

HAWAII ARCHITECT

April 1993

*Preservation for Profit
Protecting Rainforests
Tourism and Nature*

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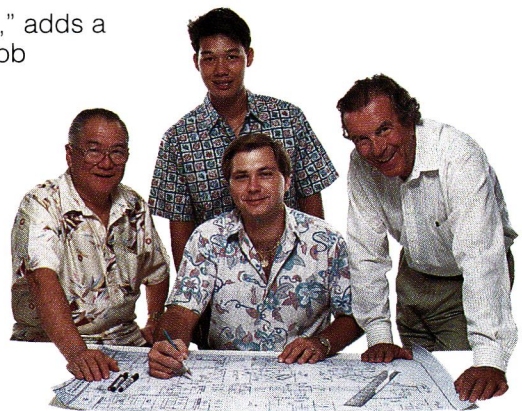
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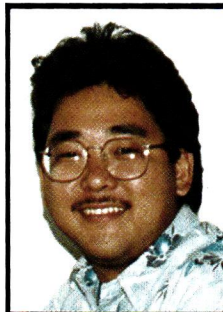
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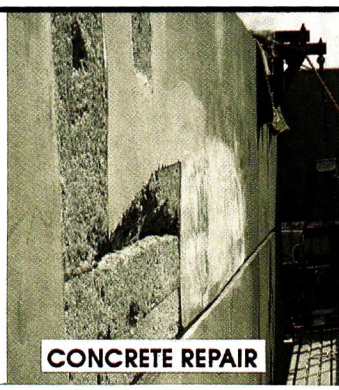


Heading a team of over 40 technicians are left to right:
Alvin Nishikawa, Ken Matsumura, John Kobayashi,
Al Gardner, Steve Kramer, and Jim Hiramatsu

Meet Alvin Nishikawa.



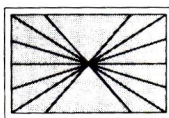
Alvin is Vice President of The American Coating Company. He is in charge of all field and estimating operations. Previously, Alvin was employed with an engineering firm in Chicago and Honolulu where he focused primarily on restoration and water infiltration problems. Alvin holds a M.S. and B.S. in Engineering from Purdue University.



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• All winners will receive a handsome plaque commemorating achievement in the **Sub-Zero Hawaii Kitchen Design Contest.**

Sub-Zero Hawaii Kitchen Design Contest

OFFICIAL CONTEST RULES



1. The "Sub-Zero Hawaii Kitchen Design Contest " runs from January 1, 1993 through October 31, 1993.
2. All Kitchen Design and Construction must be fully completed within the contest period, January 1, 1993 to October 31, 1993.
3. All Refrigeration, including Full-Size, Undercounter and Ice Machines, used in the kitchen must be current models manufactured by Sub-Zero Freezer Company.
4. To be eligible to submit an entry, each Contestant must submit a completed Registration Form to Sub-Zero Distributors, Inc. no later than April 30, 1993.
5. Each Kitchen Design entered in the "Sub-Zero Hawaii Kitchen Design Contest" must include all of the following:
 - a. Completed Official Entry Form.
 - b. Floor Plan and Elevation Drawings.
 - c. A minimum of two (2) 5x7 or 8x10 color photographs of the completed kitchen.
 - d. Model number and serial number of the Sub-Zero products used.
 - e. A written narrative of no more than two hundred and fifty (250) words describing the way Sub-Zero products benefitted the kitchen design, which may also include previous experiences with designing Sub-Zero product into kitchen designs.
6. All completed entries must be accompanied by an Official Entry Form and received by Sub-Zero Distributors, Inc. no later than October 31, 1993.
7. All complete and verified entries will be evaluated by Judges selected by Sub-Zero Distributors, Inc. The decisions of the judges will be final. Winners will be announced December 17, 1993.
8. By entering the "Sub-Zero Hawaii Kitchen Design Contest," each Contestant automatically grants Sub-Zero Distributors, Inc. and Sub-Zero Freezer Company permission to use Contestant's name and any photographs of entered kitchens in Sub-Zero advertising and promotional materials.
9. Contestants may enter more than one Kitchen Design in the "Sub-Zero Hawaii Kitchen Design Contest." A completed Official Entry Form and all materials listed in (5. above) must accompany each entry.
10. Only professionals doing business in the State of Hawaii, including Kitchen Dealers, Kitchen Designers, Interior Designers and Architects are eligible to participate in the "Sub-Zero Hawaii Kitchen Design Contest."
11. All entries must be submitted to Sub-Zero Distributors, Inc. Office:

Sub-Zero Distributors, Inc.
250 Ward Ave.
Suite 110
Honolulu, HI 96814
(808) 593-1055 • FAX: (808) 593-1604

SUB-ZERO

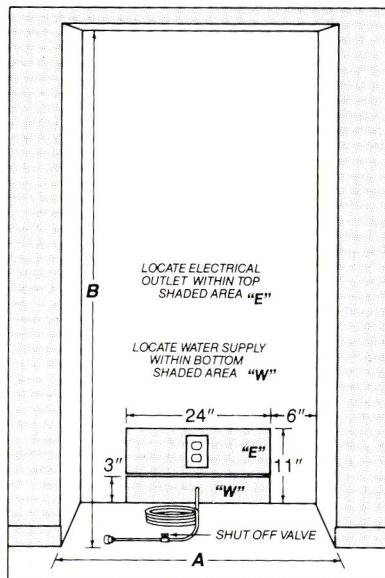
PRE-INSTALLATION SPECIFICATIONS

PREPARATION FOR INSTALLATION

Step 1

Prepare the finished rough opening to accept the installation of the Sub-Zero.

NOTE: Carefully read the "Pre-Installation Specifications" chart below.



MODELS 501F AND 501R

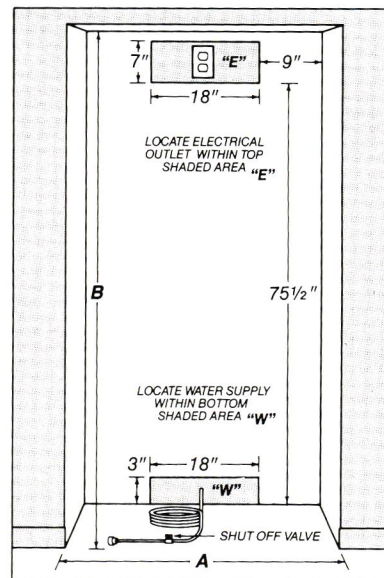


Figure 1

MODELS 511, 532, 550, 561 AND 590

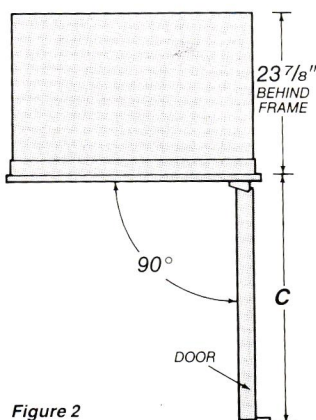


Figure 2

MODEL	FINISHED ROUGH OPENING DIMENSIONS		DOOR PANEL DIMENSIONS (WIDTH x HEIGHT) **	MINIMUM DOOR CLEARANCE REQUIRED AT 90° C	MINIMUM HEIGHT REQUIRED (with levelers in)
	A*	B			
501F	35 1/2"	72 3/4"	34 1/8" x 58 15/16"	36 1/16"	72 7/16"
501R	35 1/2"	72 3/4"	34 1/8" x 58 15/16"	36 1/16"	72 7/16"
511	29 1/2"	83 3/4"	28 1/8" x 48 1/16" 28 1/8" x 18 3/8"	30 1/16"	82 7/8"
532	47 1/2"	83 3/4"	17 15/16" x 67 11/16" 27 11/16" x 67 11/16"	29 1/4"	82 7/8"
550	35 1/2"	83 3/4"	34 1/8" x 48 1/16" 34 1/8" x 18 3/8"	36 1/16"	82 7/8"
561	35 1/2"	83 3/4"	14 5/8" x 67 11/16" 19 1/8" x 67 11/16"	20 3/4"	82 7/8"
590	47 1/2"	83 3/4"	15 1/8" x 67 11/16" 20 9/16" x 67 11/16" (Grille Panel) (9 3/16" x 46 3/16") (Handle Trim Panels not to exceed .050" thickness) Refrigerator, Upper Trim Panel 6 7/8" x 25 7/32" Refrigerator, Lower Trim Panel 6 7/8" x 31 7/32" Freezer Trim Panel 29 1/16" x 67 11/32"	29 1/4"	82 7/8"

*When units are installed side by side, a separating filler strip is recommended. The filler strip width should be added to the finished rough opening dimension. A filler strip must also be used when units are installed hinge to hinge.

**Routing or Recessing may be required on raised panels for finger clearance under handle. Refer to Figures 29 and 30 — "Handle Recess Specs and Recommendations for Raised Panels."



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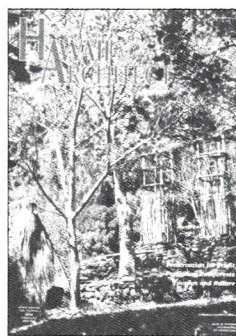
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MONTE COSTA PHOTO

The cover depicts Waimea Falls Park on Oahu's North Shore, where activities for profit and preservation are in harmony. Environmental issues are the focus of this issue of *Hawaii Architect*.

Preservation of the natural environment is a global concern. It leads the slate of issues to be addressed this year by the AIA.

Some architects in Hawaii are taking a proactive stand on this issue, lending their knowledge of architectural design, design aesthetics, code and regulations and the built environment to help communities fight "inappropriate" development. Others express environmental concerns through design that respects the natural environment, careful selection of construction materials or techniques that take advantage of natural phenomena or basic laws of physics—the sun, tradewinds or climate.

With water, energy and landfill resources becoming scarcer and more expensive, local governments, in cooperation with the private sector, are promoting conservation measures through ordinances and legislation mandating use of efficient systems and devices in buildings and residences.

Since design is an early stage in project development, Hawaii's architects are shouldering the responsibility of interpreting the vision of the future built environment to the public, government officials, developers and suppliers, a challenge for which they are well-qualified.

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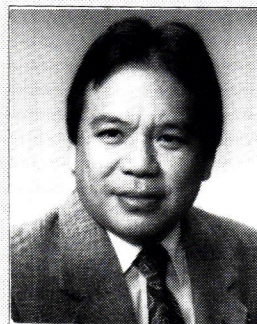
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Leadership Message

Protecting Freedom of Expression



Daniel G. Chun, AIA

I recently returned from the AIA national leadership workshop called Grassroots. At the workshop the speakers said every board of directors has a perpetual agenda and a yearly agenda. With this in mind, I thought that I would attempt to discuss some AIA Hawaii State Council perpetual agenda items.

Design freedom

Throughout history, architects have generally been free to express themselves in their architecture. People are able to enjoy great buildings because of this freedom of individual expression and experimentation. At the same time, most great architecture has a strong relationship to the culture in which it was designed. I like to believe that great architecture has a responsibility to the society in which it exists.

At the forthcoming World Congress of Architects, to be held in Chicago in June, a declaration of interdependence will be issued which states that architecture has a responsibility to the physical environment. Relying on the professional responsibilities of its members, the AIA has historically opposed state of Hawaii legislation limiting design freedom.

Each year the AIA sees legislative proposals that would limit design freedom. In the distant past, the AIA opposed bills that would mandate sloping roofs on school buildings. More recently, the AIA opposed bills that would have required rectangular buildings oriented in an east-to-west direction. In this session another bill would mandate neo-traditional housing communities. I point these bills out not because they are inherently bad ideas. In fact, many of these ideas are good. However, such legislation would limit the public's right to choose,

and by extension the architect's privilege to design.

For example, the AIA has in the past resisted the imposition of more stringent energy codes. This has had the unfortunate effect of causing us to be viewed as an enemy of energy-efficient architecture.

When confronted with the decision of mandating energy efficiency by legislation, the AIA Hawaii State Council has always preferred market forces such as the new BTU energy tax proposed by President Clinton. Many more solar water heaters were sold in Hawaii when the state was offering tax credits for their installation.

Tort reform and statutes of limitations

These issues can create or destroy a healthy business climate for architects. Being a licensed professional architect means having to shoulder inordinate responsibilities to the public. However, the AIA is constantly seeking to bring more balance to the business climate of this state.

Your State Council wants to support the ability of its members to run a practice of any size and scope anywhere in Hawaii. Only by having a strong profession composed of every size, location and type of practice can the public be provided with architectural services.

In this legislative session, the AIA is supporting a permanent extension of the Tort Reform Act of 1986, inclusion of wrongful death and bodily injury within the statute of limitations, a shorter statute of limitations for property damage and the inclusion of the state of Hawaii and its agencies within that statute. **HA**

♦ Daniel G. Chun, AIA, is president, AIA Hawaii State Council.

A vanishing natural resource Tropical Rainforest

by
J. Lee
Rofkind

Preserving the rainforest has become a trendy and abused subject. It is the underlying moral of a Hollywood movie, a marketing tool for fast food chains and even for a breakfast cereal that professes its consumption will protect the fast-fading rainforest—a real “breakfast of champions.”

A great deal of information is available on the subject, some of it conflicting.

The International Hardwood Products Association (IHPA), for example, argues against a tropical timber ban because it will devalue the forest, which will be cut down for more profitable uses such as ranching or farming. The IHPA is a timber industry trade group whose members base their livelihood on the continuing trade of wood and wood products. Their argument is not completely clear; either way the trees are cut down.

ENVIRONMENTAL GROUPS, such as the

Rain-forest Action Network, advocate promoting non-timber products of a standing rainforest. Nuts, fruits, latex, resins and medicinal plants can be harvested without damaging the forest and can be a continuous source of income for indigenous people. Logging, as currently practiced in most rainforests, is a one-time source of income from the trees. Typically, a select few people or corporation benefit from most of that income.

Sustainable is the buzzword often used in discussion on preserving the rainforest. Again, the source of the definition is critical in evaluating its true meaning. The tropical timber industry may practice “sustained yield forestry,” which is the removal of a maximum number of trees in a given area without affecting the forest’s ability to generate a given volume of wood. That definition only protects the timber value of the forest. Economically, it is difficult for rainforest countries to practice

Hundreds of Trees Face Extinction

Tropical woods that have been identified to be at risk, endangered, threatened or requiring conservation action have been carefully listed by experts working for the Convention on International Trade in Endangered Species, the United Nations Food and Agricultural Organization or the International Board for Plant Genetic Resources.

There are hundreds of endangered tropical woods listed in the Wood Users Guide published by the Rainforest Action Network. The following are a few excerpts from the Wood Users Guide.

Contact the AIA Honolulu Chapter for a copy of the Wood Users Guide.

Amazaque (*guibourtia ehie*) - Other names: shedua or mazambique. Heartwood color yellow to dark brown. Origin: Ivory Coast. Uses: cabinet wood; tree also produces a gum used in varnishes or pharmaceuticals.

Andiroba (*carapa guianensis*) - Other names: cedro macho, carapa, crapwood, tangare, bastard mahogany and para mahogany. Origin: W. Indies, Central

America and Brazil. Heartwood is reddish brown color. Uses: suitable for boat-building, furniture, flooring, frame construction in the tropics, millwork, cabinetry and decorative plywood. Commonly included in shipments of the swietenia species.

Teak (*tectona grandis*) - Origin: Burma, Thailand, Indonesia, Cambodia. Heartwood is medium brown. Uses: flooring, ship-building and decking, turnery and furniture. Plantation teak is available from Java and Latin America. Not all teak is endangered. Rainforest Alliance recommends plantation-grown teak from Indonesia. According to Earth Access, an environmental watchdog group based in Cambridge, Mass., teak from Burma is harvested extremely destructively by a very corrupt and repressive government. Teak products from Thailand are made from Burmese teak or illegally logged Thai teak (all teak logging is banned in Thailand). Earth Access recommends boycotting Burmese teak and Thai teak products, such as those sold by many Scandinavian importers.

sustainable forestry as defined by environmentalists.

Earth Access defines sustainable production to mean "species (plant and animal) diversity and density at the logging site is not significantly diminished," meaning that the biodiversity of the forest is maintained, its role in regulating the climate and hydrological cycles is not disturbed, nor is its role as a provider of food, medicine and shelter for indigenous people. Most of the rainforests are located in poorer countries, which feel pressured to make decisions that provide the highest immediate yield in income. The governments of those countries believe that they cannot afford to consider biodiversity, hydrological cycles or other long-term and global effects.

UNTIL RAINFORESTS CAN be properly protected, and until wood products are clearly labeled to identify their source, the best direction an architect can take to protect rainforests is to reduce the specification of tropical hardwoods and substitute temperate-forest wood alternatives or products made from recycled wood. Architects should also be careful not to specify temperate woods from old-growth forests, such as Redwood and Douglas Fir, unless they are certain that the trees were harvested from secondary-growth forests. **HA**

♦ J. Lee Rofkind is vice chair, Environment Committee, AIA Honolulu.

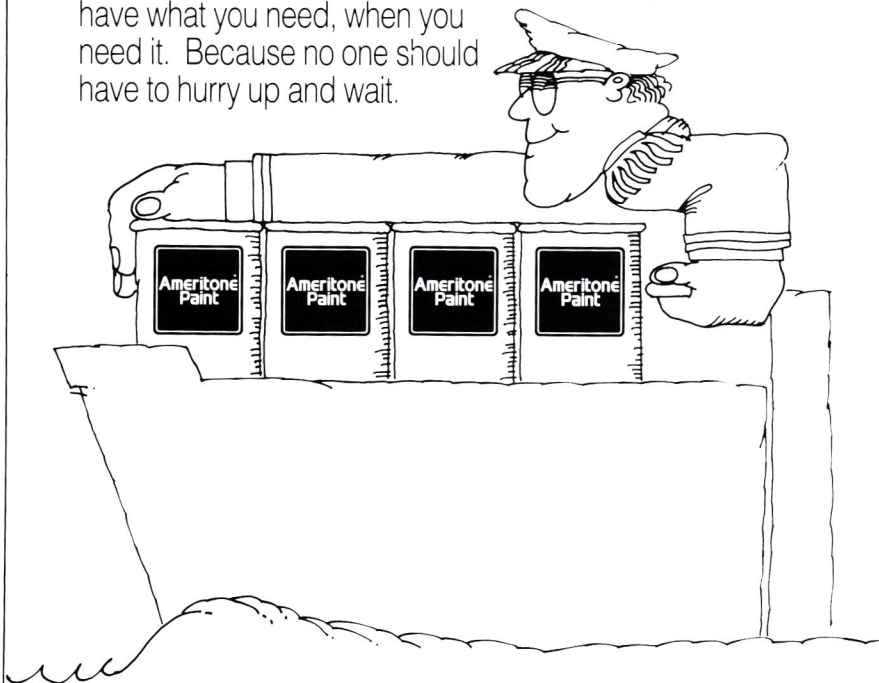
Endangered Species Information

Copies of the endangered species and Endangered Species Act can be obtained from U.S. Fish and Wildlife Service, Publications Unit, ARLSQ Rm. 130, Washington, DC 20240.

For information on Hawaii State laws and regulations governing the protection of plants, contact the Department of Land and Natural Resources, Division of Forestry and Wildlife, 1151 Punchbowl St., Kalaninimoku Bldg., Rm. 325, Honolulu, HI 96813.

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Waimea Falls Park

Balancing preservation and profit

by
**Mazeppa
King Costa**

Some twenty years ago, with commendable foresight, the *kamaaina* owners of the 1,800-acre conservation-zoned Waimea Valley made the decision and commitment to combine stewardship of the valley with profit motive. In so doing they became early architects among those who helped build the "green" bandwagon that all must now climb aboard.

The corporate commitment has been millions, the cultural legacy priceless.

Working with a mandate to provide a recreational destination, the owners—supported by able and dedicated staff, cultural and scientific organizations, government agencies and an appreciative public—have tended, shaped and coaxed the historic valley into a vital, living monument to Hawaii's cultural roots, a monument that nevertheless nourishes needs of

people today while preserving resources for future generations.

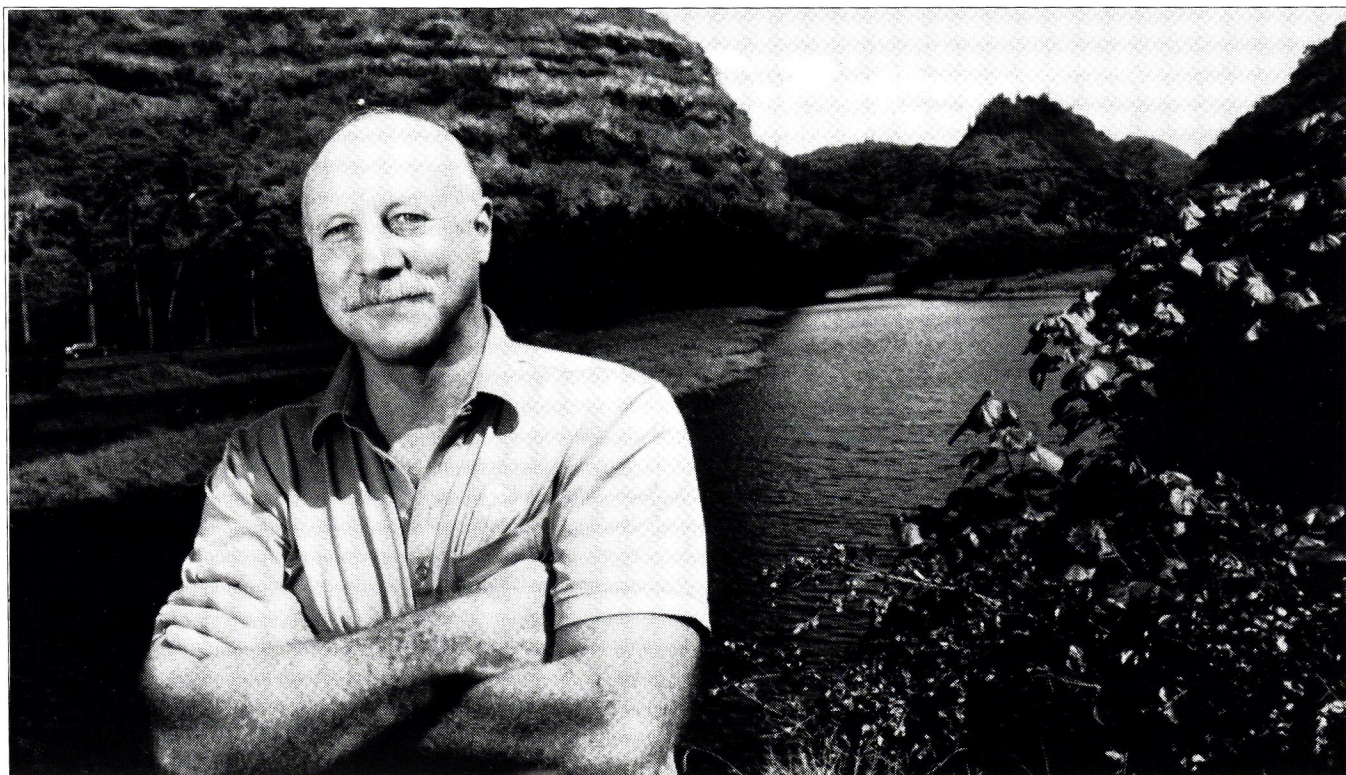
WAIMEA VALLEY/WAIMEA FALLS PARK lies in verdant splendor on the north side of Oahu, offering a place of joy and refreshment, of learning and pleasant exploration. And there serious work is underway.

As the sign at the entrance says, Waimea Falls Park is "a place of preservation." Its mission is to provide recreation, education and a showcase for native Hawaiian culture, as well as to turn a profit.

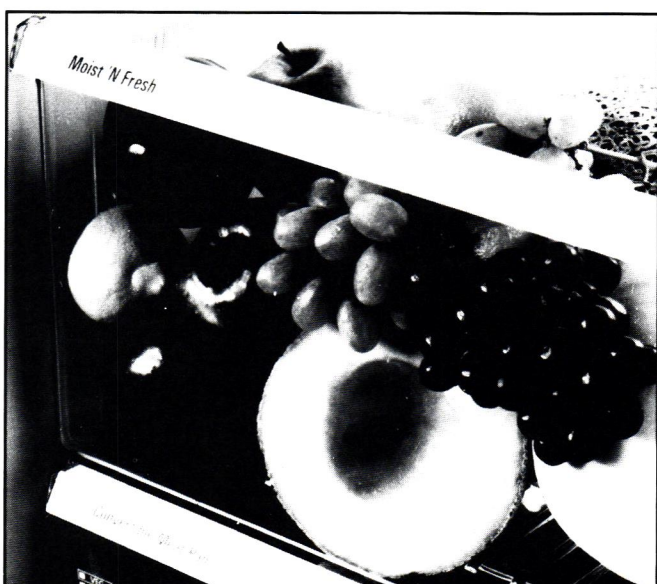
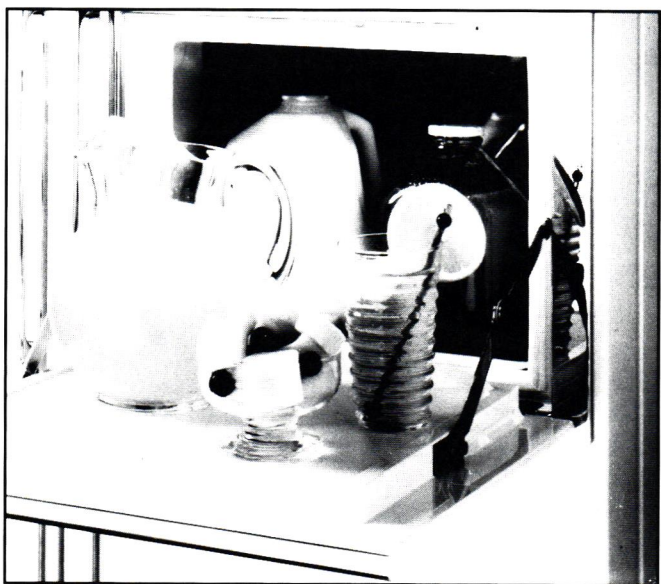
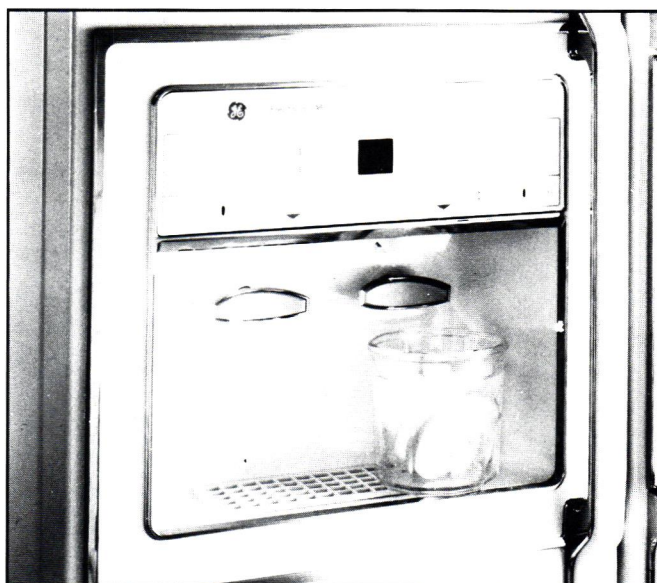
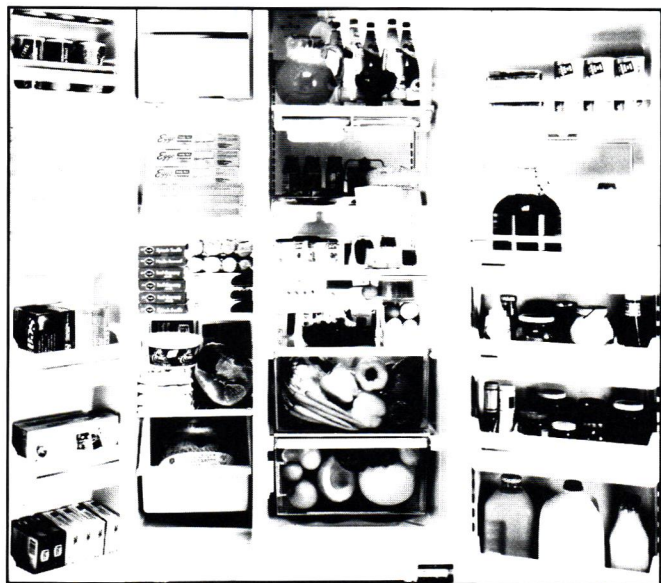
Park activities—all of which exist to enhance the park's identity as a Hawaiian place—are built around four major components: historic and archaeological sites; Waimea Arboretum and Botanical Garden; Waimea Falls (sometimes dry); and a bird sanctuary which has over 45 species of migratory and domestic birds.

General Manager
Bob Leinau at
entrance to Waimea
Valley. ▼

MONTE COSTA PHOTO



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Soon new trails will be opened to expand the park's offerings.

THE HISTORY OF WAIMEA VALLEY, still under research, has a dramatic past, given special significance by its recognition in ancient times—from the 11th century to late 18th century—as the valley of the priests.

In the valley are major archaeological sites, of which many have been researched, interpreted, stabilized, preserved and in some instances restored. Among the sites are four *heiau*, one of which has been reconstructed.

WAIMEA ARBORETUM AND Botanical Garden is a recognized leader in plant preservation and environmental conservation. It has scientific, educational and aesthetic goals. Although it is highly successful in providing visitors a lush display of tropical floral beauty, its primary mission is to save and propagate endangered plants. It has 34 major botanical collections, including the world's most extensive *heliconia* collection and outstanding palm collection of indigenous and endemic species.

Its *Hibiscus* Evolution Garden,

which provides a source of rare early forms, is the only *hibiscus* garden of its kind in the world. The arboretum is supported by the Waimea Arboretum Foundation, a nonprofit organization.

Park attractions with high appeal

ward this end great effort is made to present Hawaii's cultural heritage with dignity, respect and an authentic framework.

Bob Leinau, park general manager since 1973, attributes Waimea Falls Park's considerable success as

a visitor attraction to this authenticity. As he puts it, "We are real. (Waimea) is not a fabrication. We have wild collected, scientifically valuable plants. The historical and archaeological sites are not off a blue print in Honolulu. They are real.

"Our *kupuna* speak the Hawaiian language. ... We respect the valley's history and try to make sure customs are respected and preserved.

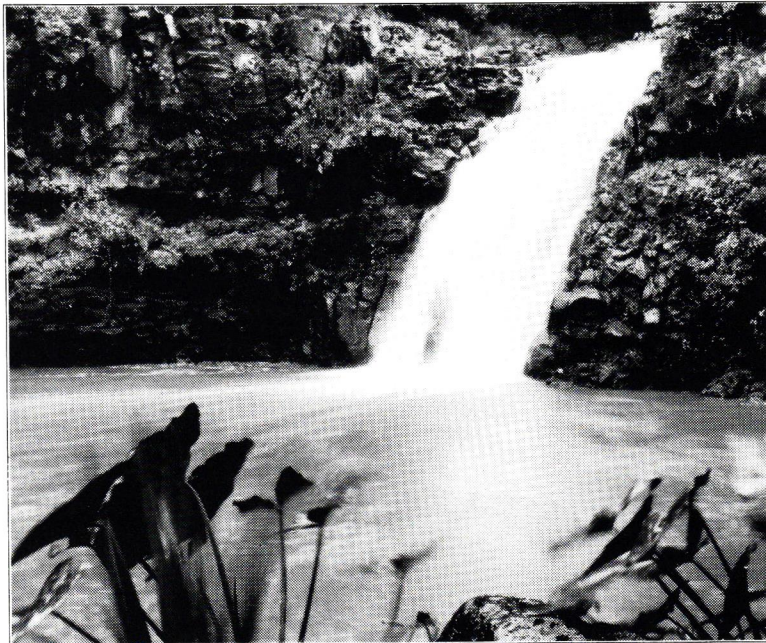
"When schoolchildren come here, this is their culture on site.

"Our tour guides have to be factually accurate; we stress

academic honesty.

"OUR DANCERS ... are as close to the embodiment of a *halau* as you can get. As cultural emissaries, our dancers participate in cultural events on other islands, in other states and abroad.

"For 15 years we've had a park historian, Rudy Mitchell, who fre-



MONTE COSTA PHOTO

▲ The falls at Waimea Falls Park are preserved in their wild, natural state for the enjoyment of visitors.

to visitors include *hula kahiko* (ancient) performances, crafts, Hawaiian games (Waimea Falls Park boasts the only permanent ancient games site), a dive show at the falls (except at times of drought) and periodic festivals.

SERIOUS CONSIDERATION IS GIVEN to educational goals and to-

Native Palm Tree Gets New Lease on Life at Park

If you think there is little exciting about a palm tree other than its appeal in the moonlight, just listen to Waimea Park botanist David Orr for a few minutes. Catch his enthusiasm, dedication and pride as he talks about the park's fine palm collection. Listen in suspense as you hear about the struggle to save the *pritchardia munroi*, one species of the only genus of palms native to the Hawaiian islands before humans. In 1975 a team collected seeds and sent them to 17 institutions worldwide to get them into cultivation.

Learn that the last known wild specimen is on Molokai, severely endangered by goats, pigs and deer. Be amazed—and grateful—to find out that six prestigious entities (Smithsonian Institution; International Palm Society; National Park Service; U.S. Dept. of Interior; Institute

of Forest Service; U.S. Dept. of Agriculture; Department of Land and Natural Resources, state of Hawaii; and Waimea Arboretum Foundation) joined forces in support of efforts to save *pritchardia munroi*, when, in hope of achieving natural regeneration on Molokai, an excursion was made to Mokolelau Gulch to build a fence around the sole surviving wild specimen.

The good news is: the propagation by seed has been a success. Waimea has a healthy cultivated *pritchardia munroi*. And back on Molokai? Well, stay tuned.

Meanwhile, another palm—*pritchardia affinis*—which is endemic to the Big Island, was recently declared endangered. The work goes on.

◆ Mazeppa King Costa

quently works with Bishop Museum and other organizations, in documenting the archaeological sites.

"The valley's history is strong, a real microcosm of events that swept through Hawaii both pre- and post-contact. The plants Hawaiians used for food and fiber and medicine are grown today in our ethnobotany garden. And we work with other botanical gardens.

"IN THE EDUCATION CENTER, we show conservation videos. Through these, people learn about the seriousness of the plight of Hawaiian endangered plants and other conservation issues.

"As a wildlife refuge, we hold permits with state and federal agencies. We cooperate with wildlife biologists on studies of endangered birds.

"Our strong conservation ethic started long before the 'green' movement.

"EARLY ON, OUR OWNERS gave us room to pursue goals of conservation and have used these concepts to enhance the intrinsic value of Waimea. It's important that our conservation efforts have enough universal appeal to gain support of our customers. Our gardens have always had a strong corporate commitment. We've struck a good balance between educational and scientific work and business sense essential to the creation of a garden worth paying to visit. This balance is the key that makes possible a successful business that encourages conservation."*

Leinau clearly sustains a problem-is-opportunity point of view. He sums it up nicely:

"CONSERVATION ADDS constraints. It is our goal and our practice to turn constraints into strengths."

This philosophy forms the underpinnings of a significant example of balancing preservation and profit—Waimea Falls Park. **HA**

♦♦ Leinau quotes preceding are from Delores Blalock, "Caretakers of Cultural Heritage," *Historic Hawaii*, July/August 1991.

♦♦ Mazeppa King Costa is a public relations consultant and writer.

Architects to Play Major Role on Environmental Issues

In the October, 1992, issue of MEMO, the American Institute of Architects spoke to the organization's environmental initiative and underscored architects' leadership role, stating:

"The AIA is mobilizing architects to play a leadership role in achieving global sustainability—supporting the needs of society today without jeopardizing the needs of future generations... the institute aims to prepare architects and their clients to make decisions that are both environmentally sensitive and

economically profitable."

Further, the 1993 AIA convention (to be held in Chicago, June 18-22) will focus on "Architecture at the Crossroads: Designing for a Sustainable Future."

The program has been designed to help architects learn to "balance the environment with business and encourage prompt, direct action for healthy buildings & cities, clean air and water, environmentally responsible land use and preservation of natural resources."

♦♦ Mazeppa King Costa



▲ Endangered and very rare *Hibiscus kokia cookei* thrives in the hibiscus garden, the only garden of its kind in the world. MONTE COSTA PHOTO



▲ Endangered Blue Latan Palm, indigenous to the Mascarene Islands in the Indian Ocean, is part of the outstanding palm collection at the park. MONTE COSTA PHOTO

Addressing environmental issues Green Movement

by
**Andrew
Charles
Yanoviak**

Architects across the nation are making another concerted attempt to become involved in the *green* environmental movement. In 1990, The American Institute of Architects showed the way when it formed its national committee on the environment (COTE). Appropriately, COTE's recent conference in Los Angeles addressed Indoor Air Quality (IAQ).

In mid-March, the AIA Honolulu Chapter held its first historical joint dinner meeting with the CSI Honolulu Chapter. The topic for this panel discussion, moderated by University of Hawaii's School of Architecture dean Raymond Yeh, FAIA, again was IAQ.

WHY ALL THIS SUDDEN INTEREST in IAQ? Some environmental scientists and politicians see IAQ as the next Americans with Disabilities Act (ADA), which has had a major impact on architectural design research and practice.

Again, it appears that the legal and medical professions may soon be impacting the architectural profession with IAQ claims and legislation.

The Environment Committee of the AIA Honolulu Chapter was initiated two years ago, as an outgrowth of the Zoning Subcommittee of the Codes and Government Relations Committee. Last year, faced with an overwhelming palette of environmental issues, the Environment Committee again was reorganized—J. Lee Rofkind is Vice Chair, Interior Environment and Gary Canner, AIA, Vice Chair of Exterior Environment.

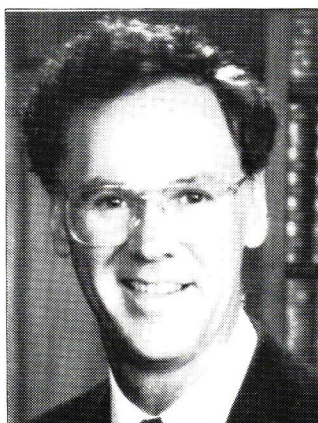
SEVERAL TASK FORCES ARE addressing

critical environment systems planning and design issues. These include rain forests, streams, wetlands, bays, water quality, recycling, waste disposal, sewage treatment, pollution, IAQ, building materials, interior finishes, wood types and sources, land planning, stormwater drainage, grading practices, interior plants and landscaping, volatile organic compounds (VOC), toxic and hazardous substances, chlorofluorocarbons (CFC) and ecological and environmental lessons learned from Hurricane Iniki.

The Environment Committee has representative members from the Hawaii Chapters of ASLA, the American Planning Association (APA), American Society of Interior Designers (ASID) and the Construction Specifications Institute (CSI). In the area of environmental regulations and planning and design standards, the committee interfaces with the Energy, Housing, Codes and Urban Design committees.

FOR ALMOST TWO DECADES, architects and their clients and consultants have had to prepare Environmental Impact Statements (EIS). This checklist review process would not be necessary if sound environmental systems planning and design policies and practices were in effect.

As architects and their consultants get more involved in establishing planning and design performance standards, environmental regulations and zoning, land use, grading, building, mechanical, plumbing, electrical, fire, and energy codes, government and private support for these research efforts will increase. **HA**

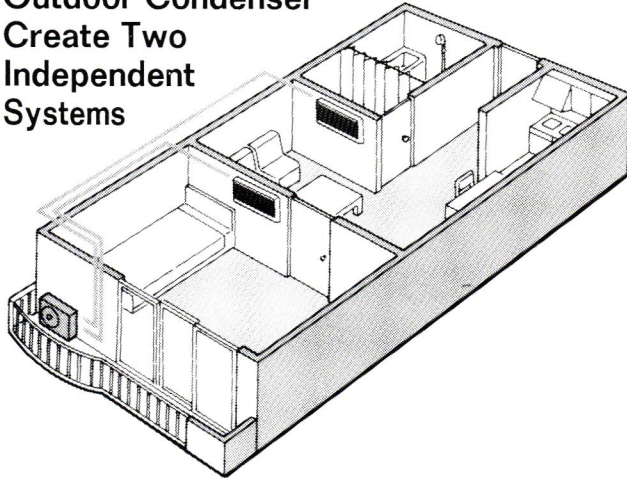


Andrew Charles Yanoviak

◆ Andrew Charles Yanoviak, AIA, CSI, is chair, AIA Honolulu Chapter's Environment Committee.

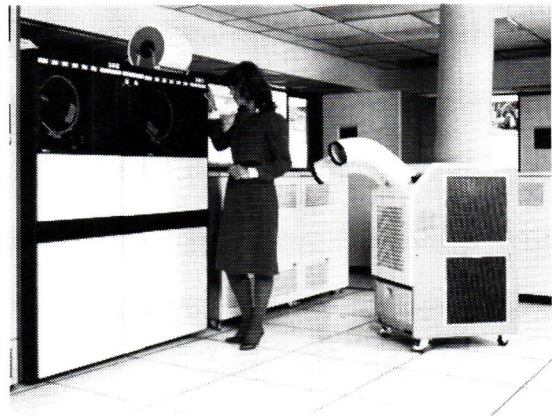
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Accepting environmental responsibility Tourism Development

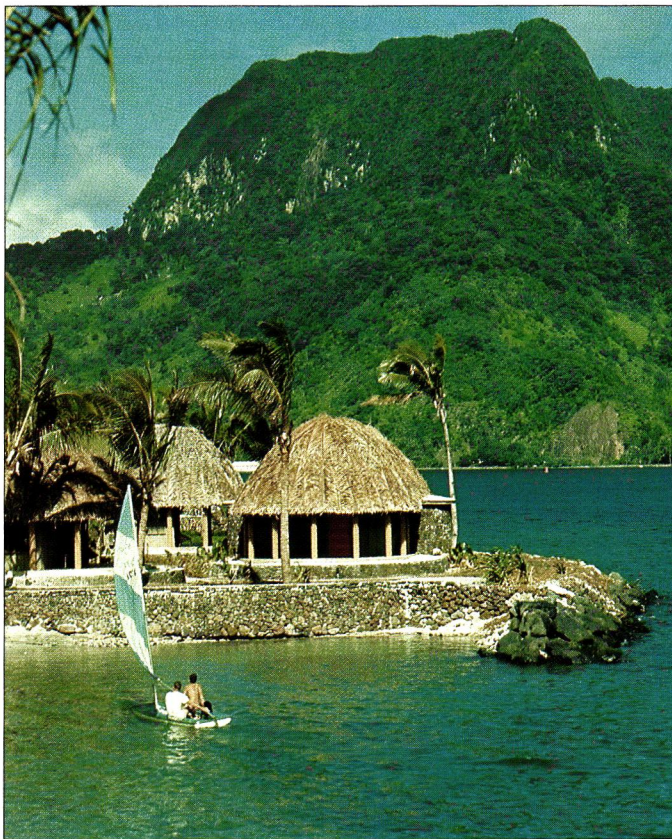
by
**Howard
J. Wolff**

Development is not the enemy of nature. The dual challenge for design professionals at Wimberly Allison Tong & Goo is to create projects that are exciting and profitable, while at the same time sensitive to their surroundings. In this way, natural habitats no longer need be victims of development; they can be its beneficiary. The threat of tourism as a force that can destroy the very things that people come to see is now being seen as an opportunity to preserve and sustain

the environment.

Our firm, with a track record of 48 years and project experience in over 50 countries, is one of the world's leading authorities in hotel and resort planning and design. The firm's designs have been widely acclaimed for respecting the environment and cultural heritage of their locations.

ARCHITECTURE CAN CREATE A "sense of place." In their approach to design, our architects and planners use an expanded definition of environment, which includes not only land



PHOTOS COURTESY OF WAT&G

Design of the Pago Pago Inter-Continental in American Samoa, based on a Samoan *fale* (house), incorporates a traditional thatched roof and open sides, allowing air movement. ▲

Architects were careful to preserve hillside and tropical foliage in designing the Hotel Tahara'a Inter-Continental in Tahiti. ►



and its natural features, but also culture, history and spirit—all of which combine to give a place its “specialness.” To our professionals, successful architectural design involves an understanding and an integration of all these elements.

Whether the setting is a tropical island, a desert, an urban center or an oceanfront locale, blending buildings with the site and culture is always a fundamental consideration in the design of any hotel or resort.

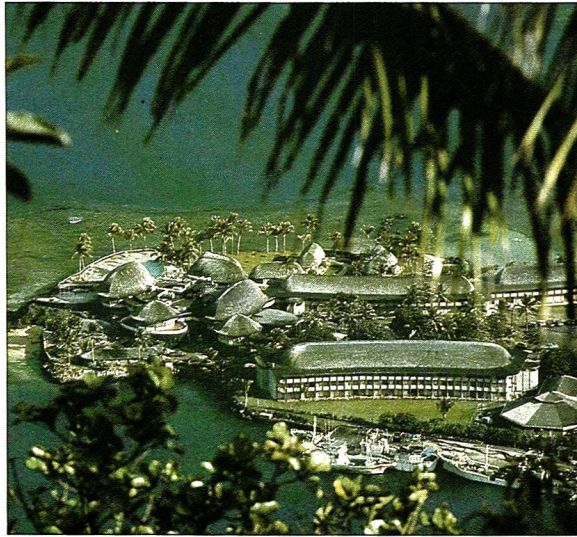
When one of our clients wanted to create a romantic resort for one of the most exotic islands in the world, Bora Bora in Tahiti, our architects studied the area and designed guest rooms in the old style of the traditional Tahitian house. The open-air buildings take advantage of a natural cooling system of tradewinds and merge modern convenience with South Seas authenticity.

IN DESIGNING THE PAGO PAGO Inter-Continental Hotel in American Samoa, our architects used a time-proven, native solution to local climate conditions. The completed design, based on a Samoan *fale* (house), has a traditional thatched roof, open sides allowing for air movements and palm-leaf blinds which can be lowered to protect from rain.

Preservation of a hillside and of the tropical foliage were primary concerns in planning and designing the Hotel Tahara'a Inter-Continental in Tahiti. Construction was camouflaged by tropical foliage; guest rooms descend a cliff. The aim was to balance developed and undeveloped open spaces to maintain the rural character of the setting.

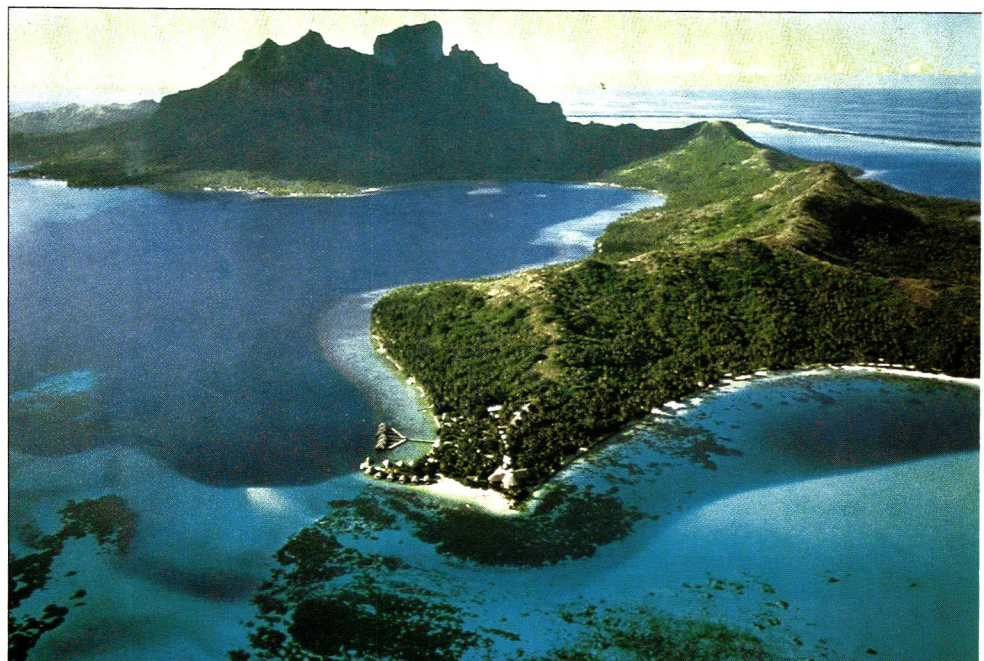
“SAVE THE TREES” was our mandate for the design of the Ramada Reef's resort in Cairns, Australia. The challenge was to develop a 200-room hotel and recreational facility without disturbing a dense stand of palms and centuries-old *malaleuca* trees. The innovative design notches the buildings to leave the trees undisturbed and raises the pools, decks and walkways to avoid damage to tree roots.

Extensive on-site research resulted



◀ The PAGO PAGO Inter-Continental Hotel, as seen from the hillside.

Guest rooms at the Bora Bora Hotel in Tahiti were designed in the traditional Tahitian style. Below, the same hotel as seen from the air. ▼



in a design for the Tanjong Jara Beach Hotel that is modeled after ancient Malaysian sultans' palaces, a practical design for local weather conditions, which makes use of materials plentiful in the area and features Malaysian art forms. Buildings are of native hardwoods and are built in the centuries-old tradition of Malaysian construction.

For a while—following the discovery of nearly 1,000 native Hawaiian burials on the site—it seemed the proposed Ritz-Carlton Kapalua might never be built. A precedent-setting agreement, in which the state of Hawaii bought a perpetual easement for the burial ground and the developer agreed to change the placement of the hotel from the burial area toward the mountains, provided a solution.

IN THIS CASE, native Hawaiian culture has indeed been the beneficiary of development. Because of the growing strength of the environmental/cultural commitment, the graves are now recognized, given an identity and are officially protected. Today the Ritz-Carlton at Kapalua is Hawaii's newest five-star hotel. **HA**

♦ Howard J. Wolff is vice president, Wimberly Allison Tong & Goo.

PATA Takes Environmental Stance

Taking a strong proactive stance on environmental responsibility is the Pacific-Asia Travel Association, which will hold its 42nd Annual Conference in Honolulu, May 9-13 at the Hilton Hawaiian Village.

On May 6-10 the Fifth Annual PATA World Chapters Congress will convene at the Hyatt Regency Kauai.

The Pacific-Asia Region's premier travel and tourism industry forum, PATA's annual conference and congress bring together decision makers from around the world.

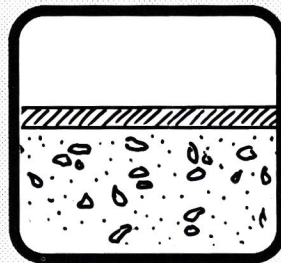
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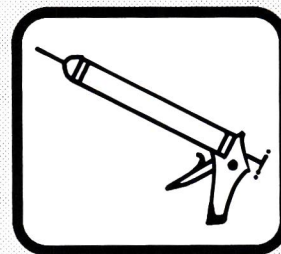
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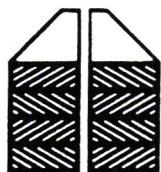
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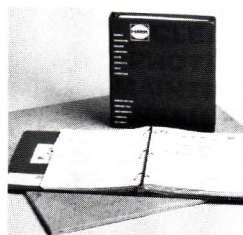
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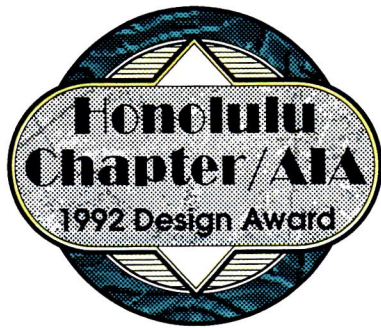
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Single-Family Residence

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Caribbean Residence on Diamond Head Road

In September 1988, an international client asked Long & Associates, Architects to design the Caribbean Residence on Diamond Head Road.

The project involved an evaluation of a very sensitive and somewhat historic oceanfront site. This entailed presenting recommendations for developing the site in such a way that it would complement adjacent uses and existing neighborhood while creating a highly marketable product that met the client's needs.

The project called for the subdivision of a 28,000-square-foot lot into two lots, each with a 6,500-square-foot home. Each home was to have four bedrooms and formal and informal areas for multiple uses and comfortable living.

Each home was to fit into the site, taking advantage of the special qualities of the site, which include an unimpeded ocean view and private beach access, while providing privacy.

This oceanfront custom home was designed in a highly desirable location, with the elegance and character of the best of the grand resorts and all of the amenities of the most comfortable home. Spectacular ocean and mountain views and great climate allowed for an integration of the natural elements of sunlight, cool breezes, cascading waterfalls and lush vegetation, which envelop the home.

The Caribbean home is built on a narrow sloping lot, located within a special design district, a flood hazard district and also having a 40-foot shoreline setback. The restraining design conditions created opportunities to develop the upper motor court, which serves as a buffer between the street and the entry courtyard, which appears to be carved out of the hillside. Pushing the house as close to the setback as possible provided the opportunity to wrap a covered terrace with inviting pools, set within a beautiful lawn with nothing but the sparkling ocean and beautiful sky beyond. HA

CREDITS:

Owner:

Kikuei Corporation, Tokyo, Japan

Architect:

Long and Associates, Architects, AIA, Inc.

Principal in Charge:

Jeffrey T. Long, AIA

Project architect:

John J. Clements, AIA

Civil engineer:

Control Point & Gray, Hong, Bills & Associates

Electrical engineer:

Bennett, Drane, Karamatsu

Structural engineer:

Architectural Solutions, San Diego, CA

General contractor:

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Entry pavilion with
view of the ocean. ▼

ED MEDEIROS PHOTO



Jury's Comments:

"This stately residence abounds in consistently nice forms, spaces and details. Semi-indoor and outdoor spaces open onto a beautiful ocean front lanai setting." Several jurors commented on the framed views and the relationship of interior spaces to the exterior views and landscaped areas. One juror simply stated: "elegant grand ambience." Another juror observed that the house had "a theatrical quality that works."

Entry pavilion looking in. ▼

DANA EDMUNDS PHOTO



Shaping the future through efficiency Energy Standards

by
**Steve
Holmes**

One of the more common slogans in today's environmental community is to "think globally and act locally." As a member of the Honolulu City Council, I am always aware that we help shape the future of Oahu by the way we vote on development issues and by passing new legislation which protects our island from the impact of increasing growth.

This month, we will be introducing new building energy efficiency standards for all new buildings and major renovations of existing structures. The primary intent is to reduce demand for additional power generation capacity. The peak electrical demand savings are estimated to be about 6 megawatts per year. While this will require a higher capital investment initially, the simple payback on average is expected to be about 4 years. The investment translates directly into savings for all rate payers and greater profitability for businesses. Yes, helping the environment is good business!

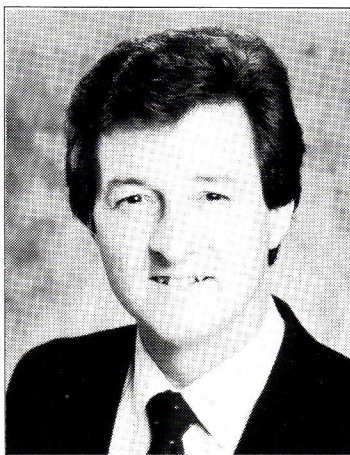
THE LARGEST ENERGY SAVINGS will be achieved in commercial lighting and domestic water heating. The code focuses on electrical usage, lighting, building envelope design, HVAC systems, and energy management. Alternative methods of compliance are available and each offers trade-offs between ease of use and flexibility of design. The design professional can choose the method most suited to the needs of the particular building. This flexibility is possible because each method assures that the project stays within a maximum energy budget.

The proposed code has been developed over a two-year period and has benefited from continued input of the building Code Task Force, which includes engineers and architects practicing here on the islands as well as building officials, representatives of professional groups, and the State Energy Division. It is primarily an adaptation of ASHRAE Standard 90.1-1989 with influences from California codes (Title 24), ASHRAE 90.2P, and USDOE standards for non-residential buildings.

THE CITY COUNCIL HAS ALREADY adopted tougher water conservation measures than those found in the draft code. Ordinance 92-01 required *all* non-residential properties to retrofit with low-flow shower heads, kitchen and lavatory faucets, low-flush urinals, and ultra-low flush toilets. It also established energy conservation standards for new and replacement municipal street lights. Ordinance

92-16 requires *all* new construction to provide low-flow devices. Copies of these measures are available at the City Clerk's Office. We expect a residential retrofit bill to come before the City Council in the next few weeks.

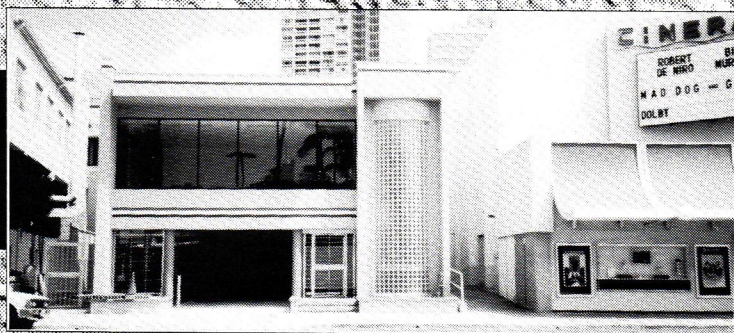
Energy and water conservation can save money and protect valuable natural resources. The proposed building energy efficiency standards can be implemented without sacrificing either comfort or productivity. We need the continued support of architects and design professionals to make it happen. **HA**



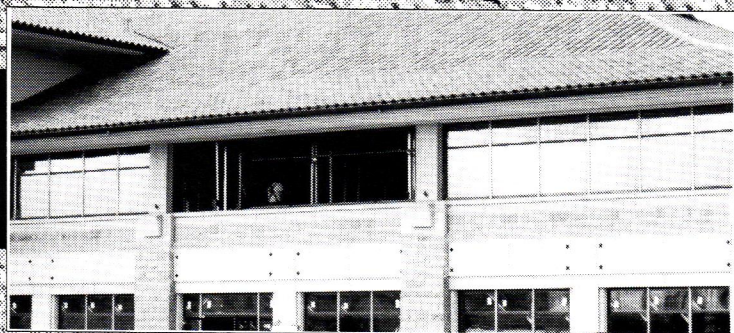
Councilmember Steve Holmes

◆ Steve Holmes is councilmember, District II, City and County of Honolulu and Chair, Committee on Public Works.

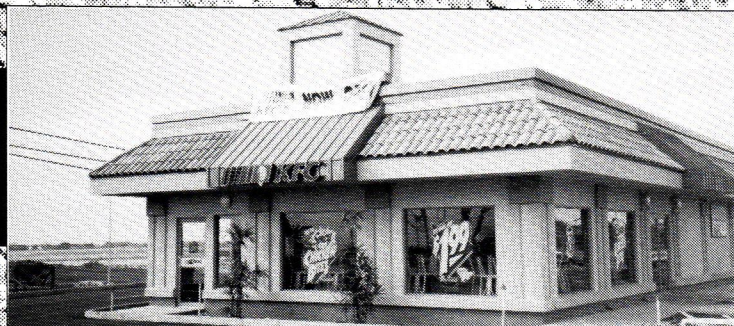
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Fletcher-Pacific - General Contractor
Ferraro & Choi - Architect
Fuku's Interiors, Inc. - GDCH Contractor



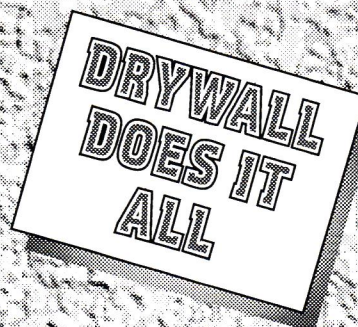
Kentucky Fried Chicken Building
Harold Y. Ishii - General Contractor
Okita, Kunimitsu - Architect
Guy's Superior Interiors, Inc. - GDCH Contractor

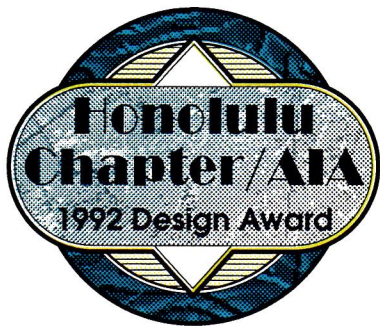


Sand Island Center
J.W., Inc. - General Contractor
Project Design, Inc. - Architect
Fuku's Interior's, Inc. - GDCH Contractor



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Award of Merit

Hospitality/Recreation

Stringer Tusher & Associates Ltd. Plantation Club at Kapalua

Stringer Tusher & Associates Ltd. was retained by Kapalua Land Company to design the Plantation Club at Kapalua, Maui and to assist in the development of architectural guidelines for a planned single family home development project.

To ensure overall project consistency, the architect acted as coordinator and design facilitator for approximately 20 independent consultants ranging from golf course and landscape architects to interior architects and designers and food consultants.

The major requirement for this 28,000-square-foot facility was that it be oriented to maximize the views to the west and north.

The clubhouse was to be exemplary of the design standards for the evolving residential development adjacent the facility.

An additional consideration was to create an

elegant, traditional facility that imparted a plantation feeling—blending Hawaiiana with the tradition and history of golfing.

The Plantation House is nestled into the gently rolling hillside adjacent to the new golf course, creating a three-story structure with a two-story visual mass. The most public spaces are organized on the top floor.

Entry to the building is through a gallery lined with golf memorabilia and terminating at the grand stair lobby overlooking the golf course, ocean and Molokai Island.

This lobby is the hub of the building with the restaurant and pro shop immediately adjacent down one level to the semi-public level housing locker facilities and a golf staging area. The lowest level is devoted to service facilities, cart storage and maintenance activities.

The interior is organized to allow the restaurant maximum views of the golf course and ocean. Throughout, the residential scale is created through the use of warm woods, plush furniture and large lanais that can become an integral part of the interior through bi-folding multi-paned window walls. The entire perimeter is bounded by planters of cascading bougainvillea. With an understated color palette and residentially scaled moldings, windows, doors and furniture, the Plantation Clubhouse achieves the ambience of an inviting, elegant home. **HA**

CREDITS:

Owner:

Kapalua Land Company

Architect:

Stringer Tusher & Associates, Ltd.

Principal in charge:

David G. Stringer, AIA

Project architects:

Terry Tusher, AIA

Darryl Yamamoto, AIA

Mechanical engineer:

Syntech, Ltd.

Civil engineer:

Norman Saito Engineering

Electrical engineer:

Hano & Associates

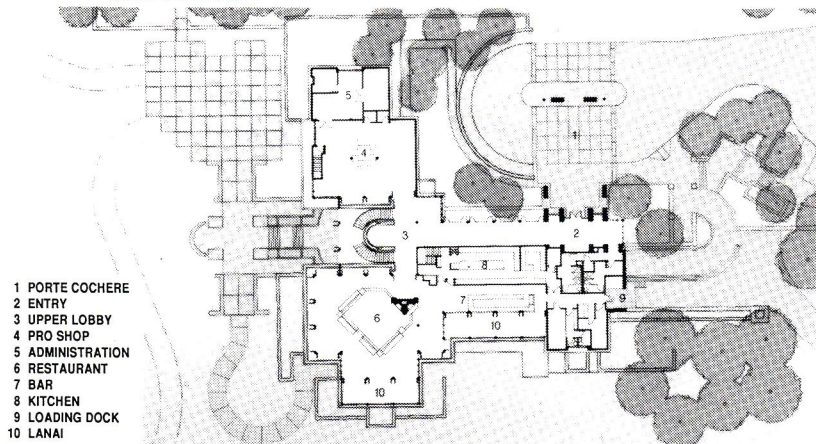
Structural engineer:

James Adams Inc.

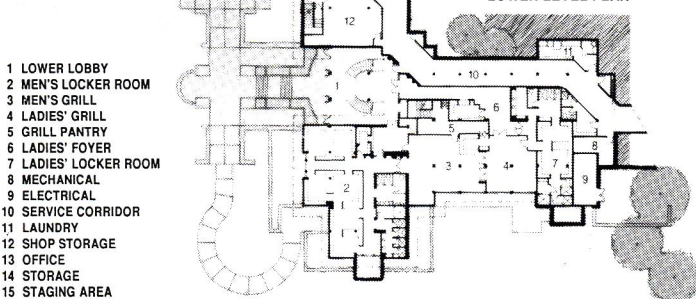
General contractor:

Westside Construction

UPPER LEVEL PLAN



LOWER LEVEL PLAN



Jury's Comments:

The jury noted that the skillful use of wood, glass and stone creates a plantation style character to the golf clubhouse. Rich interior spaces open to panoramic views of this beautiful Maui coastline facing Molokai.

The grand stair lobby is the focus of the interior spaces at the Plantation Club at Kapalua. ▼

MILROY MCALEER PHOTO



1993 POH Chair

Patrick S. Yamada has been appointed chairman of the Building Industry Association of Hawaii (BIA) 1993 Parade of Homes. Yamada is vice president and manager of the Interim Construction Loan Department of Bank of Hawaii.

Hawaii's premier showcase of new and remodeled homes, the Parade is sponsored annually by the BIA and the Hawaii Association of Realtors®.

HA

Winner Chairs Renaissance

The Building Industry Association of Hawaii (BIA) has appointed Kurt

W. Winner, president of Coastal Windows, Inc., chairman of the 1993 Building Industry Association (BIA) Hawaii Renaissance.

The annual competition in its eighth year, recognizes excellence in design and construction of residential and commercial remodeling projects.

For information, contact the BIA.

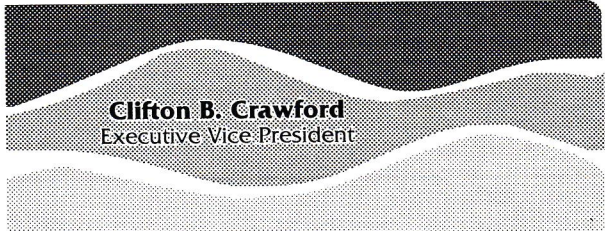
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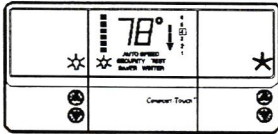
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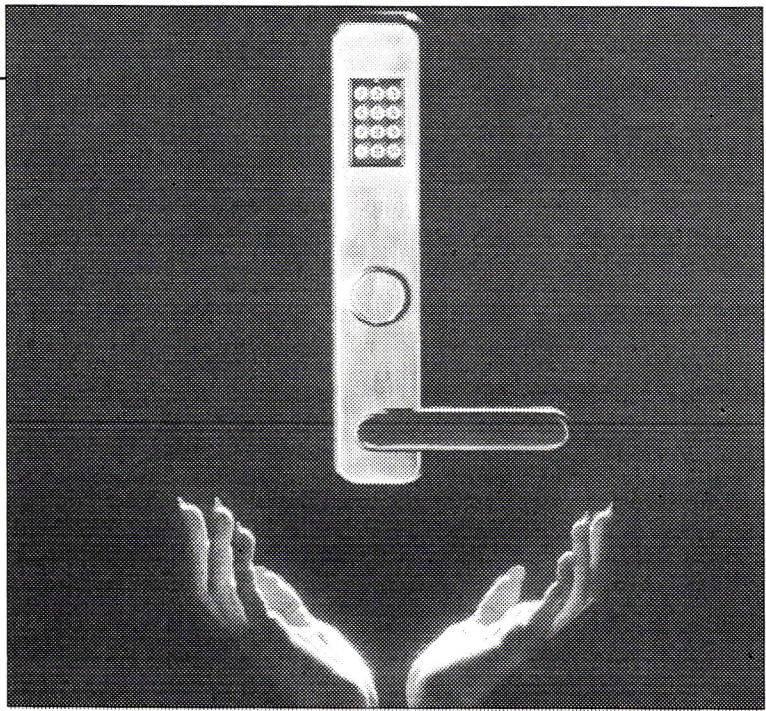
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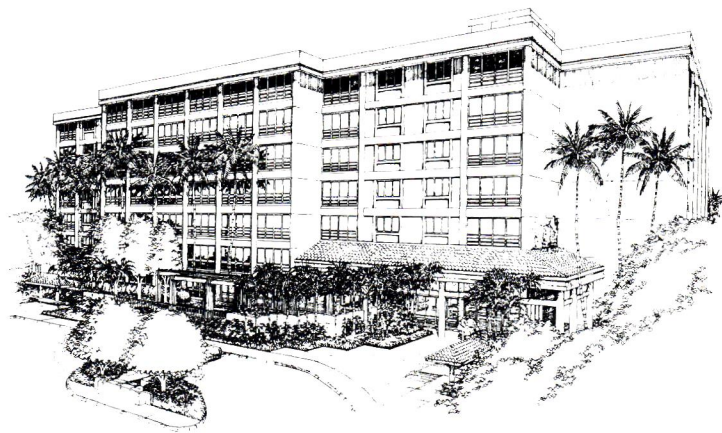


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Housing the elderly in Waipahu **Kamalu Apartments**

by
**George
White**

The Kamalu Elderly Apartments currently under construction in Waipahu will be offered to senior citizens for as low as \$150 per month. ▼

A recent "topping off" party marked the completion of the first residential phase of the State Housing Finance and Development Corporation's (HFDC) 109 unit Kamalu Elderly rental apartments in Waipahu. The first phase is scheduled for completion in July.

When completed, the entire development will consist of approximately 450 affordable

rental apartments to be built in four phases, a civic center, a senior citizens center and a medical office building on a 22.5 acre parcel of land fronted by the intersection of Mokuola Street and Kau'olu Place in Waipahu. The housing component is configured into two twin seven-story mid-rise structures of 221 units with additional units planned in later phases.

THE FIRST PHASE, consisting of 24 studio and 85 one-bedroom apartments of 423 and



629 square feet will be offered to seniors for as low as \$150 and \$175 per month, respectively.

The SHFDC is developing the first phase using \$14.5 million in capital improvement project (CIP) funds. Subsequent phases will be developed as funds become available. The Kamalu project will be owned and managed by the Hawaii Housing Authority. Construction of the first phase began last April.

Including the Kamalu Elderly rental housing, the HFDC is currently working on more than 60 developments statewide, which are targeted to yield more than 19,600 homes, apartments and rental units through the year 2000.

THE KAMALU ELDERLY RENTAL apartments were designed by Paul Louie and Associates, Inc., a full service design and planning firm.

Paul Louie, AIA, one of the firm's principals and person in charge of this project, said that their office did the master planning and design.

"WE ARE PARTICULARLY HAPPY with this project because it gave us an opportunity to integrate elderly housing components with existing structures and uses, as well as others which are planned for the area," said Louie. "In 2.5 years, we were able to complete the master plan, construction documents and construction and integrate with other social structures."

Louie pointed out that construction of the civic center has been initiated, and a library, senior citizens center and medical office building are in planning.

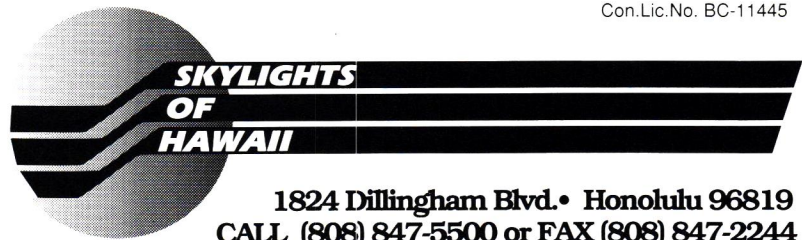
Members of the architectural team involved in the project include Randall Fujiki, AIA, project architect; Jerome Tsuji, job captain; and Michael Kim, Francis Gaspar and Darin Fukunaga. Russell Sabin, AIA, is in charge of construction administration.

The general contractor is A.C. Kobayashi; Jo Anne Taira is project superintendent. Marcel Audant and Michael McElroy are project coordinators for HFDC. **HA**

♦ George White is housing information officer, State Housing Finance and Development Corporation.

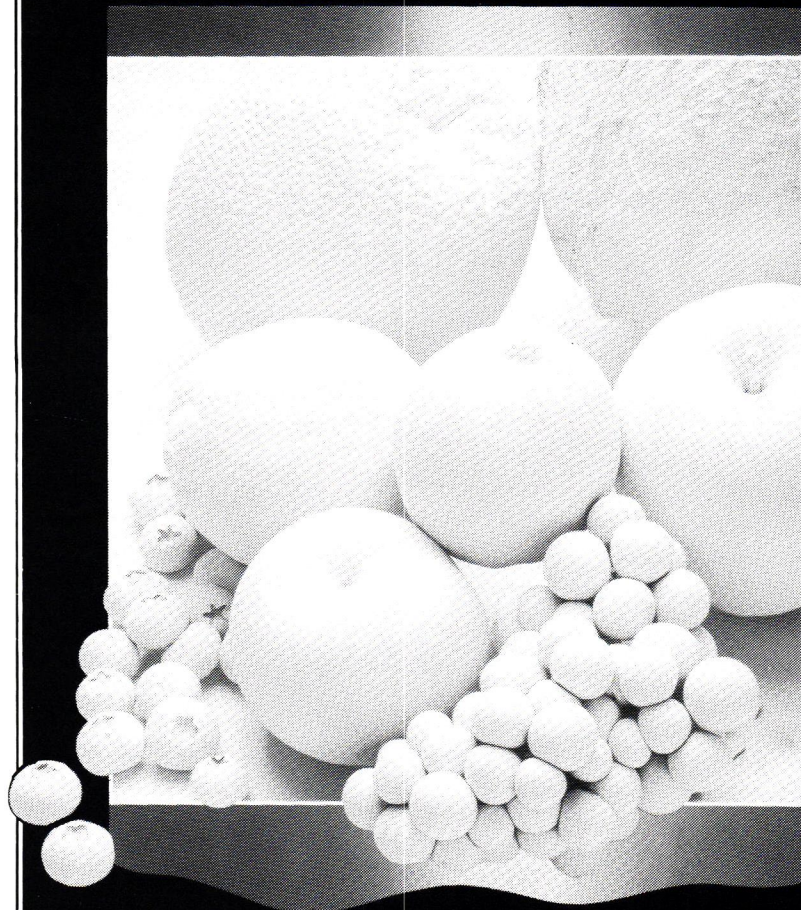
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Transportation Changes Needed

Dear Editor:

The series on "Transportation and Architecture" in the February issue of *Hawaii Architect* was timely and topical. Gregory Field's views on addressing our transportation problems through means that emphasize diversity of solutions and options are insightful and thought-provoking. Mr. Field's assessment that "no one solution can solve the transportation problems on Oahu" is a good reminder for us to begin changing our attitudes concerning public transportation.

Thanks for a great issue!

Alex Neuhold
Principal, Architectural
Research & Programming

instrumental in the state's redesignation of Mt. Olomana's Conservation District from General Subzone status to Protective Subzone status or, in other words, from the subzone offering the fewest restrictions as to land development to the subzone providing the greatest protection for the land. Andrew was also at the forefront in convincing the City and County of Honolulu's Planning Commission to deny the State Special Use Permit to build a new Women's Community Correctional Center on the mauka slopes of the mountain.

These and many other achievements prove that, through perseverance and hard work, the people can and will prevail. I applaud those architects who demonstrate their aloha for the land and their commitment to its protection by using their expertise in its defense. I commend Mr. Yanoviak's example to others in the profession.

John Henry Felix
Councilmember, District III
City and County of Honolulu

Article Triggers Course Discussion

Dear Editor:

I enjoyed Andrew Yanoviak's article on Mount Olomana, and thought you might like to know about a course we have here at the University of Hawaii, Hilo. This is the first semester, and I am enjoying teaching it—used Hawaii Architect for an example last month.

George D. Curtis
Honolulu, Hawaii

Editor's Note: The course, "Environmental Assessment" (Geography 494B), is taught Tuesday-Thursday, 3-4:15 pm.

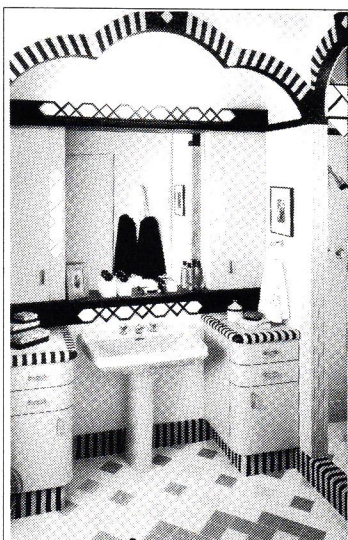
Catalog Description: Provides classroom study and a practicum in scoping, preparation, and review of Environmental Assessments and Impact Statements. Role of generalists and specialists in meeting HRS 343 (the EIS law). Monitoring, analysis, real problems, Negative Declarations. Emphasis on Hawaii and its coastal areas.

Councilmember Lauds Architects

Dear Editor:

Thank you for the excellent article by Andrew Yanoviak in your February 1993 issue. Mr. Yanoviak highlights some of Hawaii's most community-minded architects who have given greatly of their time and effort to ensure that our quality of life and unique environment are preserved. As a Honolulu City Councilmember who has worked closely with the Save Mount Olomana Association, I must add another name to the honor roll architects who have led the fight against over-development and ruination of our *aina*: Andrew Charles Yanoviak.

Mr. Yanoviak has been tireless in his efforts to organize, educate and enlist concerned citizens, community leaders, members of various groups and elected officials regarding a number of important issues in Hawaii. Under his leadership, the SMOA was



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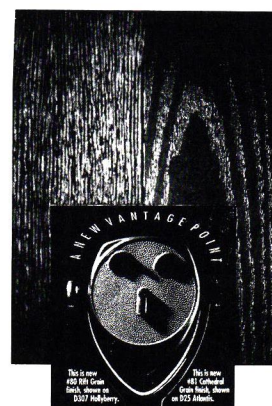
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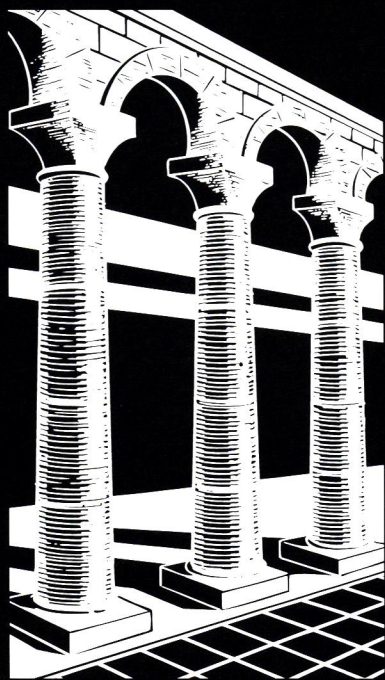
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Responding with "fuzzy" logic

Smart Elevators

The first 'smart' elevator system will soon be installed on Oahu.

The revolutionary system, employing artificial intelligence, will be installed in a 20-year-old, 80,000-square-foot high-rise office building which is currently undergoing exterior and interior remodeling at 1833 Kalakaua, Halawa Valley, Honolulu.

The system is introduced to Hawaii by the MEC Elevator Company of Cypress, California, a subsidiary of Mitsubishi Electric America.

"Installation of the two 10-floor elevator systems will complete this remodeling project, which started in 1991," said Miles Kamimuia, executive vice president, Monroe & Friedlander Management Inc., the building's managers. "The elevators are expected to be installed by summer."

The AI-21 elevator model was selected for this project because it is suitable for low- to mid-rise buildings that have 2-4 cars in the elevator group.

Another model, AI-2100 system, is suitable for larger buildings (with many floors) that have 3-8 cars in the elevator group.

The GPM series elevator is based on technology that enabled Mitsubishi Electric Corporation of Japan to produce the world's fastest elevator.

With state-of-the-art, high-speed microprocessors and sophisticated information management techniques, the GPM's artificial intelligence supervisory control enables the system to incorporate a human-like decision-making process, known as "fuzzy" logic. These advanced controls allow the system to make qualitative judgements based on immense data bases of elevator traffic information.

While conventional elevators evalu-

ate hall waiting time, the Mitsubishi's system considers the passenger's total destination time: hall waiting time plus anticipated elevator travel time. Based on this evaluation, the system 'learns' daily patterns of a building's traffic flow and makes dispatching decisions which reduce the time each

passenger spends waiting and traveling. This process of analyzing psychological waiting time takes into account the waiting passenger's irritation level and works to minimize it by reducing total travel time.

"The GMP thinks much like a human being would and it has the capacity to learn fluctuating traffic patterns. This helps reduce average elevator waiting times by up to 20 percent, a valuable feature for any building," said Davis Turner, MEC president. **HA**

In Hawaii, Mitsubishi's 'smart' elevator systems are distributed, installed and maintained by Mitsubishi Elevators & Escalators, Aiea.

"Miracle" bonding products

Thinset Adhesives

Thinset adhesives burst onto Hawaii's construction scene in the fifties, offering an inexpensive alternative to traditional mudset. These adhesives put quality tile flooring within the pocketbooks of everyday folks—not just affluent corporations and wealthy individuals—for the first time. Today thinsets have become a way of life in commercial and residential settings.

Miracle thinsets are thinsets with latex and acrylic additives, pre-mixed by the manufacturer to precise ratios for optimal strength and durability. All the tile setter has to do at the jobsite is add a specified amount of water. The result is a product that not only adheres to concrete substrates, but also to plywood and masonry, with a strength that's 10 times that of early thinsets.

These products are so good, and so cost beneficial, it's a wonder there's anything else on the market—except mudset, which remains the best choice if time and money are no object.

Thinset manufacturers are still offering a variety of thinsets, some of which are minimal. Architects, inte-

rior designers and owners are advised to stick with the premium varieties—those that bond better than the basic ANSI strength of 50 psi.

Manufacturer labels are not very helpful. Labels only say "this product meets or exceeds ANSI spec." Users should look for labels that read "thinset with additives," or contact the manufacturer for information on bonding strength. Some go up to 400 psi, which is ideal, but more expensive. Considering the economics, take the long view whenever possible and avoid the pitfalls of "first expense" syndrome (which comes back to haunt later). The better the bonding up front, the longer the floor will perform without complaining clients and costly repairs.

A word about marble sets, one of the nifty new specialty products that has helped put marble tile on many more small business and homeowner "wish lists." These have advanced to the point where the substrate can be built up to over one inch of thickness without shrinkage. This lets users literally level the floor as they go about the tiling process.

On the related subject of mastics,

today's products are better and easier to work with going over gypsum boards and sheet rock than ever before. Here, too, manufacturers still offer a variety of grades. The cheap ones, however, are more susceptible to water absorption and, therefore, more susceptible to bonding failure, so tile setters aren't generally recommending them. In some cases, the bonding power of premium mastics over sheet rock is much greater than the cementitious thinsets.

Of course, the strongest thinsets don't always get placed on ideal substrates, so the old adage remains: *results are only as good as what's below*. But that is all the more reason to go with premium thinsets with additives—to help compensate for a plywood, trowel-finished concrete or other less-than-ideal base. It should be pointed out that if the substrates are dirty and/or covered with other deleterious materials, *no* thinset will adhere to them. In such cases, preparation of the substrate beforehand is necessary for bonding to occur.

Are there truly "miracle" thinsets on the market today, or is this a lot of huckster hype we're hearing? Only time will tell. In the meantime, thinsets should be given the benefit of the doubt. **HA**

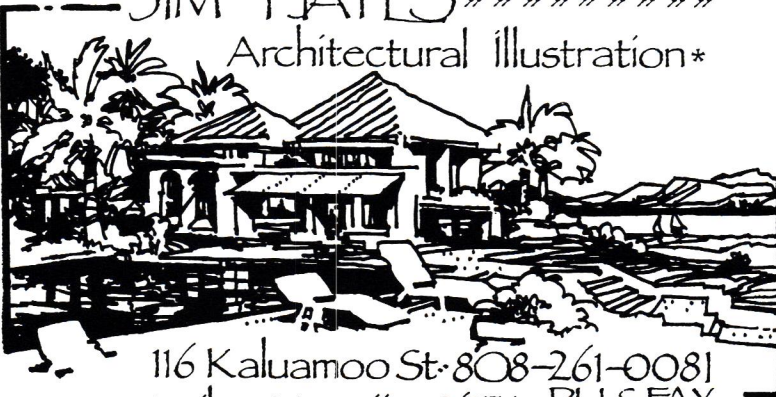
♦ The writer, Gary Fisher, is vice president of operations, Pacific Terrazzo & Tile Corporation.

Servco Office Systems Add Copier Line

Shacoh USA has reached an agreement with Servco Office Systems, a division of Honolulu-based Servco Pacific Inc., for distribution of the Shacoh line of large format copying systems in Hawaii.

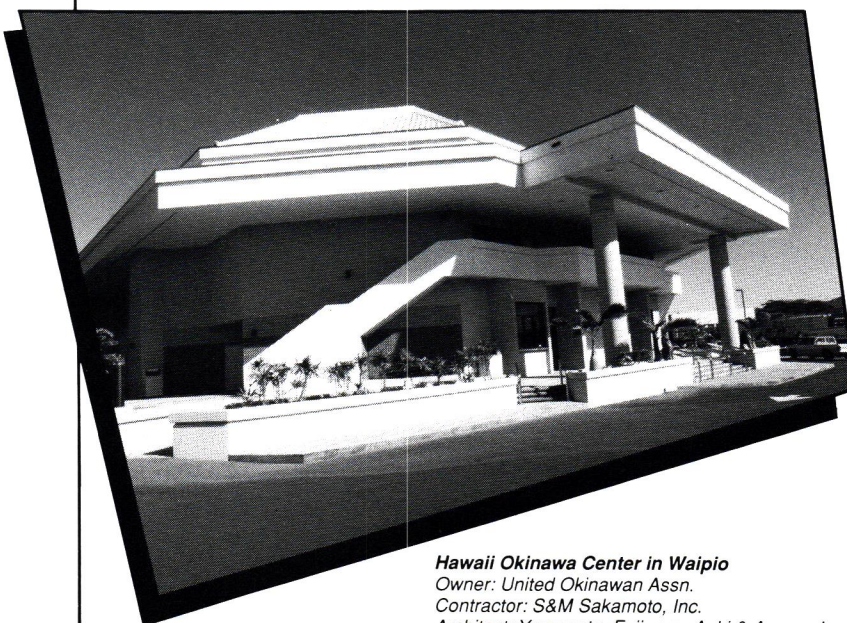
Shacoh makes engineering copiers and plotters that can copy blueprints and other poster-size documents with CAD compatibility. **HA**

JIM HAYES » » » » » » » » » »
Architectural Illustration*



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Consultants lending environmental expertise **A New Breed**

by
**Edward K.
Noda**

Bagging asbestos at
the state capitol
building. ▼

In recent years, public concern over the environment and public health in projects involving renovation or remodeling of older buildings has created the need for adding another member to the architect's team—the environmental consultant. Most developers rely on the architect to deal with hazardous materials and toxic pollutants. This implies that architects must keep abreast of laws, regulations and liabilities associated with environmental

matters and know when to bring in a consultant.

Because the environmental consultant is a newcomer to the design/construct team, relationships with the architect and other members of the team are not yet well defined.

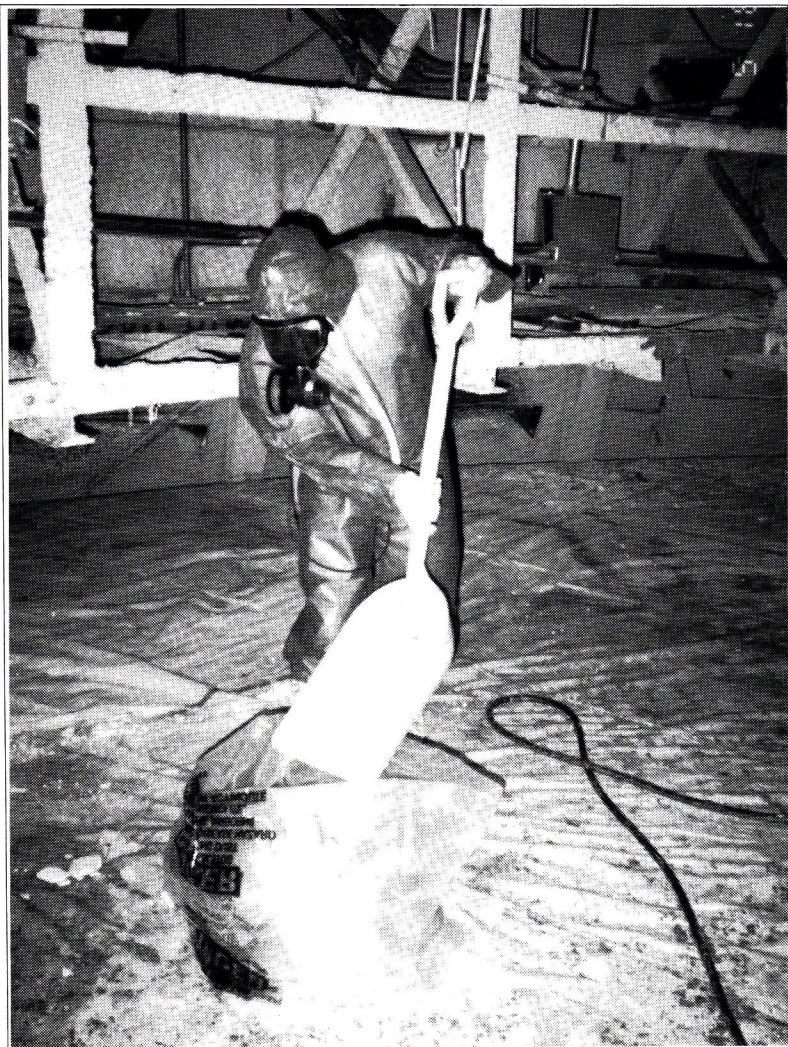
THE MOST COMMON environmental problems in construction projects include buried hazardous wastes (underground storage tanks, solvents, batteries, etc.), contaminated soil at the building site and asbestos containing materials in existing structures.

Our staff has participated in numerous projects involving hazardous materials, two of which are described here.

One project entails removal of asbestos at the State Capitol Building in which our architect, Donald Cutting, AIA, acts as project architect on behalf of the client. Group 70 International is the architectural firm in charge of the State Capitol Building Renovation.

THE STATE OF HAWAII, Department of Accounting and General Services (DAGS), has conducted this asbestos abatement project over the past year-and-a-half, the largest of its type in Hawaii.

Work is being performed in accordance with Federal Asbestos Regulations described in the National Emissions Standard for Hazardous Air Pollutants (NESHAPS). The Occupational Safety and Health Administration (OSHA) regulates the workers' exposure to hazardous material such as asbestos. NESHAPS, which is administered by the Environmental Protection Agency (EPA), addresses visible emissions, removal process requirements, disposal requirements and removal notification requirements. OSHA workers exposure rules cover general and construction industry requirements, requirements for building owners/employers, implications for building inspectors and implications for management planners.



THE ASBESTOS ABATEMENT contractor used state-of-the-art techniques in removing the hazardous materials which included polyethylene sheeting to protect and isolate contaminated areas, plywood, caulking, duct tape and spray glue.

Elaborate scaffolding was sometimes required, as were engineering controls such as negative air filtration devices, decontamination facilities and wetting procedures to control asbestos fibers.

As DAGS's environmental consultants, we are responsible for construction monitoring functions at the site, including air sample analysis, work area inspections, final clearance testing of work areas, health and safety procedures and overall project documentation. We also provide technical supervision to the asbestos removal contractor who is under separate contract to DAGS.

IN 1992, WE WERE ALSO retained by a developer to perform a site assessment for property on Beretania Street. Because a 10-story office building was planned, and as part of a pre-purchase agreement GMP Associates, a geotechnical engineering company, was called in to perform a foundation design study while we per-

formed an environmental site assessment (ESA). Steven Au, AIA, was the architect in charge for GMP. Teamwork proved successful, resulting in \$10,000 savings to the developer.

ESAs today are routinely conducted in property transfer transactions to avoid environmental liabilities associated with property devel-

oped the review and evaluation of the site's current and historical uses and an on-site survey to identify potential sources of contamination at the site or in the vicinity.

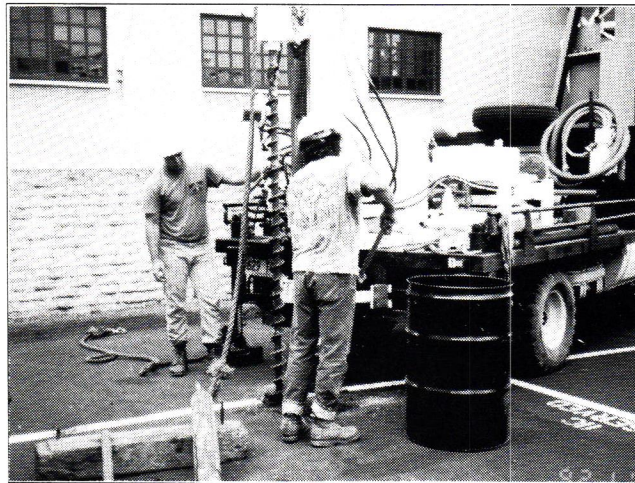
NO CONTAMINANTS WERE FOUND; however, eleven facilities which used, stored or disposed of hazardous substances are located near the site, triggering a second investigation to determine whether any contaminants had migrated to the proposed building site.

Results of this teamwork indicated low to non-detectable concentration of petroleum products in the soil and ground water at the site.

This project is a good example of careful planning on the part of a developer and good coordination between the architectural/engineering design team, geotechnical engineer and the environmental consultant.

Should the second phase assessment not have been conducted and site contamination discovered after property purchase, the new owner would have been responsible for environmental cleanup. **HA**

♦ Edward K. Noda, Ph.D., P.E., is the principal, Edward K. Noda and Associates, Inc., a firm providing environmental consulting services to owners and architects.



▲ Workers check for soil contamination at the Beretania Street site as part of the Environmental Site Assessment.

opments. Numerous federal and state laws are involved, including the Resource Conservation and Recovery Act (RCRA), Toxic Substances Control Act (TSCA), Clean Water Act, Safe Drinking Water Act and state laws such as the Hawaii Environmental Response Law (Hawaii Revised Statutes, Chapter 128D).

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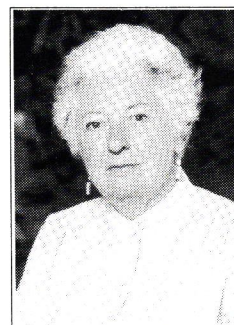
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Kauai Civic Center After Hurricane Iniki

Discarding the 'cookbook' approach Creative Design



Virginia B. Macdonald

by
**Virginia
Macdonald**

The McClure House in Hilo was designed to take advantage of natural air flow to curb humidity and heat. ▼

JIM BUCKLEY PHOTOS

Lord Howe Island, a tiny inhabited islet along Australia's Great Barrier Reef, was once my home for a day. At the local library I looked through some mimeographed cookbooks written by Lord Howe homemakers, thinking I might find some recipes typical of that area. What a disappointment! Every recipe started out with "Open a tin of ..."

Today, whenever I see the result of stereo-

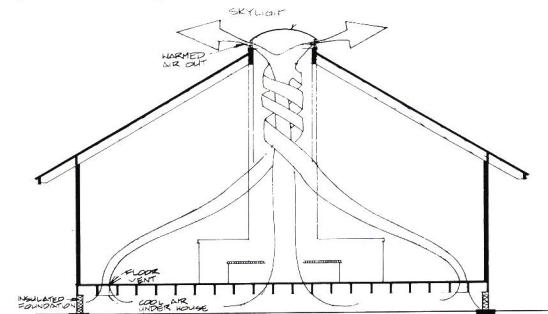
typed thinking or off-the-shelf architectural design, I am reminded of these cookbook recipes.

WE OFTEN HEAR THAT because a building is on the Big Island's Kona side, which is hot and dry, it must have mechanical air conditioning; or because a doctor's office is in humid Hilo it must be outfitted with air conditioning; or that houses at 4,000 feet elevation in Waikii or Volcano are always cold and mildewed and that mildew is controlled by sealing the house up, insulating and running dehumidifiers.

There are creative ways of designing a building without having recourse to stereotyped solutions, as long as we remember that natural ventilation means both cross and vertical ventilation. Homes in old Hawaii were cool and pleasant because all the windows were open and ceilings high, but who in Hawaii today can leave the windows open?

THE DESIGN OF THREE HOMES on the Big island that *do not* subscribe to the "Open a tin of ..." theory grew out of consideration for heating or cooling needs, location of the sun in the sky, humidity in Hilo and climate variations at Volcano (from summer highs in the 80s to winter lows with early-morning frost)—without having recourse to stereotype solutions.

These designs also considered that today few homes are occupied weekdays because the owners work and the need to lock windows to prevent burglaries.



▲ Ventilation diagram, McClure House.



THE APPLE-MACDONALD HOME at Volcano Golf Course was the experimental home for many of the adaptations of natural principles which tailor the design to the site, climate and client. The house, slightly on the lee side of Kilauea summit at an elevation of 4,000 feet, is exposed to less rain than in Volcano Village, 3 miles away.

A fern endemic to the area is used as an art motif on the entry door. Creatively handled, glasses and dishes can be protected from earthquake damage and used as decoration. Because of the fixed glass windows and vent system, the house receives fresh air, but no big blast of cross ventilation, so very little dust.

The atrium is the passive solar heat source, just right in winter, shades in summer, with insulated floor and double glass in skylights. The atrium skylights face east and west for all-day heat gain. Heat builds up in the atrium and flows into the two wings where high vents vent hot air.

THIS OUTFLOW PULLS WARM AIR into the two side wings. In the shower, steam flows up and over the seven foot wall to exit out the high center vents. The air is warmed, absorbs moisture, and is vented. Simultaneous sling hydrometer readings have shown from 15 to 30 percent drier air inside the house than outside at the same time.

The McClure house in Hilo was provided with an insulated stem wall that encloses a pool of cool air. Skylights in the house have screened louvers. Heat build up directly under low heat-transmission skylights is used to "jump start" the system.

The warm air, loaded with moisture, flows out the non-pressure side of the skylight and replacement air is drawn in through a large floor intake vent (camouflaged as a seat). The house is dryer than outside and 3 to 4 degrees cooler.

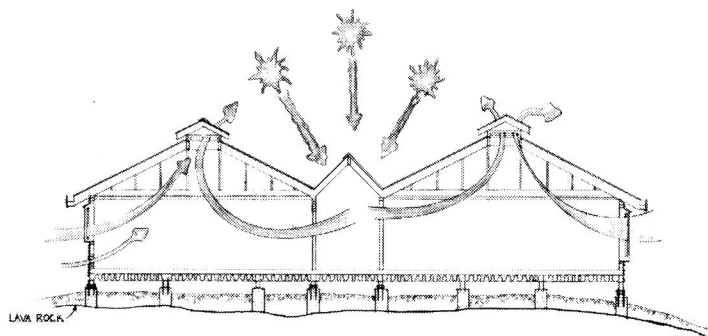
THE ALICE KAI HOUSE, also at Volcano Golf Course, has an old-fashioned, plantation look that is deceiving because it is not "Open a tin of ..." design, but very high tech.



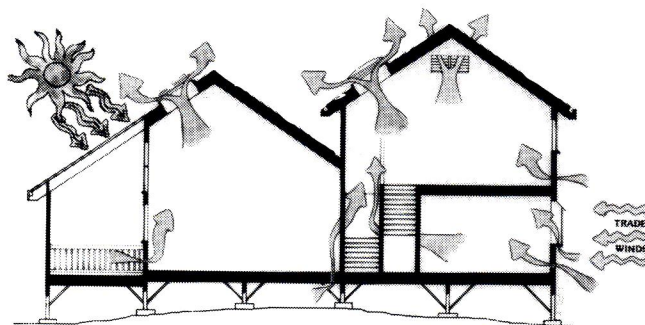
▲ The architect's home on the Big Island was used to experiment with designs based on natural principles.



▲ The Alice Kai House features high-tech systems.



▲ An atrium keeps the Apple-Macdonald home naturally cool in summer and warm in winter.

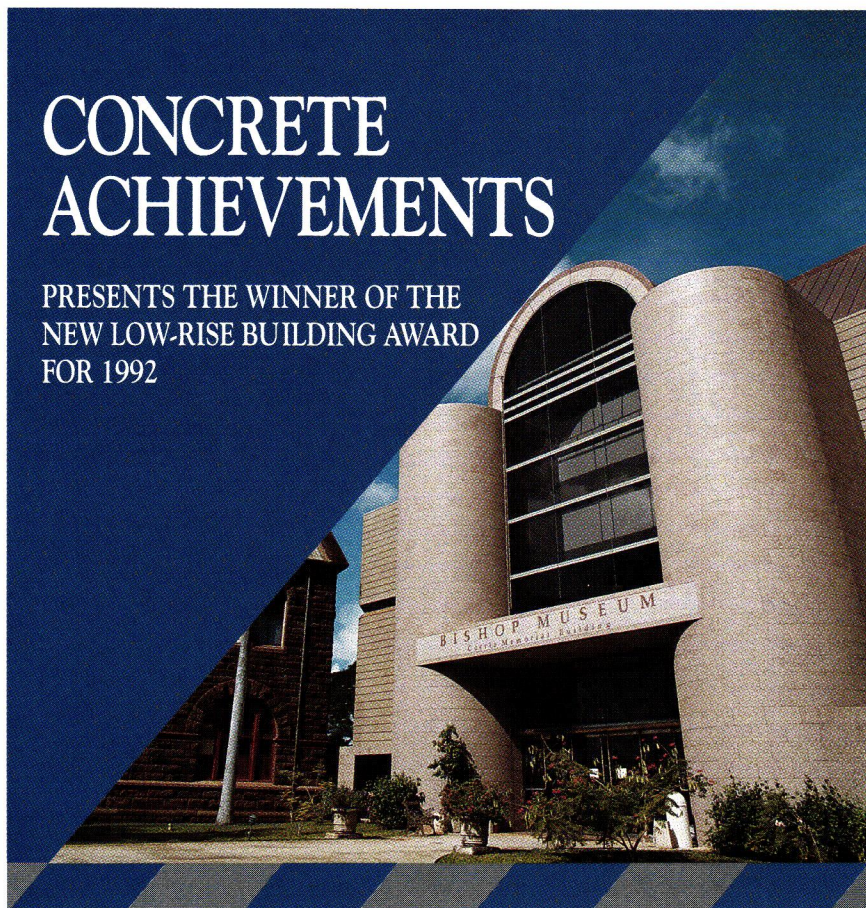


VENTILATION

▲ The plantation looks of the Alice Kai House hide a very high-tech ventilation and heating system.

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♦ Virginia B. Macdonald is the owner of Virginia B. Macdonald, AIA, on the Big Island.

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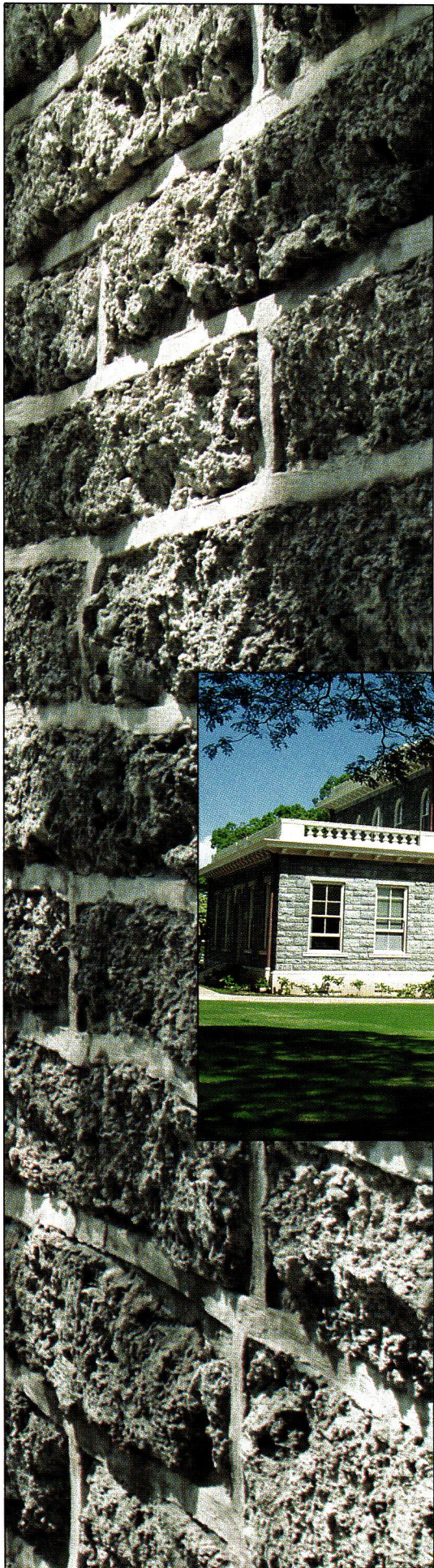
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