



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

RECEIVED

'99 AUG -5 A11:32

REF: PS: EH

AUG 5 1999

MEMORANDUM

To: Genevieve Salmonson, Director
Office of Environmental Quality Control

From: Dean Y. Uchida, Administrator *[Signature]*

Subject: Final Environmental Assessment (FEA) and Finding OF
No Significant Impact (FONSI) for the Sherwood Family
Residence, Hanalei, Kauai, TMK: 5-9-5:1

The Department of Land and Natural Resources has reviewed the comments received during the 30-day public comment period that began on June 8, 1999 for the subject project. We have determined that this project will not have significant environmental effects, and have therefore issued a FONSI. Please publish this notice in the August 27, 1999 OEQC Environmental Notice.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the Final EA for the project. The summary for this project has not changed from that noted in the Publication Form for the Draft EA. Please contact staff planner Ed Henry of our Land Divisions's Planning Branch at 587-0380, if you have any questions.

Enclosures

c.c. Karen Sherwood

105

AUG 23 1999

1999-08-23-KA-PEA-Sherwood Single
Family Residence

FILE COPY

RECEIVED
DIVISION OF
LAND MANAGEMENT
JUL 23 9 59 AM '99

FINAL ENVIRONMENTAL ASSESSMENT

(1) Identification of Applicant:

Karen Sherwood & Michael Olanolan, husband and wife
P.O. Box 3500-201
Princeville, HI 96722
(808) 826-9621

(2) Approving Agency

Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

(3) Agencies Consulted:

International Archaeological Research Institute, Inc.
Thomas Dye, Ph.D.
J. Stephan Athens, Ph.D.
949 McCully Street, Suite 5
Honolulu, Hawaii 96826-2780

Stephen Athens, Ph.D. was in contact with Ms. McMahon, the State Archaeologist on February 6, 1998 during his review and preparation of report to verify the information he was preparing was inclusive of her requests and indicated in his correspondence to me that "...she fully concurs with the above approach and seems very pleased."

Wagner Engineering Services, Inc.
Ron Wagner
P.O. Box 851
Hanalei, Hawaii 96714

Nick Wagner, Architect
226 South Church Street
Wailuka, HI 96793

Nancy McMahon
State Archaeologist
5532 Tapa
Koloa, HI 96756
(808) 742-7033

Preconsultation correspondence (archaeological report) was sent to Ms. McMahon on 2/18. In subsequent phone conversation she indicated that she found the report to be acceptable.

DLNR
Sam Lemmo
Tom Eisen
P.O. Box 621
Honolulu, HI

There were preconsultation phone calls in February and March on three occasions. On February 26 a draft application was sent to Sam Lemmo. On 3/16, Mr. Lemmo faxed additional information regarding the creation of the Draft EA and the requirements of the OEQC. On

99 AUG -5 AM 5:2

RECEIVED

March 30, this information was elaborated on and clarified by Mr. Tom Eisen in another phone consultation.

Chipper Wichman
Director, Limahuli Gardens

Chipper came to the property in March of 1998 and surveyed the sites. His opinion was that there would be no significant impact to the environment or to the historic sites if a home were built on the proposed site.

Mahuiki Families, local adjacent neighbors
Maka Families, local adjacent neighbors
Olanolan/Chung Families, local adjacent neighbors

All contacted in person. Each of these families is supportive of a single-family residence in the location presented.

Tom Hashimoto
Bobo Ham young

*Members of the local organization for preservation of historical sites
Mr. Hashimoto and Mr. Ham Young are both supportive of this project and feel that in the proposed site a single-family home would have no impact on the historical features of this property. Mr. Hashimoto has worked extensively on preserving the taro walls at Limahuli Gardens, the Hula Heiau at the end of the road and on the structure located on this property.*

(4) General Description of the action's technical, economic, social and environmental characteristics:

The residence proposed is a wood frame home in plantation style design incorporating a traditional metal roof. It is a single level home with loft on concrete piers consisting of approximately 1,700-sq. ft. living space and approximately 1,500-sq. ft. of lanai. It includes an attached garage connected by covered roofing of 864 sq. ft. The proposed project is scheduled to commence on Oct. 1, 1999 and complete March 31, 2000.

Solar power is proposed for this residence. Water and phone lines were run to the property by previous owners and are reflected on the topographical map included with this application.

Approximate cost of construction of residence is \$300,000. Materials will be purchased locally and construction will employ local tradesmen to complete the residence within six months time.

The proposed use of the property, single family residence, is in keeping with the surrounding neighborhood, which consists in general of similar size family homes.

(5) Summary description of the affected environment, including suitable and adequate location and site maps.

This property consists of approximately 3.45 acres of land. The north half of the lot is open manicured lawn with a small fruit orchard on the East Side. There is a small grove of palms in the front and the western edge of the property is a preexisting drive of crushed rock lined with royal palms. This property was at one time Robinson pastureland and as such has been cleared and opened for many years. For this reason there would be no effect on native or endangered animals or plant species. The back half of the property is planted in a nursery style with many varieties of halconia and ginger.

Thomas Dye, Ph.D. an associate archaeologist for International Archaeological Research Institute, Inc. in his report attached describes the parcel historic features. "... In summary, the subject parcel contains a heiau and related structures at its southwest corner, a boulder alignment of undetermined age in its southeast corner, and a small remnant of what appears to be a traditional Hawaiian cultural deposit along a portion of its eastern boundary. Most of the subject parcel has been graded at some time in the past, and this appears to have destroyed the integrity of any historical sites that were located in the graded areas."

The location of the house has been carefully chosen to create the least impact on the existing fruit orchard, flower groves and existing historical sites. The home has been placed as far from eye site of the historical sites as possible while avoiding the tsunami flood zone in the front of the property. The proposed location is in the AE flood zone. The existing grade is approximately 15 feet above sea level. The home will be elevated another 3 feet with roof height not to exceed 25 feet from grade level.

We have positioned the home in an area that will require minimal grading and minimal disruption to existing landscaping. The design of the home is in keeping with the local style and is intentionally unassuming. Archaeological report and maps attached.

(6) Impacts and Alternatives

According to Thomas S. Dye, Ph.D. an associate archaeologist for International Archaeological Research Institute, Inc. "... The proposed construction of a single-family dwelling on the recently constructed terraces near the middle of the property will have "no effect" on historic sites. The proposed house location is relatively distant from and not within the direct line of site of the heiau, so it will not alter the integrity of the site, diminish the amount of information of Hawaiian history and prehistory that it is likely to yield, nor detract from its traditional cultural importance. The proposed house site is also distant from the boulder alignment and the remnant cultural deposit and construction of a single-family dwelling will not diminish the amount of the information that these two sites might yield."

(7) Mitigation Measures

Applicant will follow the suggestions of archaeologist Thomas Dye from his enclosed report... "If construction plans include excavation of utility lines from the highway to the proposed house site, then we would recommend that the State archaeologist inspect the open trenches to see if our inference that cultural deposits are absent is indeed correct."

(8) Determination

The proposed use, single family residence, is consistent with current use of the area and will have no impact on historical sites and minimal impact on the environment.

(9) Findings and reasons supporting determination:

See above comments and complete archaeologist report attached.

Significance Criteria

1. Because the proposed site is in an area that was previously cleared at least 50-60 years ago, it will not affect any natural or cultural resources. It is open pasture with about 3-4 feet of added topsoil.
2. There are currently no uses for this location. It was previous pasture and is simply cleared land at this time.

Page 4

3. There are currently no uses for this location. It was previous pasture and is simply cleared land at this time.

3. This project does not conflict with the state's long-term environmental policies. It is consistent with the state-approved development in this area of single-family dwellings. The applicant is being very sensitive to any cultural sites and will work around them.

4. This project will have no substantial economic effect, as it does not deplete local economic resources. It will, for a short while, provide work for local tradesmen.

5. There will be no negative impact on public health. All septic work will be done in compliance with the state and counties health requirements. The project is proposed solar energy. The water lines are already established. Toxic building materials will be avoided and will be disposed of properly.

6. The population change will be inconsequential. This project will house an already established local family. There is no effect on public facilities.

7. This project will have no long-term effect on the environment. The proposed project will be powered by solar energy to enhance its environmental effect and reduce the need for trenching.

8. Not applicable.

9. According to Chipper Wichman, this project will not endanger any rare, threatened or endangered species. Only grasses are growing where this is indicated. No habitats are threatened. The only plant removal is some torch ginger that was planted in the past 5 years.

10. This project should have no effect on air, water or noise levels. The house is situated in the center of 3.45 acres, far from other homes and the street.

11. This project is located in a flood zone, but not the tsunami zone. It is elevated to the required flood height.

12. This area is not a state or county identified view plan. The home is not blocking any scenic sites.

13. This solar project will create it's own energy source and therefore not require substantial energy consumption.

Permits needed for this project:

State Board approval to build in the conservation district
County building permit
Septic permit



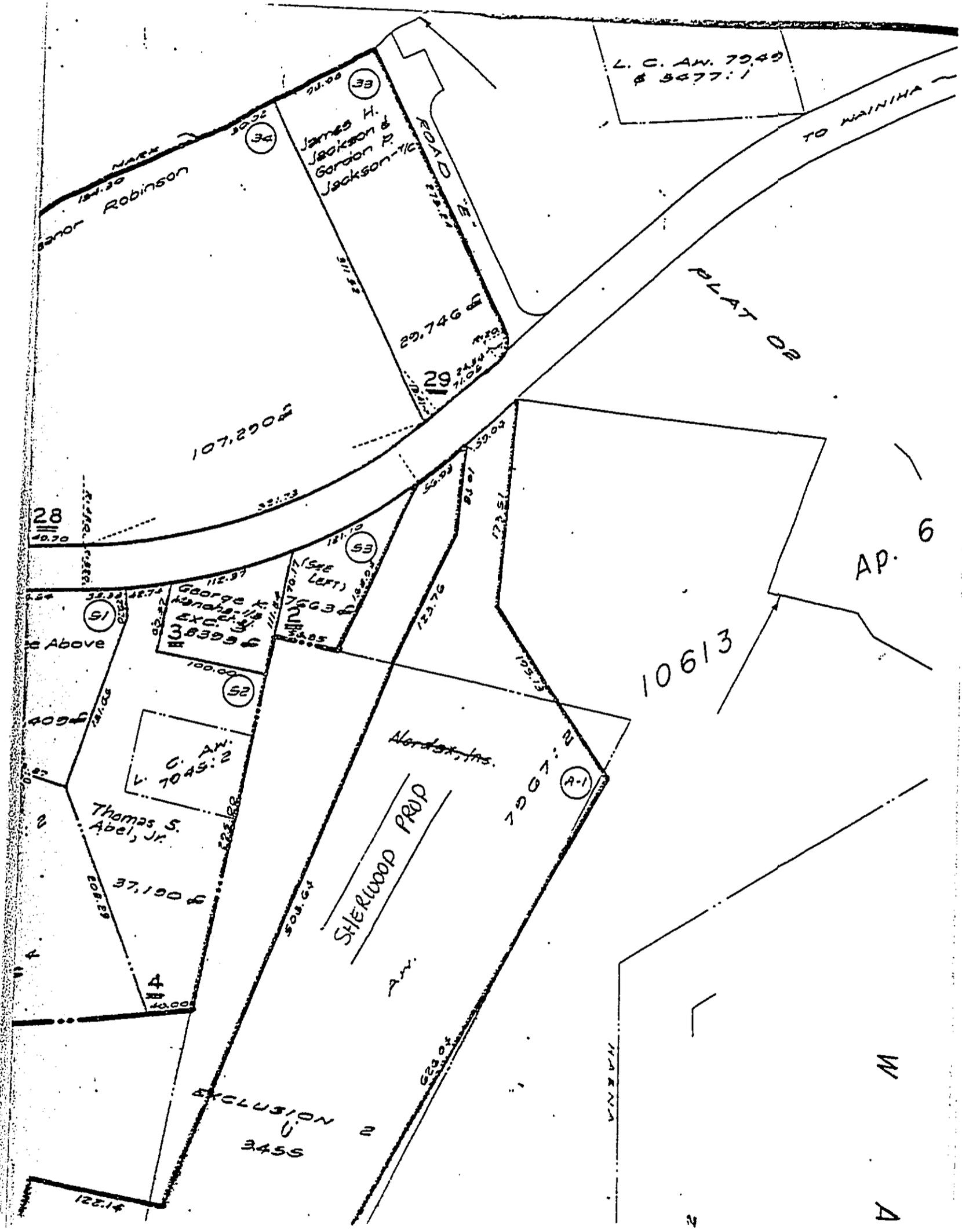
35'

1:50,000 SERIES (TOPOGRAPHIC)

1:480,000 FEET

159°32'





L. C. AN. 7949
5477:1

James H. Jackson & Gordon P. Jackson-1/2

Robinson

TO MAINIHA

BLAT 02

107,290

AP. 6

10613

George K. ...
EXC. 38399

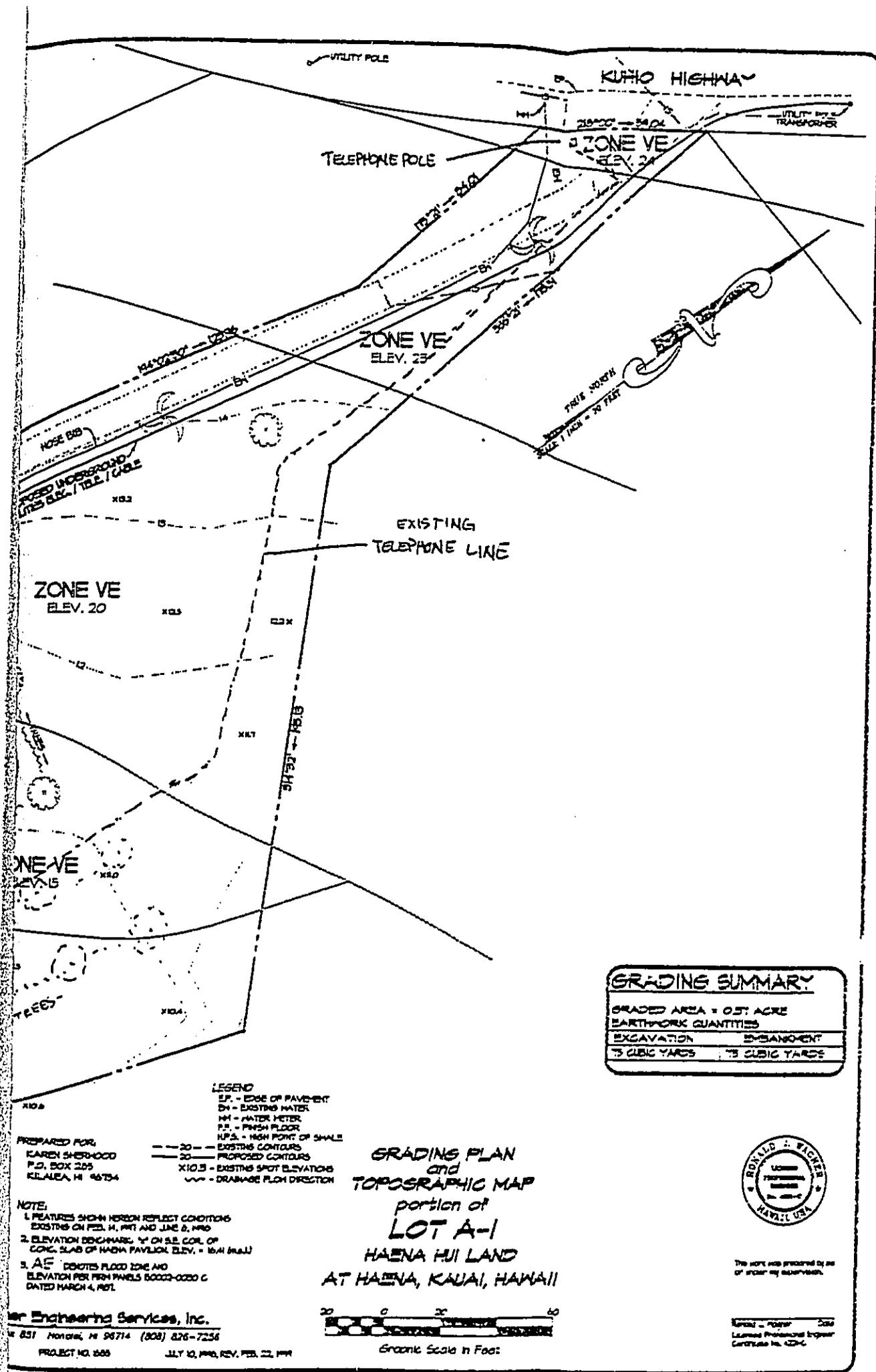
SHERWOOD PROP

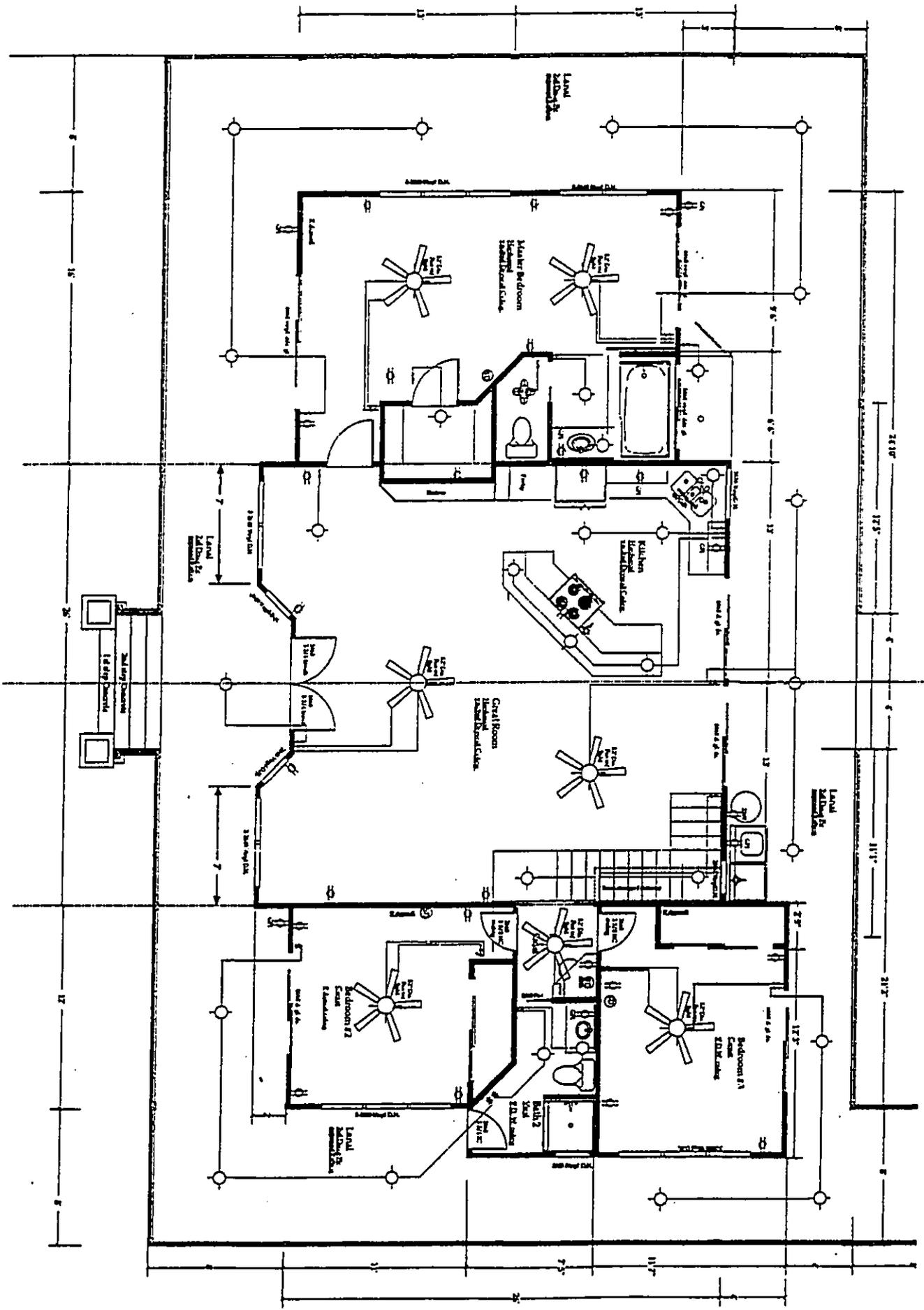
Thomas S. Abel, Jr.

G. AN. V. 7045:2

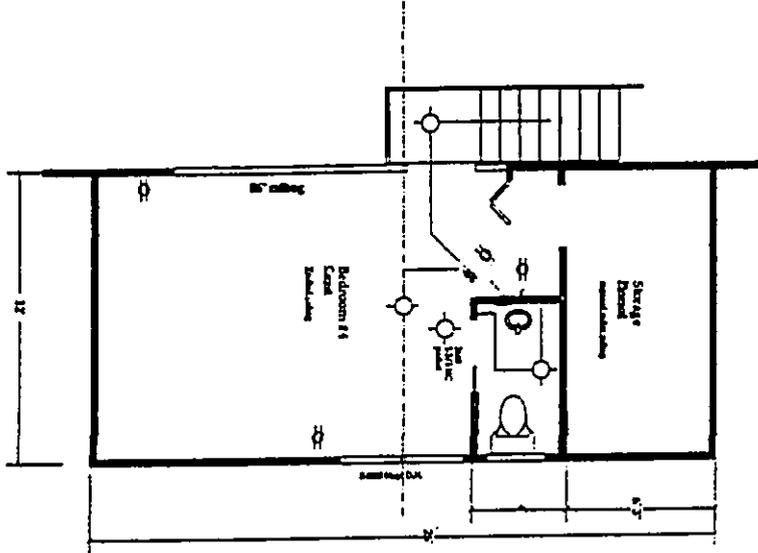
EXCLUSION 2
3455

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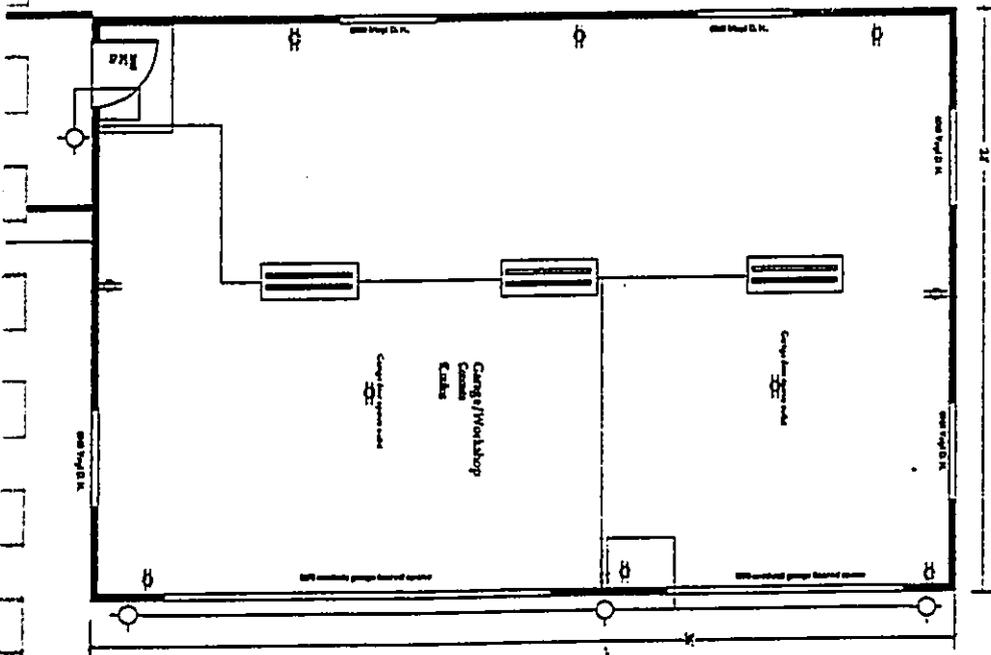


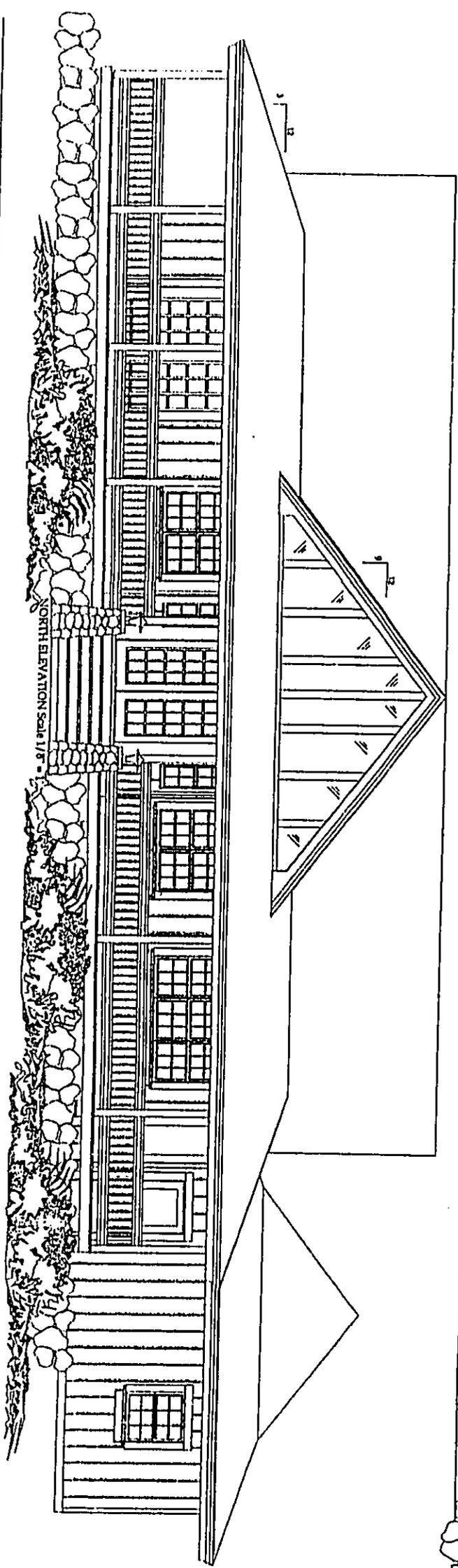
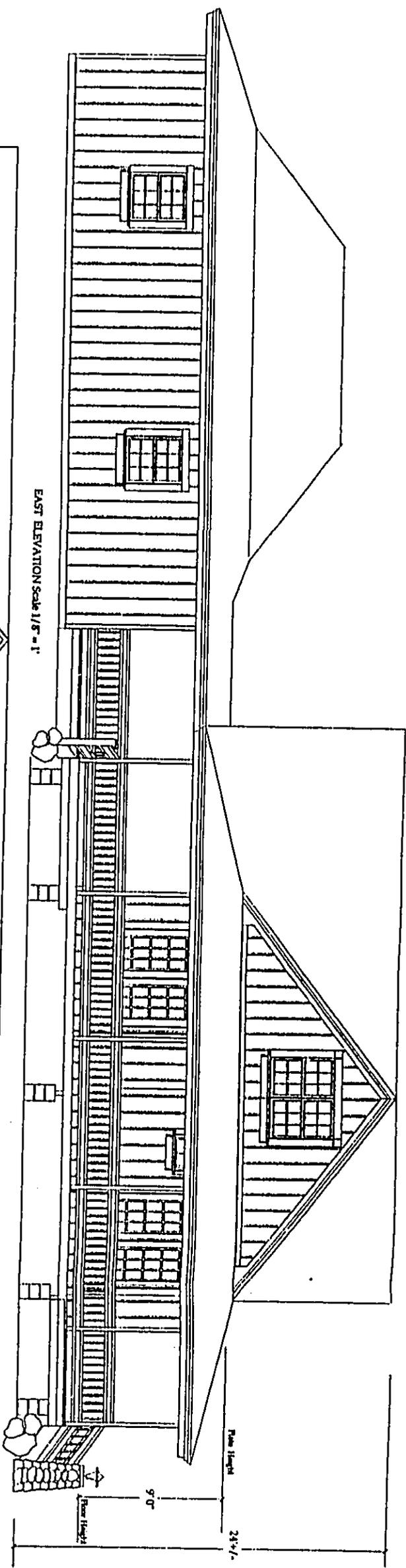


LOFT



GARAGE





ALDRHA LUMBER COMPANY
 1325 Kaula Hwy. • Kapa• HI 96746
 Phone (808) 822-9813 • Fax (808) 822-9819

Residence of:
 Karen Sherwood & Michael Olanahan

Living Area: 1st Floor 1469 sq. ft.
 2nd floor 140 sq. ft.
 Land Area 1564 sq. ft.
 Garage 864 sq. ft.

ELEVATIONS

Parcel 21
 T14K 6-9-06-01

1/8" = 1'



AALOHA LUMBER COMPANY
 3323 Kuaoi Hwy. • Kapa• HI 96746
 Phone (808) 822-9518 • Fax (808) 822-9629

Residence of:
 Karen Sherwood & Michael Clandinin

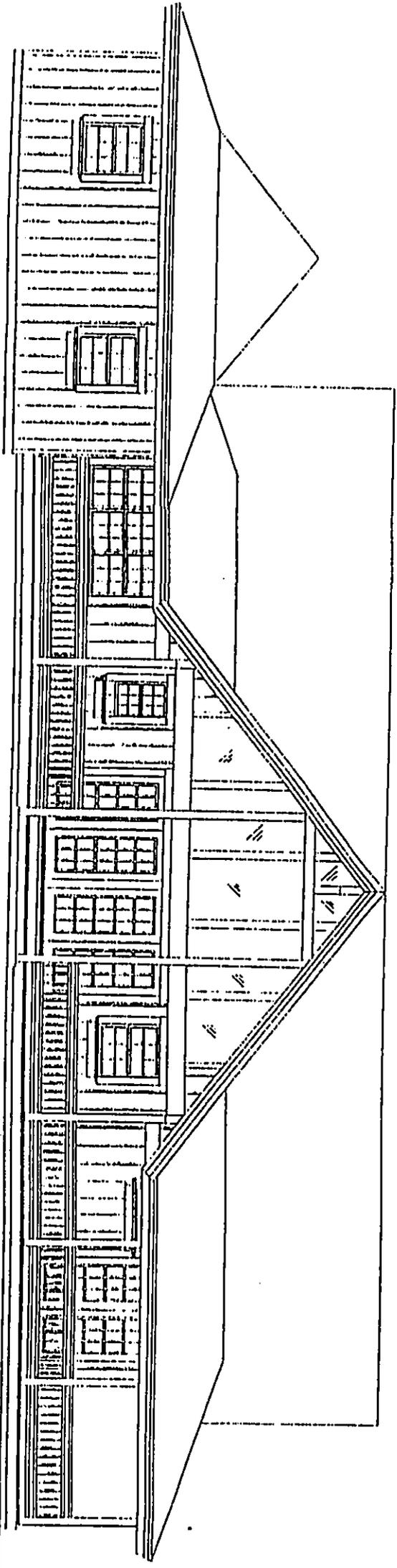
Living Area: 1st Floor 1660 sq. ft.
 2nd Floor 2400 sq. ft.
 Total Area 4060 sq. ft.
 Garage 864 sq. ft.

ELEVATIONS

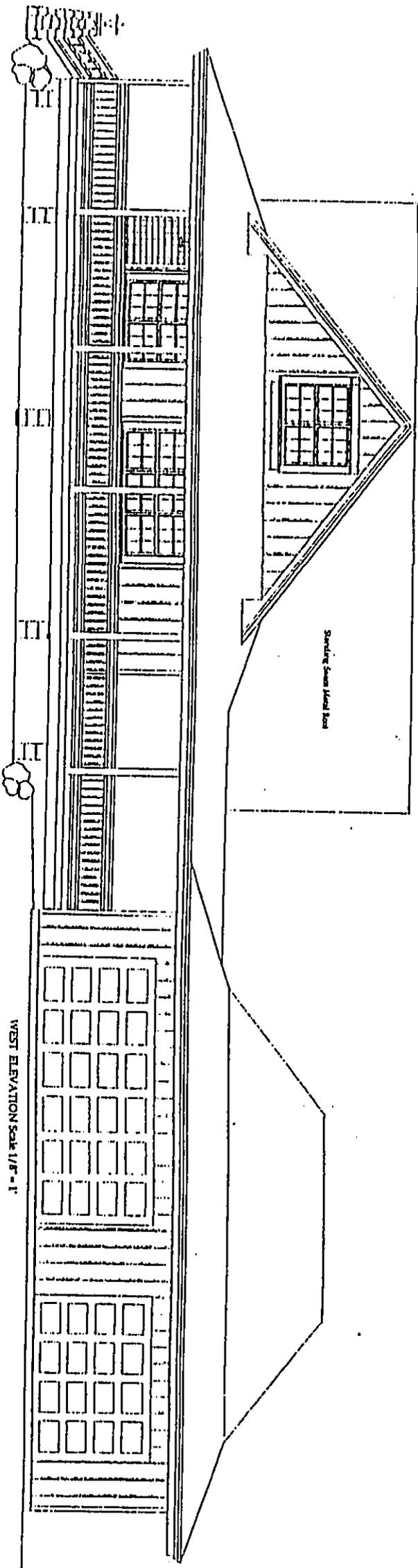
Permit #
 151K-54-05-01

1/8" = 1'

SOUTH ELEVATION Scale 1/8" = 1'



WEST ELEVATION Scale 1/8" = 1'



Standing Seam Metal Roof

Responses to Comments by Department

To: State of Hawaii, Office of Environmental Quality Control

From: Karen Sherwood/Michael Olanolan, applicants

Re: Letter from OEQC attached dated July 7, 1999

1. Historic Sites:

There were three possible historic sites according to archaeologist Thomas S. Dye, Ph.D. The main historic site has been determined to be a heiau. It is indicated on the site plan to follow. It consists of several rock walls and rock flooring. This structure exists at the back of the property where it juts to the west - out of site of the rest of the parcel. It can only be seen from the very back of the property.

The second possible site is a very small line of boulders on the ground at the very back of the property on the south side. The archaeologist was unable to determine if this was an old line of rocks or a recent one. It is noticeable only because the rocks appear to be intentionally laid. It is not a wall and is approximately 10 feet in length. The archaeologist was unable to determine significance, only that it might be something given its proximity to the larger heiau.

The third sight is on the east side of the property towards the front. The earth slopes steeply from the basic lawn uphill about 4 feet in this location. This occurred during grading by previous owners. There is some indication that the sand there is darker than it is in other places and upon closer inspection by the archaeologist small pieces of shell were found. It was considered that this could indicate an ancient homesite. The archaeologist inspecting the property determined that this would be hard to confirm given the various gradings that have occurred over the years.

Please review following the letter from the Historic Preservation Division, dated June 3, 1999, stating that they believe this project will have "no effect" on significant historic sites with the following conditions attached: 1. The three sites will be preserved as is and 2. If historic sites, including human burials, are uncovered during the construction activities, all work in the vicinity of such finds must stop and the State Historic Preservation Division must be contacted.

2. Contacts:

Planning Department:

Please see the following letters from the Planning Department, dated July 9, 1999, stating that this property is within the SMA, yet exempt from the County's SMA requirements.

Health Department: See letter dated: June 9, 1999, stating that the Health department has no comments to offer at this time.

3. Timeframe: the anticipated start date for this project is Oct. 1, 1999, or as soon as permits are issued. We anticipate 4 to 6 months to build depending on weather. The ending date is anticipated to be between January 31 - March 31, 2000.

Please note the following responses from these departments:

OEQC, letter dated July 7, 1999 - answered above.

State of Hawaii, Department of Land and Natural Resources, Historic Preservation Division, letter dated: June 3, 1999, detailed above.

State of Hawaii, Department of Health, letter dated June 9, 1999, detailed above.

Division of Forestry & Wildlife, letter dated May 19, 1999. "Given the information provided in this CDUA, DOFAW has no objections to the request for a single family residence.

Planning Department, letter dated July 9, 1999, letter dated July 9, 1999, detailed above.

State of Hawaii, Department of Land and Natural Resources, Division of Conservation and Resources Enforcement, letter dated June 30, 1999.

Findings:

A. There was no indication that any project work had been undertaken as of this date.

B. There was no indication of any discrepancy in the applicant's description of the site conditions/situation.

C. Nothing was noted that might be a bar to approval of the applicant's proposal.

State of Hawaii, Department of Land and Natural Resources, Land Division, Engineering Branch letter dated May 18, 1999.

Comments:

We suggest that the proposed project be done according to the Special Flood hazard Area Regulations of the Kauai County Code.

We confirm that the proposed project site is located in Zone AE. Zone AE is an area located within the 100-year flood plain with base flood elevations determined.

Response: The requirement for the AE flood zone is that the structure be elevated at least 15 feet above sea level and not to exceed 25 feet above grade level. The elevation of proposed structure is 13 feet above sea level. The house will be elevated 3.5 feet above the grade height of 13 feet and not to exceed 25 feet from grade level.

BENJAMIN J. CAYETANO
GOVERNOR



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

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

July 7, 1999

Dean Uchida, Administrator
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Attention: Ed Henry

Dear Mr. Uchida:

Subject: Draft Environmental Assessment (EA) for Sherwood Residence, Haena

Please be advised that *all* copies of EAs must be bound or stapled with no loose attachments. Additionally, in order to reduce bulk and conserve paper, we recommend printing on both sides of the pages in the final document.

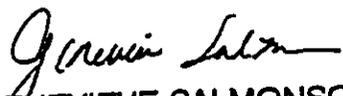
Please include the following in the final EA:

1. Historic sites: Three historic sites exist on the property. In the final EA provide a fuller description of them, and indicate their exact locations on the site plan to show that they will not be affected by building site preparation or construction. Include any correspondence with the State Historic Preservation Office.
2. Contacts: Consult with the Kauai Planning Department about this project and the state Department of Health's Environmental Planning Office regarding the proposed use of a septic system. Document all contacts in the final EA and include copies of any correspondence.
3. Timeframe: What are the anticipated start and end dates of this project?

Dean Uchida
July 7, 1999
Page 2

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

Sincerely,


GENEVIEVE SALMONSON
Director

c: Karen Sherwood

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JANET T. KAWILO

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhikawa Building, Room 666
801 Kamehaha Boulevard
Kapolei, Hawaii 98707

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

RECEIVED
DIVISION OF
LAND MANAGEMENT
JUN 14 3 22 PM '99

June 3, 1999

MEMORANDUM

LOG NO: 23520 ✓
DOC NO: 9905NM20

TO: Dean Uchida, Administrator
Land Division

FROM: Don Hibbard, Administrator
State Historic Preservation Division *[Signature]*

SUBJECT: Historic Preservation Review -- File No. KA-2933 (b)
Single Family Residence (Olanolau and Sherwood)
TMK: 5-9-05: 01 Haena, Halele'a, Kaua'i

This parcel has undergone an archaeological survey (Dye 1998. Archaeological Survey of Property at Ha'ena, Halele'a, Kaua'i (TMK: 5-9-5: 1), IARII ms). Three significant historic sites were found: 1995 - Habitation layer; 1996 -- a boulder alignment; 1994 a heiau site. The single family residence will not impact any of these sites, so these sites are being preserved.

Thus, we believe that this project will have "no effect" on significant historic sites with the following conditions attached:

- 1) Sites: 50-30-02-1995 - cultural deposits; 50-30-02-1996 -- a boulder alignment; and 50-30-02-1994 a heiau site will be preserved as is.
- 2) If historic sites, including human burials, are uncovered during the construction activities, all work in the vicinity of such finds must stop and the State Historic Preservation Division must be contacted at 742-7033. Significance of the finds will then be assessed and mitigation will be determined, burials in accordance with Chapter 6E-43.

If you have any questions, please call Nancy McMahon 742-7033.

NM:lm

c. Tom Dye, IARII

BENJAMIN J. CAVETANO
GOVERNOR OF HAWAII



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

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

In reply, please refer to:
File:

June 9, 1999

99-103/epo

TO: Dean Y. Uchida, Administrator
Land Division
Department of Land and Natural Resources

FROM: Gary Gill *[Signature]*
Deputy Director for Environmental Health

SUBJECT: CONSERVATION DISTRICT USE APPLICATION

Applicant: Michael Olanolan & Karen Sherwood
File No.: KA-2933(B)
Request: Single Family Residence
Location: Haena, Kauai
TMK: 5-9-5: 01

Thank you for allowing us to review and comment on the subject request. We do not have any comments to offer at this time.

c: KDHO

RECEIVED
DIVISION OF
LAND MANAGEMENT
JUN 15 4 17 PM '99

Division of Forestry & Wildlife

1151 Punchbowl Street, Rm. 325 • Honolulu, HI 96813 • (808) 587-0166 • Fax: (808) 587-0160

May 19, 1999

MEMORANDUM

TO: Ed Henry, Planner
Division of Land Management

THRU: Dean Uchida, Administrator
Division of Land Management

FROM: Michael G. Buck, Administrator
Division of Forestry and Wildlife



SUBJECT: CDUA KA-2933 Request Single Family Residence by Michael Olanolan &
Karen Sherwood at Haena, Kauai TMK (4) 5-9-5:01

We have reviewed this CDUA KA-2933 by Olanolan and Sherwood with respect to its impacts on DOFAW's natural resources management programs and endangered species in particular. This request for a single family residence is in the resource and limited subzone of the State Conservation District. The area was previously a Robinson pasture that was cleared and open for many years. Given the information provided in this CDUA, DOFAW has no objections to the request for a single family residence.

Attachment

C: Kauai DOFAW Branch

RECEIVED
DIVISION OF
LAND MANAGEMENT
MAY 21 10 50 AM '99

MARYANNE W. KUSAKA
MAYOR



PLANNING DEPARTMENT

DEE M. CROWELL
PLANNING DIRECTOR
SHEILAH N. MIYAKE
DEPUTY PLANNING DIRECTOR
TELEPHONE (808) 241-6677
FAX (808) 241-6699

July 9, 1999

Karen Sherwood/Michael Alanolan
P.O. Box 3500-201
Princeville, HI 96722

SUBJECT: TMK: 5-9-05: 1 at Haena, Kauai

The subject property is within the County of Kauai Special Management Area (SMA). However, the proposed single-family dwelling is exempt from the County's SMA requirements.

Should you have any questions, please feel free to contact Keith Nitta of my staff at 241-6677.

A handwritten signature in cursive script, appearing to read "Sheila N. Miyake".

SHEILAH N. MIYAKE
Deputy Planning Director

State of Hawaii
Department of Land and Natural Resources
Division of Conservation and Resources Enforcement

June 30, 1999

MEMORANDUM

TO: Dean Uchida, Administrator
Land Division

FROM: Patricia Edwards, Acting Investigator
Division of Conservation and Resources Enforcement

SUBJECT: Site Visit/Field Inspection Report KA-2933(B)

RECEIVED
DIVISION OF
CONSERVATION AND
RESOURCES ENFORCEMENT
JUN 30 3 22 PM '99

1. CASE DATA

- a. FILE NO: KA-2933(B)
- b. INITIATOR: MICHAEL OLANOLAN & KAREN SHERWOOD
- c. LOCATION: TMK:(4)5-9-05:01 HAENA, KAUAI
- d. SUMMARY: CONSTRUCTION OF A SINGLE FAMILY DWELLING

2. FINDINGS

- a. Site visit/inspection conducted on 06/18/99 by DOCARE Officer Brad Akana. There was no indication that any project work had been undertaken as of that date.
- b. There was no indication of any discrepancy in the applicant's description of the site conditions/situation.
- c. Nothing was noted that might be a bar to approval of the applicant's proposal.



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 INSPECTOR'S ENFORCEMENT
CONVEYANCE FORESTRY AND WILDLIFE
HISTORIC PRESERVATION LAND DIVISION
STATE PARKS WATER RESOURCE MANAGEMENT

MAY 18 1999

PS:JEH

MEMORANDUM

File No.: CDUA KA-2933 (B)
Acceptance Date: May 5, 1999
180-Day Exp. Date: Nov. 1, 1999
Suspense Date: 21 Days from stamped date

TO: Engineering Branch; Kauai District Land Agent; Conservation and Resource Enforcement; Forestry & Wildlife; Historic Preservation

FROM: Dean Y. Uchida, Administrator
Land Division *[Signature]*

SUBJECT: REQUEST FOR COMMENTS
Conservation District Use Application

APPLICANT: Michael Olanolan & Karen Sherwood

FILE NO.: KA-2933 (B)

REQUEST: Single Family Residence

LOCATION: Haena, Kauai

TMK: (4) 5-9-5:01

PUBLIC HEARING: YES ___ NO X

RECEIVED
DIVISION OF
LAND MANAGEMENT
MAY 27 9 39 AM '99

DOCARE: Please conduct field inspection

Should you require additional information, please call Ed Henry at 587-0380.
If no response is received by the suspense date, we will assume there are no comments.

Attachment

(X) Comments Attached

Signed: *[Signature]*
ANDREW M. MONDEN, Chief Engineer

Date: 5/26/99

ENGINEERING BRANCH

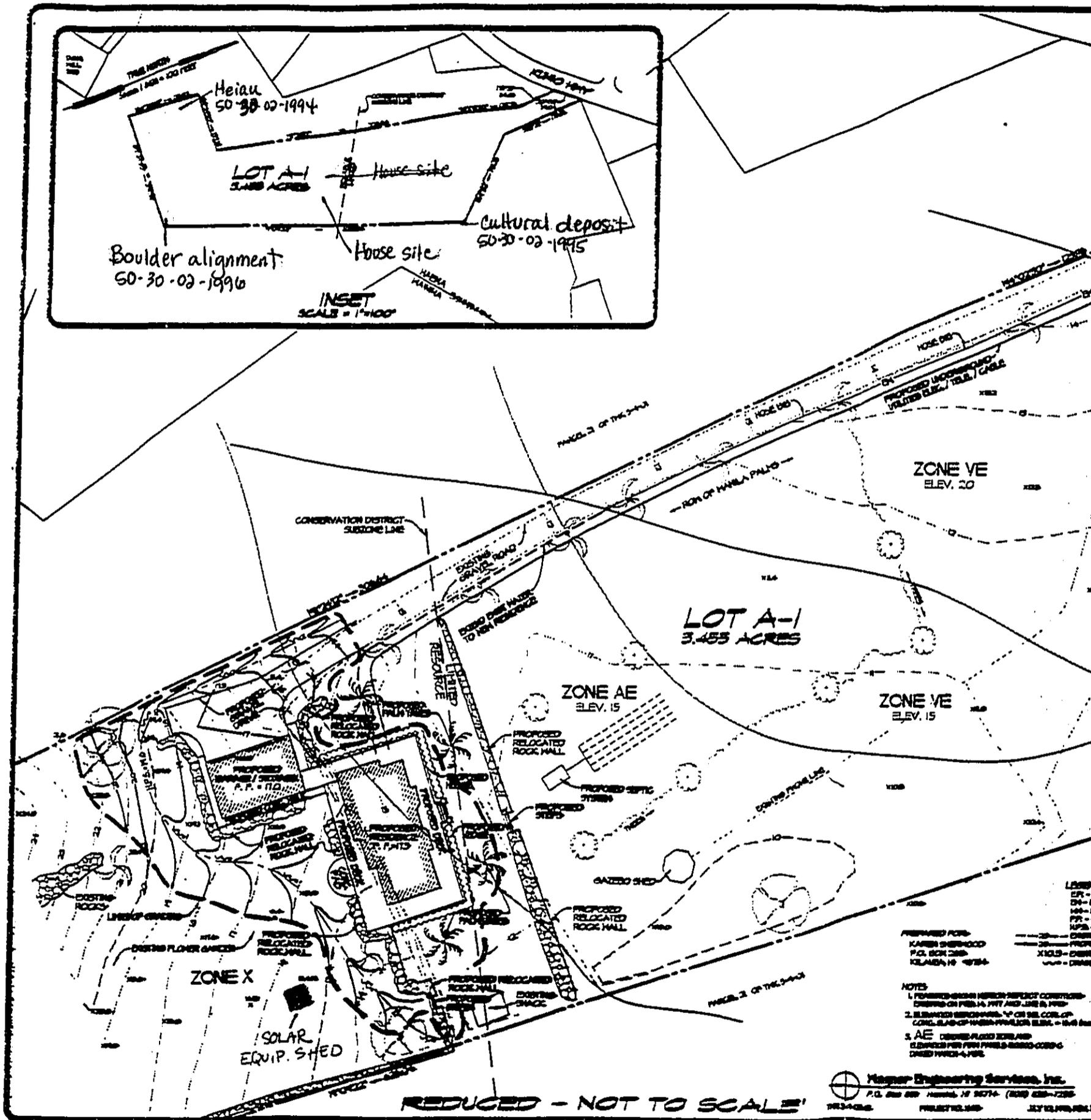
COMMENTS

We suggest that the proposed project be done according to the Special Flood Hazard Area Regulations of the Kauai County Code.

We confirm that the proposed project site is located in Zone AE. Zone AE is an area located within the 100-year flood plain with base flood elevations determined.

Site plan showing
historic sites in relationship
to proposed house site.

Revised plot plan showing solar shed. 7/7/99

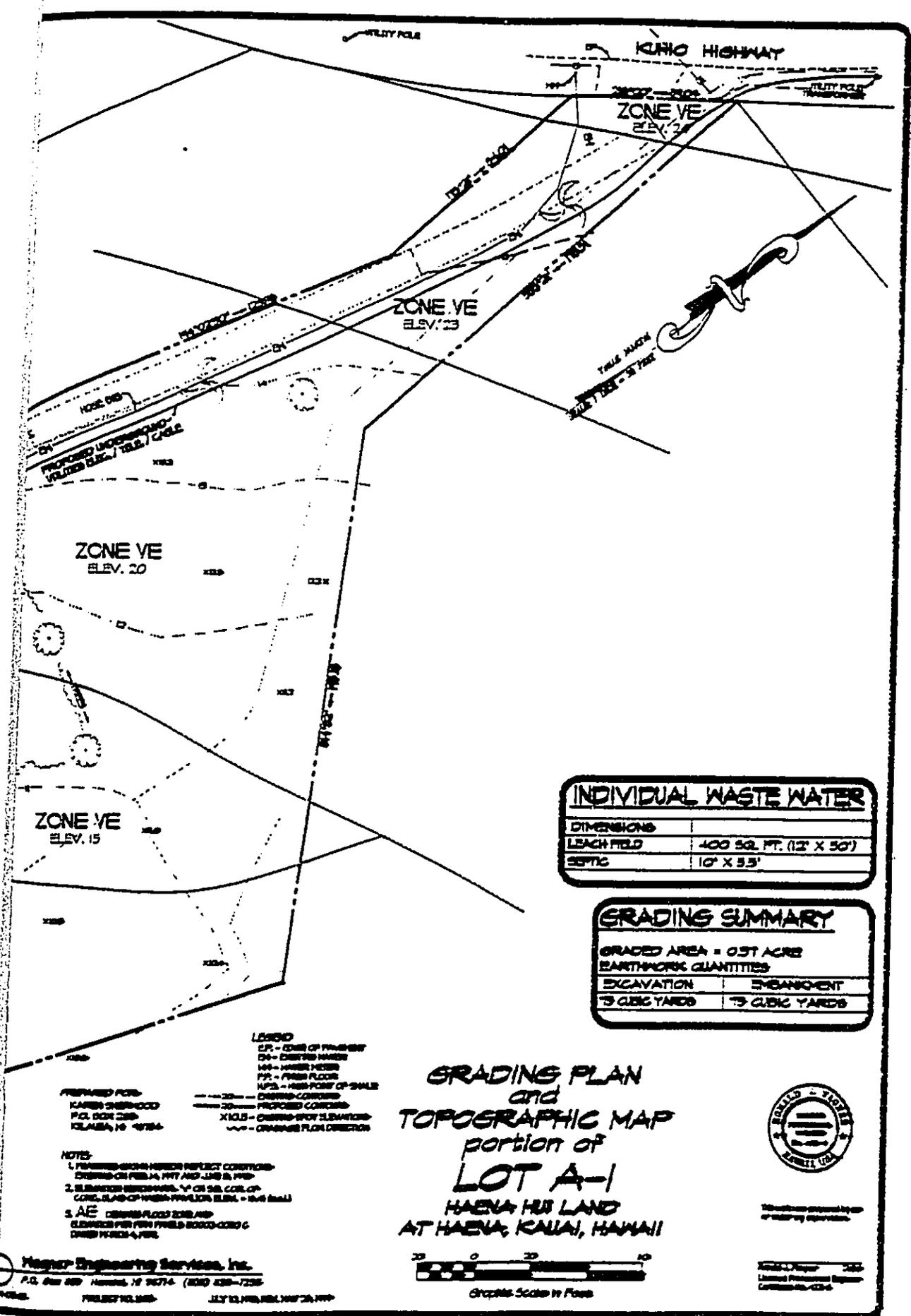


PREPARED FOR:
 KASPER ENGINEERING SERVICES, INC.
 P.O. BOX 288
 KILAHEA HI 96754

NOTES:
 1. PROPOSED DESIGN HEREIN REFLECTS CONDITIONS SHOWN ON PAGES 14, 1977 AND 1982 OF THE PFD.
 2. ALL DIMENSIONS SHOWN ARE IN FEET UNLESS OTHERWISE NOTED.
 3. AE DESIGN FLOOD ELEVATION DETERMINED PER FEMA FLOOD ELEVATION DATED 11/28/98.

Kasper Engineering Services, Inc.
 P.O. BOX 288 KILAHEA HI 96754 (808) 838-7288
 PROJECT NO. 99-010

REDUCED - NOT TO SCALE!



INDIVIDUAL WASTE WATER	
DIMENSIONS	
LEACH FIELD	400 SQ. FT. (12' X 50')
SEPTIC	10' X 5.5'

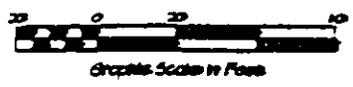
GRADING SUMMARY	
GRADED AREA = 0.57 ACRES	
EARTHWORK QUANTITIES	
EXCAVATION	EMBANKMENT
73 CUBIC YARDS	73 CUBIC YARDS

**GRADING PLAN
and
TOPOGRAPHIC MAP
portion of
LOT A-1
HAENA HUI LAND
AT HAENA, KAUAI, HAWAII**



Structures shown by
or existing operations.

Professional Engineer
License No. 1024



LEGEND
 EP - EDGE OF FINISHED
 DW - EXISTING WALLS
 MF - FIRST FLOOR
 NF - FIRST FLOOR OF SHALE
 --- 20 --- EXISTING CONTOUR
 --- 20 --- PROPOSED CONTOUR
 X 10.0 - EXISTING SPOT ELEVATION
 --- --- DRAINAGE FLOW DIRECTION

PREPARED FOR:
 KAREN SHERWOOD
 P.O. BOX 238
 KLAUSA, HI 96784

NOTE:
 1. FINISHED GRADE SHOWN PERFECT CONDITION -
 DERIVED ON FEB. 14, 1977 AND JUNE 2, 1978
 2. ELEVATION SHOWN IN "V" ON SE. COR. OF
 CORN. SLAB OF WIND-PROTECTOR ELEV. = 8.4' (8.4')

**S. A. E. DESIGN FLOOR ELEV. AND
 ELEVATION FOR FIN. FLOOR 8.000-0.000 &
 8.000-0.000-4.000**

Heater Engineering Services, Inc.
 P.O. Box 889 Honolulu, HI 96714 (808) 438-7239

PROJECT NO. 100- JULY 13, 1978, HNL, HAWAII, 1978