Maryanne W. Kusaka Mayor

Wallace G. Rezentes, Sr. Administrative Assistant



**OFFICES OF COMMUNITY ASSISTANCE KAUAI COUNTY HOUSING AGENCY** 

Executive on Housing

Matilda A. Yoshioka

Director

Kenneth N. Rainforth

August 14, 2000

Ms. Genevieve Salmonson, Director Office of Environmental Quality Control 235 S. Beretania Street State Office Tower Suite 702 Honolulu, Hi 96813

Dear Ms. Salmonson:

Subject:

Finding of No Significant Impact (FONSI) for Wind Resistant Single Family

Dwellings, TMK (4) 2-1-9-075 & (4) 2-1-9-123, Eleele, Kauai, Hawaii

The Kauai County Housing Agency has reviewed the comments received during the 30-day public comment period. The Housing Agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the September 8, 2000 OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form and four copies of the Final EA. Please contact Mr. Jim Seitenzahl at 241-6812 if you have any questions.

Yours truly,

Kenneth N.Rainforth,

Executive on Housing

DEC. OF ENVIRONMENTA

OUALITY CONTROL

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4193 Hardy Street Lihue Hawaii 96766 Section 8 (HUD) (808) 241 6440 FAX (808) 241 6456 cok\_hsg@aloha.net

Wind-Resistant Single Family Dwellings FILE COPY

Eleele Nani II Subdivision;
Eleele, Kauai, Hawaii

September 26 1994 September 26, 1994 8/14/2000

- Kauai County Housing Agency PROPOSING AGENCY:
- APPROVING AGENCY: Not applicable.
- AGENCY CONSULTED: C. Not applicable
- GENERAL DESCRIPTION OF THE TECHNICAL, SOCIO-ECONOMIC AND D. ENVIRONMENTAL CHARACTERISTICS:
  - This project is to design and construct a2 Technical: single-family, wind-resistant dwellings in an existing subdivision. The homes will contain three bedrooms, two full baths and a two-car carport. This size is typical of the existing neighborhood. They Dt will be sold to a qualified family for as owner-occupied residence after construction.

#### 2. Socio-Economic:

- The proposed project will not create sufficient work to substantially impact the economy and welfare of the community and state.
- b. The estimated cost of the project is \$100,000.
- Since the project will be constructed on countyowned property and eventually be sold to an individual family, thus adding to the tax base.

#### Environmental: З.

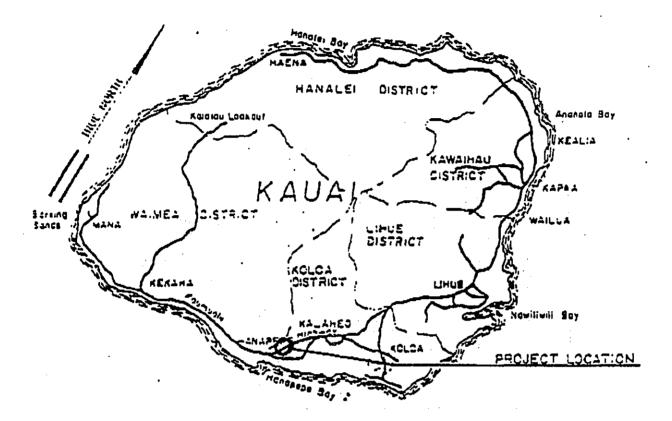
- The project will not create any major long-term environmental impacts. a.
- However, during construction, the air quality may be affected by dust and exhaust emissions, and it is anticipated there will be a temporary increase b. in noise levels.
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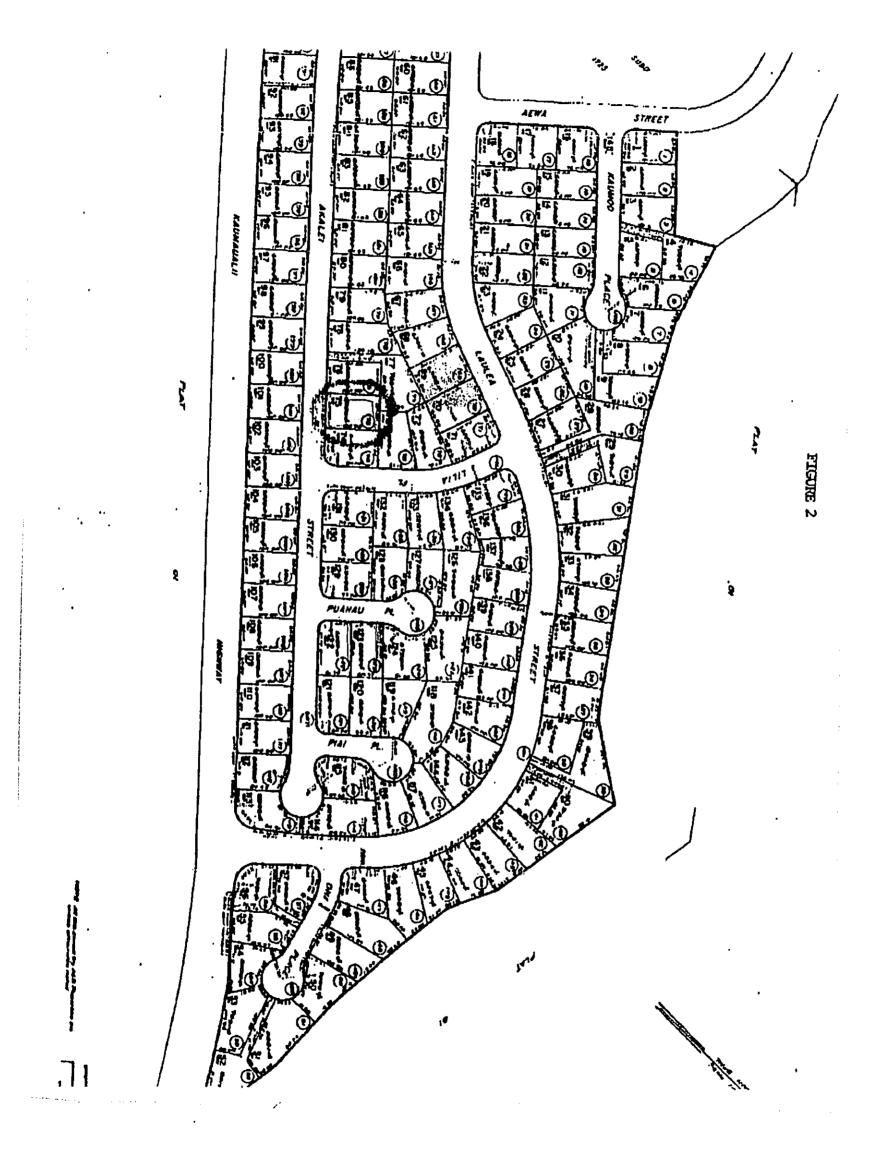
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- 2. No habitat of endangered species, flora or fauna are known to exist at the site.
- 3. No historical, archaeological or cultural sites are known to exist at the site.
- 4. The site is not in a special management area.
- 5. The project is located as shown in Figures 1 and 2, respectively.
- F. IDENTIFICATION AND SUMMARY OF MAJOR IMPACTS AND ALTERNATIVES CONSIDERED:
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    - b. Curtail the range of beneficial uses of the environment.
    - c. Conflict with the state's long-term environmental policies.
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    - h. Be located in any environmentally sensitive area, such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water or coastal waters.
  - Alternatives to the Proposed Project: "No action" is not considered to be a viable or desirable alternative.
- G. PROPOSED MITIGATION MEASURES: Short term impacts on air and noise quality during construction will be controlled by application of appropriate pollution and noise control measures.
- H. DETERMINATION: On the basis of the above assessment, it is concluded that the proposed project will not have a significant adverse impact on the environment.

# MAP OF KAUAI







# University of Hawai'i at Mānoa

**Environmental Center** 

A Unit of Water Resources Research Center Crawford 317 • 2550 Campus Road • Honolulu. Hawai 96822 VED Telephone: (808) 956-7361 • Facsimile: (808) 956-3980

\*00 SEP 20 P 20 P 200 P

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Mr. Jim Seitenzahl Housing Agency County of Yauai 4193 Hardy Street, #2 Lihue, Hawaii 96766

Dear Mr. Seitenzahl:

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Elecle Nani II Subdivision
(Wind Resistant Single Family Dwelling)
Lihue, Kauai

The referenced document describes impacts from the construction of two houses specifically designed to demonstrate application of wind resistant construction techniques. The houses will be built in the Eleele Nani II subdivision on county-owned lots and once constructed, sold to owner-occupants on Kauai Housing Agency's waiting list.

Our review was completed with the assistance of Chris Welch of the Environmental Center.

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Thank you for the opportunity to comment.

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Environmental Coordinator

cc:

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Roger Fujioka
Chris Welch

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August 14, 2000

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I am enclosing a brochure the Housing Agency created that details our interest in and commitment toward hazard resistant housing. In the brochure are two photos of the tubular steel framing used in one of the Eleele Nani homes. Both three bedroom, two bath homes totaled approximately 1100 square feet of living space plus a double carport. Both homes were built on budget (\$92,000.00) and were successfully marketed to low-moderate income families for \$165,000.00.

The Housing Agency was encouraged by the market acceptance of these two homes and we have modified our developer rules to encourage hazard resistant construction methodologies in affordable projects. Thank you for your interest in hazard mitigation and if you have any questions or comments please contact me at 241-6812.

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# PROJECT HO'OMALU

# INTRODUCTION AND OBJECTIVES

Project Ho'omalu is an effort to positively affect construction practices, methods, materials, and enforcement in Hawaii by ensuring that structures are built or retrofitted in the best possible way to resist hazards such as hurricane force wind, fire, and flood.

### HISTORY:

In response to Hurricane Iniki, the Kauai County Housing Agency (KCHA) took an active role providing temporary shelter and assistance to families and individuals whose homes had been damaged. KCHA assisted with the Lydgate Cabins shelters, Affordable Housing Coalition of Kauai, YWCA, and other organizations. Through these efforts KCHA became exposed to more effective building materials and practices that could have lessened the impact of the hurricane on our citizens homes and reduced the financial burdens placed upon local government.

In its own construction projects since the hurricane, KCHA has emphasized hazard mitigation. One affordable rental project, Kalepa Village, was built using light gauge steel and masonry and engineered to withstand 100 MPH wind loading. This is substantially in excess of current building code requirements. KCHA has also developed and marketed two single family dwelling units which incorporated this wind resistance along with fire and termite mitigation. The first home was of light gauge steel and the second incorporated tubular steel. These two homes show hazard resistant construction can be purchased at prices considered "affordable". Based on this success KCHA has proposed revisions in its developer guidelines to allow more flexibility for developers in meeting their affordable housing requirements by encouraging construction of superior wind/termite resistant housing.



### **OBJECTIVES:**

KCHA will continue its Kauai information and outreach and eventually, offer the program state-wide. Benefits to citizens will include safer houses, lower insurance costs, and financial incentives such as reduced permit fees and real property tax credits. Public benefits will include less storm debris, higher confidence in private homes and ultimately lower usage of public shelters, and a protection of the tax base of the community. The final page of this brochure lists 10 program activities designed to accomplish these broad objectives.

### **ACHIEVEMENTS:**

Project Ho'omalu is affiliated with the Blue Sky Program of North Carolina which is a partnership of public and private interests dedicated to safer housing. Through this affiliation KCHA will be able to offer Hawaii information and resources that an active, national organization has available. Partners and sponsors include Allstate Insurance Co., Insurance Institute for Property Loss Reduction, National Roofing Contractors Association, American Wood Council AFPA, American Plywood Association, American Iron and Steel Association, University of Colorado, Clemson University, John Hopkins University and Weather Guard Hurricane Protection, Inc.

KCHA has a grant application in process with FEMA to help fund these programs and construct a resource center on Kauai. It hopes to begin construction of the center next year and projects/programs on other islands will follow shortly.

To encourage the construction of hazard resistant, affordable housing the KCHA has proposed the following summary of developer incentives for its Affordable Housing Program:

Wind, Fire, and Termite Resistant Dwelling Price Adjustment. Developers may adjust sales or rental prices by providing affordable housing units that are built with wind, fire, and/or termite resistant construction materials, methods, and systems. The affordable sales price or rental fee adjustment would be the savings the occupants would receive from lower insurance costs.

(KCHA has similar language that encourages energy efficiency in affordable dwelling units.)

Wind, Fire, and Termite Resistant Technology Credit Enhancement. Developers may earn bonus credits by providing affordable housing built using wind, fire, and/or termite resistant construction materials, methods, and systems. The credit a developer may receive would be based on insurance cost and termite treatment savings the occupants would receive over the life of the structure.

For further information please contact:

James Seitenzahl, Program Manager

Kauai County Housing Agency 4193 Hardy Street Lihue, Hi 96766

phone: (808) 241-6812 fax: (808) 241-6815 e-mail: cok\_hsg@aloha.net

The facing page shows framing details of an innovative, tubular steel home that was successfully built and marketed in Eleele Nani, Kauai, this year. The use of tubular steel provided the home with superior wind (100 MPH) and termite protection. KCHA believes this project was the first residential application of tubular steel framing in the State of Hawaii. Shortly after completion, four single family units on Oahu were constructed using this method.

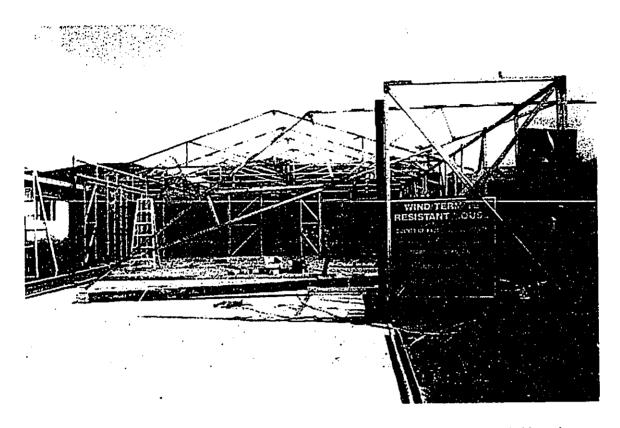


Figure 1. Affordable Hazard Resistant House in Eleele Nani, Kauai

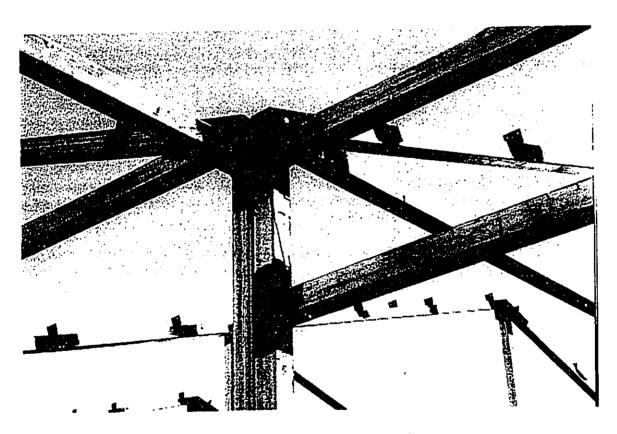


Figure 2. Roof Framing Detail

## PROJECT HO'OMALU

# PROGRAM ACTIVITIES

1. RESOURCE CENTER: Build a construction model, demonstrating a variety of hazard-resistant construction materials and methods, with selected structural elements left exposed as teaching examples. The center will have offices, library, classrooms, and a display area. The center will be designed to allow for future expansion and structural demonstrations.

The display area will be available to vendors who wish to exhibit their products and also show practical retrofit examples. The center will be staffed by private industry with hours of operation convenient for the public. The handicap accessible baths and kitchen will benefit owners who need to consider remodeling their existing home as well as owners who are planning new construction.

2. ALTERNATE METHODS: Develop and make available pre-approved, engineered Acceptable Alternative Methods and Materials (AAMM's) and Improved Design and Construction Practices (IDCP's) for building designers, contractors, builders, and code enforcement officials.

These AAMM's would not be a new code, but a pre-engineered detail that the Building Division agrees is an acceptable alternative. AAMM's and IDCP's will be updated on a regular basis to stay current with the state of the art in hazard-resistant construction.

- 3. RETROFIT: Retrofit components and examples will be in the display area to assist owners with older homes who wish to upgrade for hazard mitigation and/or insurance premium reductions.
- 4. TRAINING: Develop and implement training programs and seminars for all parties involved in the building process including tradesmen, contractors, architects, engineers, and homeowners which will assist them in selection of materials and methods for hazard mitigation. Seminars will allow and encourage information exchange and new product introduction.
- 5. INCENTIVES: Develop a sample package of incentives to encourage participation in the project, such as insurance discounts, reduced permit fees, property tax exemptions, and discounted construction materials.
- 6. CONSUMER INFORMATION: Make information available to the homebuilding consumer regarding the effects of natural hazard on building methods and provide details that will assist him in lessening the risk to his property.
- 7. PROFESSIONAL INFORMATION: Establish a clearinghouse and library of resources and publications that will be available to trade professionals. Encourage information exchange between various academic, government, and private sources.
- 8. RESEARCH AND DEVELOPMENT: Establish, with the cooperation of various Federal, State, County, and private entities a research and development program which focuses on hazard-resistant materials and methods, and on inspection techniques.
- 9. ENERGY EFFICIENCY: Display energy efficient and water conserving appliances, fixtures, and methodology which can be used by homeowners. Work with vendors and utility companies to create incentives for implementation.
- 10. TERMITE MITIGATION: Incorporate and display into the Resource Center termite mitigation techniques and display various control methods with appropriate literature. Work with suppliers to create incentives for implementation.

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•	Use of Storeline Setteck Area HRS 343-5[a][3]		Reclassification of Concernation Lands HRS 343-81a177
-	Use of Historic Sta or District HRS 343-5(n)(4)		Construction or modification of helicopter facilities HRS 343-8(e)(8) (if
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It is our hope that a typically sized home can be constructed in the affordable range and be wind resistant to 100 MPH. After construction we will sell the completed homes to individuals

resistant single family dwellings in Eleele Nani II

NOTE: Since the describe for Ei3 submittel is an class to the publication date for the OEOC Bulletin, please easiet us by bringing the Decument for Publication Form and a computer disk with the project description laits 3 1/2° as 8 1/4° disk are acceptable; preferably WordPartnet 5.1 or ASCH text formed to the Office of Environmental Quality Control as early as possible. Thank you.

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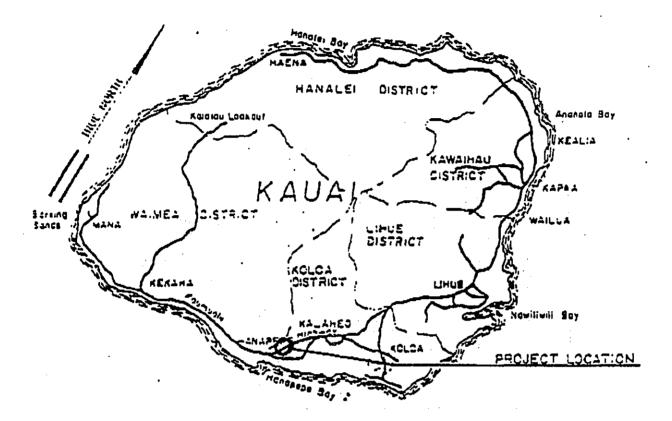
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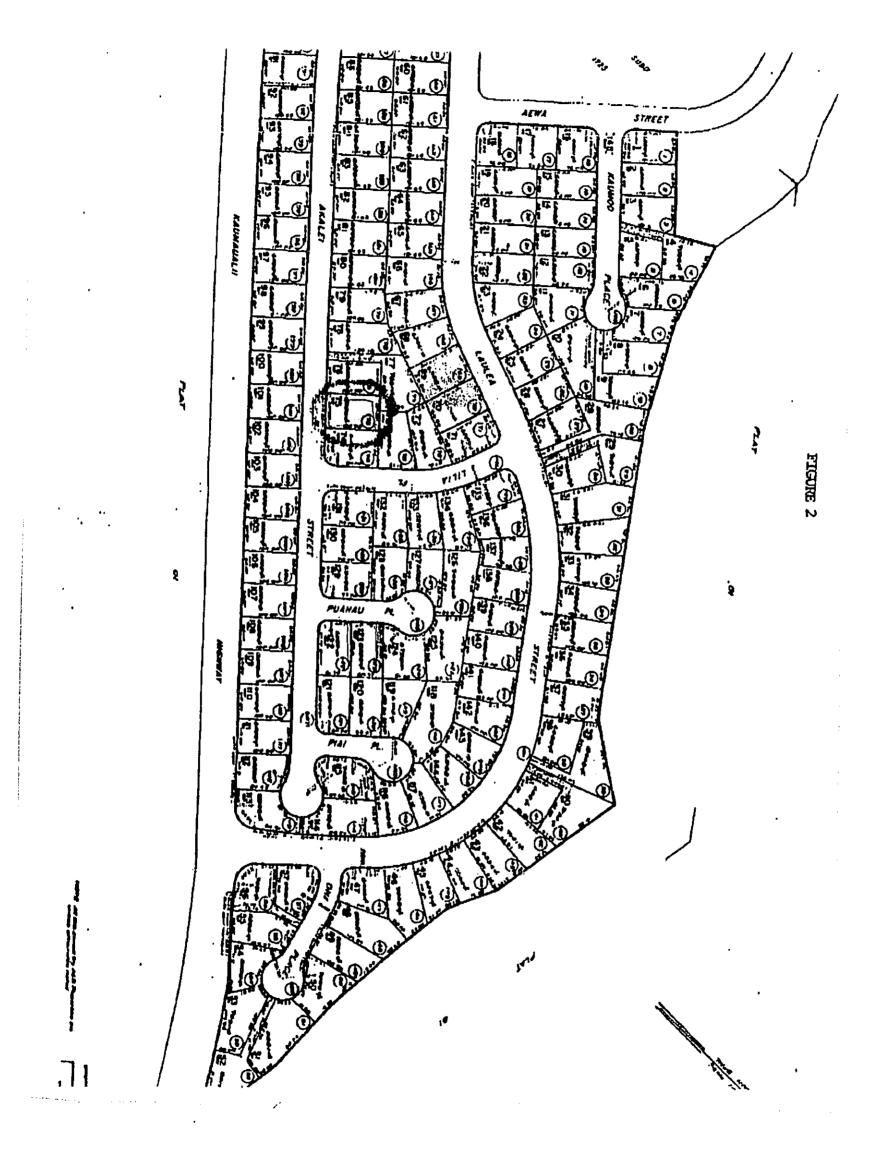
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In its own construction projects since the hurricane, KCHA has emphasized hazard mitigation. One affordable rental project, Kalepa Village, was built using light gauge steel and masonry and engineered to withstand 100 MPH wind loading. This is substantially in excess of current building code requirements. KCHA has also developed and marketed two single family dwelling units which incorporated this wind resistance along with fire and termite mitigation. The first home was of light gauge steel and the second incorporated tubular steel. These two homes show hazard resistant construction can be purchased at prices considered "affordable". Based on this success KCHA has proposed revisions in its developer guidelines to allow more flexibility for developers in meeting their affordable housing requirements by encouraging construction of superior wind/termite resistant housing.



### **OBJECTIVES:**

KCHA will continue its Kauai information and outreach and eventually, offer the program state-wide. Benefits to citizens will include safer houses, lower insurance costs, and financial incentives such as reduced permit fees and real property tax credits. Public benefits will include less storm debris, higher confidence in private homes and ultimately lower usage of public shelters, and a protection of the tax base of the community. The final page of this brochure lists 10 program activities designed to accomplish these broad objectives.

### **ACHIEVEMENTS:**

Project Ho'omalu is affiliated with the Blue Sky Program of North Carolina which is a partnership of public and private interests dedicated to safer housing. Through this affiliation KCHA will be able to offer Hawaii information and resources that an active, national organization has available. Partners and sponsors include Allstate Insurance Co., Insurance Institute for Property Loss Reduction, National Roofing Contractors Association, American Wood Council AFPA, American Plywood Association, American Iron and Steel Association, University of Colorado, Clemson University, John Hopkins University and Weather Guard Hurricane Protection, Inc.

KCHA has a grant application in process with FEMA to help fund these programs and construct a resource center on Kauai. It hopes to begin construction of the center next year and projects/programs on other islands will follow shortly.

To encourage the construction of hazard resistant, affordable housing the KCHA has proposed the following summary of developer incentives for its Affordable Housing Program:

Wind, Fire, and Termite Resistant Dwelling Price Adjustment. Developers may adjust sales or rental prices by providing affordable housing units that are built with wind, fire, and/or termite resistant construction materials, methods, and systems. The affordable sales price or rental fee adjustment would be the savings the occupants would receive from lower insurance costs.

(KCHA has similar language that encourages energy efficiency in affordable dwelling units.)

Wind, Fire, and Termite Resistant Technology Credit Enhancement. Developers may earn bonus credits by providing affordable housing built using wind, fire, and/or termite resistant construction materials, methods, and systems. The credit a developer may receive would be based on insurance cost and termite treatment savings the occupants would receive over the life of the structure.

For further information please contact:

James Seitenzahl, Program Manager

Kauai County Housing Agency 4193 Hardy Street Lihue, Hi 96766

phone: (808) 241-6812 fax: (808) 241-6815 e-mail: cok\_hsg@aloha.net

The facing page shows framing details of an innovative, tubular steel home that was successfully built and marketed in Eleele Nani, Kauai, this year. The use of tubular steel provided the home with superior wind (100 MPH) and termite protection. KCHA believes this project was the first residential application of tubular steel framing in the State of Hawaii. Shortly after completion, four single family units on Oahu were constructed using this method.

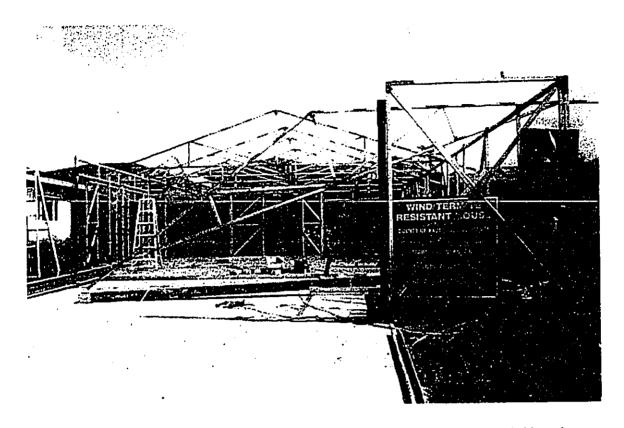


Figure 1. Affordable Hazard Resistant House in Eleele Nani, Kauai

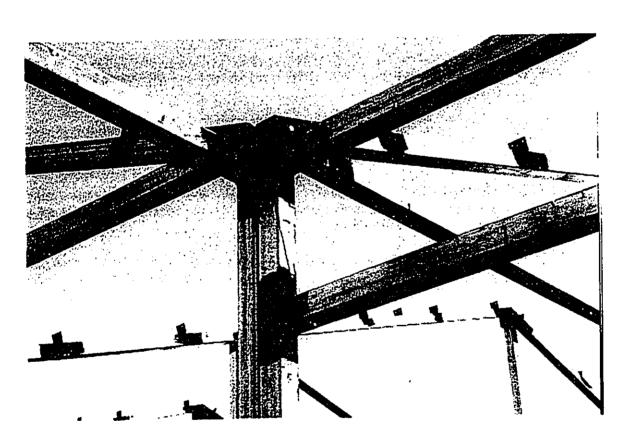


Figure 2. Roof Framing Detail

## PROJECT HO'OMALU

# PROGRAM ACTIVITIES

1. RESOURCE CENTER: Build a construction model, demonstrating a variety of hazard-resistant construction materials and methods, with selected structural elements left exposed as teaching examples. The center will have offices, library, classrooms, and a display area. The center will be designed to allow for future expansion and structural demonstrations.

The display area will be available to vendors who wish to exhibit their products and also show practical retrofit examples. The center will be staffed by private industry with hours of operation convenient for the public. The handicap accessible baths and kitchen will benefit owners who need to consider remodeling their existing home as well as owners who are planning new construction.

2. ALTERNATE METHODS: Develop and make available pre-approved, engineered Acceptable Alternative Methods and Materials (AAMM's) and Improved Design and Construction Practices (IDCP's) for building designers, contractors, builders, and code enforcement officials.

These AAMM's would not be a new code, but a pre-engineered detail that the Building Division agrees is an acceptable alternative. AAMM's and IDCP's will be updated on a regular basis to stay current with the state of the art in hazard-resistant construction.

- 3. RETROFIT: Retrofit components and examples will be in the display area to assist owners with older homes who wish to upgrade for hazard mitigation and/or insurance premium reductions.
- 4. TRAINING: Develop and implement training programs and seminars for all parties involved in the building process including tradesmen, contractors, architects, engineers, and homeowners which will assist them in selection of materials and methods for hazard mitigation. Seminars will allow and encourage information exchange and new product introduction.
- 5. INCENTIVES: Develop a sample package of incentives to encourage participation in the project, such as insurance discounts, reduced permit fees, property tax exemptions, and discounted construction materials.
- 6. CONSUMER INFORMATION: Make information available to the homebuilding consumer regarding the effects of natural hazard on building methods and provide details that will assist him in lessening the risk to his property.
- 7. PROFESSIONAL INFORMATION: Establish a clearinghouse and library of resources and publications that will be available to trade professionals. Encourage information exchange between various academic, government, and private sources.
- 8. RESEARCH AND DEVELOPMENT: Establish, with the cooperation of various Federal, State, County, and private entities a research and development program which focuses on hazard-resistant materials and methods, and on inspection techniques.
- 9. ENERGY EFFICIENCY: Display energy efficient and water conserving appliances, fixtures, and methodology which can be used by homeowners. Work with vendors and utility companies to create incentives for implementation.
- 10. TERMITE MITIGATION: Incorporate and display into the Resource Center termite mitigation techniques and display various control methods with appropriate literature. Work with suppliers to create incentives for implementation.

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It is our hope that a typically sized home can be constructed in the affordable range and be wind resistant to 100 MPH. After construction we will sell the completed homes to individuals

resistant single family dwellings in Eleele Nani II

NOTE: Since the describe for Ei3 submittel is an class to the publication date for the OEOC Bulletin, please easiet us by bringing the Decument for Publication Form and a computer disk with the project description laits 3 1/2° as 8 1/4° disk are acceptable; preferably WordPartnet 5.1 or ASCH text formed to the Office of Environmental Quality Control as early as possible. Thank you.

on our waiting list.