRM Community Panel No. 150003, 0255B (6/1/81)

Figure 8 Hawaii Army National Guard's Puunene Armory and Related Improvements

Flood Insurance Rate Map

Prepared for: State of Hawaii, Department of Accounting and General Services

MUNEKIYO & HIRAGA, INC.

6. ***Archaeological Resources***

An Archaeological Inventory Survey of the project area was conducted in October 1998. See Appendix A. Prior to the survey, which encompassed about 35 acres, consultation with the State Historic Preservation Division (SHPD) determined that subsurface testing would be unwarranted due to the nature and extent of previous disturbances caused by long-term agricultural activities, as well as by the initial construction of the old Puunene Airport and the subsequent development of the former Naval Air Station Puunene (Site 50-50-09-4164).

Fieldwork consisted of walking parallel transects at 20 to 30 meter intervals throughout the project area. Portions of paved runway and taxiway remains covered about 50 percent of the survey area, while concrete bunkers, walkways, building foundations, and recreational areas occupied areas adjoining the runways and taxiways. No unmodified areas, such as gulches or drainage features, occur within the project area.

The survey identified runways and taxiways associated with the Naval Air Station, as well as handball courts, a swimming pool complex, intact bunkers or splinter shelters, and over 15 concrete structural foundations. Due to the intensive, land-altering activities associated with the development of the naval air station, the entire survey area was impacted.

Much of the runways and taxiways within the survey area are still intact, however, all of the building superstructures from the 1939 to 1947 era were demolished in 1947, and remain only as concrete foundations.

The majority of the remains are located in the kiawe thicket along the western portion of the project area between Mokulele Highway and the taxiway. Two (2) other isolated remains, an intact bunker and a high three-sided structure, were located in the peripheral areas.

As previously indicated, the Murrayair, Ltd. crop dusting facility operates out of the project area. The cement slab floor of a former hanger serves as an operations base and maintenance area and the taxiway is used as a runway.

7. *Air Quality*

The Kihei-Makena region is not exposed to adverse air quality conditions. Available ambient air quality data for the Kihei region indicates that particulate matter concentrations and sulfur dioxide concentrations meet Federal and State air quality standards. There are no fixed sources of emissions in the region although sugar cane harvesting activities may affect levels of carbon monoxide and suspended particulate matter. These conditions are intermittent and of temporary duration. Motor vehicle and construction activities are the primary source of indirect emissions in the region.

8. *Noise Characteristics*

There are no significant fixed noise generators in the vicinity of the project site. Background noise in this locale can be attributed to traffic traveling along Mokulele Highway. In addition, occasional drag racing activities and distant aircraft flying by contribute to noise conditions in the area.

9. ***Hazardous Materials***

An Environmental Site Assessment of the subject property was prepared in September 1998. See Appendix B. A walk-through inspection of the project site was conducted to sample for suspect asbestos-containing building materials and to identify lead hazards, existing and potential surface contamination hazards, and any other identifiable environmental hazards that may exist at the site.

The assessment indicates that the project site may contain a number of underground fuel storage tanks (UST's). U.S. Navy records also note the existence of an underground aviation-gasoline storage system installed in 1943. Although the exact location of these tanks has not yet been determined, it is likely that these tanks are in the area of the old Naval Air Station Puunene. It should be noted, however, that the State of Hawaii has no official record of UST's at this site.

Since the area was once used as a naval air station, the possibility exists that unexploded ordnance may be found at the project site. Fuel and chemical spills may also have occurred due to military and agricultural uses. It is also possible that pesticides may have contaminated portions of the site due to Murrayair's crop dusting operations.

10. ***Scenic and Open Space Resources***

Scenic resources to the east and west of the project site include Haleakala and the West Maui Mountains, respectively. To the south of the project area, the shoreline, Kealia Pond National Wildlife Refuge, and the offshore islands of Lanai, Molokini, and Kahoolawe comprise scenic resources which can be seen along

the Kihei coast. The project site is not located within a scenic view corridor.

B. COMMUNITY SETTING

1. Land Use History

Prior to the construction of the old Puunene Airport and Naval Air Station Puunene, the lands within the project area were primarily utilized for sugar cane cultivation. Puunene Airport replaced an earlier airport located in Maalaea and for more than a decade, was the main commercial airport for the island of Maui. In 1939, Inter-Island Airways constructed a terminal/administrative building at the Puunene Airport which served 16-passenger Bailey clippers on flights to and from Hilo and Honolulu (Maui News, June 1999).

Naval Air Station Puunene was developed and expanded just prior to and during World War II. At the height of its operations the naval air station contained personnel quarters, training facilities, a chapel, a dispensary, a movie theater, and a miniature golf course. In addition, two (2) runways of 6,000 feet or longer were constructed, as well as taxiways, weapons magazines, and aviation gasoline tanks (PBR Hawaii, March 1997).

In 1948, Naval Air Station Puunene was transferred back to the Territory of Hawaii from the United States of America. The naval air station facilities, most of which were wooden structures, were abandoned and demolished (Helber Hastert, May 1995).

During World War II, the U.S. Navy constructed a naval air station in Kahului. In 1950, Naval Air Station Kahului was transferred to the Territory of Hawaii and commenced operations as the Kahului

Airport. The opening of the Kahului Airport resulted in the closure of the Puunene Airport since the new airport provided a superior location and facilities, as well as relief from the strong winds encountered on the approach to the old airport (Maui News, June 1999).

Since the closure of the old Puunene Airport and Naval Air Station Puunene, the lands within the project area have been used for crop dusting and recreational purposes.

2. ***Land Use and Community Character***

From a regional standpoint, the subject property is part of the Kihei-Makena Community Plan region which stretches from Maalaea to La Perouse Bay. The region includes a diverse range of physical and socio-economic environments. With its dry and mild climate and proximity to recreation-oriented shoreline resources, the visitor-based economy has grown steadily over the past few years. The town of Kihei serves as the commercial and residential center of the region with the master-planned communities of Wailea and Makena serving as the focal point for visitor activities.

3. ***Population***

The population of the County of Maui has exhibited relatively strong growth over the past decade, with the 1990 population estimated to be 100,504, a 41.8 percent increase over the 1980 population of 70,847. Growth in the County is expected to continue, with the resident population projection for the year 2010 estimated to be 140,060 (Community Resources, Inc., 1994).

Just as the County's population has grown, the resident population of the region surrounding the project site has increased dramatically in the last two decades. Population gains were especially pronounced in the 1970's as the rapidly developing visitor industry attracted many new residents. The current resident population of the Kihei-Makena region is estimated to be about 20,000, while a projection of the resident population for the year 2010 is estimated to be 23,542 (Community Resources, Inc., 1994).

4. *Economy*

The economy of Maui County is heavily dependent upon the visitor industry. In 1996, for example, total visitor arrivals numbered 2.3 million (Maui County Data Book, 1998). The dependency on the visitor industry is especially evident in Kihei-Makena, which is one of the State's major resort destination areas. The openings of the Four Seasons Resort, Kea Lani Hotel, and the Grand Wailea Resort Hotel & Spa have boosted the region's significance as a resort destination.

Support for the visitor industry is found in Kihei, where retail commercial centers are found.

As of January 2000, the unemployment rate for Maui County and the island of Maui stood at 5.1 percent and 4.8 percent, respectively (State Department of Labor and Industrial Relations, March 2000).

5. *Police and Fire Protection*

The County of Maui's Police Department is headquartered in

Wailuku, approximately 5.5 miles to the northwest of the project site. The Department consists of several patrol, investigative, and administrative divisions. The Department's Kihei substation is situated in the Kihei Town Center, about 5.5 miles to the southeast of the site.

Fire prevention, suppression and protection services are offered by the Maui County Fire Department. The Department's Kihei Station is located on South Kihei Road, approximately 5.5 miles to the southeast of the project site, while its Kahului Station is situated on Dairy Road, about 5.0 miles to the north of the site.

6. ***Medical Facilities***

Licensed for 194 beds, Maui Memorial Medical Center, the only major medical facility on the island, provides acute, general, and emergency care services for residents and visitors. Medical/dental offices are located in the Kihei area to serve the region's residents.

7. ***Recreational Facilities***

Diverse recreational opportunities are available in the Kihei-Makena region. Recreational facilities in close proximity to the project site include the Maipoina Oe Iau Beach Park, Kalepolepo Park, Silversword Golf Course, Kalama Park, Kamaole Beach Park, and numerous other beach parks along the Kihei coastline. Shoreline recreation includes swimming, fishing, picnicking, snorkeling, and windsurfing.

The Wailea-Makena resort areas to the south of the project site offers additional opportunities for golf, tennis and ocean-related activities.

8. *Schools*

The State Department of Education operates three (3) schools in the Kihei area. Kihei Elementary School and Kamali'i Elementary School both cover grades K to 5, while Lokelani Intermediate School includes grades 6 to 8. Public school students in grades 9 through 12 attend Maui High School in Kahului.

9. *Waste Disposal*

Single-family residential solid waste collection service is provided by the County of Maui on a once-a-week basis. Residential solid waste collected by County crews are disposed at the County's 55-acre Central Maui Landfill located 4.0 miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies.

C. *INFRASTRUCTURE*

1. *Roadway System*

The project site is located about 6.0 miles from Kahului and 2.0 miles from Kihei. Access to the site will be provided by an access road off Mokulele Highway, a two-way, two-lane, undivided State highway that traverses the midsection of the island to link Kahului with Kihei. See Appendix C.

Mokulele Highway is relatively straight and flat throughout its alignment and includes a pavement width of 30 feet within a right-of-way of 40 feet. The southern extent of Mokulele Highway connects with Piilani Highway which provides access to the communities of Kihei, Wailea, and Makena. The posted speed limit along Mokulele Highway is 50 miles per hour (mph).

2. ***Water***

Domestic water for the Kihei-Makena region is provided by the County Department of Water Supply's (DWS's) Central Maui System. The major source of water for this system is the Iao Aquifer. The sustainable yield of the Iao Aquifer is 20 million gallons per day (MGD). As of February 1, 2000, the rolling annual average groundwater withdrawals from the Iao Aquifer were 18.589 MGD. These withdrawals are within the limits of the 20 MGD sustainable yield of this aquifer.

Waterlines in the vicinity of the project site include an existing 6-inch cast iron waterline situated along Mokulele Highway, as well as existing 36-inch concrete and 18-inch cast iron waterlines which service South Maui, located in nearby Mehameha Loop. Former water system improvements in the area include a World War II-era water tank site north of the Hawaiian Cement Quarry and two (2) abandoned wells in the old Puunene Airport area east of Mokulele Highway.

3. ***Drainage***

The project site generally slopes 0 to 3 percent in a southwesterly direction. The existing Naval Air Station remnants cover a major portion of the project site. The remaining portion of the site primarily consists of dry brush and kiawe trees.

Onsite runoff typically sheet flows in a southerly direction towards the southwest corner of the project site. It appears there is no existing underground drainage system within the site.

Based on a 50-year, 1-hour storm, runoff generated on the existing

site is approximately 89.1 cubic feet per second (cfs). See Appendix D.

4. ***Wastewater System***

Presently, there is no County wastewater system in the vicinity of the project site. The site is located beyond the limits of the County's nearest wastewater reclamation system, which extends from North Kihei to Makena. There is an existing septic sewer system within the area which appears to be abandoned.

5. ***Electrical and Telephone Systems***

Electrical and telephone services in the Kihei region are provided by Maui Electric Company and Verizon Hawaii, respectively. The electrical and telephone systems in the vicinity of the project site are located above ground along Mokulele Highway.

Chapter III

Potential Impacts and Mitigation Measures

III. POTENTIAL IMPACTS AND MITIGATION MEASURES

A. IMPACTS TO THE PHYSICAL ENVIRONMENTAL

1. Surrounding Land Uses

The proposed project is not anticipated to have an adverse impact on surrounding land uses. The lands underlying the project site are within the limits of Project District 10. The proposed use of these lands is consistent with the uses established for Project District 10 as set forth by the Kihei-Makena Community Plan. The proposed project is considered compatible and complementary with existing and planned surrounding uses.

2. Flora and Fauna

There are no known sensitive habitats or rare, threatened or endangered species of flora and fauna on the project site or adjacent areas. Accordingly, the proposed action is not considered to have an adverse impact upon these environmental features.

3. Archaeological Resources and Cultural Impact Considerations

The Archaeological Inventory Survey of the project area notes that the only extant structural remains consist of concrete foundations, some upright elements, and floor slabs. Due to the highly disturbed condition of these features, they are no longer considered to be significant.

The only intact features are the swimming pool, handball courts, and five (5) underground splinter shelters. With the exception of the splinter shelters, these features are also no longer considered significant. In addition, no traditional Hawaiian remains were located in the project area, and the potential for such remains are considered minimal to nil.

The survey recommends no further archaeological work other than detailed plan mapping of the five (5) intact splinter shelters. Following the completion of further documentation (mapping, photography), these features will no longer be significant. The survey indicates that due to the nature and extent of previous disturbances, archaeological monitoring of construction activities is not warranted.

In a letter dated May 29, 1999, the State Historic Preservation Division (SHPD) noted that the remnants of structures are "no longer significant" since the structures themselves were demolished and only remnant foundations exist. See Appendix A-1. Insofar as the splinter shelters are concerned, the SHPD suggested that simple avoidance (preservation) is a possibility that would not require further documentation.

On August, 23, 1999, the State Department of Accounting and General Services, on behalf of the HIARNG, indicated that while avoidance is a viable option, mitigative measures would be determined during the project's planning phases and may consist of avoidance, data recovery, or a combination of these measures. See Appendix A-2.

During the project's conceptual development stage, the boundary of the project site was modified. In a August 4, 1999 letter to the SHPD from the project's consulting archaeologist, it was noted that the change in the project's limits does not necessitate any additional archaeological field work or revisions to the archaeological inventory survey since these areas have already been covered and the boundary modification involves no new

features. See Appendix A-3.

In the event any significant remains are inadvertently encountered during construction, work shall be halted in the immediate vicinity of the discovery, and the SHPD shall be notified. Appropriate measures to ensure compliance with Chapter 6E, HRS will then be implemented through consultation with the SHPD.

The archaeological inventory survey of the project area notes that the project area is situated in the ahupua'a of Pulehunui. The survey indicates that pre-contact and traditional use of this arid area was limited to trail crossings between coastal and interior zones or windward and leeward settlements such as Kihei/Kamaole and Wailuku. The survey also notes that archival literature and historic maps suggest that the intensive use of the area did not commence until the late 19th to early 20th centuries when ranching, commercial sugar cane cultivation, and civilian and military air field uses were established. In the context of the area's land use history and its location relative to coastal areas, the proposed project is not anticipated to have an adverse effect on native Hawaiian gathering rights and cultural beliefs, practices, and resources.

4. ***Air Quality and Noise***

During the short term, the proposed action will involve construction activity which may be a source of airborne emissions and noise. Construction noise is attributable to material hauling trucks and operation of onsite equipment during the building period. Dust generated from the construction activities are generally attributed to clearing and grubbing activities. Construction equipment may

also be a source of airborne emissions which would otherwise not be present at the site. To mitigate the impacts of dust during construction, Best Management Practices (BMPs) shall be incorporated in site construction activities in accordance with Chapter 20.08 of the Maui County Code. In addition, the contractor shall be responsible for properly maintaining vehicle and equipment engines to ensure their efficient operations. Finally, the contractor shall be required to comply with Hawaii Administrative Rules, Chapter 11-46 relating to "Community Noise Control". Construction activity will occur during daylight work hours.

In the long term, noise from the operation of the proposed helipad is expected to add to background noise levels. The helipad, which will be designed and operated in accordance with FAA standards, will be utilized to support civil authorities and medical emergencies, as well as serve as a stop-over point during HIARNG training exercises. It should be noted that these training exercises are necessary in order to maintain the HIARNG's operational readiness. It should also be noted that the flight tracks for approaching and departing helicopters will be formulated to avoid residential areas. In addition, the loading and unloading of cargo and personnel will occur while the helicopter's engines are still running thereby eliminating engine warmup time and minimizing overall noise exposure. In light of the foregoing, and when considering the limited number of helicopter takeoffs and landings, noise associated with helipad use will be brief and its effects temporary.

From a long-term perspective, the proposed action is not expected to result in adverse air quality impacts. In addition, noise

associated with the proposed use of the site is not anticipated to adversely affect ambient noise conditions and is considered compatible with the governmental, industrial, and recreational type uses set forth for this area by the Kihei-Makena Community Plan and the Puunene Airport Area Master Plan.

5. ***Hazardous Materials***

The Puunene Airport Area Master Plan notes that the soil in some portions of the former Naval Air Station may be contaminated, as fuel and chemical spills may have occurred over the years related to military or agricultural uses. It is also recognized that there is the possibility that unexploded ordnance may also be found at the project site, as the area was once used as a Naval Air Station. It should be noted, however, that the report indicates that there is no mention of any unexploded ordnance in any of the engineering survey reports conducted for the master planning process, nor have any of the present users of the area discovered any such material.

The Environmental Site Assessment for the project notes that no suspect asbestos-containing building materials were observed at the site and that lead-based paint may be present. The assessment indicates that potential sources of possible contamination include:

1. Suspect lead-containing paint on building and two (2) of the concrete structures.

2. Pesticide and fertilizer contamination in the mixing and dispensing areas at Murrayair's facility.

3. Fuel contamination resulting from military or agricultural uses.

4. Former Naval Air Station, underground storage tanks (UST) closed in place.

5. The presence of unexploded ordnance on the property should be investigated further.

The assessment recommends that a more in-depth environmental site assessment be performed for areas warranting additional investigation. The assessment should include testing for suspected lead-based paint, sampling of soil for petroleum, pesticides, and lead contamination.

In addition, any spills that have occurred on the site from Murrayair or Naval Air Station operations will be cleaned up prior to the construction of the project. The onsite handling, storage, and disposal of hazardous materials will comply with applicable regulatory requirements.

6. ***Scenic and Open Space Resources***

The proposed development will not detract from the existing character of the surrounding environs. Building mass and scale are deemed appropriate in the context of future master-planned uses of the former Puunene Airport area.

The proposed project is not anticipated to have an adverse impact upon views or scenic areas.

7. ***Use of Chemicals and Fertilizers***

Use of herbicides on the project site will generally be limited to the initial plant establishment period. Pesticides are anticipated to be used only as a treatment and not as a preventive measure. As a

treatment, application usage will be minimal. In addition, plant selection for the project will be based on hardiness, drought tolerance, pest resistance, as well as aesthetic concerns.

Nitrogen/Phosphorus/Potash mixed fertilizers are anticipated to be applied to landscaped areas. With proper irrigation management practices, leaching of fertilizers should be negligible.

No adverse effects on surface, underground and marine water resources are anticipated.

B. IMPACTS TO THE SOCIO-ECONOMIC ENVIRONMENT

1. Land Use and Community Character

As previously noted, Murrayair operates an aerial crop dusting facility on a portion of the project site. The Murrayair facility measures about 75 to 100 feet in width and approximately 2,200 feet in length and occupies an approximately 3-acre site which is located on a taxiway of the former Puunene Naval Air Station, adjacent to Mokulele Highway. Murrayair provides exclusive agricultural spraying for HC&S in return for rent-free operations and has been using this site since 1966.

Within the project area, the development of the site for the proposed project would displace Murrayair's operations. Coordination for relocating this facility will be undertaken with HC&S and Murrayair in connection with the project development process. Potential sites for accommodating Murrayair's activities include HC&S agricultural landing strips in the Paia and Pulehu areas (HC&S, March 2000).

From a regional perspective, the proposed action is not anticipated to have an adverse impact upon surrounding uses and is considered compatible with existing and planned land uses in the vicinity.

2. *Population and Economy*

The proposed action is anticipated to have a positive economic effect during the construction phase of development as expenditures for construction and related support services are made. In the longer term, the proposed project will contribute to the local economy through the payment of taxes and employee wages and salaries, as well as through the purchases of goods and services from local merchants and service providers.

The proposed project is not anticipated to have a significant impact on population.

C. *IMPACTS TO PUBLIC SERVICES*

1. *Police, Fire and Medical Services*

The proposed project is not anticipated to affect the service capabilities of police, fire and emergency medical operations. The project will not extend the existing service area limits for emergency services.

2. *Recreational and Educational Services*

The proposed project is not considered a population generator. As such, the proposed improvements will not place any new demand on recreational and educational facilities and services.

3. *Waste Disposal*

Solid waste collection and disposal services for the proposed facility will be provided by a private waste contractor.

In addition, the operation of the proposed Organizational Maintenance Shop (OMS) will utilize appropriate design measures and Best Management Practices (BMPs) to ensure that the disposal of waste products used in servicing vehicles, equipment, and machinery does not impact coastal water quality and surface and ground water resources. Examples of design measures include but are not limited to the following:

1. Construct the floor of the service area with smooth-finished concrete to prevent surface penetration and facilitate clean-up activities.

2. Install floor drains for washing down the service area and provide sufficient slope to the drains to prevent water from puddling.

3. Provide a dike or curb system around the service area for containment purposes.

4. Utilize an oil/water separator for the recovery of oils and fluids.

In addition, HIARNG training and operating procedures for the storage, handling, and disposal of waste products will be utilized in the operation of the OMS.

D. *IMPACTS TO INFRASTRUCTURE*

1. *Roadway System*

A Traffic Impact Report for the proposed project was prepared by Wilson Okamoto & Associates, Inc. in December 1999. Refer to

Appendix C. The purpose of this report is to identify and assess the traffic impacts related to the proposed project, which is expected to be completed and occupied by the year 2002.

It should be noted that the State Department of Transportation (DOT) is planning to widen Mokulele Highway in the future. However, since the schedule for this road widening project is uncertain, the traffic report reflects a conservative approach by assuming that Mokulele Highway will remain at two (2) lanes at the completion of the Armory relocation project. In addition, the MEO Transportation Facility, which is located to the west of the project site, is assumed not to be constructed by the year 2002.

Existing Traffic Conditions

During the morning peak hour (7:30 a.m. to 8:30 a.m.) of traffic, Mokulele Highway, just north of the project's access road, carries a total of 1,942 vehicles; 822 southbound and 1,120 northbound, while during the afternoon peak hour (4:15 p.m. to 5:15 p.m.), it carries a total of 2,184 vehicles, 1,240 southbound and 944 northbound. During both the AM and PM peak hours, the highway operates at level of service (LOS) "E".

During the off-peak hour of traffic, Mokulele Highway carries a total of 1,491 vehicles, 683 southbound and 808 northbound. The highway operates satisfactorily at LOS "D".

Projected Traffic Conditions

In the year 2002 without the project, Mokulele Highway is estimated to carry a total of 2,158 vehicles during the AM peak hour of traffic, 913 southbound and 1,245 northbound, and a total of 2,427 vehicles during the PM peak hour, 1,378 southbound and 1,049 northbound. Off-peak hour traffic projections reflect a total of 1,657 vehicles, 759 southbound and 898 northbound. Mokulele Highway is also projected to operate at LOS "E" during AM and PM peak periods of traffic, as well as during the off-peak hour.

For the year 2002 with the project, Mokulele Highway is anticipated to carry a total of 2,158 vehicles during the AM peak hour of traffic, 913 southbound and 1,245 northbound, and a total of 2,427 vehicles during the PM peak hour, 1,378 southbound and 1,049 northbound. Off-peak hour traffic projections reflect a total of 1,657 vehicles, 759 southbound and 898 northbound. The highway is anticipated to operate at LOS "E" during the AM and PM peak hours of traffic, as well as during the off-peak hour.

As indicated by the traffic report, the impact of the proposed project on Mokulele Highway is relatively minimal during the estimated AM and PM peak periods. The overall increase in intersection traffic due to the project is 0.4 percent and 0.3 percent for the morning and afternoon peak hours, respectively.

Recommendations

Based upon the analysis of traffic data, the traffic report sets forth the following recommendations:

1. Provide an exclusive right-turn deceleration lane on the northbound approach to the intersection of Mokulele Highway and the project access road.

2. Provide an exclusive left-turn lane on the southbound approach of Mokulele Highway onto the project access road.

3. Provide an acceleration lane on northbound Mokulele Highway for right-turning vehicles exiting the project site.

Conclusion

The traffic report notes that by implementing the above recommendations, the proposed project will not have an adverse impact on traffic in the vicinity. The report notes that much of the traffic attributable to the project will occur during off-peak hour periods and that the increase during the peak hours is minimal compared to the overall growth in traffic volumes due to external sources. The report also notes that coordination with the DOT is needed to ensure that adequate ingress and egress to the project site is accommodated in the design of its highway widening project.

2. ***Water***

Domestic water for the proposed project will be provided by the County's potable water system which serves the region. Recent discussions with the Department of Water Supply (DWS) have indicated that new sources will be brought on-line to supplement the water provided by the Iao Aquifer. One (1) new well, with a capacity of 1.0 MGD, is expected to be brought on-line during the first quarter of the year 2000, followed by one (1) more new well with a capacity of 1.0 MGD during the latter part of the year. In addition, two (2) new wells, with a capacity of 1.0 MGD per well, are projected for on-line production by late 2001. The source of water for these four (4) new wells is the Waihee aquifer. It should also be noted that two (2) wells in North Waihee, pumping at a combined rate of 1.5 MGD, were brought on-line by the DWS in July 1997 (Department of Water Supply, January 2000).

The Puunene Airport Area Master Plan notes that the State Department of Health's Underground Injection Control (UIC) line is located approximately 1.0 mile upslope of the master plan area. The UIC line generally denotes the seaward limits of the protected aquifer boundaries, and therefore areas seaward of the UIC line, including the project area, are not considered to be located over underground sources of drinking water.

The preliminary domestic water demand for the proposed project is estimated to be approximately 7,100 gallons per day (gpd). Refer to Appendix D. An interim plan for water and fire protection service for the project has been coordinated with the Department of Water Supply and will be provided through the installation and connection of a new 12-inch waterline from the project site to an

existing 36-inch transmission line located to the south of the project site at the intersection of Mokulele Highway and Mehameha Loop. No onsite or offsite water storage facility will be required at this time. See Chapter XI (letter from the Department of Accounting and General Services dated November 29, 2000 and letter from the Department of Water Supply to the Department of Accounting and General Services dated January 18, 2001.) Calculations for domestic, irrigation, and fire protection use will be submitted to the applicable governmental agencies in connection with the processing of the project's building permit application.

3. ***Wastewater***

Preliminarily, the wastewater flow generated by the proposed project is estimated to be approximately 2,700 gpd. Refer to Appendix D. The County of Maui has a long range master plan for the area which includes a new central wastewater treatment plant, as well as force mains and gravity lines. However, the County has no immediate plans to provide sewer service in the area. Accordingly, a new septic sewer system will be implemented for the project.

The proposed project is not expected to place significant new demands on existing wastewater system capacities or facilities. In addition to coordinating wastewater system improvements with the appropriate governmental agencies, wastewater contribution calculations will be submitted to the applicable governmental agencies in connection with the project's building permit application review phase.

4. ***Drainage***

Grading for the project will involve excavation and embankment for the construction of roadways, building pads, parking areas, and a retention basin. Erosion control measures and Best Management Practices (BMPs) will be implemented during the construction period to minimize soil loss and erosion.

Examples of measures for minimizing the effects of soil erosion and fugitive dust include the following:

1. Minimize the time of exposure of the graded areas.
2. Water graded areas with water trucks or a temporary sprinkler system.
3. Water graded areas after construction has ceased for the day, as well as on weekends and holidays.
4. Create temporary diversion swales to prevent runoff from affecting adjacent and downstream properties, as necessary.

A detailed grading and erosion control plan will be prepared in accordance with County standards and will be submitted to the County Department of Public Works and Waste Management for review and approval. An application for a National Pollutant Discharge Elimination System (NPDES) permit will also be submitted to the State Department of Health for review and approval.

Based on a 50-year, 1-hour storm, existing onsite runoff has been estimated at 89.1 cfs, while post-development runoff is calculated at 91.8 cfs. The proposed drainage plan for the project requires site grading and the installation of an underground drainage

system. Increases in runoff due to the proposed development will be captured by drain inlets and conveyed by drainlines to a proposed retention basin in the southwest corner of the project site. Refer to Appendix D.

The proposed improvements will be designed to produce no adverse effects to adjacent and downstream properties. All improvements will conform to and be designed in accordance with applicable regulatory requirements.

5. ***Electrical and Telephone System***

Electrical and telephone services for the proposed project will be coordinated with Maui Electric Company and Verizon Hawaii, respectively. As required, onsite generations will be used as an interim power source.

Chapter IV

Relationship to Governmental Plans, Policies, and Controls

IV. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS

A. STATE LAND USE DISTRICTS

Chapter 205, Hawaii Revised Statutes, relating to the State Land Use Commission (SLUC), establishes the four (4) major land use districts in which all lands in the State are placed. These districts are designated "Urban", "Rural", "Agricultural", and "Conservation".

The project site is within the State "Agricultural" District. See Figure 9. As the proposed action involves a use of the property which is not considered a permitted use within the "Agricultural" District, a SLUC Special Use Permit (SUP) application has been prepared for the project. Since the SUP request involves an area greater than 15 acres, the Maui Planning Commission's SUP recommendations will be forwarded to the SLUC for final action.

Pursuant to Section 15-15-95, Administrative Rules of the Hawaii Land Use Commission Rules, the SLUC Rules provide that "unusual and reasonable" uses may be permitted within the "Agricultural" district. The proposed project is consistent with the guidelines for determining an "unusual and reasonable" use as follows:

Guideline: The use shall not be contrary to the objectives sought to be accomplished by Chapters 205 and 205A HRS, and the rules of the Commission.

Response: The general intent of the State Land Use law is "to preserve, protect, and encourage the development of land in the State for those uses to which they are best suited in the interest of the public health and welfare of the State of Hawaii". The proposed project involves the consolidation and relocation of an existing armory and Organizational Maintenance Shop (OMS) to a site at the former Naval Air Station

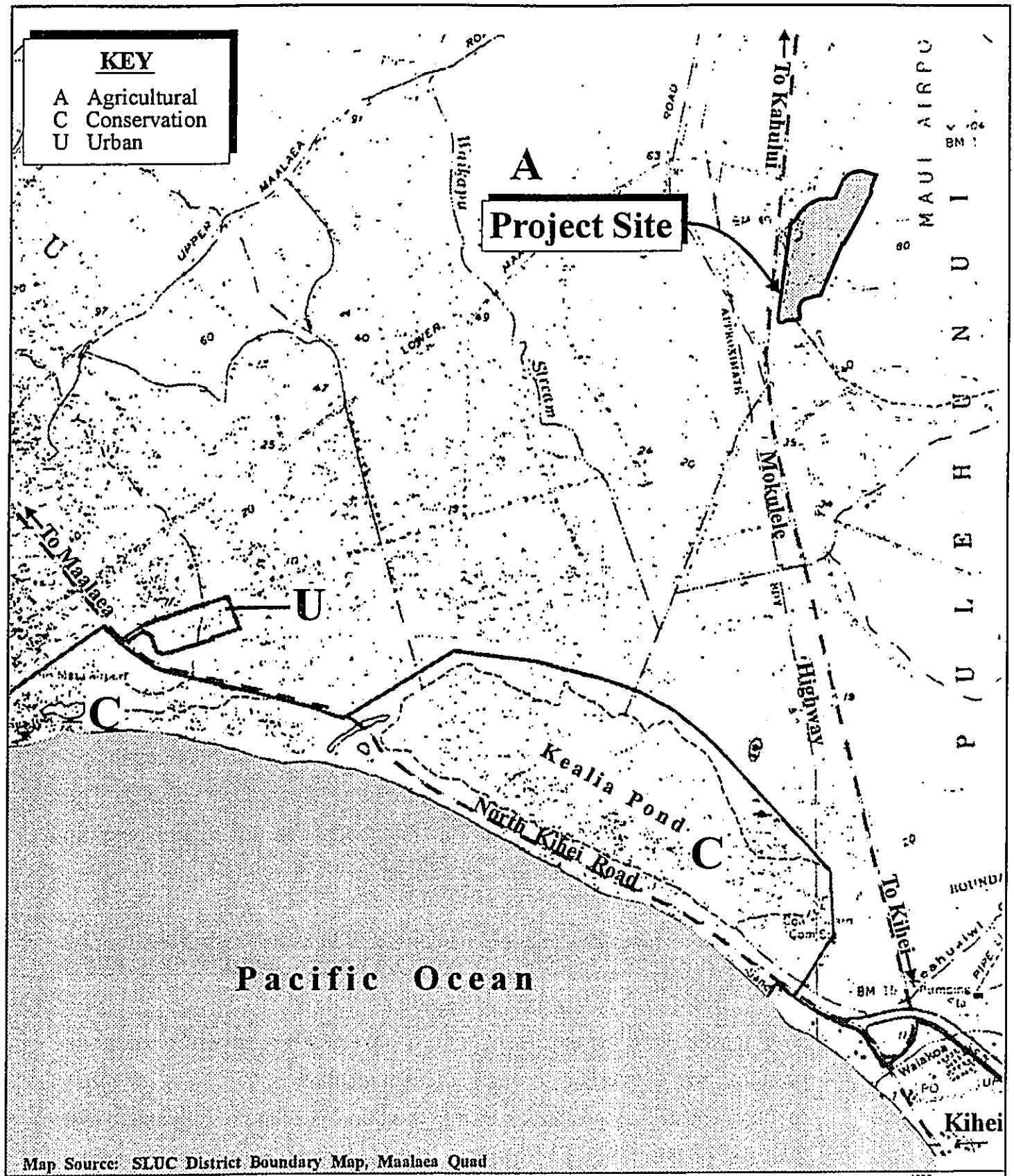


Figure 9 Hawaii Army National Guard's Puunene Armory and Related Improvements
State Land Use District Designations

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Prepared for: State of Hawaii, Department of Accounting and General Services

MUNEKIYO & HIRAGA, INC.

Puunene. This area has been designated for governmental baseyard use by the Puunene Airport Area Master Plan. The proposed project is consistent with the uses established for this area by the master plan and the Kihei-Makena Community Plan. In providing adequate facilities that will improve the Hawaii Army National Guard's (HIARNG's) operational readiness, the proposed action is not deemed contrary to the objectives of Chapters 205 and 205A, HRS.

Guideline: The desired use would not adversely affect surrounding property.

Response: The project site has been designated for governmental baseyard use by the Puunene Airport Area Master Plan and the Kihei-Makena Community Plan. Adverse impacts to surrounding properties are not anticipated as a result of the proposed action.

Guideline: The use would not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage and school improvements, and police and fire protection.

Response: Wastewater generated will be collected by a Department of Health-approved septic tank system. Intersection improvements at Mokulele Highway and the project access road will be coordinated with the State Department of Transportation. The proposed project is not expected to significantly add to the current water demands of the existing armory and OMS as the proposed action involves the relocation of these facilities to a different site. Furthermore, the proposed project will be engineered to mitigate adverse drainage-related impacts to adjacent and downstream properties.

In general, the proposed action is not anticipated to significantly affect infrastructure and public service systems.

Guideline: Unusual conditions, trends, and needs have arisen since the district boundaries and rules were established.

Response: The proposed project implements a component of the Puunene Airport Area Master Plan and is considered compatible with the uses established for Project District 10, as set forth by the Kihei-Makena Community Plan. The proposed project seeks to relocate the operations of the armory and OMS to a site with sufficient space to accommodate HIARNG's existing and future needs, as well as enhance its training and operational readiness objectives.

Project-specific requirements, as well as underlying land use designations, reflect conditions and trends *different from* those which existed at the time district boundaries and rules were established.

Guideline: The land upon which the proposed use is sought is unsuited for the uses permitted within the district.

Response: As indicated by the State's general lease for the project area, much of this State-owned land, including the project site, is classified as "waste land" and is unsuitable for agricultural cultivation due to remnants of the old Puunene Airport and Naval Air Station. Utilizing this land for the project provides for the beneficial use of a site which would otherwise have no agricultural use and value.

B. *GENERAL PLAN OF THE COUNTY OF MAUI*

The General Plan of the County of Maui (1990 Update) sets forth broad objectives and policies to help guide the long-range development of the County. As stated in the Maui County Charter, "The purpose of the General Plan is to recognize and state the major problems and opportunities concerning the needs and development of the County and the social, economic and environmental effects of such development and

set forth the desired sequence, patterns and characteristics of future development".

The proposed action is in keeping with the following General Plan objectives and policies:

Objectives:

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

- To see that all developments are well designed and in harmony with their surroundings.

Policies:

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

C. *KIHEI-MAKENA COMMUNITY PLAN*

The subject parcel is located in the Kihei-Makena Community Plan region which is one (1) of nine (9) Community Plan regions established in the County of Maui. Planning for each region is guided by the respective Community Plans, which are designed to implement the General Plan of the County of Maui. Each Community Plan contains recommendations and standards which guide the sequencing, patterns and characteristics of future development in the region. Land use guidelines for the region are established by the Kihei-Makena Community Plan. The subject property is situated within an area designated for Project District 10 uses. See Figure 10. The Kihei-Makena Community Plan describes in pertinent

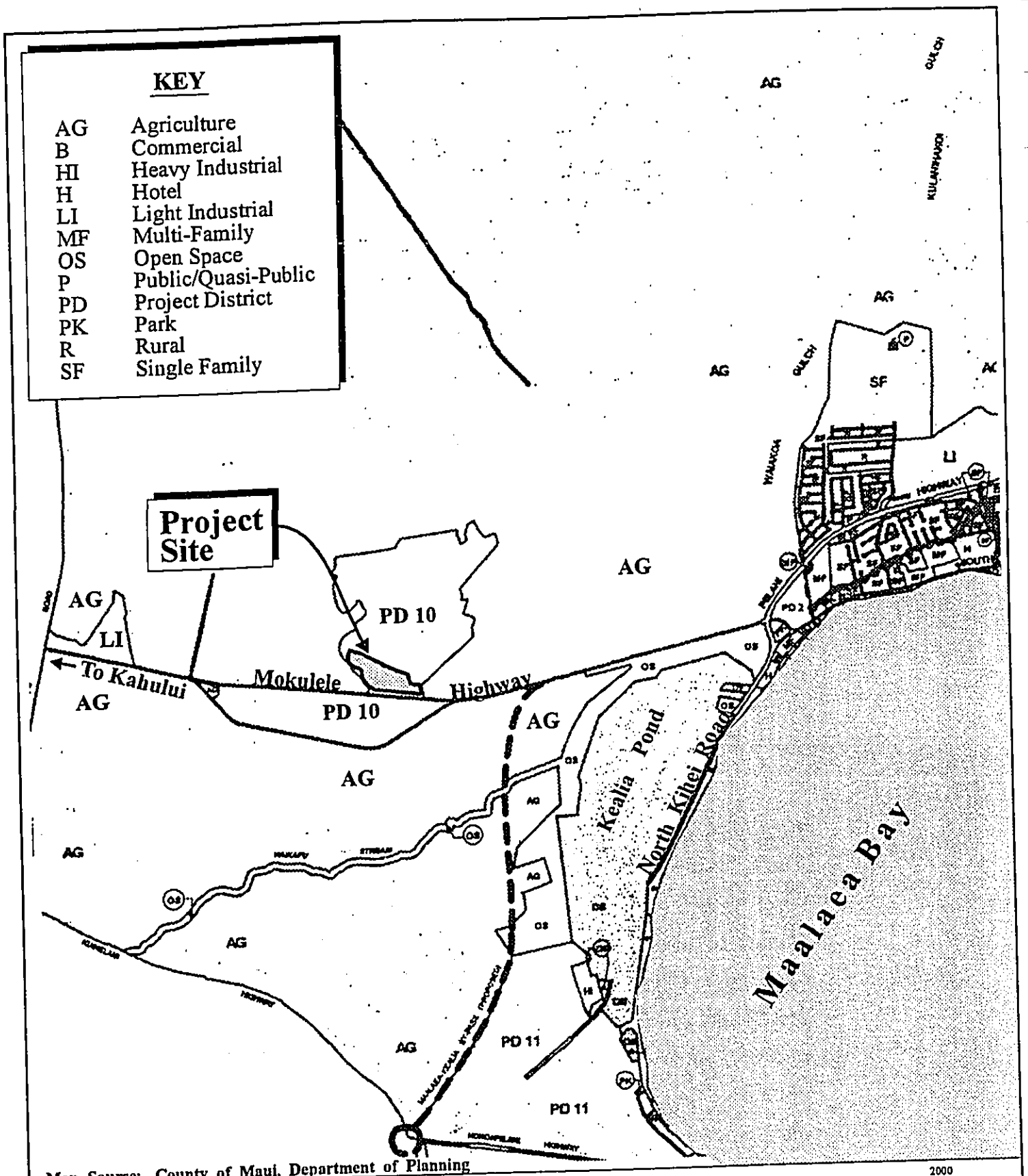

Figure 10 Hawaii Army National Guard's Puunene Armory and Related Improvements
Kihei-Makena Community Plan
Land Use Map

Prepared for: State of Hawaii, Department of Accounting and General Services

MUNEKIYO & HIRAGA, INC.

part the permitted uses within Project District 10 in the following terms:

> "The objective of this project district is to establish a master planned recreational and industrial expansion area to meet future recreational needs and to provide areas for industrial activities, including government facilities, whose locations are better suited away from urban areas".

The proposed project is in consonance with the uses envisioned for Project District 10 by the Kihei-Makena Community Plan.

D. ***ZONING***

The subject property is zoned "Agricultural" by the County of Maui. Pursuant to Chapter 19.30 of the Maui County Code pertaining to the County "Agricultural" District, the proposed project is not considered a permitted use in this district.

Accordingly, an application for a Conditional Permit has been prepared to provide for the development of the proposed project.

It should be noted that several actions are required by State and County agencies to implement the Puunene Airport Area Master Plan. The first step is the transfer of the 273-acre County Project Area from the State of Hawaii to the County of Maui. These lands are categorized as "waste land" in General Lease S-4197 between the State and Alexander & Baldwin, Inc. Other requirements include a District Boundary Amendment from the State "Agricultural" District to "Urban" District and a Change in Zoning from the County "Agricultural" District to "Project District 10". Until such time that the preceding actions are completed, each project that is developed within the County Project Area will require a SLUC Special Use Permit, as well as a Conditional Permit.

E. COASTAL ZONE MANAGEMENT OBJECTIVES AND POLICIES

The Hawaii Coastal Zone Management Program (HCZMP), as formalized in Chapter 205A, HRS, establishes objectives and policies for the preservation, protection, and restoration of natural resources of Hawaii's coastal zone.

As set forth in Chapter 205A, HRS, this section addresses the project's relationship to applicable coastal zone management considerations.

(1) Recreational Resources

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

(A) Improve coordination and funding of coastal recreational planning and management; and

(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;

(ii) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;

(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

(v) Ensuring public recreational use of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with

public safety standards and conservation of natural resources;

(vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

(vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and

(viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions; and crediting such dedication against the requirements of Section 46-6, HRS.

Response: The proposed project is not anticipated to affect existing coastal recreational resources. Access to shoreline areas will remain unaffected by the proposed action.

(2) ***Historic Resources***

Objective:

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

Policies:

(A) Identify and analyze significant archeological resources;
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and
(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

Response: The archaeological inventory survey of the project site found no archaeological sites, features, human burials, or sub-surface deposits and recommended no further archaeological work

for the project area. Should human remains be inadvertently discovered during earth moving activities, work shall cease at once in the immediate area of the find, and the find shall be protected from further damage. The State Historic Preservation Division shall be immediately notified and procedures for the treatment of inadvertently discovered human remains shall be implemented pursuant to Chapter 6E, HRS.

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

Objectives:

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

Policies:

(A) Identify valued scenic resources in the coastal zone management area;

(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;

(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

(D) Encourage those developments which are not coastal dependent to locate in inland areas.

Response: The proposed project will be developed to ensure visual compatibility with the surrounding environs. The project is not anticipated to impact coastal and scenic open space resources.

(4) ***Coastal Ecosystems***

Objective:

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

ecosystems.

Policies:

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

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

(C) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

(D) Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.

Response: Improvements to the subject property are not expected to adversely impact coastal ecosystems. Appropriate design measures and Best Management Practices (BMPs) for controlling surface runoff and the disposal of waste products shall be utilized to ensure that coastal water impacts are mitigated. Mitigative measures for soil erosion control will be implemented during and after construction.

(5) ***Economic Uses***

Objectives:

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

Policies:

(A) Concentrate coastal dependent development in appropriate areas;

(B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor facilities and energy generating facilities, are located, designed, and constructed to minimize

adverse social, visual, and environmental impacts in the coastal zone management area; and

(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(i) Use of presently designated locations is not feasible;

(ii) Adverse environmental effects are minimized; and

(iii) The development is important to the State's economy.

Response: The project will support short-term construction and construction-related jobs. The project area does not abut the shoreline and does not affect coastal development necessary to the State's economy. The project is in keeping with the land use patterns established by the Kihei-Makena Community Plan.

(6) Coastal Hazards

Objectives:

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

Policies:

(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint pollution hazards;

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

(D) Prevent coastal flooding from inland projects; and

(E) Develop a coastal point and nonpoint source pollution control program.

Response: The subject property lies within Zone "C", an area of minimal flooding. It is noted that changes in drainage patterns are not anticipated with the construction of the proposed improvements and no adverse drainage impacts to surrounding properties are anticipated. A detailed drainage and soil erosion control plan will be prepared for the project. The drainage systems for the proposed project will be engineered to ensure that downstream and adjacent properties will not be adversely impacted.

(7) ***Managing Development***

Objectives:

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

Policies:

(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

(B) Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and

(C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

Response: This Environmental Assessment has been prepared for public review in compliance with Chapter 343, Hawaii Revised Statutes, and Chapter 200 of Title 11, Administrative Rules, Environmental Impact Statement Rules.

In addition, applicable State and County requirements will be adhered to in the design and construction of the proposed project.

(8) ***Public Participation***

Objectives:

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

Policies:

(A) Maintain a public advisory body to identify coastal management problems and to provide policy advice and assistance to the coastal zone management program;

(B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal-related issues, developments, and government activities; and

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

Response: Opportunities for public awareness, education and participation pertaining to significant resource attributes of the coastal zone are provided through the Special Use Permit and Conditional Permit review and approval process, of which public hearings are required as part of this procedure.

(9) ***Beach Protection***

Objectives:

Protect beaches for public use and recreation.

Policies:

(A) Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;

(B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

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

Response: The proposed project will not impact shoreline activities. The project site is located about 1.5 miles from the coast; no adverse impacts to beaches are anticipated.

(10) Marine Resources

Objectives:

Implement the State's ocean resources management plan.

Policies:

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

Response: Improvements to the subject property will not adversely impact ocean resources. The proposed project is not anticipated to affect marine and coastal resources.

Chapter V

Summary of Environmental Effects Which Cannot Be Avoided

V. SUMMARY OF ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The proposed project will result in unavoidable construction-related impacts which include noise-generated impacts occurring from the proposed improvements. In addition, there may be temporary air quality impacts associated with dust generated from site work and exhaust emissions discharged by construction equipment.

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

Chapter VI

Alternatives Analysis

VI. ALTERNATIVES ANALYSIS

A. ALTERNATIVE A

Alternative A represents the proposed action. This alternative provides for the development of a component of Project District 10, which is consistent with the project site's land use designation in the Kihei-Makena Community Plan. The proposed development is in keeping with existing and planned land uses in the surrounding area.

B. ALTERNATIVE B

Alternative B is the no action or no build alternative. The majority of the project site is occupied by runway and taxiway remnants of the former Naval Air Station Puunene, while the remainder of the site consists of scrub vegetation. The no action or no build alternative would involve a continuation of the underutilized and unmaintained nature of the property. The no action alternative is not considered a viable scenario in the context of the property's established land use allocation set forth by the Kihei-Makena Community Plan, the Puunene Airport Area Master Plan, and current facility requirements of HIARNG.

C. ALTERNATIVE C

A number of site design alternatives were evaluated to ensure that site development constraints were adequately addressed. The proposed site plan is considered optimum in terms of meeting operational, functional and site development criteria.

Since the filing of the Draft EA for the proposed project, an interim alternate access plan involving the subject property and the County's Puunene Airport Master Plan area was considered.

This alternate access plan surfaced as a result of Parsons-UXB Joint

Venture's planned construction of a temporary access road from Mokulele Highway to their helicopter staging area which will be utilized to support its clean-up operations on the island of Kahoolawe. It should be noted that due to ramp congestion and parking shortages at the Kahului Heliport, Parsons received permission from the State of Hawaii to relocate its helicopter staging area to a 5-acre portion of the project site located at the south end of a former runway, approximately 200 feet east of Mokulele Highway. The access road will be located approximately 1,100 feet to the north of the existing Maui Raceway Park access road. The "T" intersection formed by this access road and the highway will be improved to accommodate the traffic from Parsons' operations. In addition to a traffic signal, a separate left-turn/storage lane will be provided on the southbound Mokulele Highway approach, while a separate right-turn/deceleration lane will be provided on the highway's northbound approach. Separate left- and right-turn lanes will be provided on the access road's westbound approach to the highway. The access road will be utilized until clean-up operations conclude in November 2003 and will be removed when Mokulele Highway is widened.

A meeting involving representatives of various Federal, State, and County agencies and their consultants was held in November 2000 to discuss existing and future access considerations for the Puunene Airport Master Plan area (including the project site).

As a result of this meeting, it was indicated that the intersection of the existing Maui Raceway Park access road could be closed to traffic until permanent intersection improvements are constructed in connection with the DOT's Mokulele Highway Widening Project. In addition, it was also noted that access to the area could be provided via Parsons' temporary access road, as well as a temporary parallel frontage road which could be

constructed within the eastern extent of the highway right-of-way (on a cost-sharing basis) in order to provide access to the area for existing and future users. The frontage road would also be demolished when Mokulele Highway is widened.

More recently, construction-related concerns related to the widening of Mokulele Highway has made it infeasible to locate the parallel frontage road within the highway right-of-way. In addition, due to strict security parameters for Parsons and HIARNG operations, locating the frontage road within the limits of the project site is infeasible.

In light of the foregoing, this interim alternate access plan has been discounted. Access for the HIARNG facility will be provided by the Maui Raceway Park access road. It should be noted that during the November 2000 meeting, the DOT indicated that the location and proximity of the existing raceway park access road and the temporary access road intersections would not adversely impact traffic safety and operating conditions in the area. The signalized temporary access road intersection would improve traffic operations at the raceway park access road intersection by creating timed gaps in the flow of traffic along the highway thereby enabling motorists to execute safe turning movements at this intersection.

Chapter VII

Irreversible and Irretrievable Commitments of Resources

VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The development of the project site would involve the commitment of land for the proposed action. However, this commitment is consistent with the land use established for the property by the Puunene Airport Area Master Plan and the Kihei-Makena Community Plan. There are no other significant irreversible and irretrievable commitment of resources associated with the proposed action.

Chapter VIII

Findings and Conclusions

VIII. FINDINGS AND CONCLUSIONS

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

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

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

   The Archaeological Inventory Survey prepared for the project did not locate any cultural artifacts or human remains. It should also be noted that the State Historic Preservation Division (SHPD) indicated that remnants of structures identified by the survey are "no longer significant" since the structures themselves were demolished and only remnant foundations exist. Should any artifacts or human remains be encountered during construction, work will stop in the immediate vicinity of the find and the SHPD will be immediately notified to establish an appropriate mitigation strategy.

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

   The proposed project and the commitment of land resources would not curtail the range of beneficial uses of the environment.

3. ***The Proposed Action Does Not Conflict with the State's Long-term Environmental Policies or Goals or Guidelines as Expressed in Chapter 334, Hawaii Revised Statutes***

   The State's Environmental Policy and Guidelines are set forth in Chapter

344, Hawaii Revised Statutes. The proposed action is in consonance with the following policies and guidelines:

Environmental Policy:

(1) Conserve the natural resources, so that land, water, mineral, visual, air and other natural resources are protected by controlling pollution, by preserving or augmenting natural resources, and by safeguarding the State's unique natural environmental characteristics in a manner which will foster and promote the general welfare, create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of the people of Hawaii.

Guideline:

(2) Land, water, mineral, visual, air and other resources.

(F) Maintain an integrated system of state land use planning which coordinates the State and County general plans.

* * *

(7) Energy.

(A) Encourage the efficient use of energy resources.

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

The proposed project would have a direct beneficial effect on the local economy during construction. In the long term, the proposed project will support the local economy through the contribution of salaries, wages, and benefits, as well as through the purchases of goods and services from local merchants and service providers.

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

No adverse impacts to the public's health and welfare are anticipated as

a result of the proposed project.

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

No significant population changes are anticipated as a result of the proposed project.

From a land use perspective, the proposed project implements a component of the Puunene Airport Area Master Plan and the Kihei-Makena Community Plan. The proposed project is in consonance with the land uses established for this area by both the master plan and Project District 10.

The proposed project is not anticipated to adversely impact existing water and wastewater systems. The proposed improvements will be coordinated with the appropriate governmental agencies and will be designed in accordance with applicable regulatory standards. Onsite and offsite surface runoff are expected to be accommodated by the proposed drainage system improvements. The project is not expected to significantly impact public services such as police, fire, and medical services. Impacts upon educational, recreational, and solid waste collection and disposal facilities and resources are considered minimal.

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

During the construction phase of the project, there will be short-term air quality and noise impacts as a result of the project. In the long term, effects upon air quality and ambient noise levels should be minimal. The project is not anticipated to significantly affect the open space and scenic character of the area.

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

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

The proposed project is viewed as a stand alone project. While the uses for the old Puunene Airport area and Naval Air Station have been established by the Puunene Airport Area Master Plan and the Kihei-Makena Community Plan, the time frame for the implementation of each component project by individual users is uncertain since the development of each project is contingent on the availability of funding. For example, while construction of the MEO transportation facility was projected for October 2000, its actual implementation will be subject to funding.

From a long-term perspective, the development of this master planned area is consistent with the Puunene Airport Area Master Plan and Kihei-Makena Community Plan objectives of providing a suitable area for government and recreational uses. As each project is developed by an individual user, appropriate upgrades and/or improvements will be required to ensure the adequacy of the infrastructure system.

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

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

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

Construction activities will result in short-term air quality and noise impacts. Dust control measures, such as regular watering and sprinkling,

will be implemented to minimize wind-blown emissions. Noise impacts will occur primarily from construction-related activities and occasional helipad use. It is anticipated that construction will be limited to daylight working hours. Helicopter flight tracks will be designed to avoid residential areas, and loading and unloading activities will occur while the helicopter's engines are still running, thereby eliminating engine warmup time and minimizing overall noise exposure. In this light, noise attributable to helipad use will be brief and its effects temporary. Water quality is not expected to be affected.

In the long term, the project is not anticipated to have a significant impact on air and water quality. Helicopter noise from supporting civil authorities and medical emergencies, as well as from occasional stop-overs by HIARNG troops on training exercises, is expected to add to ambient noise levels. From a long-term perspective, this noise is not expected to adversely affect noise conditions as the duration of these stop-overs will be brief and its effects temporary. In addition, the noise associated with the proposed use of the site is compatible with the uses set forth for this area by both the Kihei-Makena Community Plan and the Puunene Airport Area Master Plan.

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

The project is not located within and would not affect environmentally sensitive areas. The project site is not subject to flooding or tsunami inundation. Soils of the project site are not erosion-prone. There are no geologically hazardous lands, estuaries, or coastal waters within or adjacent to the project site.

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

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

13. ***The Proposed Action Would Not Require Substantial Energy Consumption***

The proposed project will involve the short-term commitment of fuel for equipment, vehicles, and machinery during construction activities. However, this use is not anticipated to result in a substantial consumption of energy resources. In the long term, the project will create an additional demand for electricity. However, this demand is not deemed significant or excessive within the context of the region's overall energy consumption.

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

Chapter IX

List of Permits and Approvals

IX. LIST OF PERMITS AND APPROVALS

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

State of Hawaii

1. State Land Use Commission Special Use Permit
2. Community Noise Permit
3. NPDES Permit (for stormwater discharge associated with construction activities)

County of Maui

1. Conditional Permit
2. Construction Permits (Grubbing, Grading, Building, Plumbing, Electrical)

Chapter X

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

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

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

1. Neal S. Fujiwara,
District Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
210 Imi Kala Street, Suite 209
Wailuku, HI 96793

2. Robert P. Smith, Pacific Islands Manager
Ecological Services
U. S. Fish and Wildlife Service
P.O. Box 50167
Honolulu, HI 96850

3. George P. Young, Chief
Regulatory Branch
Department of the Army
U.S. Army Engineer District, Hnl.
Fort Shafter, HI 96858-5440

4. Bruce Anderson, Director
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, HI 96801

5. Kazu Hayashida, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

6. Timothy Johns, Director
State of Hawaii
Department of Land and Natural Resources
P. O. Box 621
Honolulu, HI 96809

7. Don Hibbard, Administrator
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
33 South King Street, 6th Floor
Honolulu, HI 96813

8. Randall Ogata, Administrator
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

9. John Min, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, HI 96793

10. Charles Jencks, Director
County of Maui
Department of Public Works and Waste Management
200 South High Street
Wailuku, HI 96793

11. David Craddick, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, HI 96793

12. Floyd Miyazono, Director
County of Maui
Department of Parks and Recreation
1580-C Kaahumanu Avenue
Wailuku, HI 96793

13. Clayton Ishikawa, Chief
County of Maui
Department of Fire Control
200 Dairy Road
Kahului, HI 96732

14. Tom Phillips, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, HI 96793

15. Alice Lee, Director
County of Maui
Department of Housing and Human Concerns
200 S. High Street
Wailuku, HI 96793

16. Ed Reinhardt, Manager
Engineering Division
Maui Electric Company, Ltd.
Kahului, HI 96733-6898

17. Gladys Baisa, Executive Director
Maui Economic Opportunity, Inc.
P.O. Box 2122
Kahului, HI 96733

DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

JUL 2 8 1999
JAMES "KIMO" APANA
Mayor
ALICE L. LEE
Director
PRISCILLA P. MIKELL
Deputy Director

200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • PHONE (808) 243-7805 • FAX (808) 243-7165

July 26, 1999

Mr. Glenn Tadaki, Planner
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Tadaki:

Subject: Hawaii Army National Guard
Armory and Related Improvements,
TMK: 3-8-08: por 01

We have reviewed the project summary for the subject project and wish to inform you that we have no comments to offer.

Thank you for the opportunity to comment.

Very truly yours,

ALICE L. LEE
Director of Housing and
Human Concerns

ETO:df

c: Housing Administrator

JAMES "KIMO" APANA
Mayor

JOHN E. MIN
Director

CLAYTON I. YOSHIDA
Deputy Director

JUL 30 1999

COUNTY OF MAUI
DEPARTMENT OF PLANNING

July 28, 1999

Mr. Glenn Tadaki
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Tadaki:

RE: Early Consultation for the Hawaii Army National Guard Armory and Related Improvements, TMK: 3-8-008:Por. of 001

The Maui Planning Department has reviewed the above-referenced request and has the following preliminary comments:

1. The project assessment should address the *Puunene Airport Area Master Plan/MEO Transportation Facility* (Master Plan) prepared for the County of Maui which addressed future uses in the former Puunene Airport area. We note that the location of the Armory, identified in the Master Plan, was on the property between Mokulele Highway and the Alternate Road. Other governmental services were proposed to be accommodated in the proposed location of the Armory.

2. The Kihei-Makena Community Plan continues to identify this area as Project District 10, containing 561 acres. According to the Community Plan, *"The objective of this project district is to establish a master-planned recreational and industrial expansion area to meet future recreational needs and to provide areas for industrial activities, including governmental facilities, whose locations are better suited away from urban areas."* The County of Maui prepared the *Puunene Airport Area Master Plan/MEO Transportation Facility* report to establish a master plan for this area in anticipation that the lands could be transferred to the County of Maui and the project district implemented. The project assessment should address the Community Plan document and its relationship to the Master Plan.

250 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96793
PLANNING DIVISION (808) 243-7735; ZONING DIVISION (808) 243-7253; FACSIMILE (808) 243-7634

3. The property is currently in the State Agricultural District and County Agricultural District (Land Zoning Map No. 5). A State Land Use Commission Special Use Permit for the use in the State Agricultural District will be required. In addition, the proposed facility is not identified as a permitted or special use in the County Agricultural District, and as such, a Conditional Permit will be required. However, in reviewing the land use issue, the assessment should also address the project district process.

4. The assessment should address the impacts that this project will have on the surrounding uses, agriculture, recreational, future MEO site, etc. It should also address the impact of utilizing agricultural lands for an urban use. Of particular concern is the impact on the crop dusting operation on the site. Will this operation be relocated to another site? I know of no other operation on Maui to accommodate the displacement of this use that is related to the agricultural operations in the area, primarily in sugar cane.

5. The subject property is not located in the Special Management Area for the Island of Maui.

6. Other infrastructural concerns that should be addressed by the assessment would include additional requirements for water, sewer, drainage, roadways, and public services. Of particular concern is the traffic impacts on Mokulele Highway from the project district. The drainage and sewage plans for the project will also be reviewed and possible mitigation measures developed.

Thank you for the opportunity to comment. If additional clarification is required, please contact Ms. Colleen Suyama, Staff Planner, of this office at 270-7735.

Very truly yours,

Clayton I. Yoshida
for JOHN E. MIN
Planning Director

JEM:CMS:cmb
c: Clayton Yoshida, AICP, Deputy Planning Director
Colleen Suyama, Staff Planner
Project File
General File
(S:\\CMS\armyguar)

SEP 17 1999

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO. (P)1643.9

SEP 16 1999

Mr. John E. Min, Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Maui, Hawaii 96793-2155

Dear Mr. Min:

Subject: Maui Army National Guard Armory
Environmental Assessment Preparation
dags Job No. 15-16-7054

Thank you for your July 28, 1999, letter commenting on the subject project.

The draft Environmental Assessment (EA) for the subject project will examine the relationship of the project to the Puunene Airport Area and MEO Transportation Facility Master Plan, as well as the relationship of the Master Plan to the Kihei-Makena Community Plan.

In addition to examining potential impacts to existing and surrounding uses, the draft EA will include appropriate mitigative measures and examine infrastructure and public service requirements for only the Maui Army National Guard Armory project (as coordinated with current County of Maui plans).

Also, applications for State Land Use Commission, Special Use Permit and County of Maui Conditional Use Permit will be prepared in support of the project.

A copy of the draft EA will be provided to you. Thank you again for providing us with your comments.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Lt. Col. Richard Young, HIARNG w/attach letter
Mr. Richard Miyabara, GYA Architects, Inc. w/attach letter
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.

PHONE (808) 594-1888

AUG 0 3 1999

FAX (808) 594-1865

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

July 29, 1999

Mr. Glenn Tadaki, Planner
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Subject: Hawai'i Army National Guard Armory and Related Improvements
TMK 3-8-08: por.01

Dear Mr. Tadaki,

Thank you for the opportunity to review the above-referenced summary.

At this time the Office of Hawaiian Affairs has no comment on this summary. We await the results of the pending Environmental Assessment (EA). We recommend a Cultural Assessment be done in addition to the EA. We would appreciate a copy of the draft EIS when it is completed.

If you have any questions please contact Ken R. Salva Cruz, Policy Analyst at 594-1847.

Sincerely,

Colin Kippen
Deputy Administrator

C. Sebastian Aloot
Division Director

cc: Board of Trustees
Mau'i Community Affairs Office

SEP 1 7 19

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P)1640..

SEP 1 6 1999

TO: Mr. Colin Kippen, Deputy Administrator
Office of Hawaiian Affairs

SUBJECT: Maui Army National Guard Armory
Environmental Assessment Preparation
DAGS Job No. 15-16-7054

Thank you for your letter of July 29, 1999, commenting on the subject project.

The archaeological inventory survey prepared in connection with this project includes a land use history of the subject area. Based on this information, the project is not expected to have an adverse effect on native Hawaiian gathering rights and religious or subsistence practices.

A copy of the Draft Environmental Assessment will be provided to you. Thank you for providing us with your comments.

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Lt. Colonel Richard Young, HIARNG w/attach letter
Mr. Richard Miyabara, GYA Architects, Inc. w/attach letter
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc. w/attach letter

DEPARTMENT F
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

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

July 30, 1999

Glenn Tadaki, Planner
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

RE: **Hawaii Army National Guard Armory and Related Improvements**
TMK: 3-8-08: por. 01
Early Consultation Response

Dear Mr. Tadaki:

Thank you for the opportunity to review and comment on the general overview of the State of Hawaii's proposal to consolidate and relocate two existing Hawaii Army National Guard facilities on the Island of Maui.

At this time we have no comment to offer on the relocation of these facilities to Pulehunui. Based on the information contained in the overview, it does not appear that there will be any conflict with our future plans for use of the adjacent areas.

Should you have need of additional information, please call me or Patrick Matsui, Chief of Parks Planning & Development at 270-7931.

Sincerely,

Floyd Miyazono
Director

FSM:PTM:rh

c: Patrick Matsui, Chief of Parks Planning & Development

r:\planning\rh\green\hiarng.wpd

JAMES "KIMO" APANA
MAYOR

CLAYTON T ISHIKAWA
CHIEF

FRANK E FERNANDEZ, JR
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

200 DAIRY ROAD
KAHULUI, MAUI, HAWAII 96732
(808) 243-7561
FAX (808) 243-7919

AUG 0 5 1999

August 4, 1999

Mr. Glenn Tadaki, Planner
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

RE: Hawaii Army National Guard Armory and Related Improvements;
TMK: 3-8-08:por. 01

Dear Mr. Tadaki,

Thank you for the opportunity to comment on the Hawaii Army National Guard and Related Improvements.

The Department of Fire Control has no comments at this time, however when the plans and specifications for construction are submitted for review and approval, the department will comment at that time.

If you have any questions, direct them in writing to the Fire Prevention Bureau, 21 Kinipopo Street, Wailuku, HI 96793.

Sincerely,

LEONARD F NIEMCZYK
Captain, Fire Prevention Bureau

JAMES "KIMO" APANA
MAYOR

OUR REFERENCE
af
YOUR REFERENCE

POLICE DEPARTMENT
COUNTY OF MAUI

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

August 5, 1999

THOMAS M. PHILLIPS
CHIEF OF POLICE

CHARLES H.P. HALL
DEPUTY CHIEF OF POLICE

Mr. Glenn Tadaki, Planner
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Tadaki:

SUBJECT: Hawaii Army National Guard Armory and Related Improvements
TMK 3-8-08:por. 01

We have received your letter dated July 21, 1999 and the summary providing a general overview of the proposed action for the above subject.

Thank you for giving us the opportunity to review the proposed summary, and we have no comments at this time.

Very truly yours,

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

xc: John Min, Planning Department

AUG 1 6 1999

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

REPLY TO ATTENTION OF

6 August, 1999

Regulatory Branch

Mr. Glen Tadaki, Planner
Munekiyo, Arakawa & Higa, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Tadaki:

This letter responds to your request for comments on the Hawaii Army National Guard Armory and Related Improvements, dated July 21, 1999. Based on the information you provided and a previous site visit by a member of my staff I have determined that a Department of the Army permit will not be required for this project.

If you have any questions concerning this determination, please contact William Lennan of my staff at 438-6986, and reference File No. 980000173.

Sincerely,

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

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

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

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

In reply, please refer to:
File:

AUG 16 1999

August 10, 1999

99-164/epo

Mr. Glenn Tadaki, Planner
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Tadaki:

Subject: Pre-Environmental Assessment Consultation Period
Hawaii Army National Guard Armory and Related Improvements
Pulehunui, Maui
TMK: 3-8-8: por. 1

Thank you for allowing us to comment on the subject project. We have the following comments to offer:

We would like to see addressed in the Draft Environmental Assessment the following:

1. Domestic wastewater disposal;

2. Runoff control during and after construction (best management practices); and

3. Maintenance Shop activities, such as: hazardous waste generation and disposal, chemical and solvent storage, and mitigating measures for any possible chemical spills.

Sincerely,

Virginia Pressler

for GARY GILL
Deputy Director for
Environmental Health

BENJAMIN J. CAYETANO
GOVERNOR

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

SEP 22 1999

LETTER NO (P)1647.9

SEP 20 1999

TO: Mr. Gary Gill
Deputy Director of Environmental Health
Department of Health

SUBJECT: Maui Army National Guard Armory
Environmental Assessment Preparation
DAGS Job. No. 15-16-7054

Thank you for your August 10, 1999, letter commenting on the subject project. In response to your comments of the draft Environmental Assessment for this project, we will address the following:

1. Domestic wastewater disposal;

2. Runoff control during and after construction;

3. Maintenance Shop activities, such as:
Hazardous waste generation and disposal, chemical and solvent storage, and mitigating measures for any possible chemical spills.

We appreciate your input for this project.

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Lt. Colonel Richard Young, HIARNG w/attach letter
Mr. Richard Miyabara, GYA Architects, Inc. w/attach letter
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.

AUG 1 3 1999

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

1949 - 1999 Celebrating 50 Years of Service

August 11, 1999

Mr. Glenn Tadaki
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

SUBJECT: Hawaii Army National Guard Armory and Related Improvements
TMK: 3-8-08:por of 001

Dear Mr. Tadaki,

Thank you for the opportunity to provide comments in preparation of the environmental assessment (EA).

The EA should include the sources and expected potable and non-potable water usage. This project is served by the Central Maui System. The major source of water for this system is the Iao Aquifer. Rolling annual average groundwater withdrawals from the Iao Aquifer as of August 1, 1999 were 18.265 MGD. The regulatory sustainable yield of this aquifer is 20 MGD. In 1997, the State Commission on Water Resource Management (CWRM) elected not to designate Iao Aquifer as a State Groundwater Management Area. However, if rolling annual average withdrawals exceed 20 mgd, CWRM will designate Iao Aquifer. The Department is implementing a plan to bring new sources on-line and to mitigate withdrawals. Two wells in North Waihee were brought on-line in July 1997. No moratorium is currently in effect. However, more source water is still needed. The applicants should be made aware that the timing of this project may be affected with possible delays until new sources can be brought on line. No guarantee of water is granted or implied as a result of these comments. Water availability will be reviewed at the time of application for meter or meter reservation.

Enclosed is a portion of our water system map pertaining to the project area. Domestic, fire, and irrigation calculations will be reviewed in detail during the development process. DWS does not have a fire protection system in the project area. Actual fire demand for structures is determined by fire flow calculations performed by a certified engineer. DWS-approved fire flow calculation methods are contained in "Fire Flow" - Hawaii Insurance Bureau, 1991. The project area lacks adequate storage for the project. The applicant should be advised that they will be required to participate in the development of storage sufficient to serve the project.

It is required by County Code that water conservation practices be incorporated into project design. As much of the water demand as possible should be delivered from non-potable sources (reclaimed or brackish). Where appropriate, the applicants should consider these measures:

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

Utilize Low-Flow Fixtures and Devices: Maui County Code Subsection 16.20A.680 requires the use of low flow water fixtures and devices in faucets, showerheads, urinals, water closets and hose bibs. Water conserving washing machines, ice-makers and other units are also available.

Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day. Refer to the attached handout, "The Costly Drip". The applicant should establish a regular maintenance program.

Use Climate-adapted Plants: Native plants adapted to the area, conserve water and further protect the watershed from degradation due to invasive alien species. The project site is located in "Maui County Planting Plan" - Plant Zone 3. Please refer to the attached documents, "XERISCAPE: Water Conservation Through Creative Landscaping", "Maui County Planting Plan", and "Hawaiian Alien Plant Studies."

Prevent Over-Watering By Automated Systems: Provide rain-sensors on all automated irrigation controllers. Check and reset controllers at least once a month to reflect the monthly changes in evapotranspiration rates at the site.

The project overlies the Kahului aquifer. The Department of Water Supply strives to protect the integrity of surface water and groundwater resources by encouraging applicants to adopt best management practices (BMPs) relevant to potentially polluting activities. We list a few BMP references here. Additional information can be obtained from the State Department of Health.

"Water Quality Best Management Practices Manual For Commercial and Industrial Business", Prepared for the City of Seattle by Resource Planning Associates, June 30, 1989.
"The Megamanual - Nonpoint Source Management Manual - A Guidance Document for Municipal Officials." Massachusetts Department of Environmental Protection.
"Guidance Specifying Management Measures For Sources of Nonpoint Pollution In Coastal Waters." United States Environmental Protection Agency, Office of Water.

If you need additional information, please call our Water Resources and Planning Division at (808) 270-7199.

Sincerely,

David Craddick
Director
emb

cc: engineering division

attachments:
"The Costly Drip"
"Maui County Planting Plan"
"Hawaiian Alien Plant Studies - Pest Plants of Native Hawaiian Ecosystems"
Ordinance 2108 - An ordinance amending Chapter 16.20 of the Maui County Code, pertaining to the plumbing code"
"XERISCAPE - Water Conservation through Creative Landscaping"
"A Checklist for Water Conservation Ideas for Cooling"
"A Checklist for Water Conservation Ideas for Commercial Buildings"

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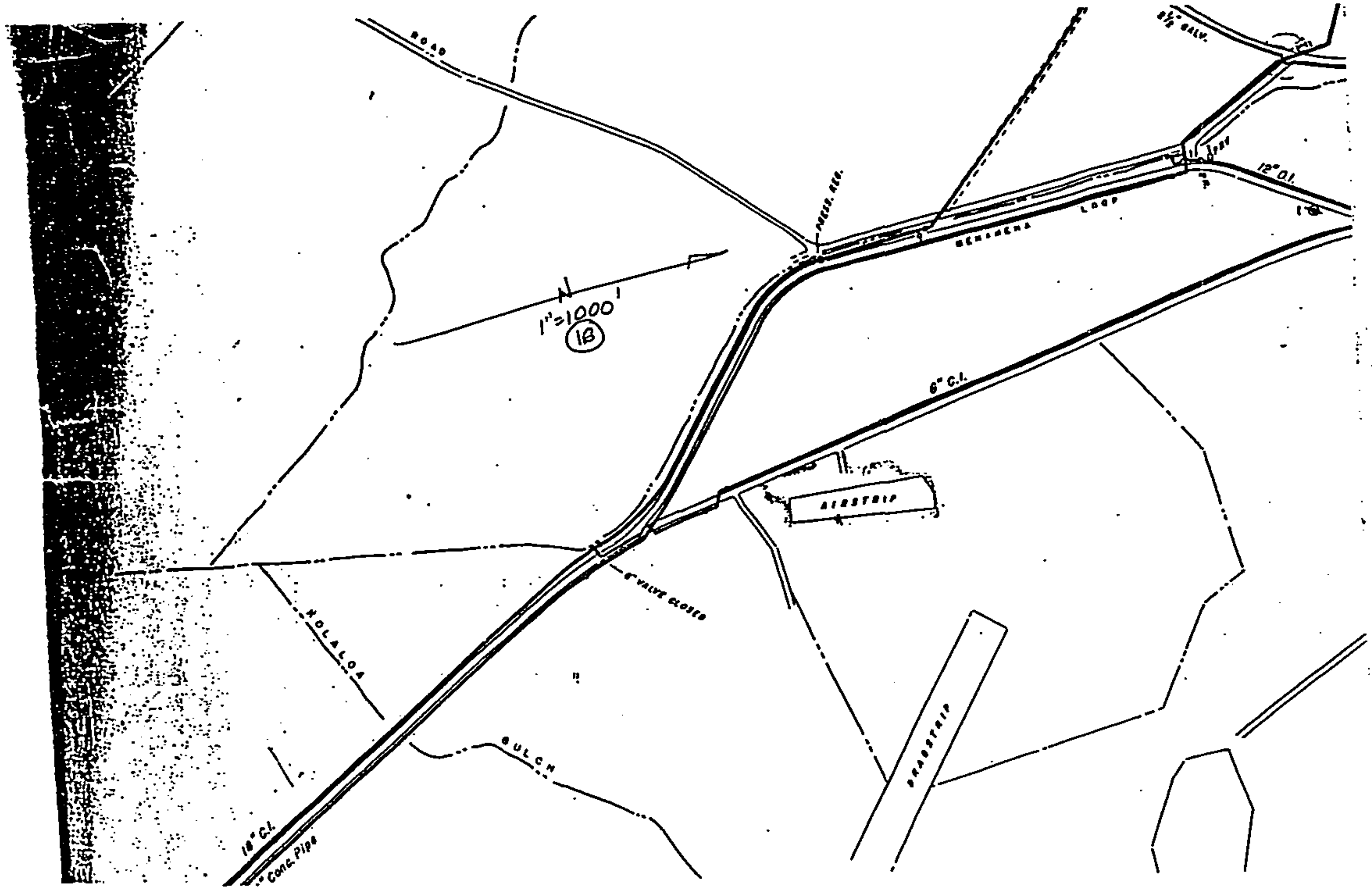
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N
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1B
LOOP
12" O.I.
2½" GALV.
6" C.I.
AIRSTRIP
6" VALVE CLOSED
HOLALOA
GULCH
DRAGSTRIP
18" C.I.
Conc. Pipe

Maui Electric Company, Ltd. • 210 West Kamehameha Avenue • PO Box 398 • Kahului, Maui, HI 96733-6898 • (808) 871-8461

AUG 1 3 1999

August 12, 1999

Mr. Glenn Tadaki
Planner
Munekiyo, Arakawa & Hiraga, inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Mr. Tadaki,

Subject: Hawaii Army National Guard Armory and Related Improvements
(TMK: 3-8-08: por. 01, Pulehunui, Maui)

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

In reviewing the information transmitted and our records, Maui Electric Company (MECO) at this time has no objections to the proposed project.

MECO encourages that the project's consultant meet with us as soon as practical so that we may plan for the project's electrical requirements.

If you have any questions or concerns, please call Fred Oshiro at 872-3202.

Sincerely,

for Edward Reinhardt
Manager, Engineering

ER/fo:lkh

AUG 16 1999

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Pacific Islands Ecoregion
300 Ala Moana Boulevard, Room 3-122
Box 50088
Honolulu, Hawaii 96850

In Reply Refer to: KAJ

AUG 13 1999

Glenn Tadaki, Planner
Munekiyo, Arakawa, & Hiraga, Inc.
305 High St., Suite 104
Wailuku, HI 96793

Re: Technical Assistance for Hawaii National Guard Armory Relocation, Maui, Hawaii

Dear Mr. Tadaki:

The U.S. Fish and Wildlife Service (Service) has reviewed the project summary for the above-referenced project. The project applicant is the Hawaii Army National Guard. This letter has been prepared under the authority of and in accordance with provisions of the National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.* 83 Stat. 852], as amended (NEPA), the Endangered Species Act of 1973 [16 USC 1531 *et seq.*; 87 Stat. 884], as amended (Act), and other authorities mandating Service concern for environmental values. The Service offers the following comments for your consideration.

The proposed project is the relocation of two existing Hawaii Army National Guard facilities currently located in Paukukalo and Kahului, Maui, to an approximate 30-acre site in Puunene, Maui. The new 29,000 square foot armory will include classrooms, offices, restrooms/showers, locker and storage rooms, special function and physical fitness areas etc. In addition, there will be an approximate 22,000 square-foot area for a wash platform, a lube/inspection rack, a service access apron, and military vehicle storage.

The Service is concerned that the construction and operation of these facilities may generate runoff and pollution into the Kealia Pond National Wildlife Refuge. We recommend that the Hawaii Army National Guard ensure that runoff from the property is contained or treated on-site to minimize the discharge of contaminated water. We support the implementation of Best Management Practices to avoid or minimize downstream turbidity and contamination in accordance with the State Department of Health's Nonpoint Source Management Plan.

We appreciate the opportunity to comment on the Revised Master Plan. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Karen "Kitti" Jensen at 808/ 541-3441 (fax: 808/ 541-3470).

Sincerely,

Donald Palawski
for Robert P. Smith
Pacific Islands Manager

cc: State Dept. of Health

SEP 22 1999

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P)1650.9

SEP 20 1999

Mr. Robert P. Smith
Pacific Islands Manager
U. S. Department of Interior
P. O. Box 50088
Honolulu, Hawaii 96850

Dear Mr. Smith:

Subject: Maui Army National Guard Armory
Environmental Assessment Preparation
DAGS Job No. 15-16-7054

Thank you for your August 13, 1999, letter commenting on the subject project. In response to your comments of the draft Environmental Assessment for this project, we will examine appropriate mitigative measures to ensure that the construction and operation of the facility do not impact water quality, also, surface and ground water resources.

We appreciate your input for this project.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Lt. Colonel Richard Young, HIARNG w/attach letter
Mr. Richard Miyabara, GYA Architects, Inc. w/attach letter
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.

JAMES "KIMO" APANA
Mayor

CHARLES JENCKS
Director

DAVID C. GOODE
Deputy Director

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

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

AUG 2 0 1999

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

RON R. RISKA, P.E.
Wastewater Reclamation Division

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

BRIAN HASHIRO, P.E.
Highways Division

ANDREW M. HIROSE
Solid Waste Division

August 17, 1999

Mr. Glenn Tadaki
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Tadaki:

SUBJECT: ENVIRONMENTAL ASSESSMENT CONSULTATION
HAWAII ARMY NATIONAL GUARD ARMORY
AND RELATED IMPROVEMENTS
TMK: (2) 3-8-008:001 (PORTION)

We reviewed the subject application and have the following comments.

1. Include a traffic assessment for the subject project in the environmental assessment.

2. A detailed final drainage report and a site specific erosion control plan shall be submitted with the construction plans for review and approval prior to the issuance of grading and building permits. The drainage report shall include hydrologic and hydraulic calculations and the schemes for the disposal of runoff waters. It must comply with the provisions of the "Rules for Design of Storm Drainage Facilities in the County of Maui" and must provide verification that the grading and runoff water generated by the project will not have an adverse effect on adjacent and downstream properties. The site specific erosion control plan shall show the location and details of structural and non-structural Best Management Practices to control dust, erosion, and sedimentation during the construction of the project.

   The draft environmental assessment should have a preliminary drainage report to address these drainage and erosion issues.

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

Sincerely,

for CHARLES JENCKS
Director of Public Works
and Waste Management

DG:msc/mt

S:\LUCA\CZM\hawnati.wpd

BENJAMIN A. CAYETANO
GOVERNOR

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

SEP 21 1999

LETTER NO. (P)1651.9

Mr. Charles Jencks, Director
Department of Public Works and Waste Management
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Jencks:

Subject: Maui Army National Guard Armory
Environmental Assessment Consultation
DAGS Job No. 15-16-7054

Thank you for your August 17, 1999, letter commenting on the subject project. Our response to your comments are as follows:

1. Traffic assessment for only the Maui Army National Guard Armory project will be included in the Environmental Assessment for this project.

2. Construction plans as well as a detailed final drainage report and a site specific erosion control plan will be submitted to the Department of Public Works and Waste Management for review and approval prior to issuance of grading and building permits.

We appreciate your input for this project.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Lt. Colonel Richard Young, HIARNG w/attach letter
Mr. Richard Miyabara, GYA Architects, Inc. w/attach letter
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.

BENJAMIN J. CAYETANO
GOVERNOR

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

SEP 0 / 1999

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

IN REPLY REFER TO:

STP 8.9217

August 30, 1999

Mr. Glenn Tadaki, Planner
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Tadaki:

Subject: Hawaii Army National Guard Armory and Related Improvements
TMK: 3-8-08: por. 01

Thank you for your transmittal requesting our comments on the subject project.

Our comments are as follows:

1. Our Highways Division is implementing the widening of Mokulele Highway from two to four lanes. The applicant should be required to coordinate his project needs as soon as possible to optimize any cost share or joint venture opportunities.

2. Access plans and plans for any construction work within the State highway right-of-way must be submitted for our review and approval. The applicant will also be required to submit a traffic report, identifying the impacts of his project to the transportation system, and recommending any required mitigation measures.

We appreciate the opportunity to provide comments.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

BENJAMIN J. CAYETANO
GOVERNOR

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

SEP 2 2 1999

LETTER NO (P)1641.9

SEP 2 1 1999

TO: The Honorable Kazu Hayashida, Director
Department of Transportation

SUBJECT: Maui Army National Guard Armory
Environmental Assessment Preparation
DAGS Job No. 15-16-7054

Thank you for your September 10, 1999, letter commenting on the subject project. Our response to your comments are as follows:

1. To optimize cost sharing or joint venture opportunities, the Department of Accounting and General Services will coordinate the development of the subject project with the Department of Transportation (DOT).

2. Construction plans for work within the Mokulele Highway right-of-way will be prepared in connection with the project's final design phase and will be submitted to the DOT for review and approval. In addition, a traffic report will be prepared for the Army National Guard Armory project only and will be included in the draft Environmental Assessment (EA).

A copy of the draft EA will be provided to you. We appreciate your input for this project.

RAYMOND H. SATO
State Comptroller

c: Lt. Col. Richard Young, HIARNG w/attach letter
Mr. Richard Miyabara, GYA Architects, Inc. w/attach letter
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.

Chapter XI

Letters Received During the Draft Environmental Assessment Public Comment Period and Responses to Substantive Comments

XI. LETTERS RECEIVED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT PUBLIC COMMENT PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

Pursuant to the requirements of the environmental review process, letters received during the Draft Environmental Assessment public comment period, as well as responses to substantive comments, are included in this section.

YETANO

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

BRUCE B. ANDERSON, PH.D., M.P.H.
DIRECTOR OF HEALTH

[redacted]
DISTRICT HEALTH OFFICER

'00 JUL 19 P3:13

DEP
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RECEIVED

July 19, 2000

Mr. John Min
Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawai'i 96793

Dear Mr. Min:

Subject: **Hawaii Army National Guard's Puunene Armory and Related Improvements**
TMK: (2) 3-8-8: 001
CP 2000/0008, SUP1 2000/001

Thank you for the opportunity to comment on the land use applications for the Hawaii Army National Guard. Comments from this office were transmitted to our Honolulu Office. A coordinated response is forthcoming.

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

Sincerely,

Herbert S. Matsubayashi
District Environmental Health Program Chief

c: Art Bauckham

NO RESPONSE REQUIRED

BENJAMIN J. CAYETANO
GOVERNOR

ESTHER UEDA
EXECUTIVE OFFICER

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
P.O. Box 2359
Honolulu, HI 96804-2359
Telephone: 808-587-3822
Fax: 808-587-3827

'00 JUL 25 P12:57

July 24, 2000

Mr. John E. Min, Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793

Dear Mr. Min:

Subject: Applications for Land Use Commission Special Use Permit (SUP1 2000/001) and Conditional Permit (CP 2000/0008), Hawaii Army National Guard's Puunene Armory and Related Improvements, TMK 3-8-08: 1

We have reviewed the subject applications forwarded by your transmittal dated July 10, 2000, and have the following comments:

1) We confirm that the project site, as represented on the Regional Location Map, is designated within the State Land Use Agricultural District. We note that the project site is located to the immediate west of the area approved for a drag racing strip under LUC Docket No. SP69-67/Maui County.

2) Clarification should be provided as to how the project site was determined to be 30 acres. Was a metes and bounds survey of the project site prepared?

3) We acknowledge that in the event the Maui Planning Commission recommends approval of the special permit, the complete record of the Planning Commission's proceedings on the special permit will be transmitted to the Land Use Commission for final action.

We have no further comments to offer at this time. We appreciate the opportunity to comment on the subject applications.

Should you have any questions, please feel free to call me or Bert Saruwatari of our office at 587-3822.

Sincerely,

ESTHER UEDA
Executive Officer

EU:aa

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P)1591.0

SEP 28 2000

TO: Ms. Esther Ueda, Executive Director
Land Use Commission
Department of Business, Economic Development & Tourism

SUBJECT: Puunene Armory, Maui
Hawaii Army National Guard (HIARNG)
Draft Environmental Assessment
DAGS Job No. 15-14-7054

Thank you for your July 24, 2000, comments on the subject Draft Environmental Assessment. Our responses to your comments under Item No. 2 in your letter are as follows:

1. The acreage (30 acres) for the project site was determined as follows:

		Acres
a.	Fifty-foot wide perimeter security area	6.3
b.	Building area	1.1
c.	Area for helipad	3.6
d.	Formation and Training field	1.8
e.	Internal roads	1.4
f.	Parking	1.2
g.	O.M.S. apron, circulation	0.8
h.	Hawaii Air National Guard site	7.0
i.	Open spaces within development and areas for future HIARNG expansion	6.0
j.	Road and cul-de-sac for future Maui County Development	0.8
	Total	30.0

2. A metes and bounds survey of the project site has been prepared. In addition, the preliminary subdivision plat for the 30-acre site was submitted to the County Department of Public Works and Waste Management on August 2, 2000, and is currently being processed for preliminary subdivision approval.

We appreciate your input for this project.

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.
Lt. Col. Richard Young, DOD, HIARNG

AUG 3 0 2000

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

July 27, 2000

Mr. John Min, Director
County of Maui
Planning Department
250 South High Street
Wailuku, Maui, Hawaii 96793

SUBJECT ID: SUP1 2000/0008, CP 2000/0008
TMK: 3-8-08:por of 001
Project Name: Hawaii Army National Guard Armory and Related Improvements

Dear Mr. Min,

Thank you for the opportunity to comment on this application. The Department of Water Supply has the following comments:

Domestic water use for this project is estimated in the application material to 7,100 gallons per day (gpd). This estimate does not account for outdoor uses, including the proposed wash platform and other uses associated with vehicle maintenance and irrigation. Water use for the proposed buildings and other OMS improvements would be around 9,400gpd, based on system per acre standards.

The applicant will be subject to DWS rules and regulations for providing adequate fire protection and water service. A partial private system to meet fire protection needs can not be utilized in combination with DWS water service for domestic needs. The 6-inch water line serving the project area is inadequate to provide adequate fire protection and water service to the proposed project. Off-site water system improvements will be required during the building permit process to meet DWS standards. The applicant should contact our engineering division at telephone number 270-7835 with regards to these issues.

This project is served by the Central Maui System. The major source of water for this system is the Iao Aquifer. Rolling annual average groundwater withdrawals from the Iao Aquifer as of July 1, 2000 were 17.948 MGD. The regulatory sustainable yield of this aquifer is 20 MGD. If rolling annual average withdrawals exceed 20 MGD, the State Commission on Water Resource Management will designate Iao Aquifer. The Department is implementing a plan to bring new sources on-line and to mitigate withdrawals. Two wells in North Waihee were brought on-line in July 1997. Another well producing about 1 MGD was brought on-line during the first quarter of 2000. The Department is continuing to implement a plan to bring new sources on-line and to mitigate

withdrawals. Nevertheless, the applicants should be made aware that the timing of this project may be affected with possible delays until new sources can be brought on-line. No guarantee of water is granted or implied as a result of these comments. Water availability will be reviewed at the time of application for meter or meter reservation.

In order to conserve water resources, as much of the water demand as possible should be delivered from non-potable sources (reclaimed or brackish). Where appropriate, the applicants should consider these measures:
Eliminate Single-Pass Cooling: Single-pass, water-cooled systems should be eliminated per Maui County Code Subsection 14.21.20. Although prohibited by code, single-pass water cooling is still manufactured into some models of air conditioners, freezers, and commercial refrigerators.
Utilize Low-Flow Fixtures and Devices: Maui County Code Subsection 16.20A.680 requires the use of low flow water fixtures and devices in faucets, showerheads, urinals, water closets and hose bibs. Water conserving washing machines, ice-makers and other units are also available.
Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day. Refer to the attached handout, "The Costly Drip". The applicant should establish a regular maintenance program.
Use Climate-adapted Plants: Native plants adapted to the area, conserve water and further protect the watershed from degradation due to invasive alien species. The project site is located in "Maui County Planting Plan" - Plant Zone 3. Please refer to the attached document "Saving Water in the Yard: What and How to Plant in Your Area".
Prevent Over-Watering By Automated Systems: Provide rain-sensors on all automated irrigation controllers. Check and reset controllers at least once a month to reflect the monthly changes in evapotranspiration rates at the site.

In order to protect groundwater and surface water resources, DWS recommends that the applicant utilize Best Management Practices (BMPs) designed to minimize infiltration and runoff from all construction and vehicle operations. We have attached sample BMPs for principle operations and a list of references. Additional information is available from the State Department of Health.

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

Sincerely,

David Craddick
Director

emb

cc: engineering division
applicant w/attachments

attachments:
"The Costly Drip"
Ordinance 2190 - An ordinance amending Chapter 14.20 of the Maui County Code, pertaining to the plumbing code"
"Saving Water in the Yard: What and How to Plant in Your Area"
"A Checklist for Water Conservation Ideas for Cooling"
"A Checklist for Water Conservation Ideas for Commercial Buildings"
Sample BMP's from "Water Quality Best Management Practices Manual for Commercial and Industrial Businesses."
Sample BMP's from "Ordinance Specifying Management Measures For Sources of Nonpoint Pollution in Coastal Waters"
References for Further Reading from "The Nonpoint - Nonpoint Source Management Manual", Commonwealth of Massachusetts

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P)1709.0

NOV 29 2000

Mr. David Craddick, Director
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Craddick:

Subject: HIARNG Puunene Armory and Related Improvements
Draft Environmental Assessment
DAGS Job No. 15-16-7054

Thank you for taking the time on September 25, 2000, to meet with the representatives of the Department of Accounting and General Services, Department of Defense Hawaii Army National Guard, Department of Planning, and our consultants to discuss the Department of Water Supply's (DWS) policy fire protection infrastructure requirements for the subject project.

As noted in the DWS' letter of July 27, 2000, "a partial private system to meet fire protection needs cannot be utilized in combination with DWS water service for domestic needs." Since compliance with this policy would have required the State of Hawaii to install approximately 10,000 lineal feet of transmission line, as well as a new reservoir (thus, rendering the proposed armory project infeasible from a funding availability standpoint), it was agreed that an interim solution could be pursued. Elements of this interim plan are as follows:

1. The State of Hawaii will install a new 12-inch transmission line from the project site, connecting to the existing 36-inch transmission line located in the vicinity of the Mehameha Loop-Mokulele Highway intersection (south of the project site).

2. This interim service will provide for both domestic and fire protection requirements (i.e., no onsite or offsite storage facility would be needed at this time).

3. The State of Hawaii will pay the required water system development fees for the project water meter.

4. The State of Hawaii, Department of Defense will enter into an agreement with the County of Maui, to formalize its commitment to pay its pro-rata share of a new water storage facility to be developed for the entire Puunene Airport Master Plan area.

5. The agreement shall be approved by the Board of Water Supply.

6. Payment of the Department of Defense's pro-rata share shall be made at the time the new water storage facility for the Puunene Airport Master Plan area is constructed.

7. Please note that State pro-rata share is subject to Legislative appropriation of CIP funds.

We feel that this interim plan provides a workable solution which will enable the timely implementation of the much needed new armory project, while at the same time establishing a funding mechanism which will facilitate the future development of a master planned water system for the Puunene Airport lands. In this regard, we appreciate your identifying and discussing this option for consideration by all parties.

So that we may proceed with the Environmental Assessment, County land use permitting and design phases of this project, we would appreciate receiving your written confirmation regarding the key points outlined above.

We look forward to working with your department to address the details of water system engineering for the project, as well as the formulation and execution of the water storage facility agreement.

Thank you for the support you and your staff have extended to the Department of Accounting and General Services and the Department of Defense.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

LM:mo
c: Mr. Clayton Yoshida, Deputy Planning Director
Lt. Colonel Richard Young, HIARNG
Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.

JAN 2 6 2001

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-6109
TELEPHONE (808) 270-7816 • FAX (808) 270-7833 • www.mauiwater.org

January 18, 2001

Mr. Gordon Matsuoka
Department of Accounting and General Services
P. O. Box 119
Honolulu, Hawaii 96810

Dear Mr. Matsuoka:

Subject: HIARNG Puunene Airport Armory and Related Improvements
Draft Environmental Assessment
DAGS Job No. 15-16-7054

We are responding to your letter of November 29, 2000 concerning the water system improvements which will be required for the subject project. In general, we agree with the interim plan to construct a waterline to provide temporary domestic and fire protection service to the project. Payment of water system development fees will be required prior to issuing water service. An agreement will be required to defer the construction of the permanent water system improvements. A second agreement will be required at a later date for the participation in the construction of water system improvements including a storage tank, transmission line, distribution line, fire hydrants, service laterals and other appurtenances. Specific details of the improvements cannot be determined without a master plan of the development of the area.

The first agreement, which will be between DAGS and the Board of Water Supply, will be required prior to occupancy of the project. The agreement will defer the requirement to construct the water system improvements till such time that the County is ready to proceed with the further development of the area.

JAN 2 5 2001

The timing of the second agreement would be dependant on the County's schedule for developing the area. The agreement would be between DAGS, the County and other participants in the construction of the water system improvements.

Should you have any questions, please contact our engineering division at 808-270-7835.

Sincerely,

David R. Craddick
Director

MF:sc

cc: Munekiyo, Hiraga, Inc. - Glenn Tadaki
Mr. Clayton Yoshida, Deputy Planning Director

NO RESPONSE REQUIRED

JAMES "KIMO" APANA
MAYOR

OUR REFERENCE

YOUR REFERENCE

POLICE DEPARTMENT
COUNTY OF MAUI

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

THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAUPIO R. AKANA
DEPUTY CHIEF OF POLICE

AUG 0 7 2000

'00 AUG -2 P3:19

July 28, 2000

MEMORANDUM

TO : DIRECTOR, PLANNING DEPARTMENT

FROM : THOMAS M. PHILLIPS, CHIEF OF POLICE

SUBJECT : I.D. CP 2000/0008, SUP2 2000/001
TMK: 3-8-008:001
Project Name: New Armory for Hawaii Army National Guard
Applicant: Department of Accounting and General Services
Contact: Munekiyo, Arakawa & Hiraga, Inc.
(Glenn Tadaki, Planner)

____ No further recommendation or comment is necessary or desired.

__X__ Refer to attachment.

AC [signature]
Assistant Chief Robert Tam Ho
For: THOMAS M. PHILLIPS
Chief of Police

TO : T. PHILLIPS, CHIEF OF POLICE

VIA : CHANNELS

FROM : J. GAPERO, PARK OFFICER, DISTRICT-1

SUBJECT : ASSESSMENT FOR HAWAII ARMY NATIONAL GUARD FACILITY AT KOKULELE.

AC [signature] 7/27/00

Sir,

This correspondence is being submitted to your office regarding this assignment.

Upon reading the brief which contained all the necessary information on the project, it was noted that all agencies involved in the issuance of permits and approvals submitted there comments/recommendations. Some agencies have held off of submitting any comments until a later time.

In speaking with Don Medeiros of Maui Economic Opportunity, the area is which they plan to use for the development of their facility is the area which is now being used by the Maui Police Department. This is the area where the Emergency Vehicle Operation training is held. Mr. Medeiros related that their facility, like the other facilities, are waiting for the roadway and intersection to be in place before any development can begin.

Although it will take several years before the facilities are completed, there is no other information regarding this brief.

Submitted for your perusal.

Respectfully submitted,
[signature]
JAMES GAPERO 7008
07/25/00 @ 1000 hrs.

Sgt. Duchane,
Will traffic be adversely affected by their presence? Does their project produce any hazardous conditions or situations of concern?
[initials] 07/2[illegible]

[illegible] - It is suggested that we look into this to see if it affects our use for EVOC training and if we have alternatives. We see no affect on traffic or roadways as the new roadway is in place [illegible]
[signature] 07/25/00

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO. (P)1577.0

SEP 22 2000

Mr. Thomas M. Phillips, Chief
Department of Police
County of Maui
55 Mahalani Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Phillips:

Subject: Puunene Armory, Maui
Hawaii Army National Guard
Draft Environmental Assessment
DAGS Job No. 15-16-7054

Thank you for your July 28, 2000, comments on the subject Draft Environmental Assessment. Our responses to your comments are as follows:

1. The traffic impact report for the proposed project indicates that much of the traffic attributable to the project will occur during off-peak hours and that the increase during peak hours is minimal. With the implementation of the channelization improvements for the Mokulele Highway and project access road intersection that are recommended by the traffic impact report, the proposed project is not expected to have a significant impact on traffic in the vicinity of the project.

2. With regard to the Department's emergency vehicle operations training location, it is our understanding that alternatives for the training site (in the vicinity of the existing site) are being reviewed by the County of Maui.

We appreciate your input for this project.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.
Lt. Col. Richard Young, DOD, HIARNG

DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM

SEIJI F. NAYA, Ph.D.
DIRECTOR
PHILIP J. BOSSERT
DEPUTY DIRECTOR
DAVID W. BLANE
DIRECTOR, OFFICE OF PLANNING

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

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

AUG 0 7 2000

'00 AUG -4 P1:10

Ref. No. P-8744

August 3, 2000

Mr. John E. Min
Planning Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

Subject: CP 2000/0008, SUP1 2000/001
New Armory for Hawaii National Guard
Department of Accounting and General Services
TMK: 3-8-008: 001 (por.)

We have reviewed the proposal to consolidate and relocate the existing National Guard facilities to a 30-acre site which occupies a portion of the old Puunene Airport. Plans include a new armory building, about 29,000 square feet, for offices, classrooms, restrooms/showers, locker and storage rooms, and special function and physical fitness areas. Other armory improvements include a kitchen, a break area, an assembly hall, a learning center, and a library/classroom. The new Organizational Maintenance Shop (OMS) building will be approximately 6,600 square feet for offices, workbays, restrooms/showers, locker, storage and special function areas. Other OMS improvements include about 22,000 square feet for a wash platform and military vehicle service/storage areas. A helipad, State storage facility, civil defense siren, a future post exchange building, and parking for armory and OMS personnel will also be provided. The estimated cost for construction is about $11 million.

Most of the project site consists of runways and taxiways, including concrete bunkers, walkways, building foundations and recreational areas associated with the Naval Air Station. The project site is within the State Agricultural District and the proposed project is not considered a permitted use, requiring a Special Use Permit (SUP) application or a boundary amendment to the Urban District.

The applicant has elected to pursue a SUP which involves an area greater than 15 acres. Therefore, the Maui Planning Commission's SUP recommendations will be forwarded to the State Land Use Commission for final action.

The Draft Environmental Assessment indicates that the project site may contain a number of underground fuel storage tanks, unexploded ordinance, fuel/chemical spills, and pesticides due to the Murrayair, Ltd. crop dusting facility which currently operates out of the project area. We recommend that a thorough assessment be conducted of these potential hazards.

We appreciate the opportunity to review and provide comments on this matter. If you have any questions, please contact Lorene Maki at 587-2888.

Sincerely,

David W. Blane
Director
Office of Planning

cc: Esther Ueda, LUC
Department of Health

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P) 1531.0

SEP -5 2000

TO: Mr. David Blane, Director
Office of Planning
Department of Business, Economic Development and
Tourism

SUBJECT: Puunene Armory, Maui
Hawaii Army National Guard
Draft Environmental Assessment (DEA)
DAGS Job No. 15-14-7054

Thank you for your August 3, 2000, comments on the subject DEA. In response to your comments, a Phase I Environmental Assessment, which identifies potential sources of contamination, has been included in the DEA for the project. To ensure that issues relating to environmental impacts are addressed, additional site environmental reviews will be undertaken as necessary prior to the start of construction of the project.

We appreciate your input for this project.

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.
Lt. Col. Richard Young, DOD, HIARNG

Telephone (808) 961-6601

MURRAYAIR
limited
SERVING HAWAII AERIAL APPLICATORS SINCE 1948

Hilo International Airport
Gate 21
Hilo, HI 96720

Fax (808) 935-6934

August 03, 2000

Department of Accounting and General Services
1151 Punchbowl Street
Honolulu, HI 96813

Attention: Allen Yamanoha

Subject: Hawaii Army National Guard Puunene Armory Draft Environmental Assessment

Dear Mr. Yamanoha:

Murrayair, Limited received portions of the Draft EA for the Hawaii Army National Guard Puunene Armory and reviewed elements that may have a direct impact on our overall business and operations on Maui. The existing location has been a prime operational and landing site for our agricultural service provided to H C & S. Any type of relocation at this point will be an operational and financial burden to our company.

Recently, many sugar companies have met their demise in light of the sagging sugar market and a major company remaining on Kauai has recently announced an extended furlough to cut costs. Consequently, that means that our services will be reduced at that location affecting our company's viability.

We have been providing an aerial service to the sugar plantations including H C & S, since 1948 and the struggle to remain viable while the existing sugar companies continue to strive is a constant challenge. Absorbing relocation cost will cause extreme strain and a possible demise of a small business.

We have discussed available alternatives with H C & S and although these potential sites will accommodate our activities, some infrastructure and development will be needed to make the location adequately operational. We are proposing that the Army National Guard pay for these relocation costs.

We truly appreciate the opportunity to comment on the Draft Environmental Assessment.

If you have any questions, please contact me at 760-801-0713 or our Executive Secretary, Dina Pascua at 808-961-6601.

Sincerely,

Michael Markov
President

cc: OEQC

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P) 1562.0

SEP 15 2000

Mr. Michael Markov, President
Murrayair Limited
Hilo International Airport, Gate 21
Hilo, Hawaii 96720

Dear Mr. Markov:

Subject: Puunene Armory, Maui
Hawaii Army National Guard
Draft Environmental Assessment
DAGS Job No. 15-16-7054

Thank you for your August 3, 2000, comments on the subject Draft Environmental Assessment.

In response to your comments, we would like to note that the General Lease (No. S-4197) covering the project site does not contain any provisions which require the State of Hawaii to pay for relocation costs. Refer to the attached letter from the State Department of Land and Natural Resources.

We appreciate your input for this project.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Mr. Richard Miyabara, GYA Architects, Inc. w/attach
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.w/attach
Lt. Col. Richard Young, DOD, HIARNG w/attach

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF LAND MANAGEMENT
54 SOUTH HIGH STREET, ROOM 101
WAILUKU, HAWAII 96793-2196

August 29, 2000

Janet E. Kawelo

Mr. Gordon Matsuoka, Public Works Administrator
Department of Accounting and General Services
P. O. box 119
Honolulu, Hawaii 96810

Dear Mr. Matsuoka:

Subject: Hawaii Army National Guard Puunene Armory Draft EA

This is in response to your memorandum of August 14, 2000, addressed to Mr. Dean Uchida, Land Division Administrator.

It is our understanding that Murrayair Limited, does exclusive aerial spraying for HC&S in return for free rental space. Considered as an ancillary use, the Murrayair operations did not require Land Board approval. General Lease No. S-4197 issued to Alexander & Baldwin, Inc., which encumbers the subject site, does not contain any relocation clauses that would require the State of Hawaii to pay for relocation costs. The lease will expire on June 30, 2003.

Further, former Maui District Land Agent Phil Ohta informed me that during a meeting at the site a few years ago, HC&S was told that Murrayair would be required to move their operations when the improvements began.

We appreciate the opportunity to respond to the comments. Please call me at 984-8100 should you have any questions on the matters discussed above.

Yours truly,

Louis Wada
Land Agent

C: Land Division Administrator
Maui Board Member
Mr. R. Miyabara, GYA Architects
Lt. Col. R. Young, HIARNG

RECEIVED
AUG 31 2000
GYA ARCHITECTS, INC.
A MASON CORPORATION

AUG 11 2000

'00 AUG -9 A9:14

RECEIVED

August 4, 2000

Mr. John Min
Planning Director
County of Maui
Maui Planning Department
250 So. High Street
Wailuku, HI 96793

Dear Mr. Min:

Subject: New Armory for Hawaii Army National Guard
CP 2000/0008, SUP1 2000/001
(TMK: 3-8-008:001, Puunene)

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

In reviewing the information transmitted and our records, Maui Electric Company (MECO) at this time has no objections to the proposed project.

MECO encourages the project's consultant meet with us as soon as practical so that we may discuss the electrical requirements of this project.

If you have any questions or concerns, please call Fred Oshiro at 872-3202.

Sincerely,

Edward Reinhardt

Edward Reinhardt
Manager, Energy Delivery

ER/fo:lkh

NO RESPONSE REQUIRED

BENJAMIN J. CAYETANO
GOVERNOR

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII

OFFICE OF ENVIRONMENTAL QUALITY CONTROL

236 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

August 4, 2000

Mr. Allen Yamanoha
State of Hawai'i - Department of Accounting and General Services
1151 Punchbowl Street
Honolulu, Hawai'i 96813

Dear Mr. Yamanoha

We have reviewed the draft environmental assessment for the Hawai'i Army National Guard's Pu'unene Armory and Related Improvements, Pulehunui, District of Wailuku, Island of Maui, TMK (2) 3-8-08: *portion* 1, and offer the following comments for your consideration and response.

1. **ANTENNA FARM:** Please describe in detail the proposed antenna farm, as well as its potential impacts and mitigative measures.
2. **HELICOPTER FACILITIES:** Please describe in detail the proposed helicopter facilities, detailing their flight paths as well as potential impacts and mitigative measures.
3. **ALTERNATIVE C:** Please discuss the specific site design alternatives which were evaluated to "ensure that site development constraints were adequately addressed." The present discussion does not provide much useful information.
4. **WASTE MINIMIZATION:** We acknowledge that the Department of Defense will employ appropriate design measures and "best management practices." Please contact the Department of Health's Solid and Hazardous Waste Branch for guidance on minimizing the amounts of waste produced.
5. **SUSTAINABLE BUILDING DESIGN GUIDELINES:** Please consider using one or more of the methods describe in the enclosed "Guidelines for Sustainable Building Design" adopted by the Environmental Council in 1998.
6. **NATIVE VEGETATION FOR LANDSCAPING:** To minimize water use, please discuss the use of native xerophytes for landscaping purposes.

If there are any questions, please call Leslie Segundo at 586-4185. Thank you for the opportunity to comment.

Sincerely,

GENEVIEVE SALMONSON
Director

Enclosure

c: Michael T. Munekiyo
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawai'i 96793

SEP - - 2000

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P) 153

SEP -5 2000

TO: Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control

SUBJECT: Puunene Armory, Maui
Hawaii Army National Guard (HIARNG)
Draft Environmental Assessment
DAGS Job No. 15-14-7054

Thank you for your August 4, 2000, comments on the subject Draft Environmental Assessment. Our responses to your comments are as follows:

1. The area which is designated for future use by the Hawaii Air National Guard is intended in part to support field deployment and readiness training exercises for the Maui-based 292nd Combat Communications Squadron. Training exercises are anticipated to include the use of portable communications equipment (i.e., radios, antennas, satellite dishes); no permanent communications structures (antenna farm) are planned.

2. Plans and specifications for the helipad and the flight tracks for in and outbound helicopter movements will be formulated in conjunction with the project's technical development phase. The helipad will be designed in accordance with Federal Aviation Agency standards and helicopters will use flight tracks and altitudes that avoid the residential areas of Kihei.

3. During the site planning phase, HIARNG's operational needs and National Guard Bureau regulations and guidelines were examined to ensure that space and functional needs and requirements for the project are adequately addressed. The site planning process involved an analysis of space needs, missions and functions, area requirements, spaces and adjacencies,

people equipment activities schedule, and space relationships and layouts, as well as space for future expansion. The alternative site plan that is currently being proposed is attached for your information (see Exhibit A). Please note that the shape of the HIRANG parcel was changed due to the County of Maui's request to "straighten" the property boundary and the site plan layout was revised accordingly.

4. The Department of Health will be consulted to discuss appropriate measures for minimizing the amount of waste produced.

5. The methods outlined in the "Guidelines for Sustainable Building Design" will be considered in connection with the preparation of the project's construction plans.

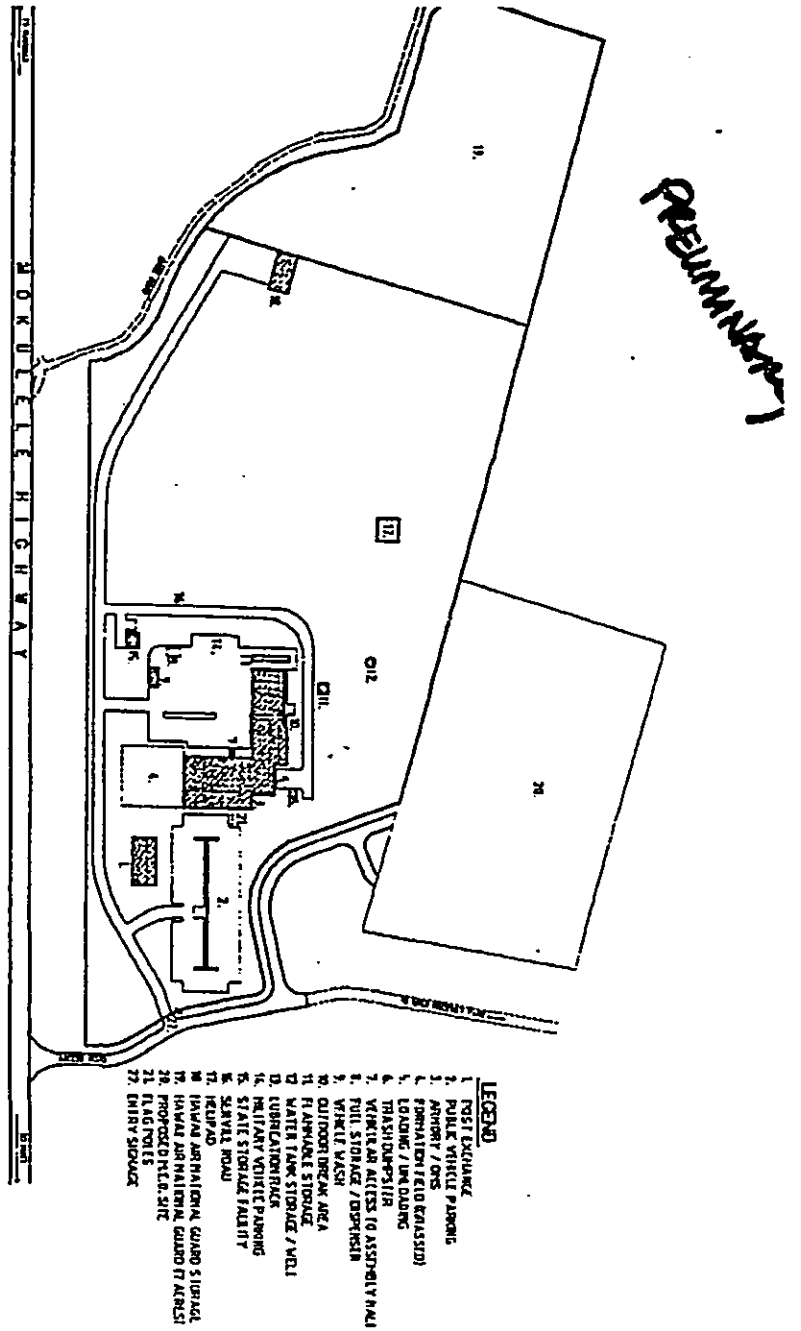
6. To minimize water use for landscape irrigation, the use of native drought-tolerant plants will be considered.

We appreciate your input for this project.

GORDON MATSUOKA
Public Works Administrator

AY:mo
Attachment
c: Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.
Lt. Col. Richard Young, DOD, HIARNG

ULTIMATE SITE PLAN (EXHIBIT A)



AUG 0 8 2000

HC&S

August 4, 2000

Mr. Allen Yamanoha
Department of Accounting and General Services
1151 Punchbowl Street
Honolulu, HI 96813

Subject: Hawaii Army National Guard Puunene Armory Draft Environmental Assessment

Dear Mr. Yamanoha:

Hawaiian Commercial & Sugar Company (HC&S) reviewed the Draft EA for the Hawaii Army National Guard Puunene Armory. HC&S has some concerns with the subject project since the proposed uses may have consequences that will affect the long established sugar cane operations in the area. We offer the following comments concerning the DEA:

1. The existing landing strip and operations area for Murrayair Limited is in the project site. The Murrayair Limited operation needs to be relocated. Murrayair provides an important agriculture service to HC&S from this existing landing strip. The Army National Guard should pay for all relocation costs. In addition, this operation must be relocated with no interruption in its service and with no additional cost implication for HC&S.

2. Section II. A. 1. Surrounding Land Uses shows that "The lands surrounding the project area are currently utilized for sugar cane cultivation by HC&S." We are concerned of the compatibility of the proposed use with the surrounding cane operations. The fields that surround this project site are highly productive cane lands and include some of the highest yielding areas of our farm. Since these fields are high sugar producers and close to the Puunene mill, these fields in the vicinity of this project are vitally important to HC&S. We cannot afford to jeopardize any significant acreage if we are to maintain our economies of scale and our low cost per ton of sugar production. Dust, smoke, noise and other by-products of agricultural operations may adversely affect these new land uses and activities. We need assurances that the Hawaii Army National Guard and other users accept the existing conditions and existing agriculture uses in the area. These assurances would consist of acknowledgments of the existence of agricultural activities, waivers of any claims, which may exist as a result of the agricultural activities and hold harmless and indemnification agreements from the DAGS and the Hawaii Army National Guard.

HAWAIIAN COMMERCIAL & SUGAR COMPANY A DIVISION OF ALEXANDER & BALDWIN, INC.
P.O. BOX 266 PUUNENE, MAUI, HAWAII 96784 TEL 808-877-0081 FAX 808-871-2149

3. The site plan, Figure 2, shows that the proposed development will be adjacent to our existing cane fields. We request that the project include an adequate buffer strip (100 to 200 feet wide) between the Army National Guard Armory and the adjoining cane fields.

Thank you for the opportunity to comment on the DEA. Please contact Randall Moore at 808-877-6968 if you have any questions.

Very truly yours,

Stephen Holaday
Plantation General Manager

cc: OEQC
Munekiyo, Arakawa & Hiraga, Inc.

ISEP 1 8 2000

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P)1559.0

SEP 15 2000

Mr. Stephen Holaday, General Manager
Hawaiian Commercial & Sugar Company
P.O. Box 266
Puunene, Maui, Hawaii 96784

Dear Mr. Holaday:

Subject: Puunene Armory, Maui
Hawaii Army National Guard
Draft Environmental Assessment
DAGS Job No. 15-16-7054

Thank you for your August 4, 2000, comments on the subject Draft Environmental Assessment. Our responses to your comments are as follows:

1. The General Lease (No. S-4197) covering the project site does not contain any provisions which require the State of Hawaii to pay for relocation costs. Refer to the attached letter from the State Department of Natural Resources.

2. The project site is bordered by a sugar cane field along its northern extent and is separated from a cane field to the south of the site by the Maui Raceway Park access road. Non-agriculture uses occupy the remaining lands adjoining the subject property. The site of the Maui Economic Opportunity, Inc. transportation facility and the remnants of the former Puunene Airport border the property to the east, while the Mokulele Highway and a 200-foot highway right-of-way border the site to the west. Insofar as HC&S agricultural operations are concerned, the applicant is aware of and acknowledges the existing agricultural land uses/conditions that occur in the vicinity of the project site.

3. The 7.0 acre area designated for use by the Hawaii Air National Guard (HIANG) borders the sugar cane field on the north. This area will be used for field training exercises by the Maui-based 292nd Combat Communications Squadron; no permanent structures are planned for this area. The closest structure in the vicinity of this

cane field is the unoccupied HIANG storage facility, which is situated approximately 100 feet away. The nearest structure in proximity to the cane field to the south is the future post exchange, which is located approximately 300 feet away. The intervening areas between the sugar cane fields and the HIANG storage facility on the north and the post exchange on the south, provide for a buffer area that separates the cane fields from the project's nearest onsite structures.

We appreciate your input for this project.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.
Lt. Col. Richard Young, DOD, HIANG

BENJAMIN J. CAYETANO
GOVERNOR

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

AUG 14 2000

1959 2000+

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

IN REPLY REFER TO:
STP 8.9633

00 AUG 10 P12:48

August 7, 2000

Mr. John E. Min
Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793

Dear Mr. Min:

Subject: Hawaii Army National Guard Armory and Related Improvements
Conditional Permit (CP) CP 2000/0008 and
Special Use Permit (SUP) SUP1 2000/001
TMK: 3-8-008: 001

Our comments are as follows:

1. The State DOT is implementing the widening of Mokulele Highway from two to four lanes. To optimize cost sharing or joint venture opportunities the applicant should continue to coordinate the development of the subject project with our Highways Division.

2. The applicant's traffic study acknowledges that interim mitigative measures will be required to accommodate the project generated traffic; and propose specific improvements along Mokulele Highway including intersection improvements at the access road. The applicant should coordinate with adjacent developers to investigate the possibility of cost share arrangements.

3. The applicant should be responsible for all required roadway improvements.

4. Any construction work within the State highway right-of-way must be submitted for our review and approval.

5. The applicant should be responsible for his prorata share for regional improvements required to accommodate the cumulative impact of the full build out of the total master plan for the area (Hawaii Army National Guard & Maui Economic Opportunity, Inc.).

We appreciate the opportunity to provide comments.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

SEP 0 5 2000

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P)1528.0

SEP - 1 2000

TO: The Honorable Kazu Hayashida, Director
Department of Transportation

SUBJECT: Puunene Armory
Hawaii Army National Guard
Draft Environmental Assessment
DAGS Job No. 15-14-7054

Thank you for your August 7, 2000, comments on the subject Draft Environmental Assessment. Our responses to your comments are as follows:

1. To optimize cost sharing or joint venture opportunities, the applicant will continue to coordinate the development of the project with the State Highways Division.

2. As appropriate, the applicant will examine and coordinate possible cost share arrangements with adjacent developers.

3. Project-related roadway improvements will be coordinated with the State Highways Division during the project's design and construction phases.

4. Construction plans for work within the Mokulele Highway right-of-way will be submitted to the State Highways Division for review and approval.

5. As appropriate, pro-rata contributions from the Department of Defense (DOD) for regional roadway improvements will be discussed with the State Highways Division for only the impacts directly related to the Hawaii Army National Guard project.

We appreciate your input for this project.

RAYMOND H. SATO
State Comptroller

c: Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.
Lt. Col. Richard Young, DOD, HIARNG

JAMES "KIMO" APANA
Mayor

CHARLES JENCKS
Director

DAVID C. GOODE
Deputy Director

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

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

AUG 11 2000

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

RON R. RISKA, P.E.
Wastewater Reclamation Division

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

BRIAN HASHIRO, P.E.
Highways Division

ANDREW M. HIROSE
Solid Waste Division

August 8, 2000

MEMO TO: JOHN E. MIN, DIRECTOR OF PLANNING

FROM: for CHARLES JENCKS, DIRECTOR OF PUBLIC WORKS
AND WASTE MANAGEMENT

SUBJECT: LAND USE COMMISSION SPECIAL USE PERMIT APPLICATION
CONDITIONAL USE PERMIT APPLICATION
HAWAII NATIONAL GUARD ARMORY
TMK: (2) 3-8-008:001(PORTION)
SUP1 2000/0001, CP 2000/0008

We reviewed the subject application and have the following comments.

Advisory Comments

1. Off street parking, loading spaces, and landscaping shall be pursuant to Maui County Code Chapter 19.36.

2. The proposed buildings shall be designed and constructed to be accessible to persons with disabilities.

3. A detailed final drainage report and a site specific erosion control plan shall be submitted with the construction plans for review and approval prior to the issuance of grading or building permits. The drainage report shall include hydrologic and hydraulic calculations and the schemes for the disposal of runoff waters. It must comply with the provisions of the "Rules for Design of Storm Drainage Facilities in the County of Maui" and must provide verification that the grading and runoff water generated by the project will not have an adverse effect on adjacent and downstream properties. The site specific erosion control plan shall show the location and details of structural and non-structural Best Management measures.

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

DG:msc/mt

S:\LUCA\CZM\hinational.wpd

NO RESPONSE REQUIRED

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

'00 AUG 15 P1:34

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

August 11, 2000

LD-NAV

Ref.: CPA2000008.RCM

Honorable John E. Min
Planning Director
County of Maui
Planning Department
250 S. High Street
Wailuku, Hawaii 96793

Dear Mr. Min:

SUBJECT: I.D.: CP 2000/8000, SUP1 2000/001
TMK: 3-8-008: 001
Project: New Armory for Hawaii Army National Guard
Applicant Department of Accounting and General Services

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

We had transmitted the subject informational material to our appropriate divisions for their review and comment on the proposed project.

Attached herewith is a copy of our Division of Forestry and wildlife, Land Division Maui District Land Office and Land Division Engineering Branch comments.

The Department of Land and Natural Resources has no other comment to offer on the subject matter. Should you have any questions, please feel free to contact Nicholas Vaccaro of the Land Division's Support Services Branch at 808-587-0438.

Very truly yours,

DEAN Y. UCHIDA
Administrator

'00 JUL 21 PM01:25 WATER & LAND

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Land Division
Honolulu, Hawaii
July 20, 2000

LD/NAV
Ref.: CP2000008.COM

Suspense Date: 8/2/00

MEMORANDUM:

TO:
XXX Division of Aquatic Resources
XXX Division of Forestry & Wildlife
Division of State Parks
Division of Boating and Ocean Recreation
OOO Historic Preservation Division (RD)
XXX Commission on Water Resource Management
Land Division Branches of:
XXX Planning and Technical Services
XXX Engineering Branch
XXX Maui District Land Office
Shoreline Processing Services

FROM: Dean Y. Uchida, Administrator
Land Division

SUBJECT: New Armory and Organizational Maintenance Shop and other related improvements for Hawaii Army National Guard
Department of Accounting and General Services
Application for Land Use Permit, Wailuku, Maui
ID: CP 2000/0009, SUP1 2000/001 - TMK: 3-8-008: 001

Please review the attached Application and submit your comments (if any) on Division letterhead within the time requested above. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0438.

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

( ) We have no comments.

(X) Comments attached.

Signed: Andrew M. Monden
ANDREW M. MONDEN, CHIEF ENGINEE

Date: 8/3/00

Division of Forestry & Wildlife

1151 Punchbowl Street, Rm. 325 • Honolulu, HI 96813 • (808) 587-0166 • Fax (808) 587-0160

July 20, 2000

MEMORANDUM

TO: Nick Vaccaro, Land Agent
Land Division

THRU: Dean Uchida, Administrator
Land Division

FROM: Michael G. Buck, Administrator
Division of Forestry and Wildlife

SUBJECT: **New Armory and Organizational Maintenance Shop and other related improvements for Hawaii Army National Guard Department of Accounting and General Services, Application for Land Use Permit, Wailuku, Maui ID: CP 2000/0009, SUP1 2000/001 - Tax Map Key: 3-8-008: 001.**

We have reviewed the above referenced document. This proposal will not affect any of DOFAW's programs and therefore, we do not have any objections to this application. Thank you for the opportunity to comment.

C: Maui DOFAW Branch

ENGINEERING BRANCH

COMMENTS

We confirm, according to FEMA Community-Panel No. 150003 0255 B, the proposed project site is located in Zone C. This is an area of minimal flooding.

Also, we confirm that the time of concentration, used in calculating the onsite storm runoff, is the same for the proposed condition and existing condition.

Puunene_com_M6.doc

AUG 3 9 24 AM '00

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Land Division
Honolulu, Hawaii
July 20, 2000

LD/NAV
Ref.: CP2000008.COM

Suspense Date: 8/3/00

MEMORANDUM:

TO:
XXX Division of Aquatic Resources
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FROM: Dean Y. Uchida, Administrator
Land Division

SUBJECT: New Armory and Organizational Maintenance Shop and other related improvements for Hawaii Army National Guard
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Application for Land Use Permit, Wailuku, Maui
ID: CP 2000/0009, SUP1 2000/001 - TMK: 3-8-008: 001

Please review the attached Application and submit your comments (if any) on Division letterhead within the time requested above. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0438.

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

( ) We have no comments.

(X) Comments attached.

Signed:

Date: 8/2/00

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF LAND MANAGEMENT
54 SOUTH HIGH STREET, ROOM 101
WAILUKU, HAWAII 96793-2198

Timothy E. Johns
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY
Janet E. Kawelo

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WATER RESOURCE MANAGEMENT

August 2, 2000

Ref: CP2000008.COM

MEMORANDUM

TO: Mr. Dean Y. Uchida, Administrator
Land Division

FROM: Louis Wada
Land Agent

SUBJECT: Applications for LUC Special Use Permit and County Conditional Permit for Hawaii Army National Guard's Puunene Armory and Related Improvements, TMK: (2) 3-8-008: Por. 001, Pulehunui, Wailuku, Maui

On October 10, 1997, under agenda item D-1, the Board of Land and Natural Resources approved the partial withdrawal of 30.00 acres from General Lease S-4197 and to set aside the withdrawn lands by governor's executive order to the Department of Defense, Hawaii Army National Guard for armory and other related purposes. At this point we are awaiting the issuance of the FONSI and the County approved final subdivision maps before we can continue processing the partial withdrawal and issuance of the set aside.

The Maui District Land Office has no other comments on the applications. Thank you for allowing us to review and comment on the subject matter.

C: Maui Board Member
Central Files
District Files

SEP 1 1 2000

BENJAMIN A. CAYETANO
GOVERNOR

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

LETTER NO (P)1541.0

SEP -8 2000

TO: Mr. Dean Uchida, Administrator
Land Management
Department of Land and Natural Resources

SUBJECT: Puunene Armory, Maui
Hawaii Army National Guard
Draft Environmental Assessment (DEA)
DAGS Job No. 15-14-7054

Thank you for your August 11, 2000, comments on the subject DEA from the Maui District Land Office. Our responses to your comments are as follows:

1. The DEA for the project was published in the July 8, 2000, edition of the Environmental Notice. In addition, applications for a Land Use Commission Special Use Permit and Conditional Permit were filed with the Maui County Planning Department on June 29, 2000. Upon completion of the applications review process by the appropriate governmental agencies, a Final EA for the project will be prepared and a Finding of No Significant Impact (FONSI) evaluation will be undertaken.

2. Also, please be advised that the preliminary subdivision for the 30-acre project site was submitted to the Maui County Department of Public Works and Waste Management (DPWWM) on August 2, 2000. Upon completion of the preliminary subdivision process, a final subdivision plat will be submitted to the DPWWM for review and approval.

We appreciate your input for this project.

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.
Lt. Col. Richard Young, DOD, HIARNG

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

August 14, 2000

LD-NAV

Ref.: CPA2000008.RCM2

00 AUG 15 P1:40

Honorable John E. Min
Planning Director
County of Maui
Planning Department
250 S. High Street
Wailuku, Hawaii 96793

Dear Mr. Min:

SUBJECT: I.D.: CP 2000/8000, SUP1 2000/001
TMK: 3-8-008: 001
Project: New Armory for Hawaii Army National Guard
Applicant Department of Accounting and General Services

This is a follow-up to our letter to you dated August 11, 200(Ref.: CPA2000008.RCM) regarding the subject matter.

Attached herewith is a recently received copy of our Commission on Water Resource Management's comment related to water resources for the proposed project.

The Department of Land and Natural Resources has no other comment to offer on the subject matter. Should you have any questions, please feel free to contact Nicholas Vaccaro of the Land Division's Support Services Branch at 808-587-0438.

Very truly yours,

DEAN Y. UCHIDA
Administrator

C: Maui District Land Office

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

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

TIMOTHY E. JOHNS
CHAIRPERSON

BRUCE S. ANDERSON
ROBERT G. GIRALD
BRIAN C. NISHIOKA
DAVID A. NOBRIGA
HERBERT M. RICHARDS, JR.

LINNEL T. NISHIOKA
DEPUTY DIRECTOR

July 28, 2000

AUG 1 11:21 AM '00

TO: Mr. Dean Uchida, Administrator
Land Division

FROM: Linnel T. Nishioka, Deputy Director
Commission on Water Resource Management (CWRM)

SUBJECT: Punene National Guard Armory/Maintenance SUP/CP

FILE NO.: CP2000008.COM

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

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

[x] We recommend coordination with the county government to incorporate this project into the county's Water Use and Development Plan.

[ ] We recommend coordination with the Land Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.

[ ] We are concerned about the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

[ ] A Well Construction Permit and/or a Pump Installation Permit from the Commission would be required before ground water is developed as a source of supply for the project.

[ ] The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit from the Commission would be required prior to use of this source.

[ ] Groundwater withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.

[ ] We are concerned about the potential for degradation of instream uses from development on highly erodible slopes adjacent to streams within or near the project. We recommend that approvals for this project be conditioned upon a review by the corresponding county's Building Department and the developer's acceptance of any resulting requirements related to erosion control.

[ ] If the proposed project includes construction of a stream diversion, the project may require a stream diversion works permit and amend the instream flow standard for the affected stream(s).

[ ] If the proposed project alters the bed and banks of a stream channel, the project may require a stream channel alteration permit.

[X] OTHER:

The aquifer that serves as the water supply source for this project has been overpumped beyond its sustainable yield in the recent past, and the aquifer continues to show signs it has not fully recovered. If the Commission has to designate the aquifer as a water management area, all groundwater withdrawals to the purveyor would be subject to water use permits. The service area would be subject to a declaration of a water shortage or a water emergency. If withdrawals are constrained, uses may be subject to allocation to users by the purveyor.

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

SEP 11 2000

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO. (P)1540.0

SEP -8 2000

TO: Mr. Dean Uchida, Administrator
Land Management
Department of Land and Natural Resources

SUBJECT: Puunene Armory, Maui
Hawaii Army National Guard
Draft Environmental Assessment (DEA)
DAGS Job No. 15-14-7054

Thank you for your August 14, 2000, letter forwarding the comments from the Commission on Water Resource Management (CWRM) on the DEA. Our responses to the CWRM's comments are as follows:

1. The CWRM suggestion for efficient use of water resources through conservation measures and use of alternative non potable water resources, if there are no harmful effects to the ecosystem, will be considered during the design phase of the project. Also, protection of the water recharge areas will be considered during the design phase of the project.

2. As of August 1, 2000, the rolling annual average groundwater withdrawal from the Iao Aquifer was 17.762 million gallons per day (MGD). These withdrawals are within the limits of the regulatory 20 MGD sustainable yields of this aquifer.

3. Recent discussions by the project consultant with the County's Department of Water Supply, Water Resource and Planning Division have indicated that new sources will be brought on-line to supplement the water provided by the Iao Aquifer. One (1) new well, with a pumpage of about 0.8 MGD, was brought on-line during the first quarter of this year, and will be followed by one (1) more new well with a capacity of 1.0 MGD during the latter part of the year. In addition, two (2) new wells, with a capacity of 1.0 MGD per well, are projected for on-line production by late 2001. The

source of water for these four (4) new wells is the Waihee Aquifer. It should also be noted, that two (2) wells in North Waihee, pumping at a combined rate of 1.5 MGD, were brought on-line by the DWS in July 1997.

The foregoing measures, notwithstanding, the applicant acknowledges the potential regulatory implications of water management area designation by the Commission on Water Resource Management.

We appreciate your input for this project.

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.
Lt. Col. Richard Young, DOD, HIARNG
Ms. Eva Blumenstein, DWS Maui

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

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

August 16, 2000 00 AUG 22 P1:32

TO: John E. Min, Planning Director

FROM: FLOYD S. MIYAZONO, Director

SUBJECT: **New Armory for Hawaii Army National Guard**
TMK: 3-8-008: 001
CP2000/008, SUP1 2000/001

Thank you for the opportunity to review the application. We have the following comments:

1. The applicant should submit a master plan of the Project District 10 site. Such a master plan would study other major recreational and industrial elements, such as the Maui County Fair site, that are proposed for Project District 10. The new Armory development is a large component of PD 10, and its impact to existing and future developments should be addressed.

2. The access road that will be shared by the existing multi-use raceway park and the new Army National Guard Armory is in disrepair. Driver sight lines are impaired by tall grass and hoale koa brush. We request that the proposed development maintain the access road and an adequate road shoulder from Mokulele Highway to the proposed MEO site for safety reasons.

3. The applicant should meet with the following non-profit user groups to give them an opportunity to comment on the development plans:

Maui County Fair Association

Contact: Senator Avery Chumbley, President (244-7079)
Floyd S. Miyazono, Vice President (270-7626)
P.O. Box 95
Kahului, HI 96733

Maui Economic Opportunity, Inc. (MEO)

Contact: Administrator's Office (871-9591)
99 Mahalani St.
Kahului, HI 96733

Maui Raceway User Groups

Contact: Valerie Magee, Recreation Program Coordinator (871-4675)
Department of Parks and Recreation, County of Maui

Please feel free to contact me or Patrick Matsui, Chief of Parks Planning and Development, at extension 7387 should you have any other questions.

FSM:PM:gu

c: Park Assessment Files

[illegible]

SEP 18 2000

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P)1564.0

SEP 15 2000

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

Dear Mr. Miyazono:

Subject: Puunene Armory, Maui
Hawaii Army National Guard
Draft Environmental Assessment
DAGS Job No. 15-16-7054

Thank you for your August 16, 2000, comments on the subject Draft Environmental Assessment. Our responses to your comments are as follows:

1. A final report for the Puunene Airport Area Master Plan and Maui Economic Opportunity (MEO) Transportation Facility (May 1995) was prepared for the County of Maui by Helber Hastert Planners. This report, which includes the area encompassed by Project District 10, also contained a preliminary environmental assessment which discussed potential impacts and possible mitigation measures relative to the development of the master plan.

2. Maintenance of the tall grass and haole koa brush along the project's frontage with the Maui Raceway Park access road will be implemented in connection with the development of the project.

3. MEO Inc. was consulted during the preparation of the Draft Environmental Assessment (DEA) and had no comments to offer at the time. Information from the project's DEA will be furnished to MEO, Maui County Fair Association, and Maui Raceway Park user groups for review and comment.

We appreciate your input for this project.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.
Lt. Col. Richard Young, DOD, HIARNG

OCT 0 3 2000

MAUI ECONOMIC OPPORTUNITY
EST. 1965
P.O. Box 2122
Kahului, Hawaii 96733
Telephone: 808-249-2990
Fax: 808-249-2991

October 2, 2000

Mr. Glenn Tadaki, Planner
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Dear Mr. Tadaki:

Thank you for the opportunity to comment on the Proposed Hawaii Army National Guard Armory relocation to the old Puunene Airport.

MEO is in support of the project. However, MEO does have a safety concern with the interim access to the project. It is MEO's understanding that the project is going forward as a result of the proposed improvements by Parsons UXB to the intersection on Mokulele Highway. The intersection improvements proposed by Parsons UXB, are not at the entrance identified on the enclosed map (Race Way Park entrance), but creates an additional entrance.

Since 1993, State Department of Transportation (SDOT) has been adamant that one and only one entrance to the Puunene site be utilized. SDOT's recent up-dated time line for the Mokulele widening project, estimates that in 2007 the intersection at the Race Way Park entrance will be completed. Seven years (or more) is a long time to have two entrances in close proximity to each other on a highway that is a main artery to south Maui.

Thank you again for the opportunity to provide comments on the above project.

Sincerely,

Gladys C. Baisa

Gladys C. Baisa
Executive Director

cc: Mayor Apana
Lt. Col. Richard Young, HIARNG
Richard Miyabara, GYA

DEC 07 2000

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P)1711.0

DEC -6 2000

Mr. Don Medeiros
Managing Director
Maui Economic Opportunity, Inc.
P O Box 2122
Kahului, Maui, Hawaii 96733

Dear Mr. Medeiros:

Subject: Puunene Armory, Maui
Hawaii Army National Guard
Draft Environmental Assessment
DAGS Job NO. 15-16-7054

Thank you for your October 2, 2000, comments on the subject Draft Environmental Assessment. Our responses to your comments are as follows:

1. A joint meeting was held on November 2, 2000, involving representatives of the U. S. Navy's Pacific Division-Kaho'olawe Program Office, the Parsons-UXB Joint Venture, the Department of Transportation (DOT), the Department of Accounting and General Services (DAGS), the Department of Defense-Hawaii Army National Guard (HIARNG), the Office of the Mayor, the Department of Planning, and Maui Economic Opportunity, Inc. (MEO), as well as their consultants to discuss the temporary access road that is being utilized by Parsons in support of its clean-up operations on the Island of Kahoolawe.

2. During this meeting, the DOT indicated that the location and proximity of the existing raceway access road and temporary access road intersections would not adversely impact safety or traffic operating conditions in the area. The traffic signal at the temporary access road intersection would improve traffic operations at the raceway access road intersection by creating timed gaps in the flow of traffic which would facilitate safe turning movements at this location.

3. As a result of discussions during the meeting, it was agreed that the existing highway entrance for the raceway access road could be closed until the permanent

raceway access road intersection is developed by the DOT as part of the highway widening project if a frontage road (running parallel to and within the highway right-of-way) is constructed and connected to the temporary and existing access roads. Cost-sharing opportunities for the construction of the frontage road will be examined by the County, the State, and the U. S. Navy at a later date. MEO and others would be able to use the signalized intersection at the temporary access road to access the frontage road and enter and exit the subdivision area. The use of the temporary access road connection to the highway would be discontinued when this segment of the highway is widened. Interim access to the facilities in this area will be provided by the DOT when this segment of the highway is widened.

We appreciate your input for this project.

If there are any questions regarding the above project, please call Mr. Ralph Morita of the Planning Branch at 586-0486.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

LM:mo
c: Mr. Brian Miskae, Office of the Mayor
Mr. Doug Dang, PacDiv, Navy
Mr. Bill Ahrens, Parsons-UXB
Mr. Bob Siarot, Department of Transportation
Mr. Joseph Alueta, Department of Planning
Lt. Col. Richard Young, HIARNG
Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.

OCT 1 1 2000

Celebrating Years of Fun Since 1916!

P.O. BOX 95
Kahului, Maui, Hawaii
96732
Telephone:
(808) 242-2721
Fax:
(808) 242-6934

October 9, 2000

Mr. Glenn Tadaki, Planner
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Dear Mr. Tadaki: 9/20

We are in receipt of your September 20, 2000 transmittal in which you have supplied the Maui County Fair Association with a package of information regarding the proposed relocation of the Hawaii Army National Guard Armory and other related improvements to Pulehunui, otherwise known as the Puunene Airstrip region.

The Maui County Fair Association has gone on public record stating we would be receptive to relocating and developing a permanent Maui County Fairgrounds in this same region. In order for this relocation to take place, we must be preceded by organizations or governmental entities such as the Hawaii National Guard who have the financial ability to bring the associated infrastructure to the region. We have reviewed the supplied package of information and fully support the use of approximately 30 acres by the Hawaii National Guard in the Puunene Airstrip area. We will continue to pursue our desires to be relocated to this area with both the State of Hawaii, Department of Land and Natural Resources and the County of Maui, and would be pleased to work with the Hawaii National Guard and support their efforts in obtaining approval of the special and conditional use permits for TMK #3-8-08:por 01.

If you would like further information or have any questions for the Maui County Fair Association, please feel free to contact me at 244-7079. We appreciate the opportunity to provide our comments on this permit application.

Sincerely,

Avery B. Chumbley
President

NO RESPONSE REQUIRED

DEC 0 6 2000

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO. (P)1710.0

DEC -7 2000

Ms. Valerie Magee
Recreation Program Coordinator
Department of Parks and Recreation
County of Maui
Kahului Community Center Complex
275-D Uhu Street
Kahului, Maui, Hawaii 96732

Dear Ms. Magee:

Subject: Puunene Armory, Maui
Hawaii Army National Guard
Draft Environmental Assessment
DAGS Job No. 15-16-7054

Thank you for providing us with the Maui Motorsports Park User Group's October 18, 2000 comments on the subject project. Our responses to your comments are as follows:

1. A meeting was held on November 2, 2000, with representatives of various Federal, State, and County agencies and their consultants to discuss the temporary access road that is being utilized by the Parsons-UXB Joint Venture in support of its clean-up operations on the Island of Kaho'olawe.

   As a result of discussions during the meeting, it was agreed that the existing highway entrance for the raceway access road could be closed until the permanent raceway access road intersection is developed by the DOT as part of the highway widening project if a frontage road (running parallel to and within the highway right-of-way) is constructed and connected to the temporary and existing access roads. Cost-sharing opportunities for the construction of the frontage road will be examined by the County, the State, and the U. S. Navy at a later date.

   The Maui Motorsports Park User Group and others would be able to use the signalized intersection at the temporary access road to access the frontage road and enter and exit the subdivision area. The temporary access road connection to the highway would be demolished when this segment of the highway is widened. Interim access to the facilities in this area will be provided by the DOT when this segment of the highway is widened.

2. In connection with the project development process, the State will examine providing power to the site from the direction of the Hawaiian Cement quarry as this alignment would facilitate power connections for other users in the future.

3. The helipad will be located away from Mokulele Highway, toward the rear part of the site. Refer to the attached.

We appreciate your input for this project.

If there are any questions regarding the above project, please call Mr. Ralph Morita of the Planning Branch at 586-0486.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

LM:mo
Attachment
c: Mr. Bill Aherns, Parsons-UXB
Mr. Doug Dang, PacDiv, Navy
Mr. Bob Siarot, Department of Transportation
Lt. Col. Richard Young, DOD. HIARNG
Mr. Richard Miyabara, GYA Architects
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.

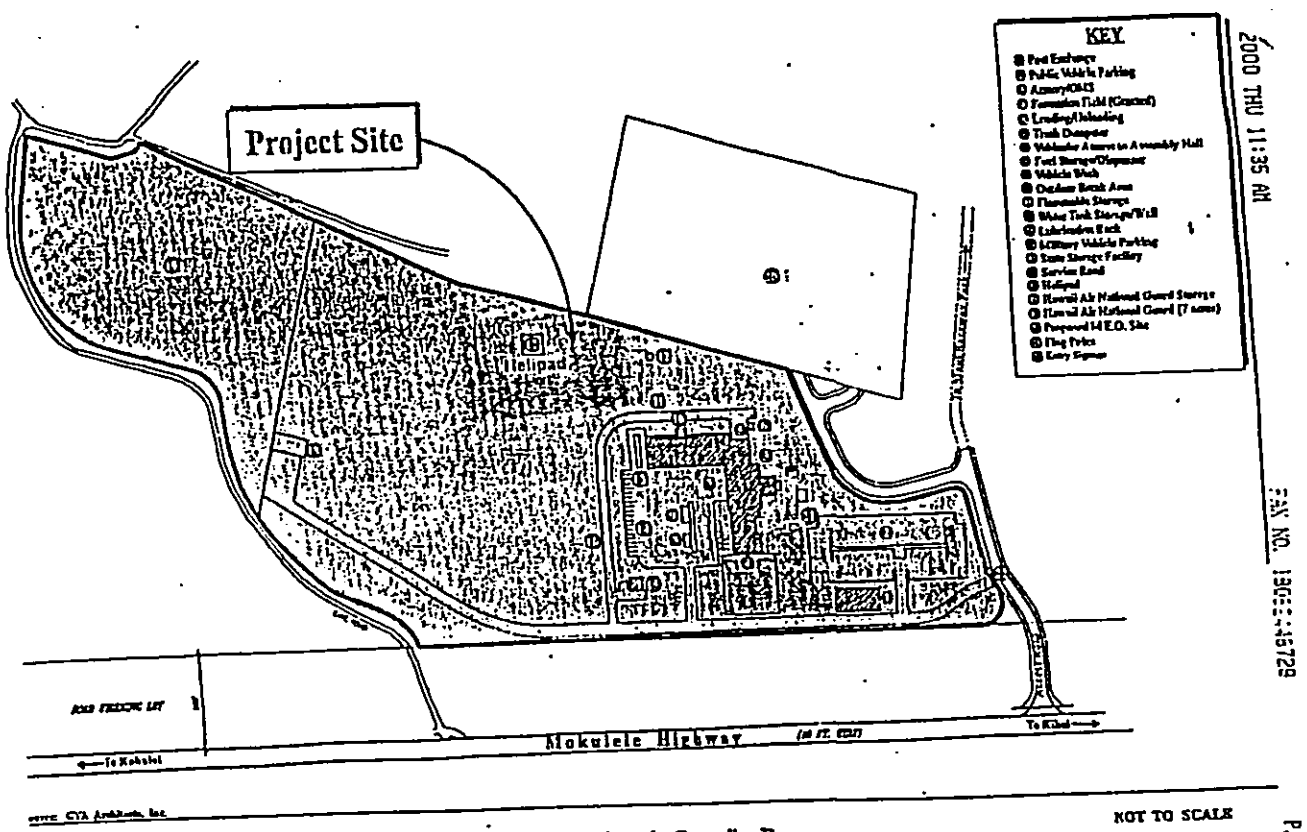

Figure 2

Hawaii Army National Guard's Puunene
Armory and Related Improvements
Preliminary Site Plan

NOT TO SCALE

5169

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL
200 DAIRY ROAD
KAHULUI, MAUI, HAWAII 96732
(808) 270-7561
FAX (808) 270-7919

'00 AUG 16 P2:41

RECEIVED

August 16, 2000

Ms. Julie Higa, Staff Planner
Department of Planning
County of Maui
250 S. High Street
Wailuku, Hi. 96793

Subject: I.D. CP 2000/0008, SUP1 2000/001
TMK: (2) 3-8-008:001
Project Name: New Armory for Hawaii Army National Guard

Dear Ms. Higa:

Thank you for the opportunity to review and comment of the subject application. At this time the Fire Prevention Bureau wishes to reserve the right to comment upon submittal of plans and specifications.

If you have any questions, please call me at 243-7122.

Sincerely,

Scott English
Fire Plans Examiner

NO RESPONSE REQUIRED

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

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

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

In reply, please refer to:
File:

'00 SEP 22 P3:45

September 8, 2000

99-164A/epo

Mr. John E. Min, Director
Planning Department
County of Maui
250 South High Street
Wailuku, Hawaii 96793

Dear Mr. Min:

Subject: Applications for a Special Use Permit (SUP1-2000/001)
and Conditional Permit (CP-2000/0008)
New Armory for Hawaii National Guard
Puunene, Maui
TMK: 3-8-08:1

Thank you for allowing us to review and comment on the subject permit applications. We have the following comments to offer:

Hazardous Materials

1. One of our concerns centers around the vehicle maintenance activities. These activities will involve some type of autobody work such as paint touch ups; oil and filter changeouts; and parts cleaning. As such, National Guard personnel will need to be aware of the proper handling of waste paints, waste solvent/thinners and used oil, and maintain acceptable cleaning practices of painting equipment and auto maintenance parts. If any hazardous wastes are generated from these auto maintenance tasks, such as spent washer solvents or any used cleaning solutions which are characteristic of a hazardous waste, these must be properly managed according to State hazardous waste rules (Hawaii Administrative Rules, Chapters 11-261 through 11-280). Hazardous waste guidelines must be followed, depending upon generator status.

2. The draft environmental assessment states that there will also be storage areas. If plans are to store hazardous wastes or used oil, hazardous waste/used oil guidelines must be followed, depending on generator status.

Should there be any questions on this matter, please call Ms. Beryl Ekimoto, Hazardous Waste Section of the Solid and Hazardous Waste Branch at 586-4226.

Wastewater

As stated, the County has no immediate plans to provide sewer service in the area, therefore, the use of on-site, treatment wastewater systems, such as septic tank is acceptable, provided that only domestic or domestic-like wastewater is disposed by means of these septic tanks. Nondomestic wastewater must be treated prior to disposal. Connection to the County sewer system will be required once it is available.

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems." These plans must be reviewed and approved by the Maui District Health Office (MDHO) prior to construction.

Should you have any questions on this matter, please contact the Planning/Design Section of the Wastewater Branch at (808)586-4294, or the Maui District Health Office at 984-8230.

Sincerely,

GARY GILL
Deputy Director
Environmental Health Administration

c: MDHO
SHWB
WWB

OCT 0 6 2000

BENJAMIN J. CAYETANO
GOVERNOR

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

LETTER NO (P)1604.0

OCT - 5 2000

TO: Mr. Gary Gill, Deputy Director
Environmental Health Administrator
Department of Health

SUBJECT: Puunene Armory, Maui
Hawaii Army National Guard
Draft Environmental Assessment
DAGS Job No. 15-14-7054

Thank you for your September 8, 2000, comments on the subject Draft Environmental Assessment. Our responses to your comments are as follows:

1. The storage, handling, cleaning, and disposal of hazardous materials will be managed in accordance with the State hazardous waste rules (Hawaii Administrative Rules, Chapters 11-261 through 11-280). Hazardous waste guidelines will be followed.

2. If hazardous waste or used oil are stored, hazardous waste/used oil guidelines will be followed.

3. Wastewater

   a. A septic tank will be used to dispose of domestic or "domestic-like" wastewater.

   b. Non-domestic wastewater will be treated prior to disposal.

   c. Connection to the County sewer line will be made once it is available.

   d. All wastewater plans will conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems". These plans will be submitted to the Maui District Health Office (MHO) prior to construction.

We appreciate your input for this project.

for GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Mr. Richard Miyabara, GYA Architects, Inc.
Mr. Glenn Tadaki, Munekiyo, Arakawa & Hiraga, Inc.
Lt. Col. Richard Young, DOD, HIARNG

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

SEP 14 2000

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TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

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ENFORCEMENT
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HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

REF:HP-JK

Ms. Lisa M. Nuyen
Director of Planning
Department of Planning
County of Hawaii
250 South High Street
Wailuku, Maui Hawaii 96793

LOG NO: 26158
DOC NO: 0009co01
Architecture

Dear Ms. Nuyen:

SUBJECT: CP 2000/0008, SUP 2000/001
New Armory for Hawaii Army National Guard
TMK 3-8-008-001, Wailuku, Maui

Thank you for the transmittal of the application for the New Armory for Hawaii Army National Guard. Please pardon the delay in response. We have received the maps requested and have no additional comments.

Thank you for the opportunity to comment. Should you have any questions please contact Carol Ogata at 692-8032.

Aloha,

Timothy E. Johns, Chairperson and
State Historic Preservation Officer.

CO:jk

NO RESPONSE REQUIRED

References

References

Community Resources, Inc., Maui County Community Plan Update Program Sock-Economic Forecast Report, January 1994.

County of Maui, Kihei-Makena Community Plan, March 1998.

County of Maui, Maui County Data Book 1998, June 1998.

County of Maui, Department of Water Supply, personal communication with Eva Blumenstein, January 6, 2000.

Hawaiian Commercial & Sugar Co., Ltd., personal communication with Randall Moore, March 16, 2000.

Helber Hastert & Fee, Planners, Inc., Puunene Airport Area Master Plan/MEO Transportation Facility Concept Plan (Final Report), May 1995.

Maui News, June 6, 1999.

Munekiyo, Arakawa & Hiraga, Inc., Application for Change in Zoning, Project District Phase I and II Approvals, and Special Management Area Use Permit - Palauea Subdivision, October 1999.

PBR Hawaii, Draft Environmental Assessment - Mokulele Highway, Puunene Bypass, March 1997.

State of Hawaii, Department of Labor and Industrial Relations, personal communication with Ray Domingo, March 1, 2000.

University of Hawaii, Department of Geography, Atlas of Hawaii, Third Edition, 1998.

University of Hawaii, Land Study Bureau, Detailed Land Classification - Island of Maui, May 1967.

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

Appendices

Appendix A

Archaeological Inventory Survey-October 1998

ASC98-12

AN ARCHAEOLOGICAL INVENTORY SURVEY OF THE PROPOSED ARMY NATIONAL GUARD PLANNING AREA PULEHUNUI AHUPUA'A, WAILUKU, MAUI (TMK 3-8-08:POR.1)

by

Robert Drolet, Ph.D.

and

Aki Sinoto

for

GYA Architects, Inc.
Wells Street Professional Center
2145 Wells Street, Suite 303
Wailuku, Maui, Hawaii 96793

October 1998

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

ABSTRACT

An archaeological inventory survey conducted in the proposed 35-acre Army National Guard Planning Area located in Pulehunui *ahupua'a*, Wailuku District, Maui Island was completed in October 1998. This survey identified historic building foundations and portions of the asphalt airfield complex associated with the historic Naval Air Station Puunene, Site 50-50-09-4164, dating from 1939 to 1947. The majority of the remains are poorly preserved and identifiable only through historic maps of the base.

Archival research indicates that the study area was also the location of the Maui Airport during the early twentieth century; however, no surface structures associated with this earlier airfield was identified. Since the two twentieth century complexes were large and involved considerable land modification, earlier traditional Hawaiian sites that may hae existed in this area were probably destroyed. No traditional Hawaiian sites were recorded during the current field investigation. Pre-field consultation with the State Historic Preservation Division of the Department of Land and Natural Resources determined that subsurface testing was unwarranted.

While this report recommends no further archaeological procedures at the study area except for detailed mapping of intact splinter shelter features, a field check of the entire airfield complex by SHPD historic architectural personnel is recommended.

Currently, Control Point Survey, Inc., is preparing a topographic survey map that incorporates the existing building foundations and runway area. The completion of this documentation and the recommended plan mapping should yield sufficient information about the historic remains, so that the foundations and runway segments within the 35-acre study area will no longer be considered significant. Additional structural remains associated with the historic airfield complex still occupy surrounding areas. These remains should undergo archaeological documentation in conjunction with future development(s).

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LIST OF FIGURES

TABLE

INTRODUCTION

At the request of GYA Architects, Inc., Aki Sinoto Consulting of Honolulu conducted an archaeological inventory survey of the Army National Guard Planning Area located in the isthmus area of central Maui Island. The area surveyed is being proposed for the Maui Army National Guard Armory. The fieldwork and a portion of the historic background and literature search were conducted by Robert Drolet and Aki Sinoto on September 18, 1998. Additional fieldwork was done on October 13, 1998 by Lisa Rotunno-Hazuka and Aki Sinoto.

PROJECT LOCATION

The survey area, located in Pulehunui *ahupua'a*, Wailuku District (TMK 3-8-08:por 1), encompasses roughly 35 acres and is bounded on the east by Mokulele Highway, on the north by sugar cane fields, on the west by an existing go-cart track, and on the south by the paved access road to the Maui Drag Strip (Fig. 1). The subject area is a portion of a larger area under State ownership.

ENVIRONMENT

The project area is located on the flat isthmus area between East and West Maui in the periphery of lands traditionally classified as *kula*, or dry fields or open country. The area has undergone compounded previous disturbance through long-term agricultural activities as well as civilian airport and military airfield development during the first half of the 20th century.

The elevation ranges from 40 to 90 feet above mean sea level. Rainfall averages between 10 to 15 inches per year with only slighty elevated precipitation during the winter months of December and January. Prevailing surface winds bear from the north or northeast.

The three soils that occur in the project area are classified as; Pulehu silt loam along the eastern portions, Pulehu cobbly silt loam in the central portions, and Ewa cobbly silt loam in the western portions. The Pulehu series of soils are well-drained and occur on alluvial fans and stream terraces and in basins. They develop in alluvium from basic igneous rock and are in level to moderately sloping areas. The Ewa series also consist of well-drained soils that occur in basins and alluvial fans. Sugar cultivation occurs in both soil areas. The vegetation consists of dry, lowland types dominated by *kiawe* (*Prosopis pallida*), with *klu* (*Acacia farnesiana*) and other dry shrubs and grasses (Foote et al. 1972).

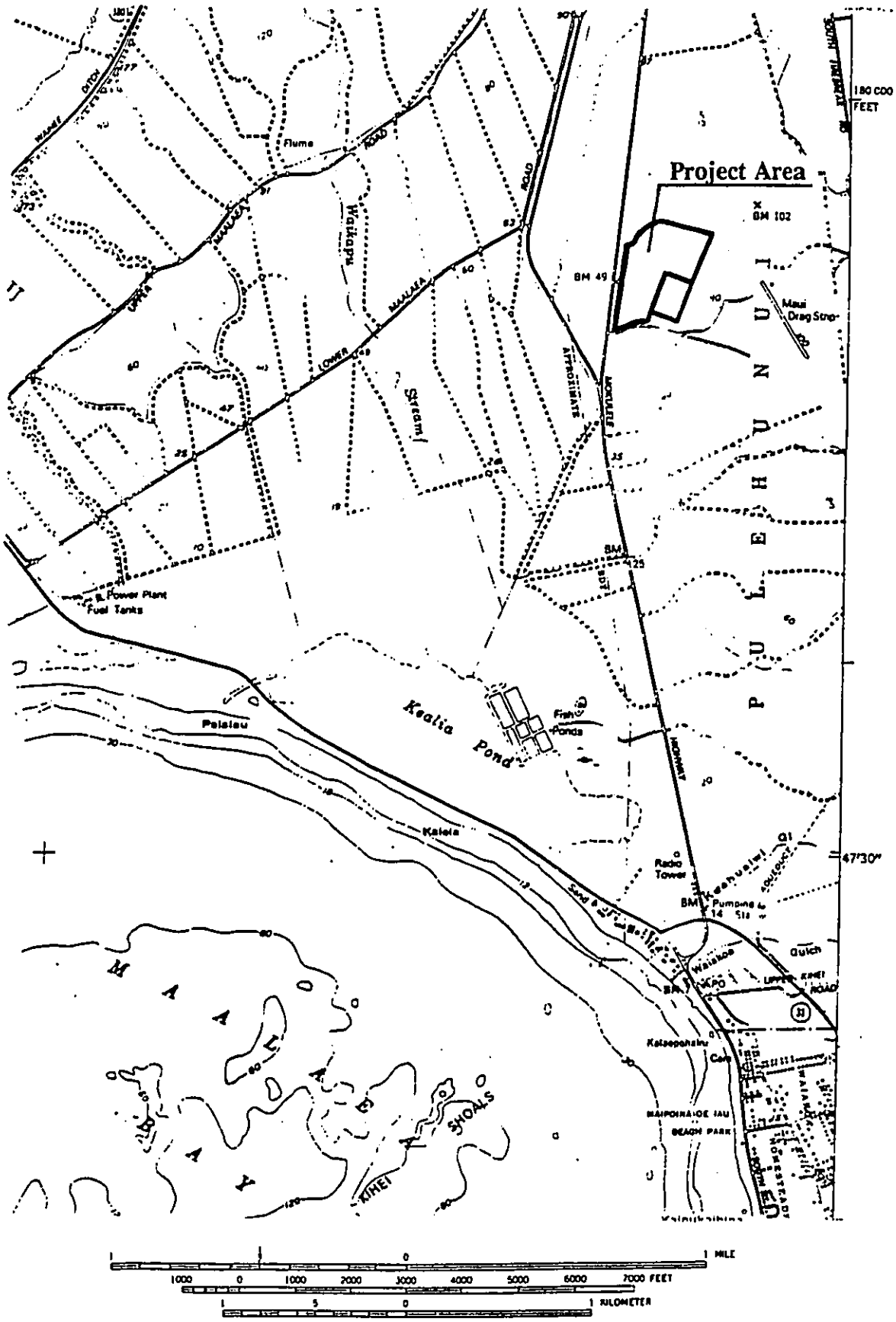


Figure 1. Location of Project Area on 1983 U.S.G.S. Maalaea Quadrangle.

METHODS

The purpose of the current study, being undertaken in support of an Environmental Assessment for the proposed Maui Army National Guard Armory, was to identify and inventory historic properties, including traditional Hawaiian sites, to evaluate their significance and make recommendations to mitigate any adverse effects of the proposed development. The Scope of Work for the current investigation included: historical background and literature search; a review of previous archaeological research, surface inventory, and preparation of a report synthesizing the resultant data. Prior to commencement of the current survey, consultation with the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources determined subsurface testing to be unwarranted due to the nature and extent of previous disturbances caused by long term agricultural activities as well as the construction of two historic airfields.

Fieldwork consisted of walking parallel transects of 20-30 meter intervals throughout the project area by a two-person team. Portions of asphalt runway and taxiway remains covered roughly half of the survey area. Concrete building foundations, walk ways, bunkers, and recreational areas occupied the areas adjoining the runway and taxiway. No unmodified areas, such as gulch or drainage features, occur within the current project area. Photographs were taken of selected structural remains.

Copies of detailed historical maps provided by GYA Architects, Inc., originally provided by HC&S to the Army National Guard, were obtained from the Wailuku office of Control Point Survey, Inc. These maps and others provided in a previous study by the Maui Military Museum were employed for interpreting the surface remains and identifying the boundaries of the study area. These maps, which are portions of the original military site plan, depict the structural features and provided the means of correlating the remant foundations observed during the survey with building numbers and functional classifications labeled on the maps.

Background information about the Maui Airport facility and the Naval Air Station Puunene was also obtained from the Maui News mircofilm archives consulted at the Maui Community College Library. Additional information regarding land tenure and previous archaeological work was researched at the State Department of Accounting and General Services Survey Office, Bureau of Conveyances, and the SHPD Library in Honolulu.

Photographs were taken of the existing foundations identified and plan maps were prepared of two isolated structural features, representing extant remains associated with the WWII era air field complex, located in the peripheral areas of the project area. Since the other currently extant structures within the project boundaries are all represented on the historic plans and are also being currently plotted into a topographic map being prepared by Control Point Survey, Inc. under contract to GYA Architects, Inc.; no further archaeological mapping was deemed warranted.

LAND USE HISTORY

Documented historic references to the subject area are rare and only briefly mention the area in general. Pre-contact and traditional use of this arid area was limited to trail crossings between coastal and interior zones or windward and leeward settlements such as Kihei/Kamaole and Wailuku (Handy and Handy 1972:510-511, Kamakau 1961).

The *ahupua'a* of Pulehunui in total (16,687.78 acres) was awarded to Keaweamahi as Land Court Award 5230 (LP8140) in 1855. Keaweamahi was a chiefess of Kaua'i, the wife of Kaikioewa, a high chief of Kaua'i who was a cousin of Kamehameha I, who became governor of Kaua'i in 1825. Upon his death in 1839, Keaweamahi replaced her husband as governor.

In 1902, the land was deeded to HC&S, Co. and in 1938, by Executive Order 804, the land was in turn deeded to the Territory of Hawaii. The Maui Airport was built and began operations as a commercial field in 1939. Soon after the U.S. Department of the Navy appropriated the area for the construction of a Naval Air Station. According to articles in the Maui News of the period, construction of the Navy air depot was completed in just 4 weeks with accomodations for 500 officers and men (July 24, 1940). The October 30, 1940 edition stated that the base was completed in 90 days with full cooperation from many members of the community. The base included recreational facilities such as a gymnasium that was dedicated on February 26, 1941, a competition size swimming pool that was dedicated on June 13, 1942, tennis courts, and handball courts.

Naval Air Station Pu'unene played a pivotal role in the training and debarkation of aircraft and pilots especially from 1943 through the end of WWII. At any given time, over 250 aircraft were on station and more than 200,000 pilots had rotated through this base by war's end (The Maui Military Museum 1966:Section 2 page 1). In December of 1945 the base was decommissioned. Demolition of buildings, demilitarization of ordnance storage area, and partitioning of land were completed in 1947.

PREVIOUS ARCHAEOLOGY

No previously recorded traditional Hawaiian sites are located within the boundaries of the current project area or in the vicinity. Only one archaeological document references the subject area, a draft data recovery plan prepared by the Maui Military Museum in 1966. The objective of this data recovery plan was to excavate a disposal area within the boundaries of the naval air station in an attempt to salvage WWII era aircraft and other equipment associated with the facility (The Maui Military Museum 1966). The Naval Air Station Puunene has been designated Site 50-50-09-4164. The disposal pit is located roughly 1000 feet south of the southern boundary of the current project area. Subsequent testing of the area produced no substanctial findings associated with the air station (SHPD staff archaeologist, personal communication).

SETTLEMENT PATTERN AND SITE EXPECTABILITY

According to the archaeological and historical sources discussed in the preceding sections, pre-contact and traditional Hawaiian use of this cental lowland plain was largely limited to passing through during the transit between coastal and interior habitation zones and windward to leeward settlement areas of the island. Thus architectural features or habitation deposits dating to this period were considered unlikely to exist. Although stone-lined trails may have been present at one time, the superficial nature of such features would not have survived the extensive disturbances caused by agricultural activities or air field development. Archival literature and historic maps suggest that the intensive use of the area did not commence until the late nineteenth to early twentieth centuries when ranching, commercial sugar cane cultivation, and the air field complex was established in this lowland locality. Since the Naval Air Station Puunene dominated this area during the period prior to and during WWII, some remains associated with this facility were expected to be still present.

RESULTS OF SURVEY

The current inventory survey resulted in the identification of over 15 concrete structural foundations, a swimming pool complex, handball courts, intact bunkers or splinter shelters, and asphalt runways and taxiways associated with the Naval Air Station Puunene (Fig. 2, over sized map folded at back of this report). The buildings, map identification numbers, dimensions, and related comments are listed on Table 1.

Table 1. Naval Air Station Puunene Construction Remains Identified in Survey Area

Construction	Bldg No.	Size (m)	Comments
Swimming Pool (25 yrd long)	33	23 x 9.5	Fronts airfield; originally associated with a bleacher, pump house, and surrounding concrete sidewalk
Aircraft Shops	21	43.5 x 7.6	Fronts airfield
Squadron Offices and Shops	32	36.8 x 7.6	Fronts airfield
Handball Courts	No Number	24.6 x 5.8	North side of Gym (23)
Recreation & Gym Bldg	23	36.2 x 29.5	East side of Pool (33)
Splinter Shelter	35	30.4 x 5.8	East side of Bldg 32
Protechnic Locker	26	7.6 x 3.8	Fronts airfield
Boiler House	29	13.4 x 4.8	North side of Barracks (18)
Barracks	18	47.5 x 30.4	East side of Gym (23)
Splinter Shelter	36	30.4 x 5.8	East side of Gym (23)
C. P. O. Quarters	7	37.1 x 6.7	East of Splinter Shelter (36)
Mess Hall	6	21.0 x 30.4	East of C. P. O. Quarters (7)
Barracks	2	38.1 x 21.0	East of Mess Hall (6)
Ships Service Store and Office	No Number	37.1 x 5.8	East of Barracks (2)
Splinter Shelter	37	35.3 x 3.8	South of Barracks (34)
Street	4th	126.5 x 5.8	East of Tennis Court and Barracks (34)
Garage and Maintenance Shops	10	33.2 x 8.5	West of 4th Street
Hanger	30	76.2 x 40.8	East side of Aircraft and Radio Shops (9)
Aviation Gas Storage	31	26.8 x 12.5	East side of Hanger (30)
Splinter Shelter	38	32.0 x 6.7	East side of Aviation Gasoline Storage (31)
Runway and Taxiways	No Number	1200 x 400	North of Hanger (30), size within survey area
Tennis Court	No Number	70.4 x 32.3	North of Splinter Shelter (38)
Barracks	34	60.0 x 32.3	West of Aircraft and Radio Shops (9)
Aircraft and Radio Shops	9	42.6 x 6.7	West side of Hanger (30)

The air station complex, which was in operation between 1939 and 1947, extended throughout the survey area, into adjacent parcels, and into the area across (west of) Mokulele Highway (Fig. 3). Due to the intensive, land-altering activities associated with development of the air station, all of the survey area was impacted. Much of the runway and taxiways within the study area are still intact, but all of the building superstructures from that era were demolished in 1947, and remain only as concrete foundations.

The majority of the remains are located in the *kiawe* thicket along the western portion of the project area between Mokulele Highway and the taxiway. Two other isolated remains, an intact bunker (Bldg 41 on Fig. 3) and a high three-sided structure with mortared stone walls (Bldg. 343 on Fig. 3), were located in the peripheral areas.

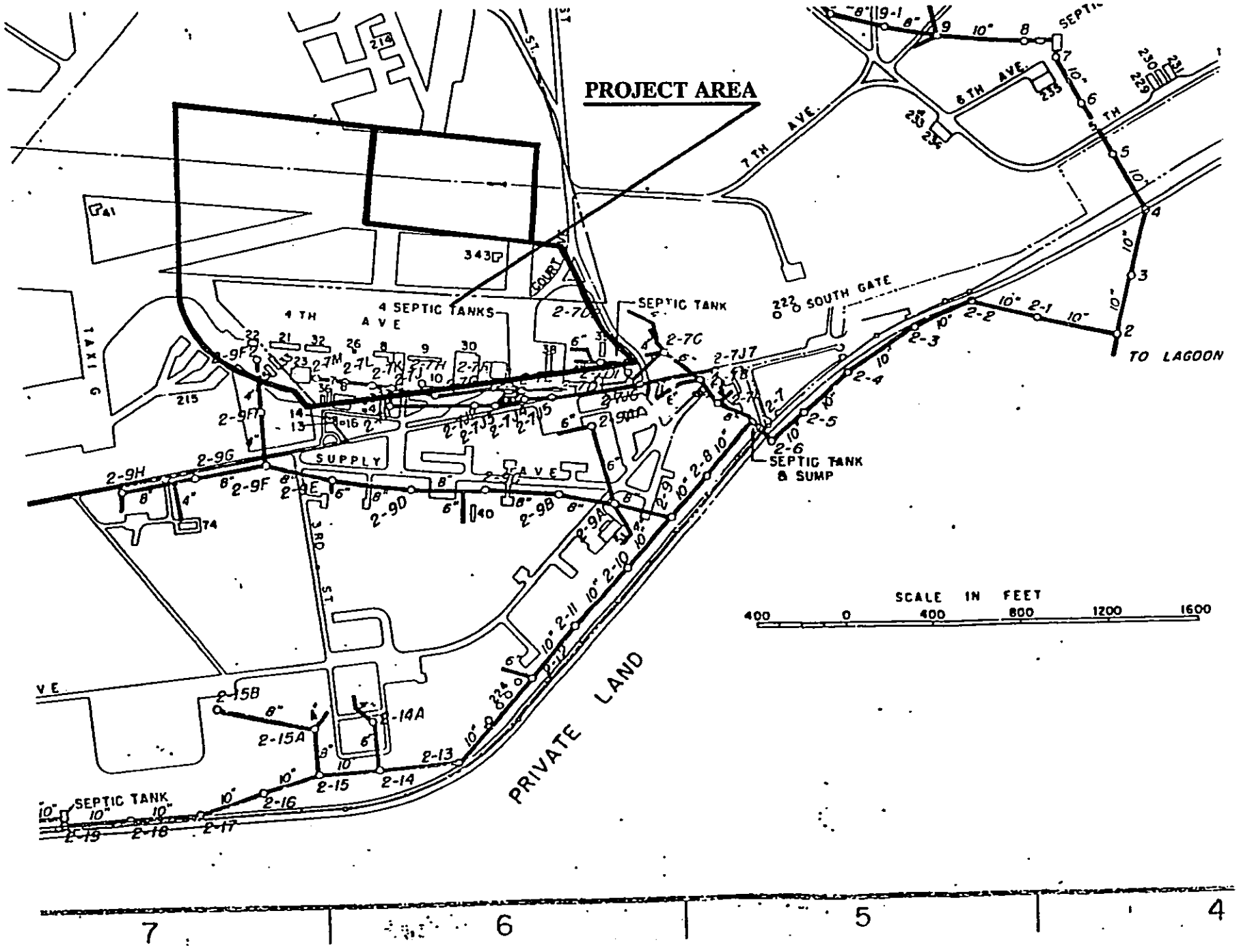


Figure 3. Portion of Air Station Plan with Project Boundary Overlay.

A crop dusting business, Murrayair, operates out of the project area. The cement slab floor of a former hanger (Bldg. 30 on Fig. 3) serves as the operations base and maintenance area and the taxiway is used as a runway.

Selected photos of the project area and structural remains are presented in the appendix.

DISCUSSION

The Naval Air Station Puunene was downgraded to a facility in November of 1945 and was entirely decommissioned by the Department of the Navy a month later in December. More than 300 buildings were demolished by the Navy in 1947. Thus, the extant structural remains in the current project area consist of concrete foundations, some upright elements, and floor slabs. In view of the highly disturbed condition of these features, they are no longer considered to be significant.

The only intact features are the swimming pool, handball courts, and five underground splinter shelters. With the exception of the splinter shelters, these features are also no longer considered significant.

No traditional Hawaiian remains were located in the project area, and the potential for such remains are considered to be minimal to none. Historic documentation indicate that this region was a transit location for travelers going from inland to coastal settlement zones or from windward to leeward parts of the island and traditionally not intensively occupied. Also the nature and extent of disturbance through historic and modern activities suggest that any such evidence of traditional activities may have been lost through destruction.

RECOMMENDATIONS

No further archaeological work is recommended other than detailed plan mapping of the five intact splinter shelter features. Following completion of all documentation tasks, the remains will no longer be significant within the subject 35-acre survey area. In view of the nature and extent of the previous disturbances, archaeological monitoring of construction activities are not warranted. However, should any significant remains be inadvertently encountered during development, work shall be halted in the immediate vicinity of the discovery, and the State Historic Preservation Division shall be contacted.

Additional structural remains associated with Site 50-50-09-4164, Naval Air Station Puunene, still occur in adjoining parcels. These remains should undergo archaeological documentation in conjunction with proposed future development(s). A field check of the entire airfield complex by SHPD historic architectural personnel is recommended.

REFERENCES

Armstrong, R. Warwick (editor)
1973 *Atlas of Hawaii*. Department of Geography, University of Hawaii. University Press of Hawaii, Honolulu.

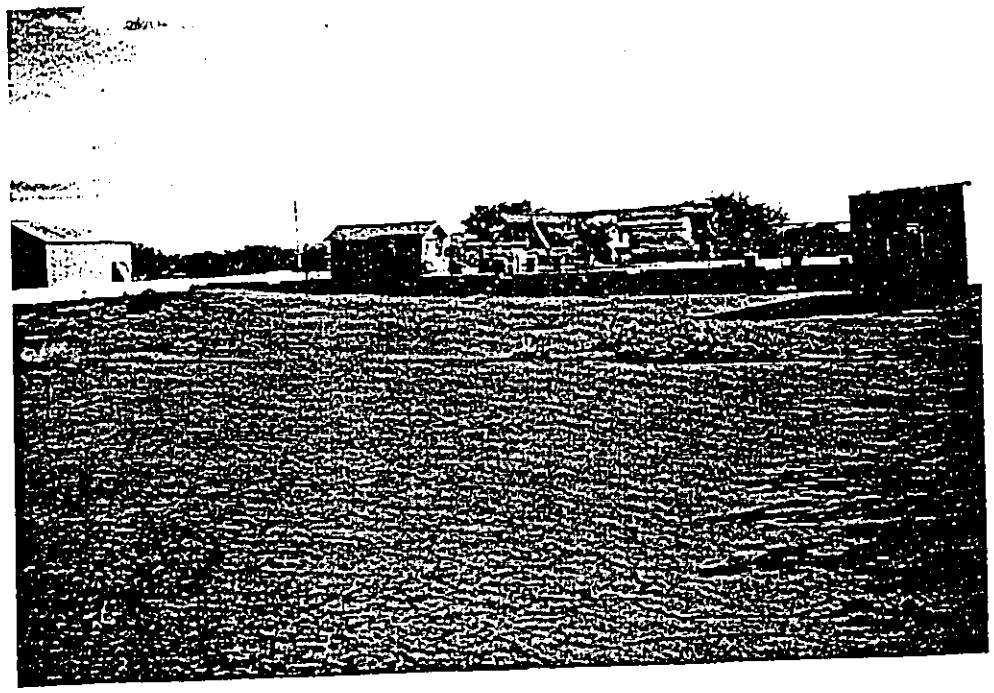
Foote, Donald E. et al.
1972 *Soil survey of Islands of Kauai, Oahu, Molokai, and Lanai, State of Hawaii*. U.S. Department of Agriculture, Soil Conservation Service. U.S. Government Printing Office, Washington D.C.

Handy, E.S. Craighill, and Elizabeth Green Handy
1972 *Native Planters in Old Hawaii, Their Life, Lore, and Environment*. Bishop Museum Bulletin 233. Bishop Museum Press, Honolulu.

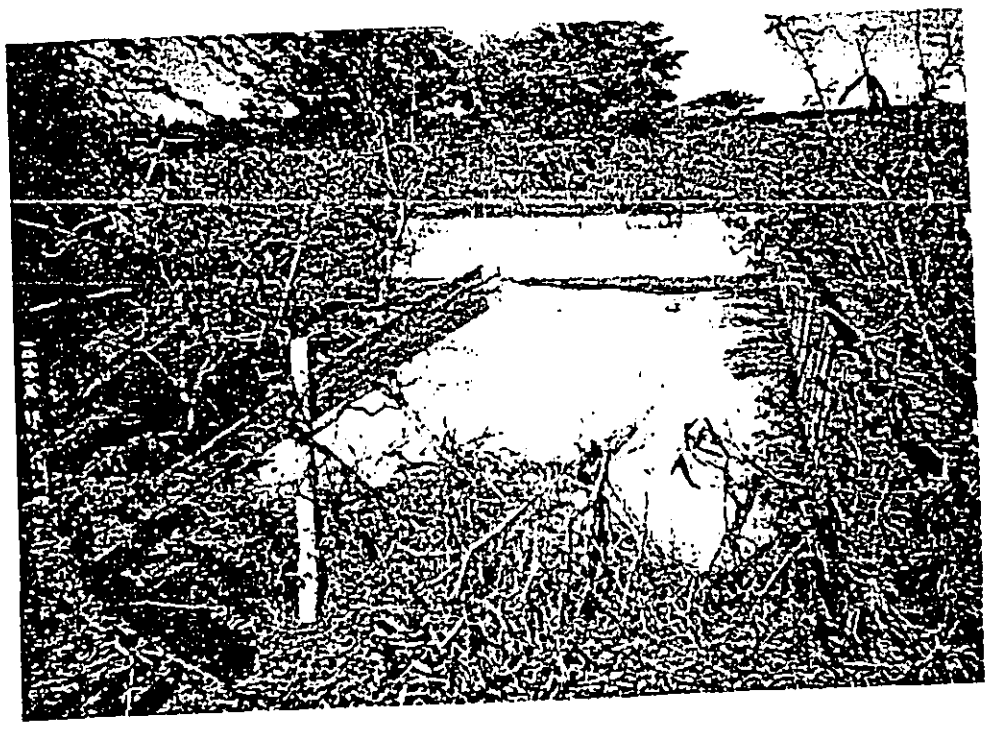
Kamakau, Samuel M.
1992 *Ruling Chiefs of Hawaii*. Revised Edition. Kamehameha Schools Press, Honolulu.

Maui Military Museum
1996 *Draft Outline for Data Recovery Plan: Naval Air Station Pu'unene*. The Maui Military Museum, Makawao. Ms. on file at the SHPD Library.

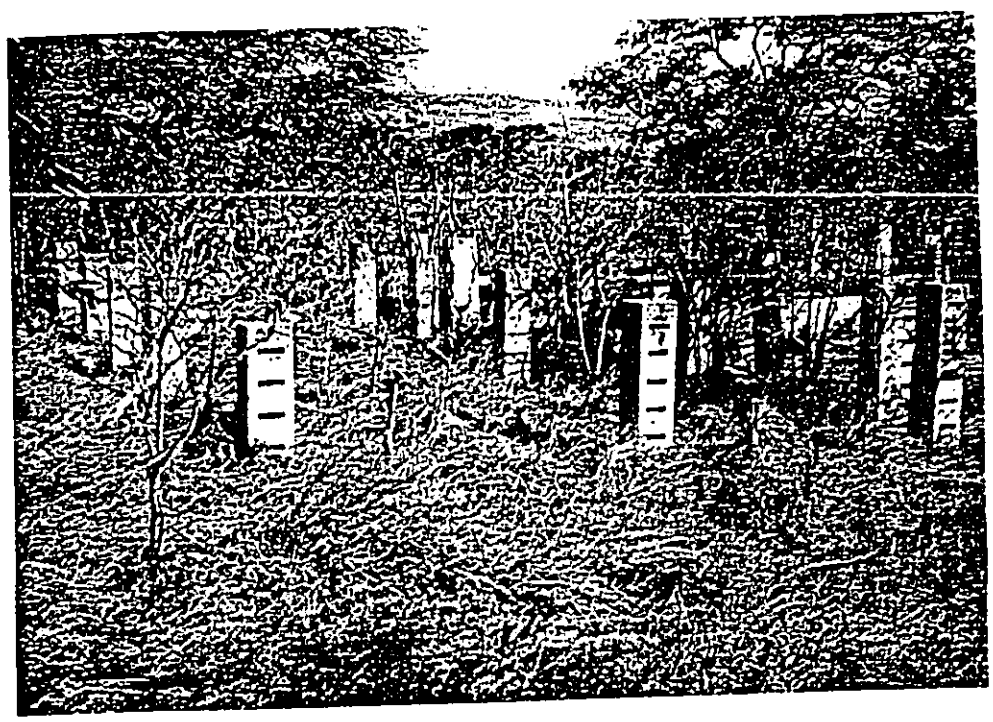
APPENDIX: Photographs



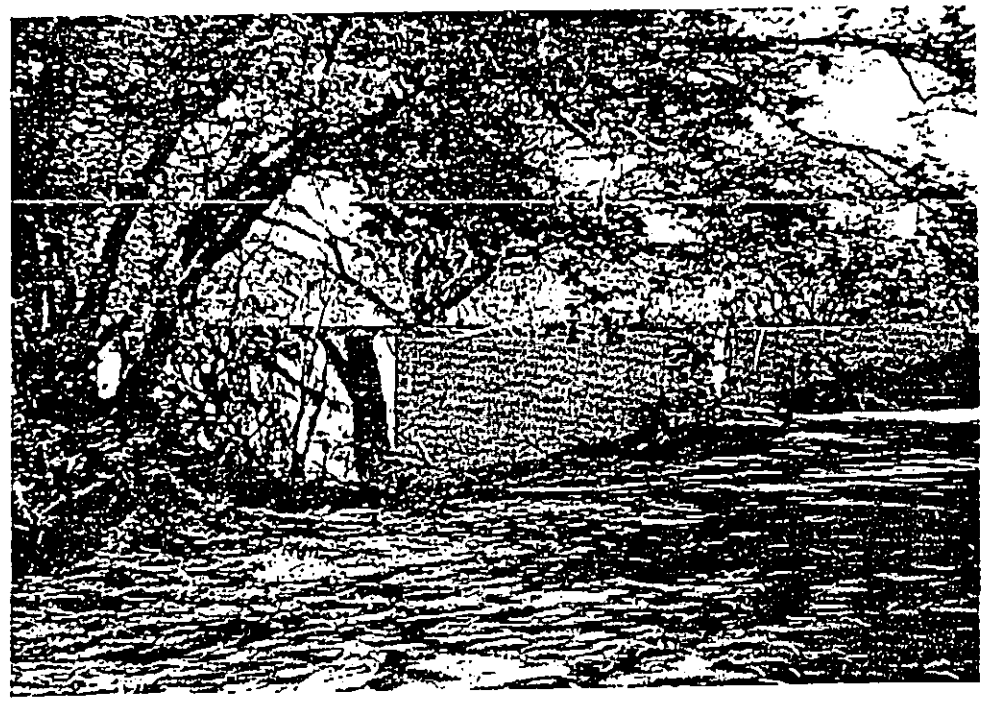
top: Overview of Taxiway, View North (Sept)
bottom: Murrayair Facility (30), View West (Oct)



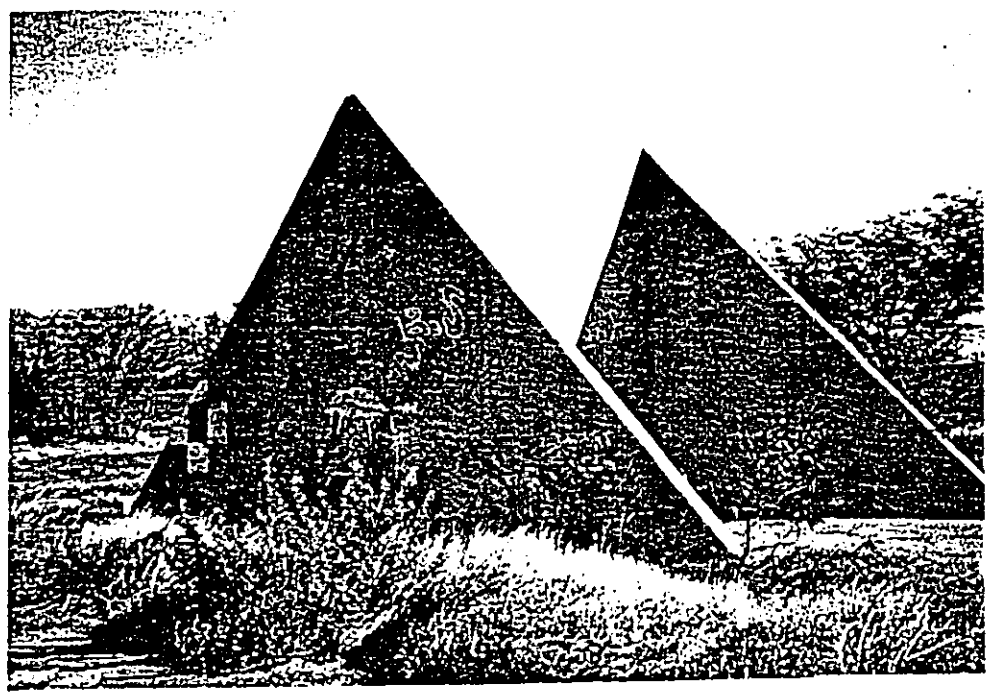
top: Swimming Pool (33), View North (Sept)
bottom: Gymnasium (23), View Northwest (Oct)



top: Mess Hall (6), View West (Oct)
bottom: Barracks (18), View Northeast (Oct)

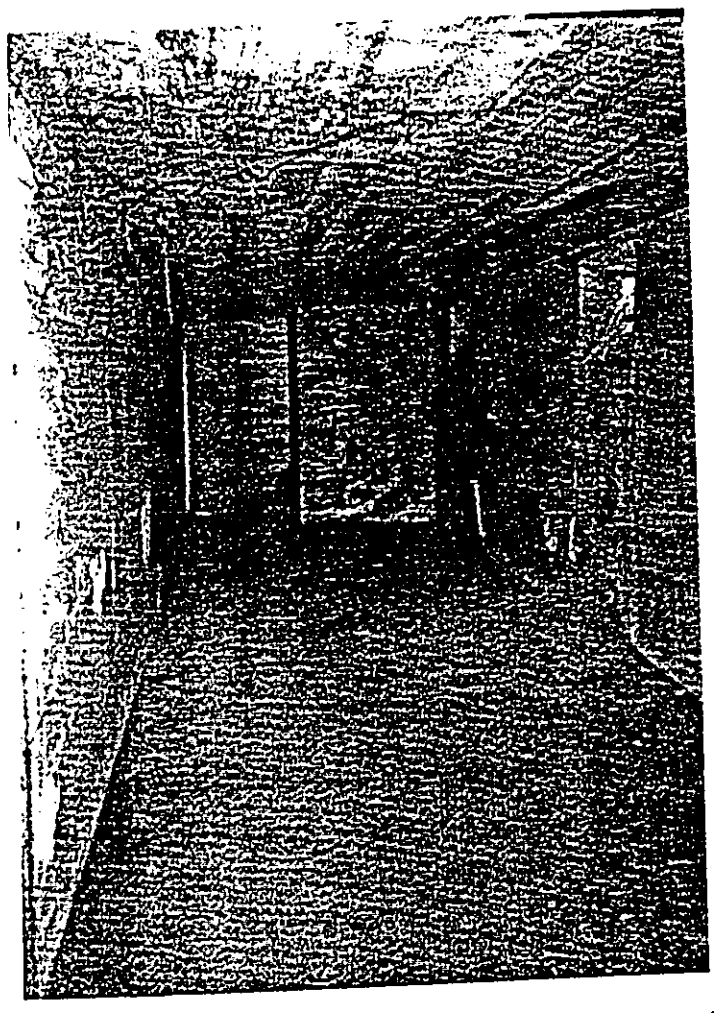


top: Aircraft Shops (21), View Northwest (Oct)
bottom: Central Walkway by Barracks (34), View North (Oct)

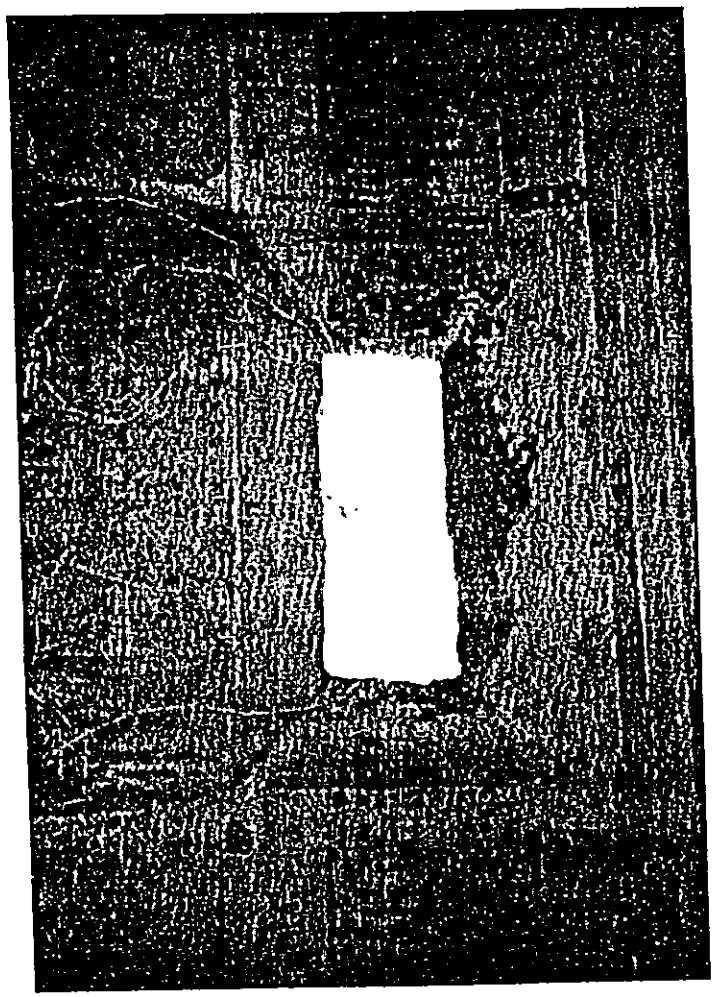


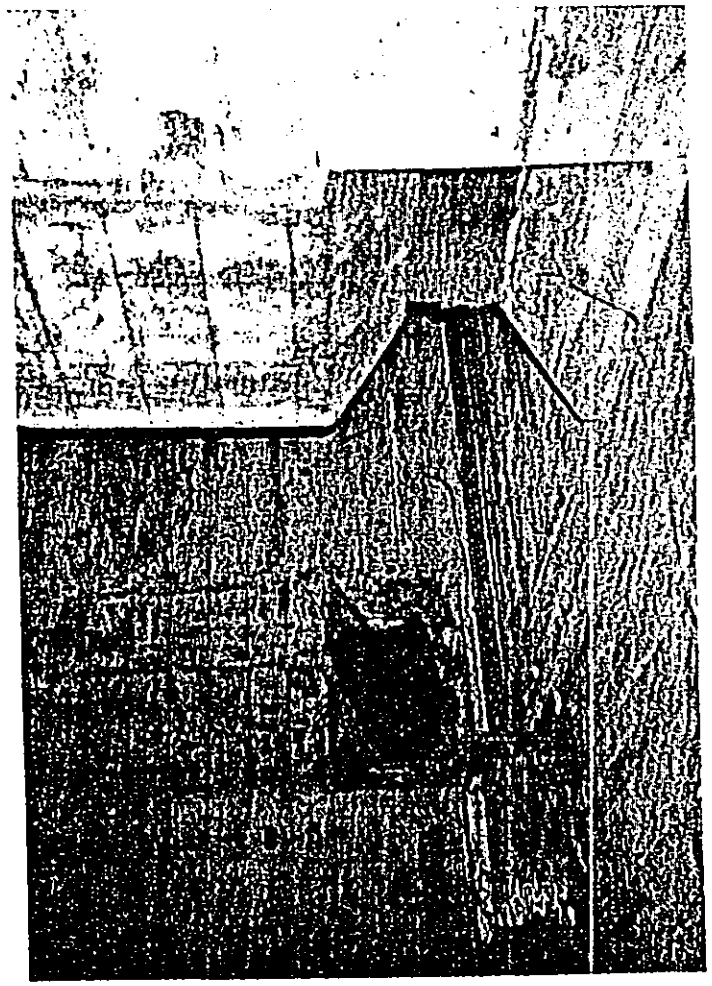
top: Splinter Shelter (38), View West (Sept)
bottom: Handball Court, View Southeast (Sept)

top: 3-Sided Wall (343), View East (Sept)
bottom: Detail of Mortared Back Wall and Concrete Lip, View North (Sept)



top: Isolated Splinter Shelter (41) Exterior, View Northeast (Sept)
bottom: Interior of Splinter Shelter (41) N-S Room, View North (Sept)





top: Interior of Splinter Shelter (41) at Bend, View North (Sept)
bottom: Interior Opening on East Wall Detail (41), View East (Sept)

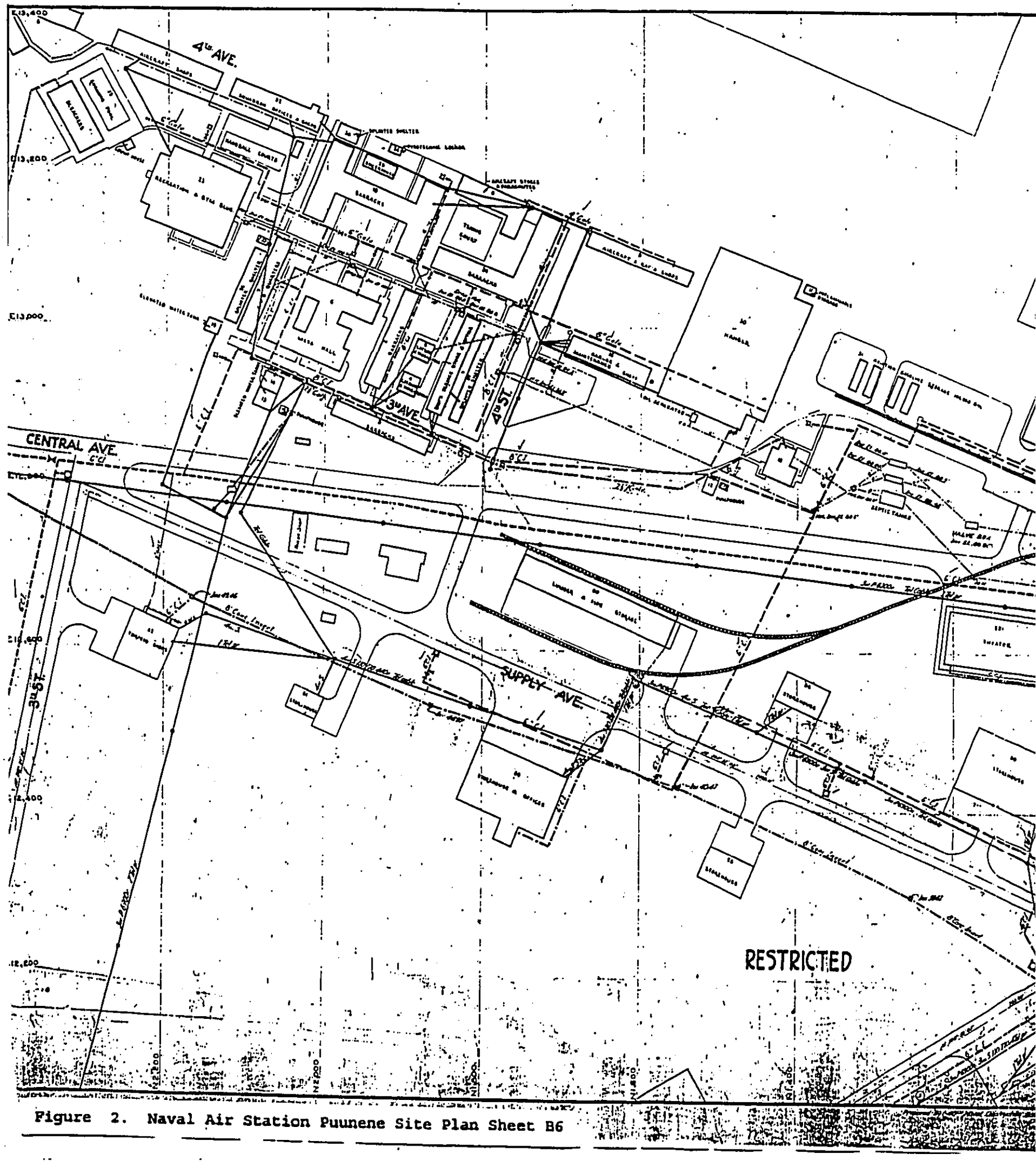
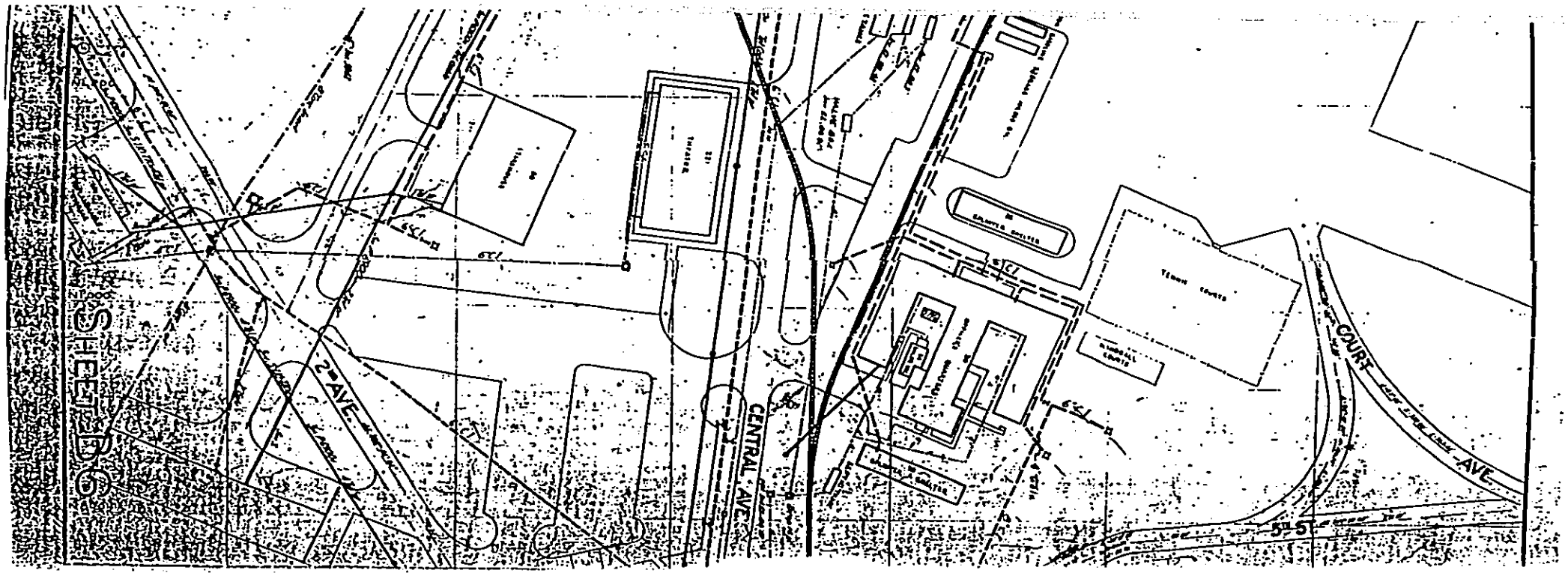


Figure 2. Naval Air Station Puunene Site Plan Sheet B6


SHEET 30
2nd AVE
CENTRAL AVE
COURT
AVE

Appendix A-1

State Historic Preservation Division Letter-May 29, 2000

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

May 29 1999

LOG NO: 23497
DOC NO: 9905RC53

Aki Sinoto
Aki Sinoto Consulting
2333 Kapiolani Blvd., No 2704
Honolulu, Hawaii 96826

Dear Mr. Sinoto:

SUBJECT: **Archaeological Inventory Survey of Proposed Army National Guard Area**
Pulehunui Ahupua'a, Wailuku, Maui
TMK: 3-8-08: por. 1

This letter reviews this report which was submitted to our office November 18, 1999 (Drolet & Sinoto 1998. An Archaeological Inventory Survey of the Proposed Army National Guard Planning Area. Aki Sinoto Consulting ms.).

The report acceptably covered the project area finding all historic sites -- remnant foundations, 5 intact bunkers, and remnants of the runways and taxies of a portion of the Naval Air Station Puunene site (4164) which was in operation 1939-1947. The background acceptably provides a historical context and predictions for the project. The remnant features are acceptably described and interpreted using historical records. The 5 bunkers need additional documentation to be fully described.

The site of the naval air station (4164) is likely to be significant for multiple criteria of the Hawaii Register of Historic Places, related to its association with World War II. However, we agree that the remnants of structures are "no longer significant" since the structures themselves were demolished and only remnant foundations exist. Ample historic documents record the actual structures and their historic value. We agree that intact bunkers still are significant as contributing structures to the naval air station, probably significant for their information content.

Your mitigation recommendations for the 5 bunkers is further documentation (mapping and photography). While this seems reasonable, our Architecture Branch suggests simple avoidance (preservation) is a possibility that would not require documentation at this point. If destruction is desired by your client, then you should consult further with our Architecture Branch on the mitigation issues. Please contact Carol Ogata at 692-8032 on this matter.

Aloha,

DON HIBBARD, Administrator
State Historic Preservation Division

RC:ac

Appendix A-2

Department of Accounting and General Services Letter- August 23, 1999

(P)1591.9

AUG 23 1999

TO: Mr. Don Hibbard, Administrator
State Historic Preservation Division
Department of Land and Natural Resources

SUBJECT: Maui Army National Guard Armory
Pulehunui, Wailuku, Maui (TMK: (2) 3-8-008: por 1)
Environmental Assessment

This letter addresses the review comments regarding the mitigation recommendations for the splinter shelter features in your letter of May 29, 1999, (LOG No. 23497, DOC No. 9905RC53), attached. Your suggestion of preservation through simple avoidance may certainly be a viable option suitable with the proposed military use of the area. However, it is currently a bit premature in the process to be able to commit to any mitigation option. Such measures would be more appropriately determined during the upcoming planning phases and may consist of avoidance, data recovery, or a combination of these procedures.

Please be assured, that as the planning and design procedures progress, we will be consulting with our archaeological consultant and your Architectural Branch regarding appropriate mitigation measures for these historic resources.

Should there be any questions on this matter, please have your staff contact Mr. Allen Yamanoha of the Planning Branch at 586-0483.

Gordon Matsuoka

GORDON MATSUOKA
Public Works Administrator

AY:mo
c: Lieutenant Colonel Richard Young, HIRANG w/attach
Richard Miyabara, GYA Architects, Inc. w/attach

Appendix A-3

Aki Sinoto Consulting
Letter-August 4, 1999

Aki Sinoto Consulting - Cultural Resource Management
2333 Kapiolani Blvd. No. 2704, Honolulu, Hawaii 96826 Tel (808)941-9538 Fax (808)942-1096

August 4, 1999

Mr. Richard Miyabara
GYA Architects, Inc.
Suite 303
Wells Street Professional Ctr.
2145 Wells Street
Wailuku, Maui, HI 96793

Dear Mr. Miyabara:

Subject: Boundary Modifications for the Maui Army National Guard Armory
Pulehunui, Wailuku, Maui Island (TMK 3-8-08:POR.1)

The modifications to the boundaries of the proposed Maui National Guard Armory as depicted on the attached figure you provided, consists of the deletion of a rectangular area adjoining the proposed MEO site to the north, addition of a nearly square area at the former northern terminus, and addition of a small remnant area between the former southern terminus and the access road to the Maui Drag Strip.

Based on coverage provided by the survey completed in October of 1998, the additional areas do not necessitate any additional archaeological fieldwork. The northern addition extends into a cleared cane field area and the southern area was included in the recent survey. A splinter shelter (No. 41) is located within the northern addition and another shelter (No. 35) is located within the southern addition. Both of these features are shown on Figure 3 on page 7 of the report, also attached herewith.

A copy of this letter and attachments will be provided to the State Historic Preservation Division of the Department of Land and Natural Resources. Since the areas have already been covered and the boundary modification involves no new features, revision of the report does not appear to be warranted. However, a copy of this letter should be attached to the report for future reference.

If you have any questions or comments, please contact me at the above number by telephone or facsimile.

Sincerely,

Aki Sinoto
Consulting Archaeologist

attachments: 2 figures

cc: Dr. Ross Cordy, SHPD/DLNR

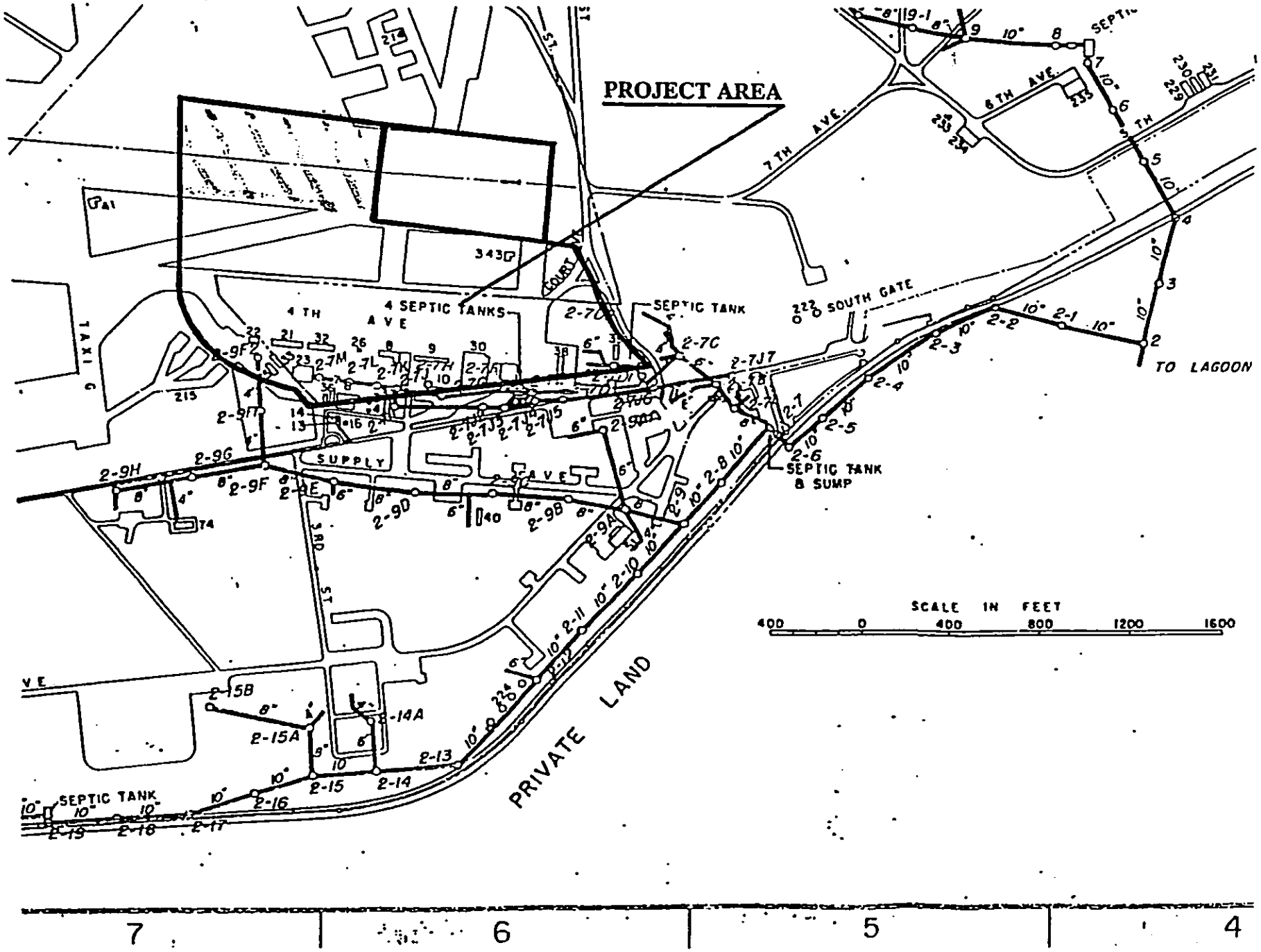
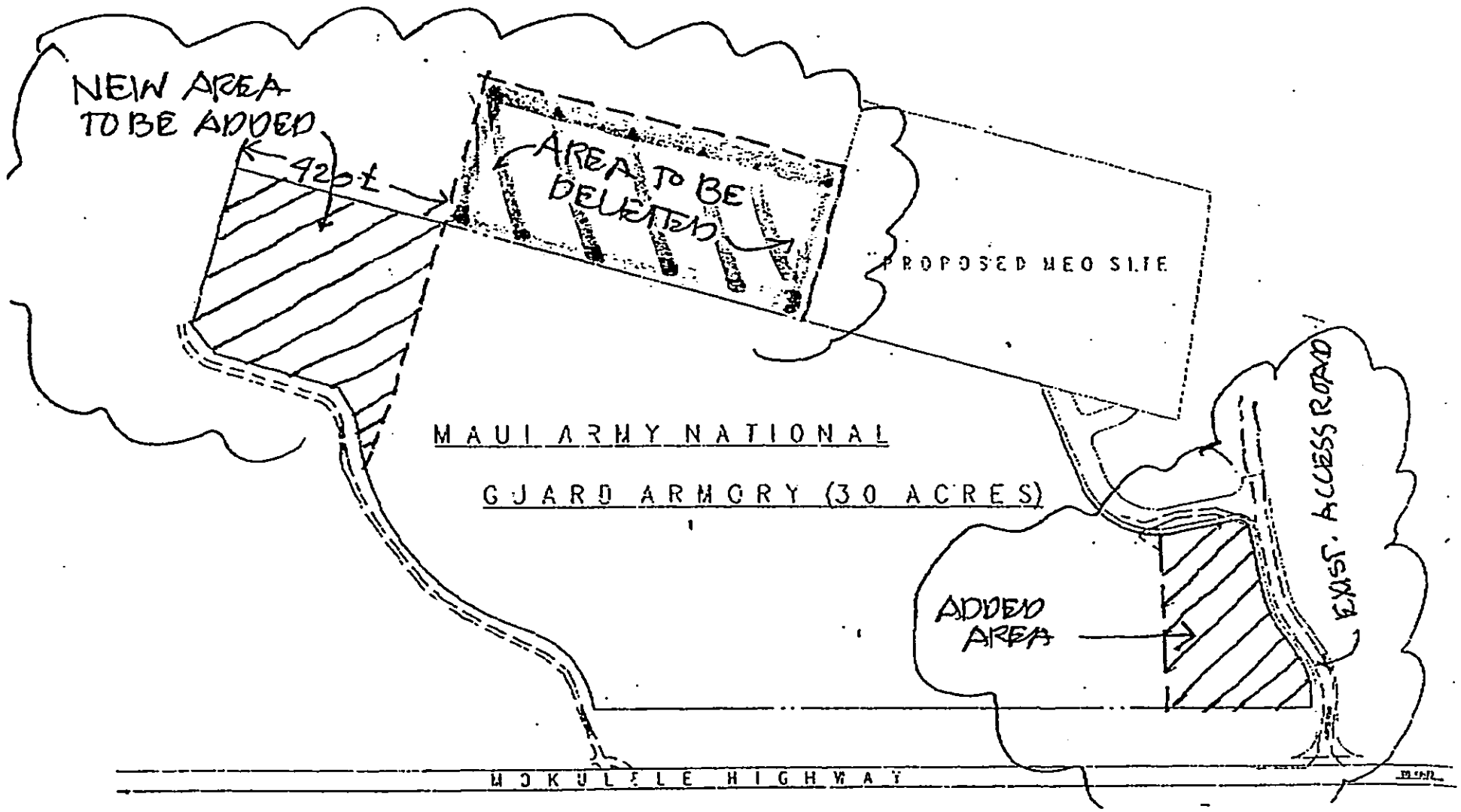


Figure 3. Portion of Air Station Plan with Project Boundary Overlay.



SITE PLAN
SCALE: 1"=100'-0"

MAUI ARMY NATIONAL GUARD ARMORY

PULEHUNUI, WAILUKU, HAWAII

D.A.G.S. JOB NO. 15-14-6194

Appendix B

Environmental Site Assessment- September 28, 1998

EnvironMETeo Services, Inc.
Environmental / Industrial Health & Safety

Property Site Inspection

for

GYA Architects
2145 Wells Street, Suite 303
Wailuku, Hawaii 96793

Property Inspected

Maui National Guard Armory Site
Puunene Airport
Pulehunui, Maui, Hawaii

Conducted by

EnvironMETeo (EMET) Services Inc.
on
September 28, 1998

EMET ID: 9803134

EnvironMETeo (EMET) Services, Inc. Waipio Gentry Business Park 94-515 Uke'e Street, #304 Waipahu, Hawaii, USA 96797-4200
(808) 671-8383...Telephone (808) 671-7979...Facsimile emet@aloha.net...E-mail

Table of Contents

EnvironMETeo (EMET) Services, Inc. Waipio Gentry Business Park 94-515 Uke'e Street, #304 Waipahu, Hawaii, USA 96797-4200
(808) 671-8383...Telephone (808) 671-7979...Facsimile emet@aloha.net...E-mail

Certification of Report

We certify that this report is based on an inspection of the proposed Maui National Guard Armory site, located within the Puunene Airport Area Master Plan in Pulehunui, Maui, Hawaii. The purpose of the inspection was to sample for suspect asbestos-containing building materials, lead-containing paint and identify any conditions at the site that may present an environmental hazard or liability. Dr. Karl How, CIH, of EnvironMETeo (EMET) Services Inc. conducted the inspection on September 28, 1998.

EMET makes no warranty and assumes no liability for the inappropriate use or misuse of this document.

Karl How

Date: Oct. 29, 1998

Karl How, Ph.D., CIH
EnvironMETeo Services Inc.

EnvironMETeo (EMET) Services, Inc. Waipio Gentry Business Park 94-515 Uke'e Street, #304 Waipahu, Hawaii, USA 96797-4200
(808) 671-8383...Telephone (808) 671-7979...Facsimile emet@aloha.net...E-mail

Purpose

Dr. Karl How of EnvironMETeo Services, Inc. (EMET) conducted a walk-through site inspection on September 28, 1998 of the proposed Maui National Guard Armory. The site covers approximately 35 acres and is located within the larger Puunene Airport Area Master Plan MEO Transportation Facility in Pulehunui, Maui, Hawaii. Mr. Richard Miyabara of GYA Architects Inc. requested and authorized the inspection of the proposed Armory property. The visual inspection was conducted to sample for suspect asbestos containing building materials and to identify lead hazards, existing and potential surface contamination hazards along with any other identifiable environmental hazards that may exist at the site.

Historical Data

Based on available information for this site found in the Master Plan report, it is possible that this site may contain a number of underground fuel storage tanks (UST's). US Navy, Bureau of Yards and Docks records specifically mention the existence of an underground aviation-gasoline storage system installed in 1943. The exact location of the tanks has not, as yet, been determined. It is likely that these tanks are in the area of the Naval Air Station, although, it was noted that the State of Hawaii has no official record of UST's at this site.

The possibility exists that unexploded ordnance may be found at the site as the area was once used as a Naval Air Station, Fuel and chemical spills may also have occurred related to military and agricultural uses. Murray Air operated a crop dusting company from this site. It is possible that pesticides may also have contaminated portions of the site.

Inspection

On September 28, 1998, Dr. Karl How walked the site and inspected (1) the buildings for the presence of suspect asbestos-containing materials and

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potential lead-containing paint surfaces and, (2) the property for any existing, visible contamination or potential ground contamination.

Two recent stakes with pink ribbons were found on the site. It was presumed that they indicate the northeast and southeast corners of the Armory Site. Most of the site is paved with asphalt, with the following exceptions: the Murray Air fenced area which was paved with concrete; and the following areas covered with bushes parallel to Mokulele Highway that is covered with bushes (a) between the highway and the taxiway; and, (b) the southern boundary next to the access road, covered.

Onsite Structures

(1) South End: Triangular concrete structure.

(2) Inside Murray Air Fenced Area: Two 10ft x 15ft wooden sheds with green paint on the exterior.

(3) One corrugated galvanized roof and wall panel building of measuring approximately 30 ft x 8 ft.

(4) One small wooden shed of 8 ft x 6 ft with white/greenish paint on exterior.

(5) One newer building of 15 ft x 10 ft with plyboard wall panels and drywall interior wall. Exterior not painted.

(6) Two shipping containers - one 20 feet long and the other 40 feet long.

(7) One concrete building of 16 ft x 12 ft with green paint on exterior.

(8) One concrete entryway and stair to an underground tunnel with green paint on the exterior.

(9) One triangular structure located at the northwest portion of the site.

(10) One abandoned building, 12'x12', with concrete foundation and shake roof.

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Findings and Potential Sources of Contamination

No suspect asbestos-containing building materials were observed at the site. Lead based paint may be present. The potential sources of this potential contamination are:

(1) Suspect lead-containing paint on buildings and two of the concrete structures.
(2) Pesticide and fertilizer contamination in the of mixing and dispensing areas at Murray Air Crop Duster Services.
(3) Fuel contamination resulting from military or agricultural uses.
(4) *Former Naval Air Station* (NAS), underground storage tanks closed in place.
(5) The presence of unexploded ordnance on the property should be investigated further.

Recommendations

A more complete environmental site assessment should be performed. The assessment should include testing for suspected lead-based paint, sampling of soil for petroleum, pesticides and lead contamination. Toning for buried metallic objects should also be conducted to determine the existence and/or location of buried metal objects which may be either UST's or even perhaps unexploded ordnance.

An environmental assessment may be required for the development of the development of this property.

Limitations

All dimensions and quantities are approximations. These quantities and dimensions were not verified during the inspection and should be field verified when necessary. EMET makes no warranty and assumes no liability for the inappropriate use or misuse of this document.

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Appendix A

Site Location

Proposed Maui National Guard Armory Site
Pulehunui, Maui, Hawaii

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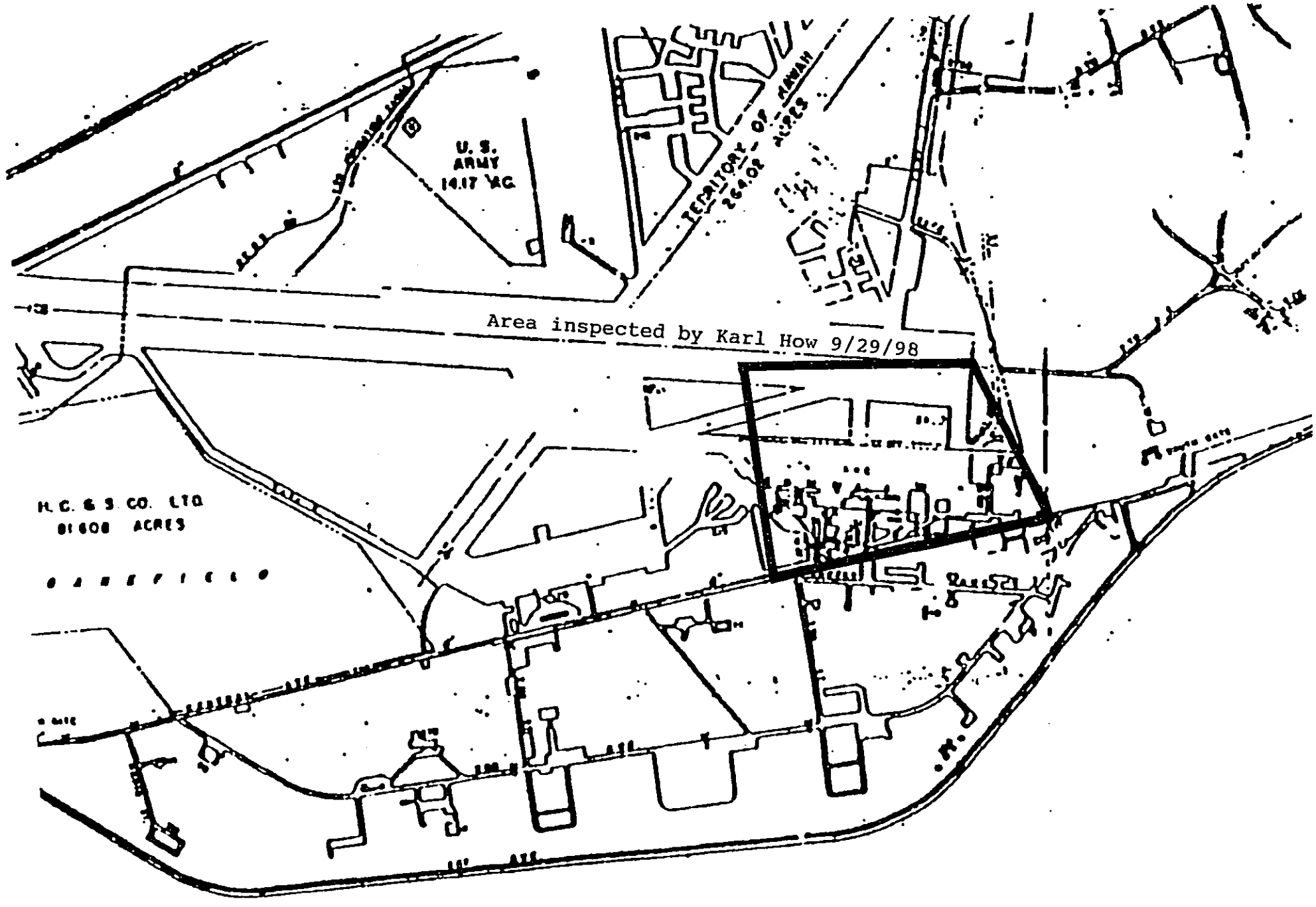
U. S.
ARMY
14.17 AC.
TERRITORY OF HAWAII
264.02 ACRES
Area inspected by Karl How 9/29/98
H. C. & S. CO. LTD.
81.608 ACRES

Appendix B

Photographic Log

EnvironMETeo (EMET) Services, Inc. Waipio Gentry Business Park 94-515 Uke'e Street, #304 Waipahu, Hawaii, USA 96797-4200
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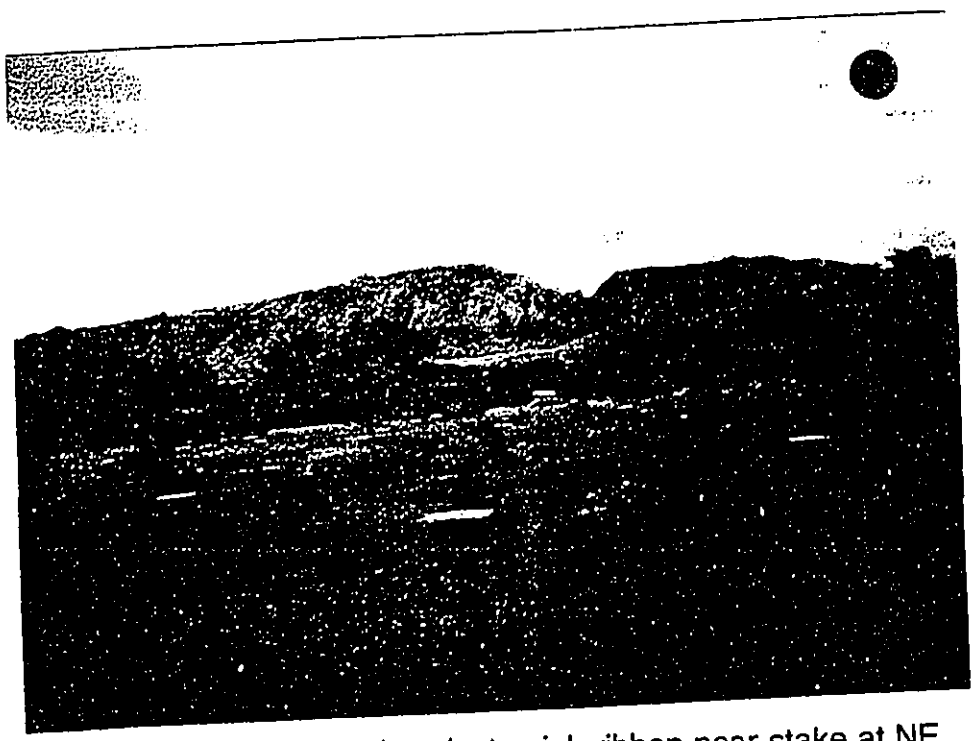

View from north boundary (note pink ribbon near stake at NE corner) looking west.

Close up of building on the northwest, next to Mokulele Highway.

Proposed Maui National Guard Armory Site
Pulehunui, Maui, Hawaii

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Triangular concrete structures to the northwest, south of building in Photo #2.

Concrete entryway to underground tunnel, south of structure in Photo #3.

Proposed Maui National Guard Armory Site
Pulehunui, Maui, Hawaii

EMET: 9803134

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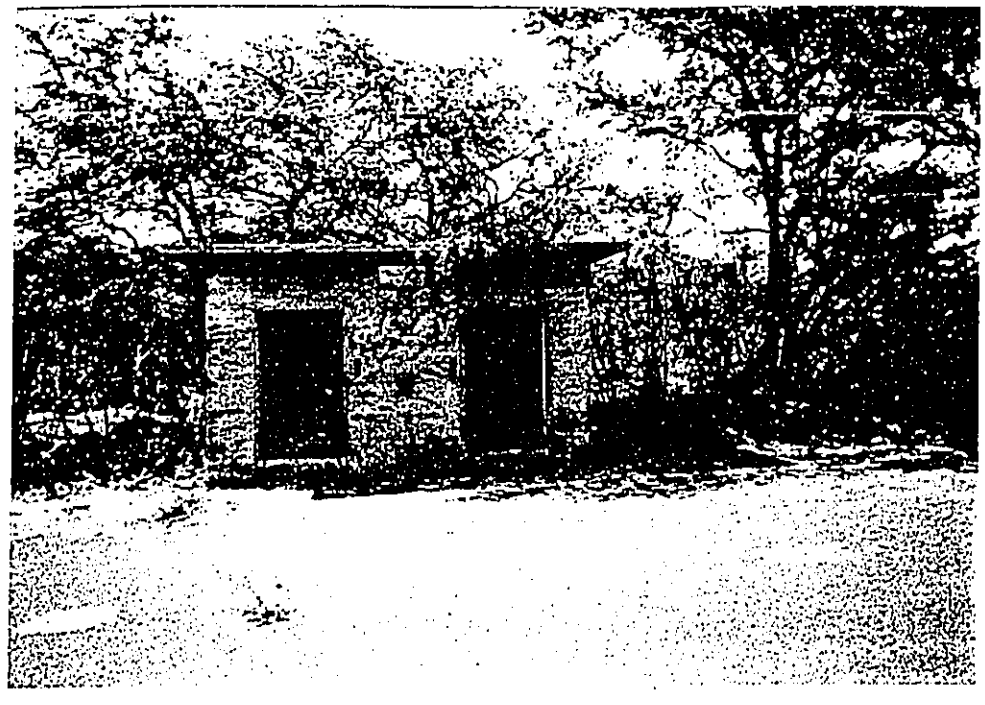
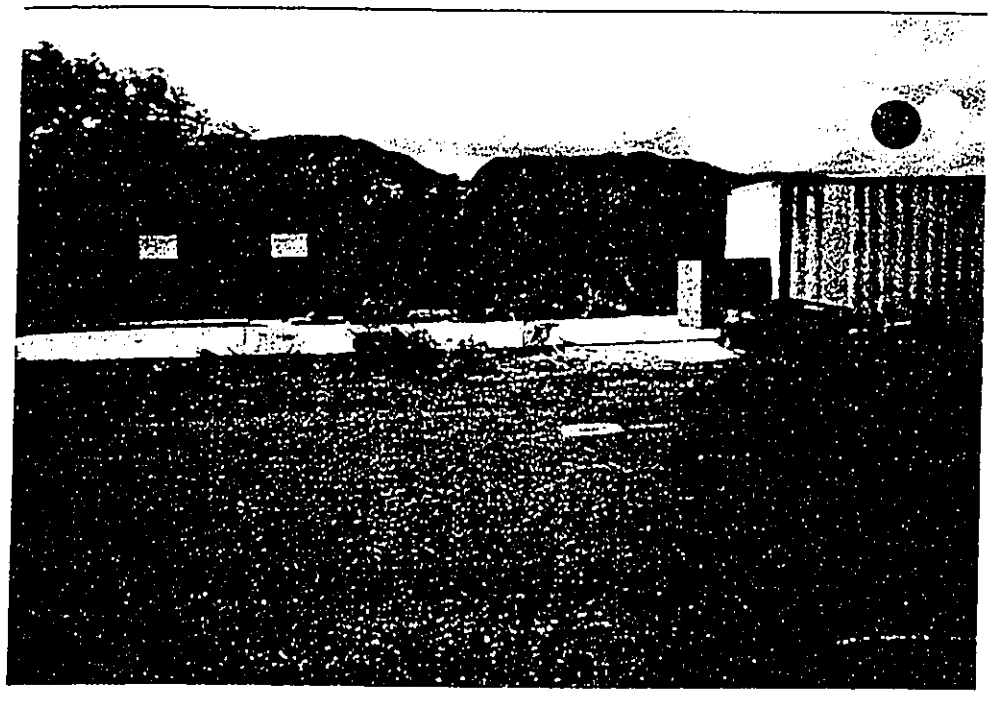


Concrete building south of entryway in Photo #4.



Container and newer, wooden building, south of concrete building in Photo #5.

Proposed Maui National Guard Armory Site
Pulehunui, Maui, Hawaii

EMET: 9803134

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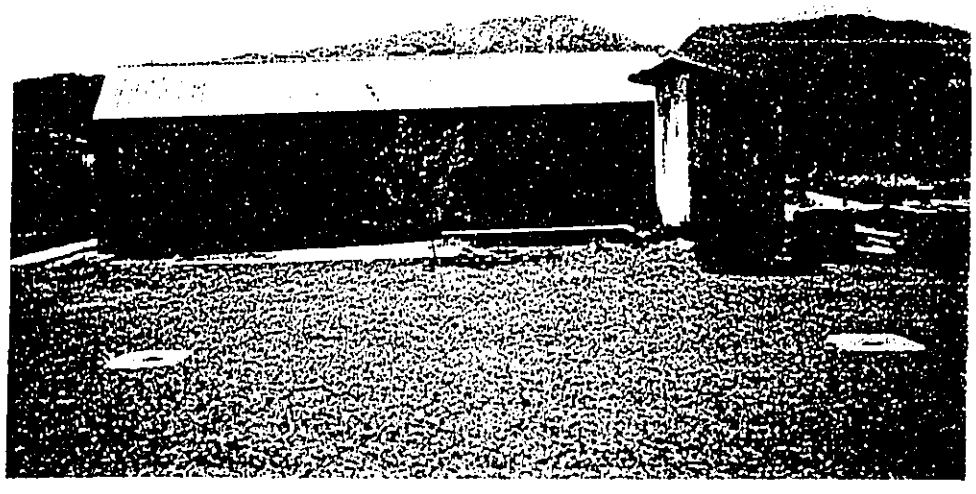
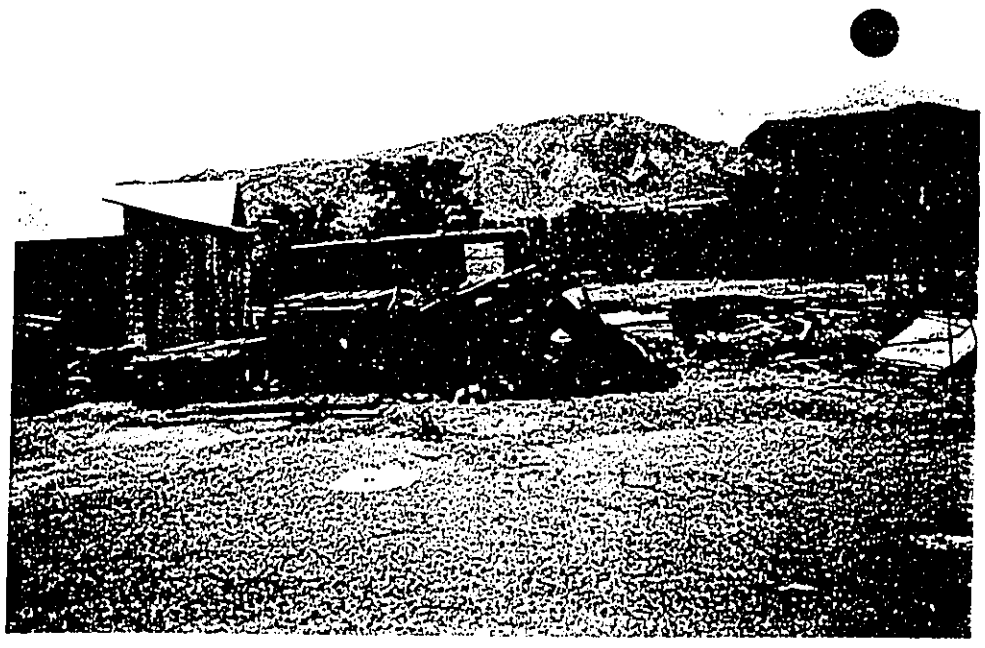


Wooden shed and building with completed roof and walls, south of newer wooden building



Container to the west of wooden shed.

Proposed Maui National Guard Armory Site
Pulehunui, Maui, Hawaii

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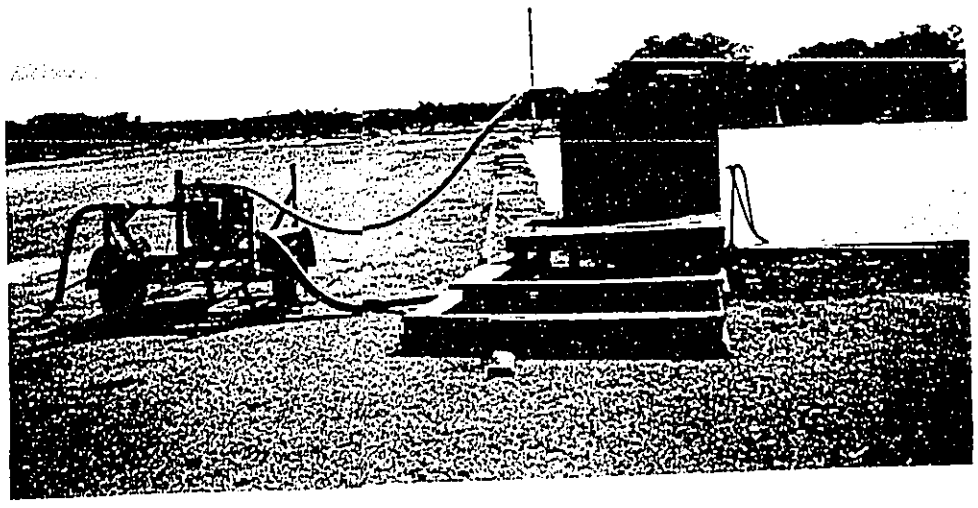
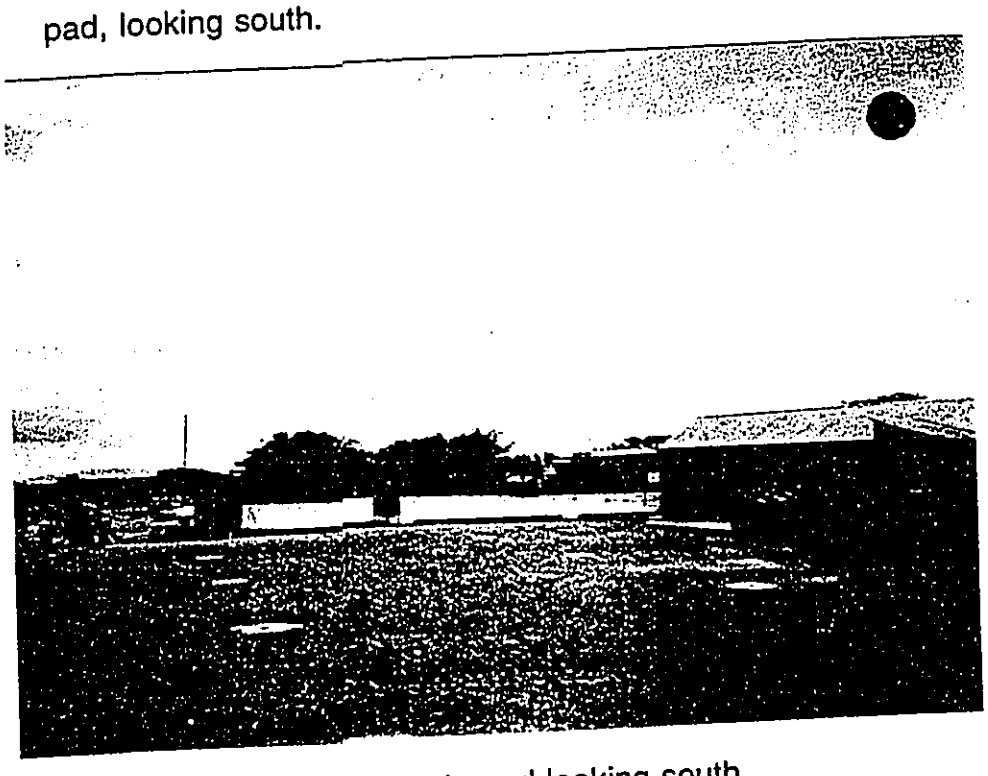


Mixing tank and pump to transfer fertilizer or pesticides onto the Murray Air Crop Duster, on the north east corner of the concrete pad, looking south.



Murray Air Service concrete pad looking south.

Proposed Maui National Guard Armory Site
Pulehunui, Maui, Hawaii

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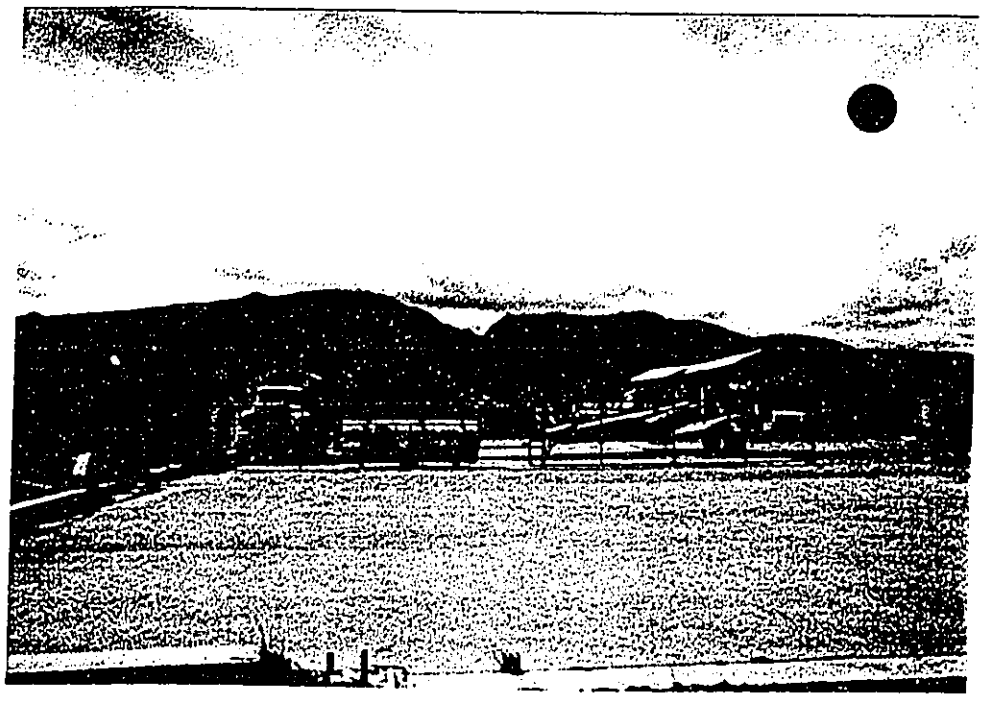
EMET

Murray Air Service, northern half of fenced area, looking west.



Murray Air Service, southern half of fenced area, looking west.

Proposed Maui National Guard Armory Site
Pulehunui, Maui, Hawaii

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Panoramic view looking to the southwest of Murray Air Facility.

View of concrete triangular structure looking southwest of the project area.

Proposed Maui National Guard Armory Site
Pulehunui, Maui, Hawaii

EMET: 9803134

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Panoramic view of southeast of project area (note pink ribbon near stake at the southeast corner).

View of runway immediate to the west of project area looking south. White car is parked at the northwest corner of project area with the concrete triangular structure situated on the south end at the far end of the project.

Proposed Maui National Guard Armory Site
Pulehunui, Maui, Hawaii

EMET: 9803134

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EMET

Appendix C

Certifications

EnvironMETeo (EMET) Services, Inc. Waipio Gentry Business Park 94-515 Uke'e Street, #304 Waipahu, Hawaii, USA 96797-4200
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The

American Board of Industrial Hygiene

ABIH

organized to improve the practice of Industrial Hygiene
proclaims that

Karl J.S. How

having met all requirements through
education, experience, and examination,
is hereby certified in the

COMPREHENSIVE PRACTICE
of
INDUSTRIAL HYGIENE

and has the right to use the designations

CERTIFIED INDUSTRIAL HYGIENIST

CIH

June 18, 1990 — C.O. Bell, D.Sc., CIH
date — Chairman ABIH

4667 — James R. Thomas, C.I.H.
certificate number — Secretary ABIH

STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES

ENVIRONMENTAL LABORATORY CERTIFICATION

is hereby granted to

EMSL ANALYTICAL, INC.

1720 S. AMPHLETT, SUITE 130

SAN MATEO, CALIFORNIA

to conduct analyses of environmental samples as specified in the
"List of Approved Fields of Testing and Analytes"
which accompanies this Certificate.

This Certificate is granted in accordance with provisions of Section 1010, et seq.
(New Section 100825) of the Health and Safety Code.

Certificate No.: 1620

Expiration Date: 09/30/1999

Issued on: 09/01/1997

at Berkeley, California,
subject to forfeiture or revocation.

George C. Kulasingam, Ph.D.
Manager
Environmental Laboratory Accreditation Program

THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION
is proud to acknowledge that

EMSL Analytical, Inc.
Westmont, NJ
Laboratory ID# *7014*

has fulfilled the requirements for the Environmental Lead Laboratory Accreditation Program and has earned distinguished recognition as an

AIHA ELLAP ACCREDITED LABORATORY

01/18/1998 - 01/18/2001

In the following matrices: Paint Soil Dust Air

This program is recognized by the EPA as meeting the requirements of the National Lead Laboratory Accreditation Program established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air analysis is not included as part of the NLLAP.

D. Jeff Burton, CIH, PE, CSP
President, American Industrial Hygiene Association

Eric L. Botnick, Chair, Environmental
Lead Laboratory Accreditation Committee

Mark Puskar, Ph.D., Chair,
Analytical Accreditation Board

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Certificate of Accreditation

EMSL ANALYTICAL, INC.
SAN MATEO, CA

is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for:

BULK ASBESTOS FIBER ANALYSIS

June 30, 1999
Effective through

For the National Institute of Standards and Technology
NVLAP Lab Code: 101048-3

NVLAP-01C (11-95)

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Certificate of Accreditation

DEPARTMENT OF COMMERCE ★ UNITED STATES OF AMERICA ★

EMSL ANALYTICAL, INC.
SAN MATEO, CA

is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for:

AIRBORNE ASBESTOS FIBER ANALYSIS

June 30, 1998
Effective through

For the National Institute of Standards and Technology

NVLAP Lab Code: 101048-3

NVLAP-01C (11-95)

The American Industrial Hygiene Association

is proud to acknowledge that

EMSL Analytical, Inc.

Westmont, NJ

Laboratory ID# 7012

has fulfilled the requirements for Industrial Hygiene Laboratory Accreditation and has earned distinguished recognition as an

AIHA IH Accredited Laboratory

Originally Accredited February 1, 1989, current certificate effective February 1, 1995 until February 1, 1998, subject to continued compliance with AIHA accreditation criteria.

August 18, 1995

Date Prepared

President
American Industrial Hygiene Association

381

Certificate Number

Chairman
IH Laboratory Accreditation Committee

THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION
is proud to acknowledge that

EMSL Analytical, Inc.
Westmont, NJ
Laboratory ID# *7014*

has fulfilled the requirements for the Environmental Lead Laboratory Accreditation Program and has earned distinguished recognition as an

AIHA ELLAP ACCREDITED LABORATORY

01/18/1998 - 01/18/2001

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D. Jeff Burton, CIH, PE, CSP President, American Industrial Hygiene Association	Eric L. Botnick, Chair, Environmental Lead Laboratory Accreditation Committee	Mark Puskar, Ph.D., Chair, Analytical Accreditation Board

Appendix C

Traffic Impact Report-
December 1999

TRAFFIC IMPACT REPORT

FOR THE

PUUNENE ARMORY

HAWAII ARMY NATIONAL GUARD

MAUI

Prepared for:

GYA Architects Inc.
2145 Wells Street, Suite 303
Wailuku, Hawaii 96793

Prepared by:

Wilson Okamoto & Associates, Inc.
1907 South Beretania Street
Honolulu, Hawaii 96826

December 1999

TABLE OF CONTENTS

LIST OF EXHIBITS

LIST OF TABLES

LIST OF APPENDICES

I. INTRODUCTION

A. Purpose of Study

The purpose of this study is to identify and assess the traffic impacts resulting from the proposed Hawaii Army National Guard's Puunene Armory, which will be located in central Maui adjacent to Mokulele Highway.

B. Scope of Study

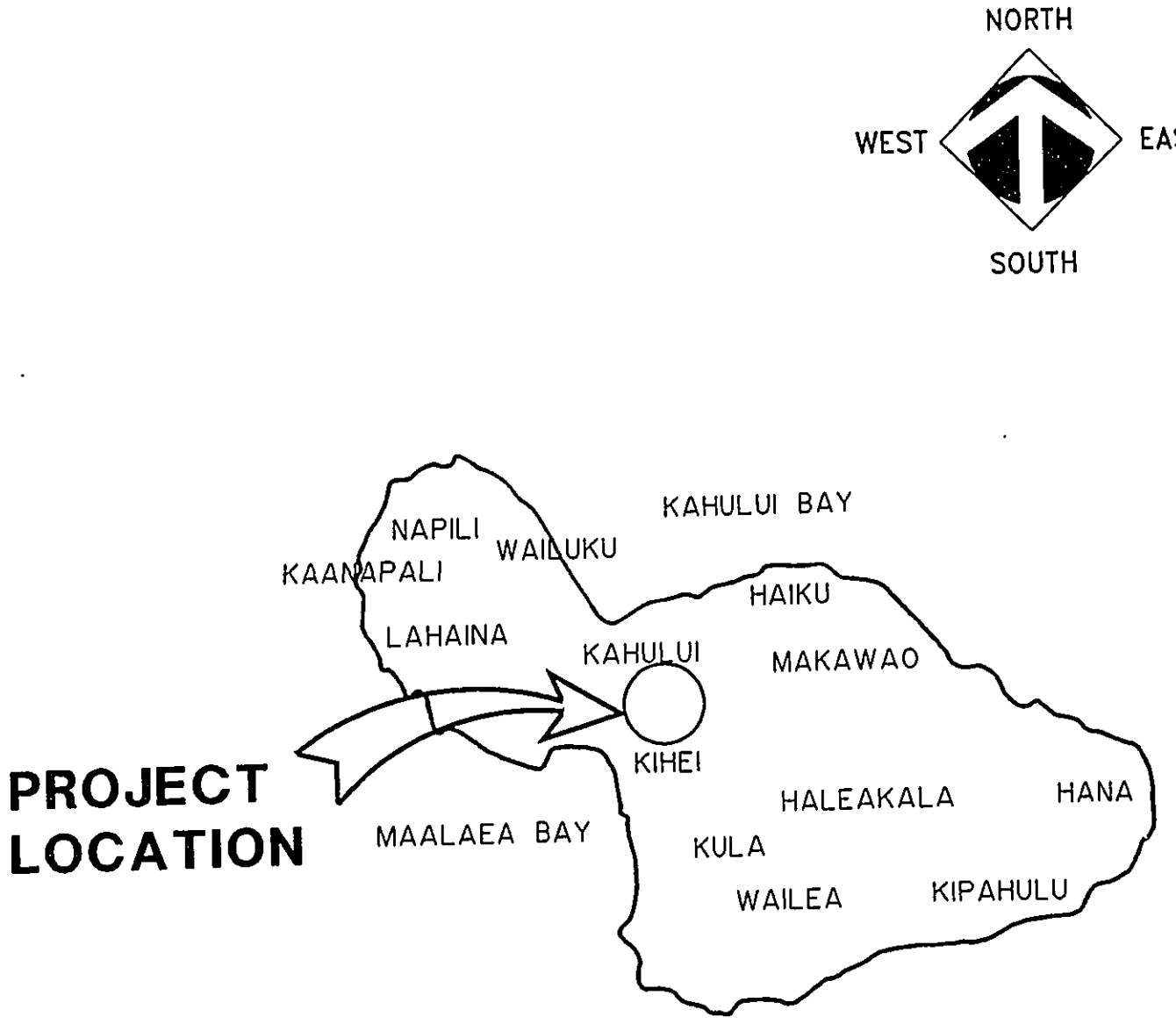
This report presents the findings and conclusions of the traffic study, the scope of which includes:

1. Description of the proposed project.
2. Evaluation of existing roadway and traffic operations in the vicinity.
3. Analysis of future roadway and traffic conditions without the proposed project.
4. Analysis and development of trip generation characteristics for the proposed project.
5. Superimposing site-generated traffic over future traffic conditions.
6. The identification and analysis of traffic impacts resulting from the proposed project.
7. Recommendations of improvements, if appropriate, that would mitigate the traffic impacts resulting from the proposed project.

II. PROJECT DESCRIPTION

A. Location

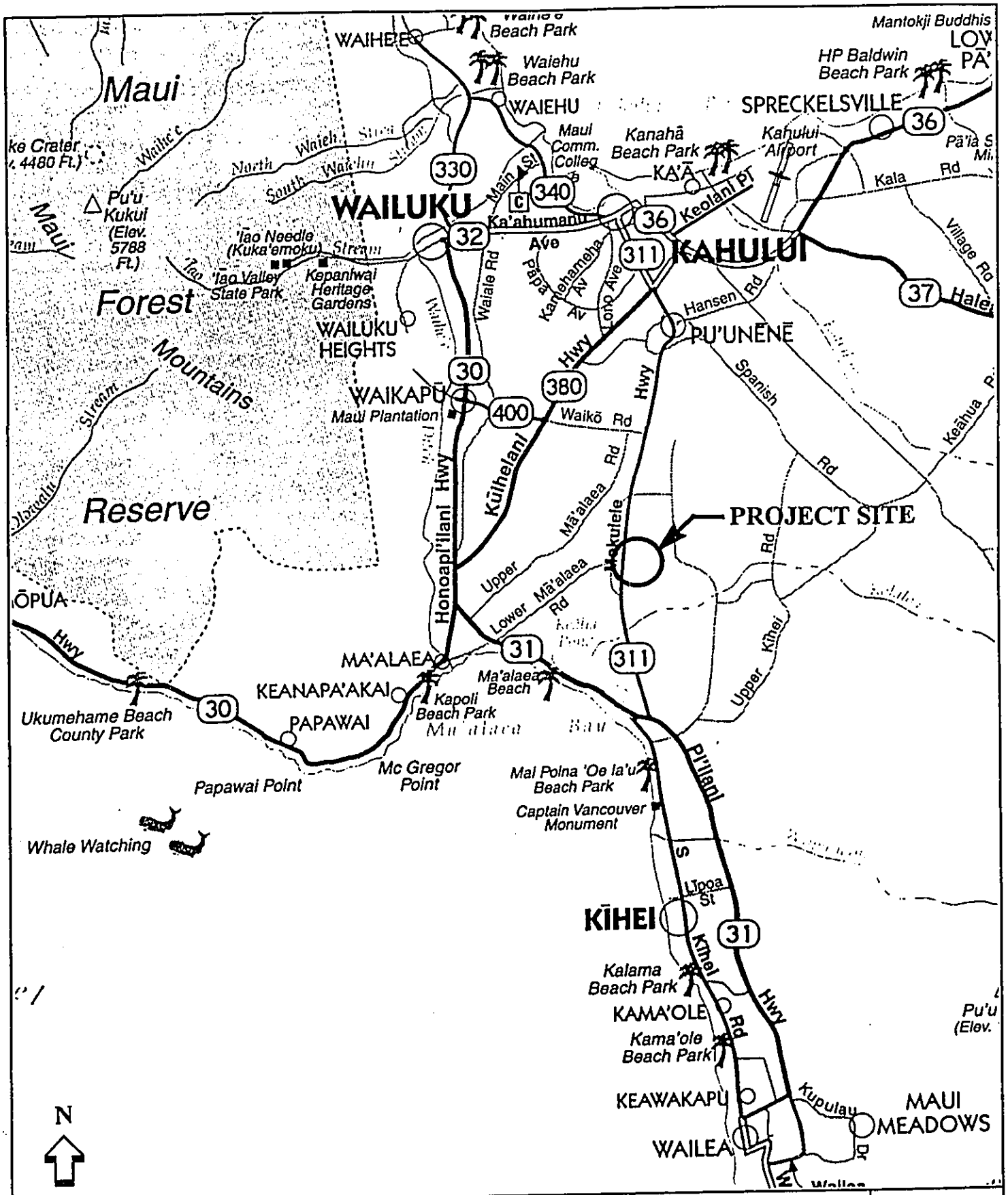
The project site is located off Mokulele Highway, at the former Puunene Airport, near the Maui Raceway Park in Central Maui as shown on Exhibits 1 and 2. The project site is further identified as Tax Map Key 3-8-08: por. 01. Access to the site will be via an access road off Mokulele Highway.



PROJECT LOCATION

MAUI

WILSON OKAMOTO & ASSOCIATES, INC. ENGINEERS - PLANNERS 1907 S. BERETANIA STREET HONOLULU, HAWAII 96826	PUUNENE ARMORY LOCATION MAP	EXHIBIT 1



WILSON OKAMOTO & ASSOCIATES, INC. ENGINEERS - PLANNERS 1907 S. BERETANIA STREET HONOLULU, HAWAII 96826	PUUNENE ARMORY VICINITY MAP	EXHIBIT 2

B. Project Characteristics

The Puunene Armory is expected to be completed and occupied by the Year 2002, and would provide offices, classrooms, maintenance facilities, an assembly hall, and other essential areas to support approximately 150 troop personnel. The Armory Facility would consist of the following areas:

- Armory/Organization Maintenance Shop (OMS)
- Post Exchange
- Parking areas to accommodate 120 passenger cars and 79 military vehicles, trailers, and equipment
- Helipad
- Storage areas

The project preliminary site plan is shown as Exhibit 3.

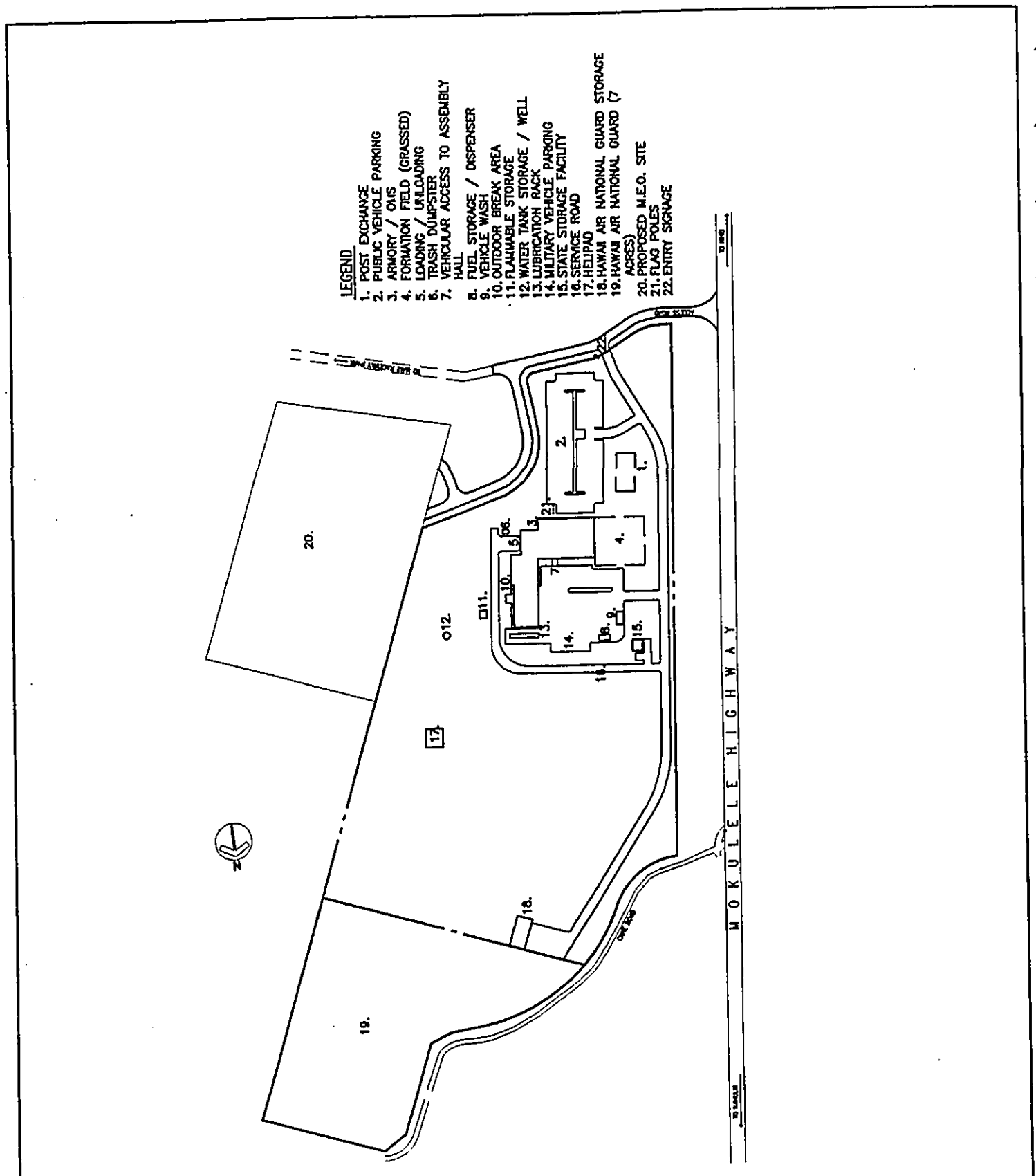
III. EXISTING CONDITIONS

A. General

The proposed project site is located approximately six miles from Kahului and two miles from Kihei. The site is a portion of the 273 acre parcel of land located adjacent to Mokulele Highway and identified as Project District 10 by the Kihei-Makena Community Plan. Mokulele Highway is the main access road between Kahului and Kihei and has seen a steady increase in traffic volumes over the years.

B. Area Roadway System

Mokulele Highway is primarily a two-way, two-lane, undivided State highway which provides a physical link between the communities of Kahului and Kihei. Mokulele Highway traverses the midsection of the island, and is straight and relatively flat throughout its alignment with a pavement width of 30 feet and a right-of-way of 40 feet. The southern limit of Mokulele Highway connects with Piilani Highway which provides access to the Wailea resort area. The posted speed limit on Mokulele Highway is 50 miles per hour. The State Department of Transportation is planning to widen Mokulele Highway to four lanes in the future. However, the schedule to widen



SCALE: 1" = 350'

PROVIDED BY GYA ARCHITECTS, INC.

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HONOLULU, HAWAII 96826

PUUNENE ARMORY

PROJECT SITE PLAN

EXHIBIT

3

the highway is not known at this writing. The study therefore reflects a conservative approach by assuming that the highway will remain at two lanes at the completion of the subject project.

C. Traffic Volumes and Conditions

1. General

a. Field Investigation

The field investigation was conducted on October 12 and 13, 1999. The investigation consisted of a 24-hour mechanical traffic count north of project site's access road on Mokulele Highway. Appendix A includes the existing traffic count data.

b. Capacity Analysis Methodology

The highway capacity analysis performed in this study is based upon procedures presented in the "Highway Capacity Manual", Special Report 209, Transportation Research Board, Third Edition, 1994, and the "Highway Capacity Software", developed by the Federal Highway Administration. The analysis is based on the concept of Level of Service (LOS).

LOS is a quantitative and qualitative assessment of traffic operations. Levels of Service are defined by LOS "A" through "F"; LOS "A" representing an ideal or free-flow operating conditions and LOS "F" unacceptable operating conditions. The LOS definitions are included in Appendix B.

"Volume-to-Capacity" (v/c) ratio is another measure indicating the relative traffic demand to the road carrying capacity. A v/c ratio of one (1.00) indicates that the roadway is operating at capacity. A v/c ratio of greater than 1.00 indicates that the projected traffic demand exceeds the road's carrying capacity.

2. Existing Peak Hour Traffic

a. General

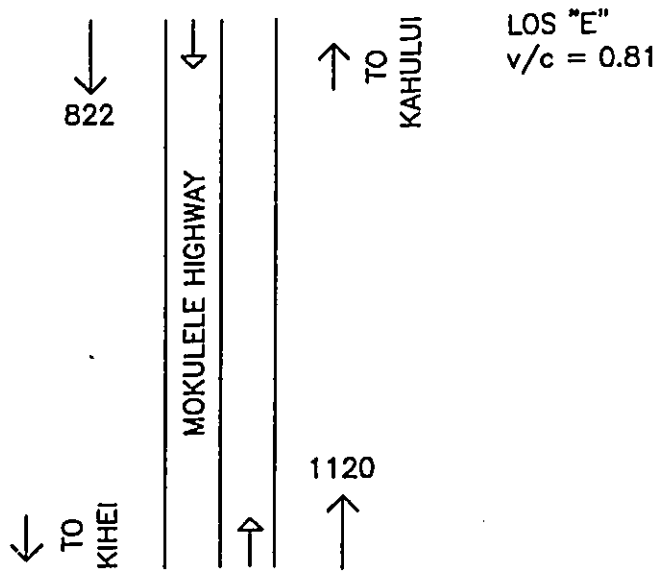
Exhibit 4 shows the existing AM and PM peak hour traffic volumes and operating traffic condition. The AM peak hour of traffic generally occurs between 7:30 AM and 8:30 AM along Mokulele Highway in the proximity of the proposed project. In the afternoon, the PM peak hour of traffic generally occurs between the hours of 4:15 PM and 5:15 PM. The analysis is based on these peak hour time periods, as well as an off-peak hour time period that generally occurs between the hours of 11:00 AM to 12:00 PM to identify the traffic impacts resulting from the proposed project. LOS calculations are included in Appendix C.

b. AM Peak Hour

During the AM peak hour of traffic, Mokulele Highway, just north of the proposed driveway connection, carries a total of 1,942 vehicles, 822 southbound and 1,120 northbound. Mokulele Highway operates at LOS "E" and a v/c ratio of 0.81. Vehicular traffic was generally heavy during the AM peak hour. This peak appears to be associated with the morning commuter traffic, since Mokulele is the major link between Kihei and business district of Kahului.

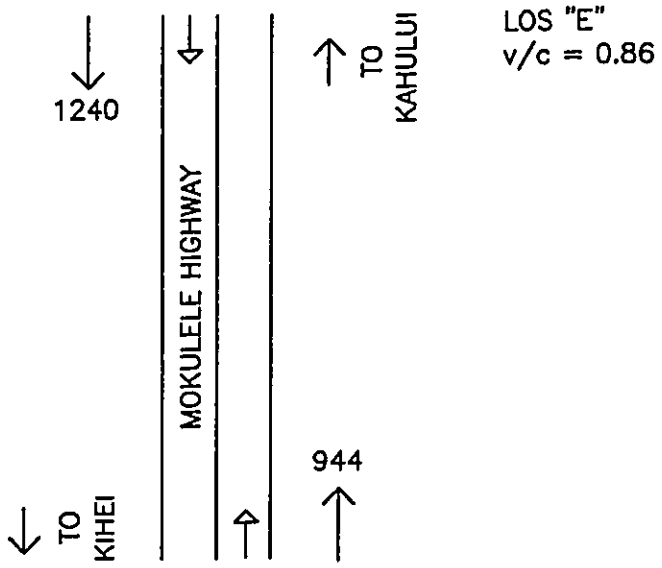
c. PM Peak Hour

During the PM peak hour of traffic, Mokulele Highway, just north of the proposed driveway connection, carries a total of 2,184 vehicles, 1,240 southbound and 944 northbound. Mokulele Highway operates at LOS "E" and a v/c ratio of 0.86. Vehicular traffic was generally heavy during the PM peak hour. A distinct increase in the vehicular volume on Mokulele Highway occurred about 4:00 PM. This can be attributed to the evening commuter traffic.



LOS "E"
v/c = 0.81

AM PEAK HOUR



LOS "E"
v/c = 0.86

PM PEAK HOUR

LEGEND

90	TRAFFIC MOVEMENT VOLUME (VPH)
	LANE USAGE
LOS	LEVEL OF SERVICE (TWO LANE HWY)
V/C	VOLUME-TO-CAPACITY RATIO

DATE OF COUNT: OCTOBER 12 & 13, 1999

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PUUNENE ARMORY

EXISTING PEAK HOUR TRAFFIC

EXHIBIT 4

3. Existing Off-Peak Hour of Traffic

Exhibit 5 shows the existing off-peak hour traffic volumes and operating traffic condition. During the off-peak hour of traffic, Mokulele Highway, just north of the proposed driveway connection, carries a total of 1,491 vehicles, 683 southbound and 808 northbound. Mokulele Highway operates satisfactorily at LOS "D" and a v/c ratio of 0.61. LOS calculations are included in Appendix D.

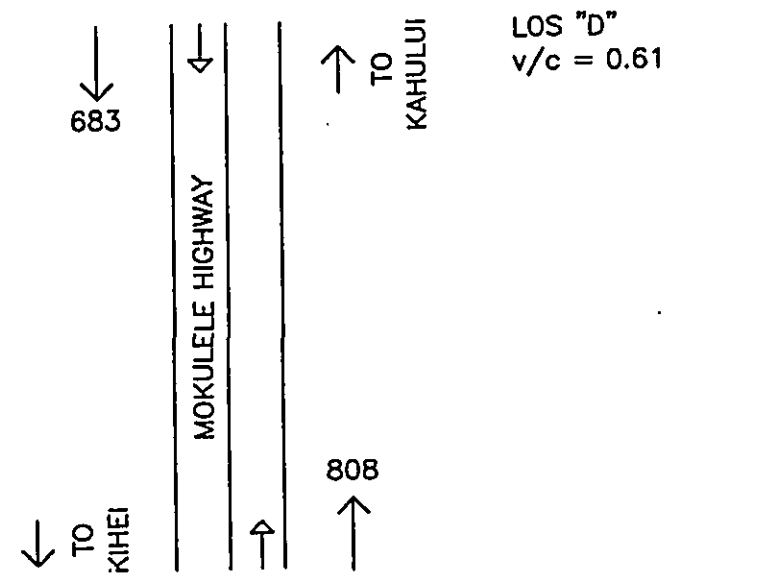
V. PROJECTED TRAFFIC CONDITIONS

A. Site-Generated Traffic

1. Trip Generation Methodology

a. Peak Hour of Traffic

The trips generated by the proposed Armory during the peak hours of traffic were determined based upon the anticipated number of employees stationed at the facility as provided by Hawaii Army National Guard officials. During the weekdays, the Armory will be staffed by four administrative and three custodial employees. However, for the purpose of this study only the trips generated by the administrative staff will be analyzed since the custodial staff's hours begin and end during off-peak hours. In addition to these seven employees, there will be approximately 150 troops assigned to the facility. However, they are also not included in the analysis since all of their activities at the Armory will take place during off-peak hours and on the weekends when commuter traffic is low. In addition to employee-related trips, two delivery or miscellaneous vehicles were assumed to enter and exit the site during the AM and PM peak periods. Table 1 summarizes the project site trip generation characteristics applied to the AM and PM peak hours of traffic to measure the impact resulting from the proposed Puunene Armory.



LEGEND

90 ↗	TRAFFIC MOVEMENT VOLUME (VPH)
⇉	LANE USAGE
LOS	LEVEL OF SERVICE (TWO LANE HWY)
V/C	VOLUME–TO–CAPACITY RATIO

DATE OF COUNT: OCTOBER 12 & 13, 1999

WILSON OKAMOTO & ASSOCIATES, INC. ENGINEERS - PLANNERS 1907 S. BERETANIA STREET HONOLULU, HAWAII 96826	PUUNENE ARMORY EXISTING OFF–PEAK HOUR TRAFFIC	EXHIBIT 5

Table 1: Peak Hour Trip Generation

		PROJECTED TRIP ENDS	
		Employees	Delivery/Misc.
AM PEAK	ENTER	4	-
	EXIT	2	2
	TOTAL	6	2
PM PEAK	ENTER	-	4
	EXIT	2	2
	TOTAL	2	6

The Maui Economic Opportunity's (MEO) proposed Transportation Facility site is located west of the project site. However, for the purpose of this study, the facility is assumed to have not been constructed by the Year 2002.

b. Off-Peak Hour of Traffic

The trips generated by the proposed Armory during the off-peak hours of traffic were determined based upon the anticipated number of occupied parking stalls at the facility during troop personnel activities. The parking generation methodology used is based upon generally accepted techniques and procedures developed by the Institute of Transportation Engineers (ITE) and published in "Parking Generation, 2nd Edition", 1987. The ITE parking rates are developed empirically, by correlating the parking generation data with land use characteristics such as the total number of employees. Table 2 shows a summary of the vehicle trip generation.

Table 2: Off-Peak Hour Trip Generation

	PROJECTED TRIP ENDS	
	Enter	Exit
TROOP PERSONNEL ARRIVAL	114	-
TROOP PERSONNEL DEPARTURE	-	114

2. Trip Distribution

Access to the proposed Puunene Armory would be via the project site's access road off of Mokulele Highway. The directional distribution of all site-generated vehicular trips at the intersection of Mokulele Highway and the access road was determined based on the population densities of the areas linked by Mokulele Highway. The population figures for the various districts were obtained from the "Maui County Data Book, 1998". For the purpose of this study, 60% of the total generated traffic was distributed to and from the north and 40% to and from the south.

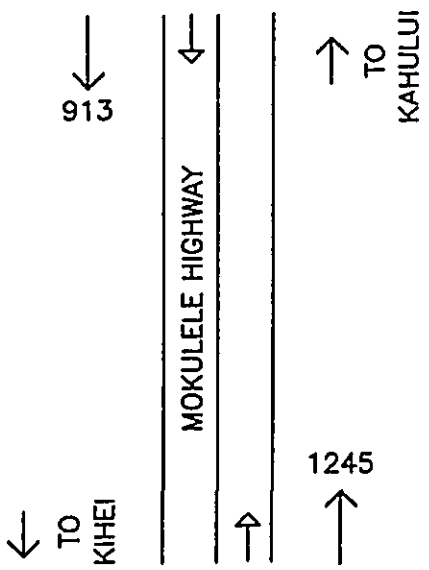
B. Through Traffic Forecasting Methodology

The travel forecast is based upon historical traffic count data obtained from the State Department of Transportation (DOT) at a survey station at the intersection of Mokulele Highway and Puunene Avenue. The historical data were analyzed by linear regression techniques to obtain an average annual growth rate of approximately 3.58% on Mokulele Highway, using 1999 as the Base Year. A growth factor of 1.111 was applied to the existing traffic demands to achieve the projected Year 2002 traffic demands.

C. Total Traffic Volumes Without Project

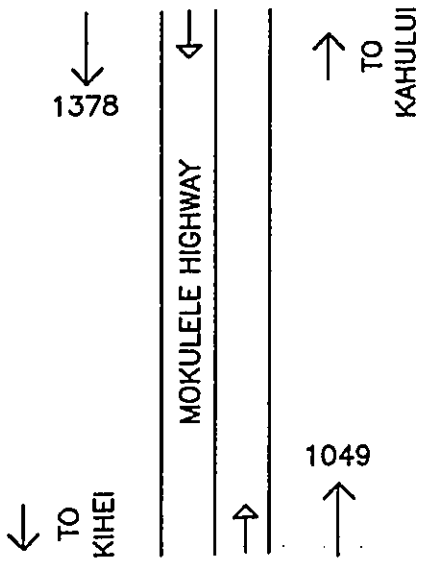
1. Peak Hour of Traffic

Exhibit 6 shows the projected AM peak hour and PM peak hour traffic volumes and operating conditions without the proposed project. Mokulele Highway, just north of the proposed project, is expected to operate at LOS "E" and at a v/c ratio of 0.91 during the projected Year 2002 AM peak hour traffic. During the projected PM peak hour, Mokulele Highway would operate at LOS "E" and at a v/c ratio of 0.96. LOS calculations are included in Appendix E.



LOS "E"
v/c = 0.91

AM PEAK HOUR



LOS "E"
v/c = 0.96

PM PEAK HOUR

N

LEGEND

90 — TRAFFIC MOVEMENT VOLUME (VPH)

LANE USAGE

LOS — LEVEL OF SERVICE (TWO LANE HWY)

V/C — VOLUME-TO-CAPACITY RATIO

WILSON OKAMOTO & ASSOCIATES, INC. ENGINEERS - PLANNERS 1907 S. BERETANIA STREET HONOLULU, HAWAII 96826	PUUNENE ARMORY YEAR 2002 PEAK HOUR TRAFFIC WITHOUT PROJECT	EXHIBIT 6

Traffic operating conditions on Mokulele Highway will steadily deteriorate due to the projected increase in traffic volumes until the Year 2002 even without the development of the proposed Puunene Armory.

2. Off-Peak Hour of Traffic

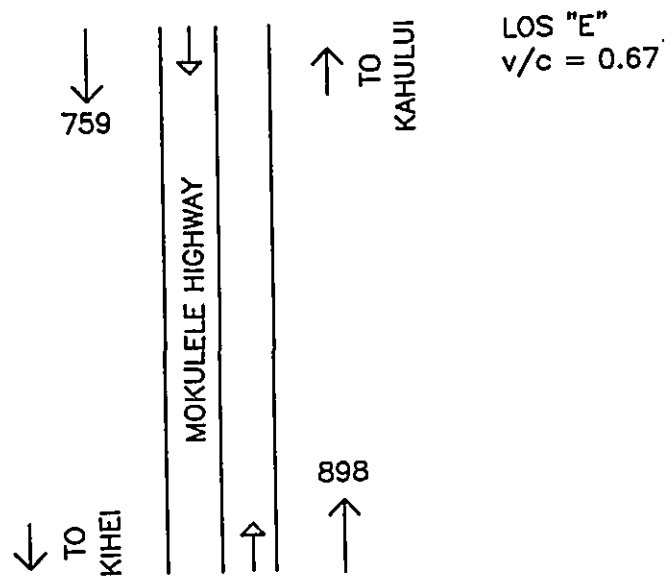
Exhibit 7 shows the projected Year 2002 off-peak hour traffic volumes and operating conditions without the proposed project. Mokulele Highway, just north of the proposed project, is expected to operate at LOS "E" and at a v/c ratio of 0.67 during the projected off-peak hour traffic. As with the AM and PM peak hour traffic, operating conditions on Mokulele Highway will steadily deteriorate due to the projected increase in traffic volumes until the Year 2002 even without the development of the proposed Puunene Armory. LOS calculations are included in Appendix F.

D. Total Traffic Volumes With Project

Exhibits 8 and 9 show the cumulative AM and PM peak hour, and off-peak hour traffic conditions resulting from the projected external traffic, development of the proposed Puunene Armory, and proposed roadway improvements in the project vicinity. The cumulative volumes consist of site-generated traffic superimposed over Year 2002 projected traffic demands. The proposed roadway improvements at the intersection of Mokulele Highway and the project site's access road include the construction of the following:

- Right-turn deceleration lane on the northbound approach of Mokulele Highway at the proposed project access road
- Left-turn lane on the southbound approach of Mokulele Highway at the proposed project access road
- Acceleration lane on northbound Mokulele Highway for right-turning vehicles exiting the project site

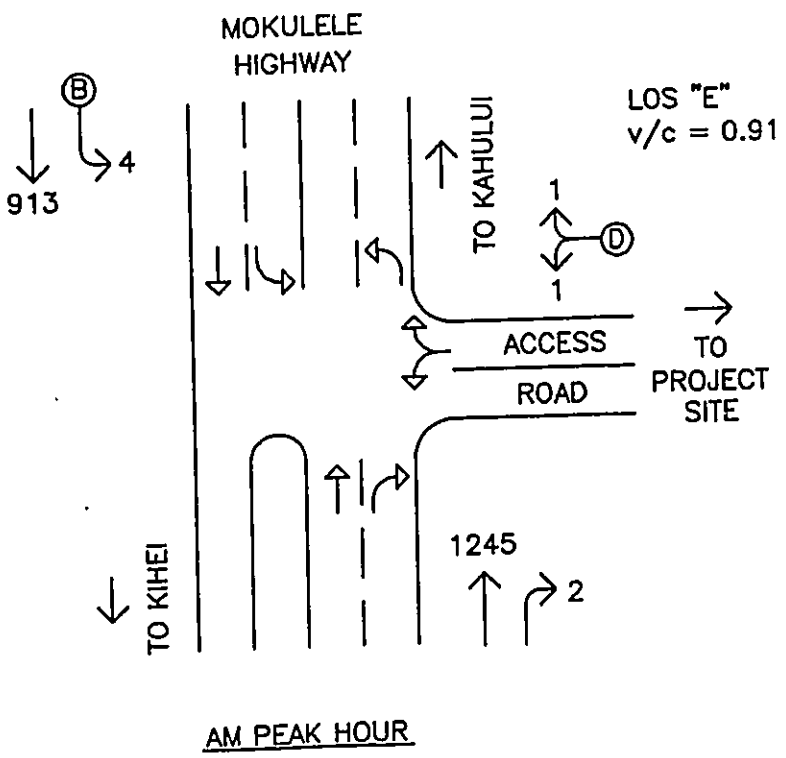
The traffic impacts resulting from the proposed project are addressed in the following section.



LEGEND

90 ↗	TRAFFIC MOVEMENT VOLUME (VPH)
⇩	LANE USAGE
LOS	LEVEL OF SERVICE (TWO LANE HWY)
V/C	VOLUME–TO–CAPACITY RATIO

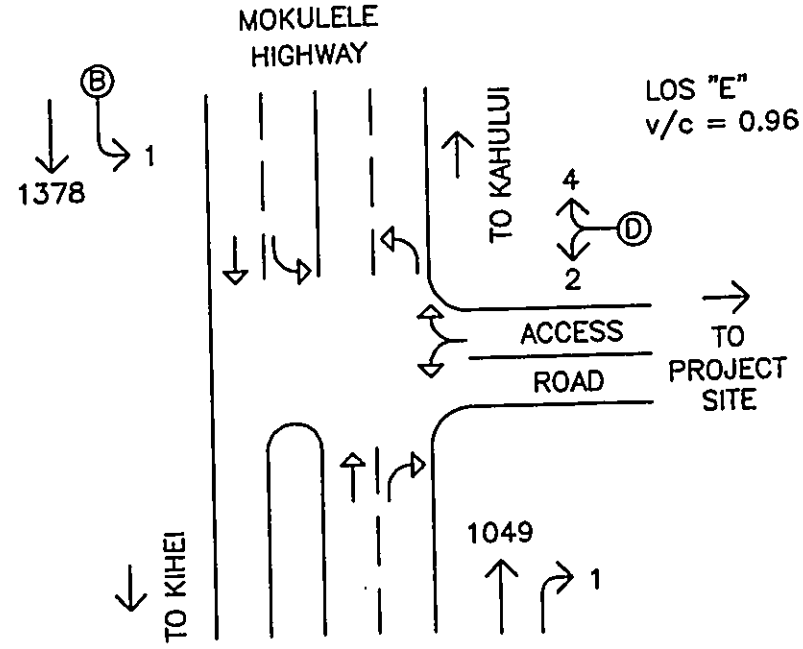
WILSON OKAMOTO & ASSOCIATES, INC. ENGINEERS - PLANNERS 1907 S. BERETANIA STREET HONOLULU, HAWAII 96826	PUUNENE ARMORY YEAR 2002 OFF–PEAK HOUR TRAFFIC WITHOUT PROJECT	EXHIBIT 7



AM PEAK HOUR

LEGEND

90	TRAFFIC MOVEMENT VOLUME (VPH)
	LANE USAGE
LOS	LEVEL OF SERVICE (TWO LANE HWY)
V/C	VOLUME–TO–CAPACITY RATIO
Ⓐ	APPROACH LEVEL OF SERVICE



PM PEAK HOUR

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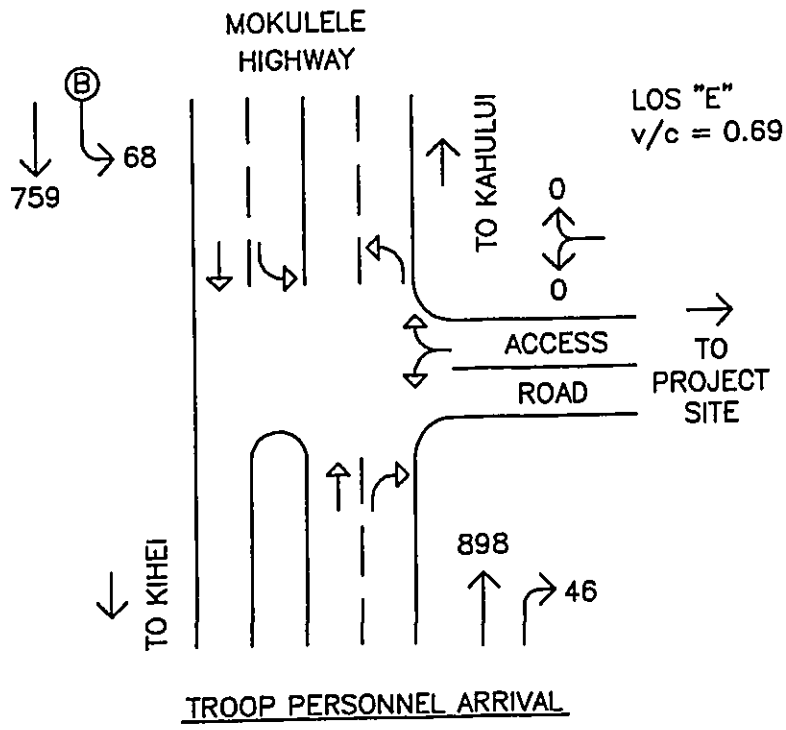
PUUNENE ARMORY

YEAR 2002 PEAK HOUR TRAFFIC
WITH PROJECT

EXHIBIT

8

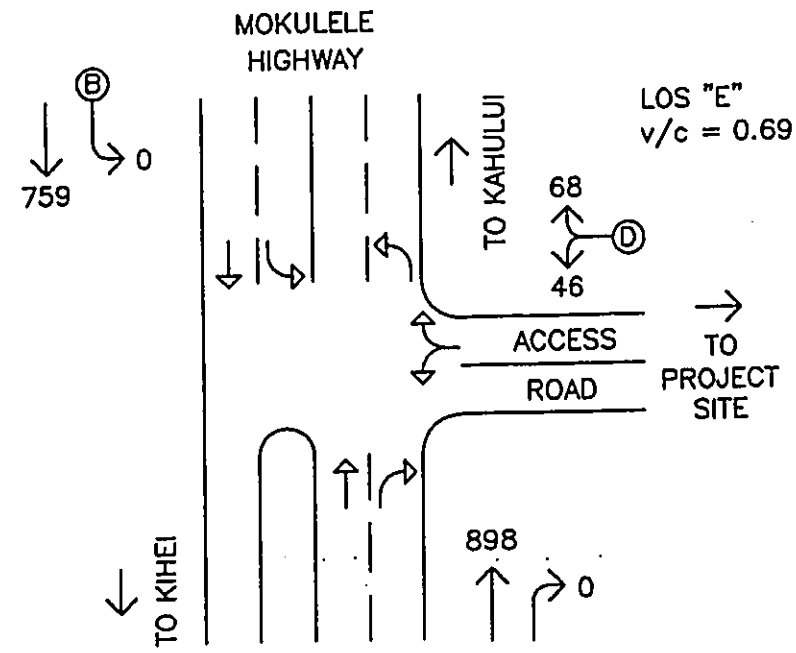


TROOP PERSONNEL ARRIVAL

N

LEGEND

90	TRAFFIC MOVEMENT VOLUME (VPH)
	LANE USAGE
LOS	LEVEL OF SERVICE (TWO LANE HWY.)
V/C	VOLUME-TO-CAPACITY RATIO
(A)	APPROACH LEVEL OF SERVICE



TROOP PERSONNEL DEPARTURE

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PUUNENE ARMORY

YEAR 2002 OFF-PEAK HOUR TRAFFIC
WITH PROJECT

EXHIBIT 9

V. TRAFFIC IMPACT ANALYSIS

The Year 2002 cumulative AM and PM peak hour, and off-peak hour roadway and intersection operating conditions with the development of the Puunene Armory are summarized in Tables 3 and 4. The existing and projected Year 2002 roadway operating conditions without the proposed project are provided for comparison in Table 3. LOS calculations are included in Appendices G and H.

Table 3: Mokulele Highway Roadway Operating Conditions

		Existing	Year 2002 Without Project	Year 2002 With Project
AM Peak Hour	LOS	E	E	E
	v/c	0.81	0.91	0.91
PM Peak Hour	LOS	E	E	E
	v/c	0.86	0.96	0.96
Off-Peak Hour	LOS	D	E	E
	v/c	0.61	0.67	0.69

Table 4: Intersection Operating Conditions

Movement	AM Peak Hour	PM Peak Hour	Off-Peak Hour	
			Arrival	Departure
Left-Turn From Southbound Approach of Mokulele Highway to Project Site's Access Road	B	D	B	-
Left-Turn From Westbound Approach of Project Site's Access Road to Southbound on Mokulele Highway	B	D	-	D

The traffic impact of the proposed Puunene Armory on Mokulele Highway is relatively minimal during the projected morning and afternoon peak periods. The overall increase in traffic at the intersection as a result of the Armory development is only 0.4% and 0.3% during the projected AM and PM peak periods, respectively.

During the off-peak period, the overall increase in traffic at the intersection as a result of the Armory development is 6.4%. The projected Levels of Service at the intersection without the project development are not significantly impacted during this period as a result of the proposed Armory.

VI. RECOMMENDATIONS

Based upon the analysis of the traffic data, the following are the recommendations of this study:

1. Provide an exclusive right-turn deceleration lane on the northbound approach to the proposed intersection of Mokulele Highway and the new roadway entrance.
2. Provide an exclusive left-turn lane on the southbound approach of Mokulele Highway at the new roadway entrance.
3. Provide an acceleration lane on northbound Mokulele Highway for right-turning vehicles exiting the project site.

VII. CONCLUSION

By implementing the above recommendations, the proposed Hawaii Army National Guard's Puunene Armory would not have a significant impact on traffic in the vicinity of the project. Much of the vehicular activity at the project site would occur during off-peak hours and the increase during the peak hours is minimal compared to the overall growth in traffic volumes due to external sources. The projected Levels of Service without the project development during the AM and PM peak hour, and the off-peak hour are not significantly impacted as a result of the proposed Puunene Armory.

The State Department of Transportation, Highways Division is planning to widen the Mokulele Highway right-of-way to a four lane, divided highway. This proposed widening should improve the highway's Level-of-Service, increase the safety of the facility, and reduce the number of traffic accidents along the highway. Coordination with DOT is required to ensure that adequate ingress and egress to the proposed project is accommodated in the highway design.

APPENDIX A

EXISTING TRAFFIC COUNT DATA

Title1: HIARNG Facility
Title2: SUNNY
Title3: 0234

Site: 1
Date: 10/12/99

Interval Begin	Ch 1 AM		Ch 1 PM		Ch 2 AM		Ch 2 PM		COMBINED AM		COMBINED PM	
12:00	*	*	172	787	*	*	180	723	*	*	352	1,510
12:15	*		198		*		172		*		370	
12:30	*		201		*		191		*		392	
12:45	*		216		*		180		*		396	
1:00	*	*	167	808	*	*	217	830	*	*	384	1,638
1:15	*		192		*		212		*		404	
1:30	*		219		*		199		*		418	
1:45	*		230		*		202		*		432	
2:00	*	*	213	958	*	*	212	791	*	*	425	1,749
2:15	*		247		*		192		*		439	
2:30	*		244		*		209		*		453	
2:45	*		254		*		178		*		432	
3:00	*	*	264	418	*	*	194	1,487	*	*	458	1,905
3:15	*		150		*		298		*		448	
3:30	*		3		*		509		*		512	
3:45	*		1		*		486		*		487	
4:00	*	*	0	0	*	*	502	2,048	*	*	502	2,048
4:15	*		0		*		476		*		476	
4:30	*		0		*		548		*		548	
4:45	*		0		*		522		*		522	
5:00	*	*	0	3	*	*	543	2,045	*	*	543	2,048
5:15	*		0		*		526		*		526	
5:30	*		0		*		514		*		514	
5:45	*		3		*		462		*		465	
6:00	*	*	0	0	*	*	418	1,616	*	*	418	1,616
6:15	*		0		*		412		*		412	
6:30	*		0		*		384		*		384	
6:45	*		0		*		402		*		402	
7:00	*	*	0	0	*	*	304	1,063	*	*	304	1,063
7:15	*		0		*		308		*		300	
7:30	*		0		*		251		*		251	
7:45	*		0		*		208		*		208	
8:00	*	*	0	0	*	*	214	774	*	*	214	774
8:15	*		0		*		216		*		216	
8:30	*		0		*		173		*		173	
8:45	*		0		*		171		*		171	
9:00	*	*	0	0	*	*	194	742	*	*	194	742
9:15	*		0		*		216		*		216	
9:30	*		0		*		184		*		184	
9:45	*		0		*		148		*		148	
10:00	*	*	0	0	*	*	145	480	*	*	145	480
10:15	*		0		*		139		*		139	
10:30	93		0		136		118		229		118	
10:45	152		0		236		78		388		78	
11:00	162	664	0	0	190	740	79	327	352	1,404	79	327
11:15	158		0		188		94		346		94	
11:30	162		0		196		88		358		88	
11:45	182		0		166		66		348		66	

Totals	909		2,974		1,112		12,926		2,021		15,900	
Split %	45.0		18.7		55.0		81.3					
Day Totals		3,883				14,038				17,921		
Day Splits		21.7				78.3						
Peak Hour	11:00		2:15		10:45		4:30		10:45		4:30	
Volume	664		1,009		810		2,139		1,444		2,139	
Factor	0.91		0.96		0.86		0.98		0.93		0.98	

Site: 1
Date: 10/13/99

itle1: HIARNG Facility
itle2: SUNNY
itle3: 0234

Day : Tuesday

nterval egin	Ch 1 AM	Ch 1	Ch 1 PM	Ch 1	Ch 2 AM	Ch 2	Ch 2 PM	Ch 2	COMBINED AM	COMBINED	COMBINED PM	COMBINED
2:00	0	0			39	132			39	132		
2:15	0				41				44			
2:30	0				28				28			
2:45	0				24				24			
1:00	0	16			21	80			21	96		
1:15	0				19				19			
1:30	4				24				28			
1:45	12				16				28			
2:00	11	37			9	40			20	77		
2:15	14				13				27			
2:30	4				6				10			
2:45	8				12				20			
3:00	7	29			12	60			19	89		
3:15	5				17				22			
3:30	8				9				17			
3:45	9				22				31			
4:00	17	90			15	77			32	167		
4:15	22				16				38			
4:30	36				22				58			
4:45	15				24				39			
5:00	25	195			30	236			55	431		
5:15	46				40				86			
5:30	62				64				126			
5:45	62				102				164			
6:00	68	509			85	583			153	1,092		
6:15	108				132				240			
6:30	143				156				299			
6:45	190				210				400			
7:00	190	819			222	1,098			412	1,917		
7:15	215				240				455			
7:30	206				308				514			
7:45	208				328				536			
8:00	208	730			228	954			436	1,684		
8:15	200				256				456			
8:30	174				236				410			
8:45	148				234				382			
9:00	141	544			237	891			378	1,435		
9:15	138				198				336			
9:30	133				212				345			
9:45	132				244				376			
10:00	0	*			0	*			0	*		
10:15	*				*				*			
10:30	*				*				*			
10:45	*				*				*			
11:00	*	*			*	*			*	*		
11:15	*				*				*			
11:30	*				*				*			
11:45	*				*				*			
Totals	2,969				4,151				7,120			
Split %	41.7				58.3							
Day Totals		2,969				4,151				7,120		
Day Splits		41.7				58.3						
Peak Hour	7:15				7:30				7:30			
Volume	837				1,120				1,942			
Factor	0.97				0.85				0.91			

JANUS File: HIARNG

Printed: 10-14-1999

Title1: HIARNG Facility
Title2: SUNNY
Title3: 0234

Site: 1
Date: 10/13/99

Interval Begin	Ch 1 AM			Ch 1 PM		Ch 2 AM			Ch 2 PM		COMBINED AM			COMBINED PM	
12:00	*	*	209	752		*	*	164	716		*	*	373	1,468	
12:15	*		199			*		184			*		383		
12:30	*		164			*		168			*		332		
12:45	*		180			*		200			*		380		
1:00	*	*	188	868		*	*	189	758		*	*	377	1,626	
1:15	*		216			*		180			*		396		
1:30	*		222			*		191			*		413		
1:45	*		242			*		198			*		440		
2:00	*	*	252	1,001		*	*	184	777		*	*	436	1,778	
2:15	*		251			*		179			*		430		
2:30	*		234			*		208			*		442		
2:45	*		264			*		206			*		470		
3:00	*	*	252	1,030		*	*	192	828		*	*	444	1,858	
3:15	*		280			*		190			*		470		
3:30	*		250			*		236			*		486		
3:45	*		248			*		210			*		458		
4:00	*	*	300	1,222		*	*	242	938		*	*	542	2,160	
4:15	*		322			*		216			*		538		
4:30	*		318			*		231			*		549		
4:45	*		282			*		249			*		531		
5:00	*	*	318	*		*	*	248	*		*	*	566	*	
5:15	*		274			*		189			*		463		
5:30	*		0			*		0			*		0		
5:45	*		*			*		*			*		*		
6:00	*	*	*	*		*	*	*	*		*	*	*	*	
6:15	*		*			*		*			*		*		
6:30	*		*			*		*			*		*		
6:45	*		*			*		*			*		*		
7:00	*	*	*	*		*	*	*	*		*	*	*	*	
7:15	*		*			*		*			*		*		
7:30	*		*			*		*			*		*		
7:45	*		*			*		*			*		*		
8:00	*	*	*	*		*	*	*	*		*	*	*	*	
8:15	*		*			*		*			*		*		
8:30	*		*			*		*			*		*		
8:45	*		*			*		*			*		*		
9:00	*	*	*	*		*	*	*	*		*	*	*	*	
9:15	*		*			*		*			*		*		
9:30	*		*			*		*			*		*		
9:45	*		*			*		*			*		*		
10:00	*	*	*	*		*	*	*	*		*	*	*	*	
10:15	28		*			28		*			56		*		
10:30	146		*			209		*			355		*		
10:45	154		*			222		*			376		*		
11:00	132	683	*	*		192	808	*	*		324	1,491	*	*	
11:15	170		*			214		*			384		*		
11:30	180		*			196		*			376		*		
11:45	201		*			206		*			407		*		
Totals	1,011		5,465			1,267		4,454			2,278		9,919		
Split %	44.4		55.1			55.6		44.9							
Day Totals		6,476					5,721					12,197			
Day Splits		53.1					46.9								
Peak Hour	11:00		4:15			10:30		4:15			11:00		4:15		
Volume	683		1,240			837		944			1,491		2,184		
Factor	0.85		0.96			0.94		0.95			0.92		0.96		

Day : Tuesday

APPENDIX B

LEVEL OF SERVICE DEFINITIONS

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE CRITERIA FOR MULTILANE HIGHWAY

Level of Service (LOS) criteria for multilane highways are defined in terms of density. Density is a measure that quantifies the proximity of vehicles to each other within the traffic stream and indicates the degree of maneuverability within the traffic stream.

Level of service criteria depend on the free-flow speed of the highway element being studied. A "highway element" can be an isolated geometric element, such as a curve or grade of significant length that operates with a reduced speed, or a series of such geometric elements that affect the operation of a longer segment of highway.

Level of Service A describes completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Vehicles are spaced at an average of 440 feet, or 22 car-lengths, at a maximum density of 12 pc/mi/ln. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed at this level without a change in travel speed.

Level of Service B is also indicative of free flow, although the presence of other vehicles begins to be noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver. Vehicles are spaced at an average of approximately 264 feet, or 13 car-lengths, at a maximum density of 20 pc/mi/ln. Minor disruptions are still easily absorbed at this level, although local deterioration in LOS will be more obvious.

Level of Service C represents a range in which the influence of traffic density on operations become marked. The ability to maneuver within the traffic stream is now clearly affected by the presence of other vehicles. Average travel speeds begin to show some reduction for multilane highways with free-flow speeds over 50 mph. The average spacing of vehicles is reduced to approximately 189 feet at a maximum density of 28 pc/mi/ln. Minor disruptions may be expected to cause serious local deterioration in service, and queues may form behind any significant traffic disruption.

Level of Service D represents a range in which ability to maneuver are severely restricted because of traffic congestion. Travel speed begins to be reduced by increasing volumes. The average spacing of vehicles is 155 feet at a maximum density of 34 pc/mi/ln. Only the minor of disruptions can be absorbed without the formation of extensive queues and the deterioration of service to LOS E and LOS F.

Level of Service E represents operations at or near capacity and is quite unstable. The densities at LOS E vary depending upon the free-flow speed. At LOS E, vehicles are operating with the minimum spacing at which uniform flow can be maintained. Thus, as the limits for the level of service are approached, disruptions cannot be damped or readily dissipated, and most disruptions will cause queues to form and service to deteriorate to

"Highway Capacity Manual," Special Report 209, Transportation Research Board, Third Edition, 1994.