

HAWAII ARCHITECT

January 1994

- ▶ *Flooring*
- ▶ *AIA Design Awards*



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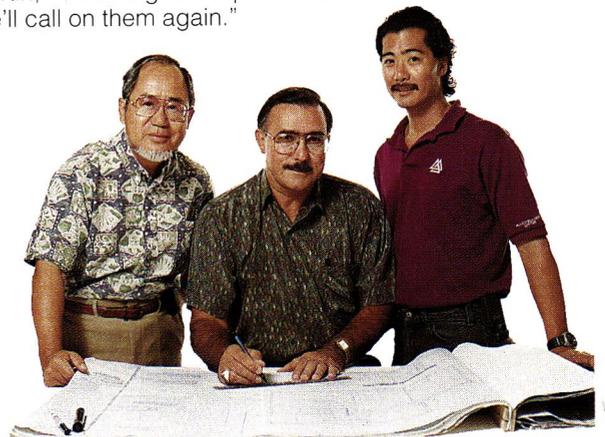
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Recalls Project Architect *Dennis Lee*, AIA, of Peter Hsi & Associates: "Both budget and schedule were concerns. Our design response was a living room like setting with kamaaina styling—using subdued lighting, koa wood and natural stone."

Both owner and architect applaud Allied Builders' seasoned contracting skills, sensitivity and "as advertised" spirit of cooperation. "All things considered," concludes Martin, "it was a good experience. We'll call on them again."



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Architect Dennis Lee, Continental Hawaii Manager Bill Martin,
ABS Project Manager Winton Saito

Tile work at The National Memorial Cemetary Of The Pacific had to withstand heavy traffic, yet be aesthetically in tune with "Punchbowl's" beauty. The non-skid, attractive texture of Summitville's Williamsburg and Concord Flash Walnut brick tiles was ideal for the 22,000 foot walkways. Unglazed mosaic flooring in public areas also is non-skid while a combination of Williamsburg and Pavers enhances seating locations. Another historic moment in creative tile design.

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Helping industries compete Favored Status

Industrial policy has never been a popular function of American government. Hawaii is different in that favored industries have always dominated economic intercourse with the outside world. First there was trade in fresh water and yams. Then there was sandalwood. Then there was whaling and sugar cane. Pineapple came next. Military expenditures and tourism support our current lifestyle. It has always been enough to get by.

The state of Hawaii has searched for new industries to supplement tourism and agriculture. It has supported the film industry with a state-financed film studio. It has built the Manoa Innovation Center in an attempt to foster high-tech industry. It has lobbied hard for space industry in the Ka'u District.

The American Institute of Architects has never taken issue with the state's actions to foster new business which can benefit Hawaii. In fact, this action ought to be an important government function if one elects an activist government. The AIA would like some small consideration for businesses already operating in Hawaii.

Hawaii architects have built a strong regional and even international design reputation for projects such as destination resorts. Honolulu's position as the headquarters for the largest military command in the world has also assisted the growth of architecture and engineering for military facilities.

Hawaii has a large and experienced architectural design profession which employs Hawaii residents and pays Hawaii taxes. The Legislature and the state administration need to recognize this. Architecture needs to be on the list of favored industries which benefit from a favorable

legislative climate.

This month's issue of *Hawaii Architect* features separate articles on AIA legislative issues such as design freedom and Statutes of Limitations. In addition, AIA urges the Legislature to consider other important items.

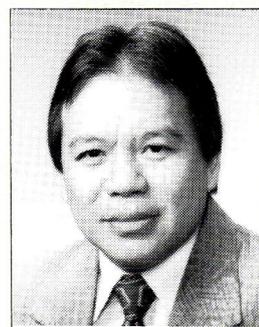
Excise Tax Exemption

During the 1993 Legislative session, attempts were made to exempt from excise tax architectural and other professional services sold to out-of-state clients for out-of-state projects. The exemption will enable Hawaii architects to more competitively price their services. The exemption will assist Hawaii architects in developing a larger market share of Pacific Rim design projects.

Support for the UH School of Architecture

The training of superior architects is an important component of an export architecture industry. The University of Hawaii is already taking new steps to ensure its reputation as an excellent design institution in the Asia-Pacific region. New permanent facilities are under construction and represent the physical manifestation of the state's commitment to architectural education. The AIA urges continuing financial support for the school.

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



Daniel G. Chun, AIA

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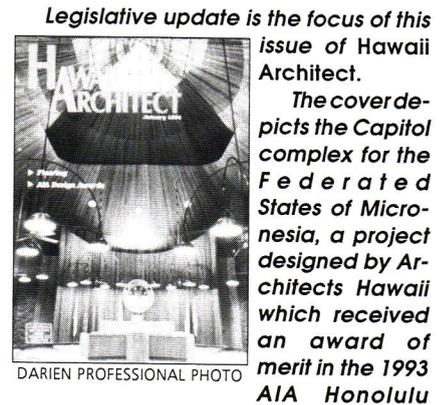
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The cover depicts the Capitol complex for the Federated States of Micronesia, a project designed by Architects Hawaii which received an award of merit in the 1993 AIA Honolulu Design Awards program.

The project, featured in this issue, also involved several Honolulu-based companies, which illustrates the contention made in this month's leadership message that Hawaii's architects are successfully exporting architecture throughout the Pacific Rim, and therefore should be included in the state of Hawaii's list of "favored industries," which would ensure pricing competitiveness of Hawaii's architects on out-of-state projects.

The spirit of cooperation between public officials and the architectural community was also effectively demonstrated during the fund-raising, design and construction of the Moiliili Community Center, a design that won an award of excellence in the 1993 AIA Honolulu Design Awards program for the firm of Donald M. Shaw, AIA. This project is also described in this issue.

The legislative issues affecting the design freedom of architects in Hawaii are carefully tracked and acted upon by the Hawaii State Council/AIA, whose mandate is to ensure that architects' objections to or support for proposed laws, and arguments for or against the passage of such laws, are heard.

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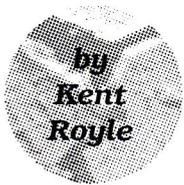
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Model Energy Code

Impact on office building design



As this article goes to print, the state's Model Energy Code has passed third reading of the Honolulu City Council. While Hawaii's architects generally support energy conservation, many are wondering how adoption of this code would impact their designs.

To assess the code's impact on different types of buildings, its authors, Eley Associates of San Francisco, studied recently constructed buildings thought to be representative of current construction practices in Hawaii. Based on Eley's study, this article summarizes the changes required to bring two "typical" office buildings into compliance.

THE STATE OFFICE Tower designed by the Hemmeter Design Group is a 16-story structure with 9,000 square feet per floor. Eley's analysis noted that the proposed code would most impact a highrise office building's lighting system, requiring reductions in the amount of lighting power used and an increase in the number of "lighting control points" provided.

Decreasing the lighting power used from 2.5 to 1.16 Watts per square foot would likely require electronic ballasts, high efficiency lamps and a decrease in brightness in non-critical areas. Increasing the number of lighting control points could involve installing more on/off switches or "smarter" controls such as occupancy sensors and automatic dimmers.

Model of the State Office Tower designed by the Hemmeter Design Group. ▼



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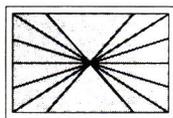
Alvin is Vice President of The American Coating Company. He is in charge of all field and estimating operations. Previously, Alvin was employed with an engineering firm in Chicago and Honolulu where he focused primarily on restoration and water infiltration problems. Alvin holds a M.S. and B.S. in Engineering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



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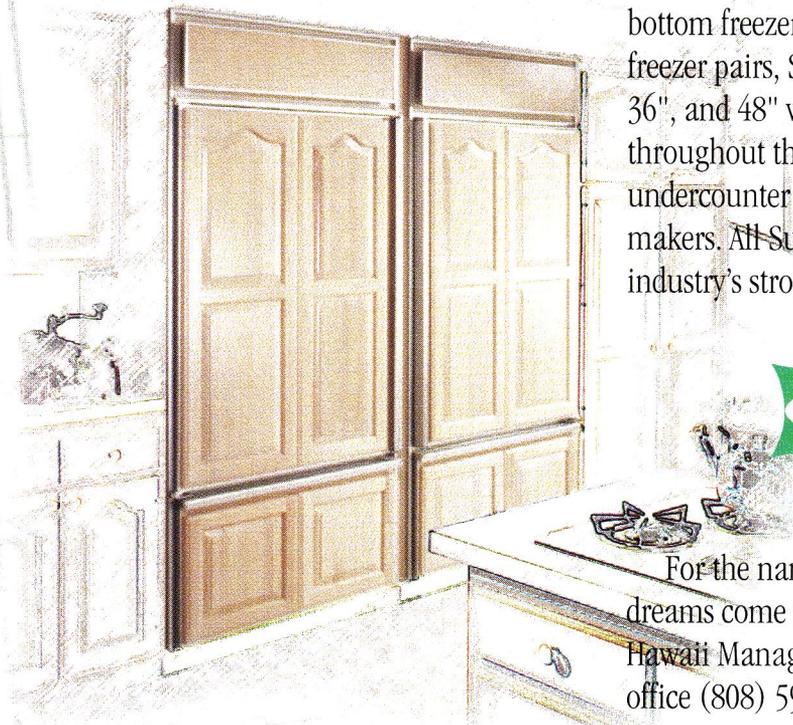
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These lighting changes would add about \$0.68 per square foot of floor area to the construction cost.

The building envelope of the State Office Tower features 6-inch uninsulated concrete walls. The roof is insulated with 3-inch sprayed on insulation. These insulation levels comply with the proposed code as designed.

The proposed code regulates glazing by limiting the relative solar heat gain (RSHG) which takes into account the window size, type of glazing and any shading devices. The State Office Tower has about 28 percent of the wall area glazed with single pane, medium gray tinted glass. The shading coefficient of this glazing is about 0.7, indicating a medium energy performance. The windows of the building are recessed about one foot, providing some shading.

TO COMPLY with the proposed code, the State Office Tower would need to reduce the RSHG factor on the east, south and west sides (the elevator shafts reduce the amount of glazing on the north side sufficiently). This could be accomplished by any one of four methods:

1. Using high performance glazing such as reflective or low-E glass with a shading coefficient of .5 or below;
2. Rotating the building so the elevators face east, south or west; or
3. Increasing the depth of the projection from 1 foot 0 inches to 2 feet 3 inches to increase shading;
4. Reducing the window size by about 35 percent, such as changing height from 6 feet 0 inches to approximately 3 feet 10 inches.

A combination of any of the options could also be used. Eley calculated the additional cost of using reflective glass to be \$0.33 per square foot of floor area. Note that 28 percent of the wall area in glazing does not need a glare analysis which is required by the Department of Land Utilization when the reflective surface covers more than 30 percent of the wall.

OTHER IMPACTS of the proposed code include a slight increase in the

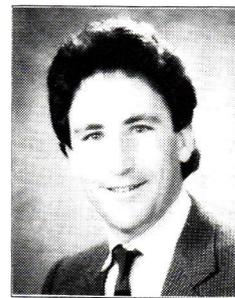
chiller efficiency, the switch from constant to variable speed pumps and high efficiency motors. Including all of the above changes the estimated cost for compliance is an additional \$1.14 per square foot of floor area or roughly \$164,000 of additional cost to construct the State Office Tower. Eley calculated these changes would save approximately \$.56 per square foot of floor area each year. This \$80,000 per year savings in cooling and lighting energy would result in a two-year payback for the energy conservation features.

Paul Niiyama, AIA, former project manager for the State Office Tower with the Hemmeter Design Group, thought that given the two-year payback, the code's energy conservation features would likely have been considered favorably by the project's design team.

THE HAWAII KAI Corporate Plaza designed by CDS International was selected to examine the code's impact on a lowrise office complex. As with the highrise office, lighting power would need to be substantially reduced. Eley estimated that compliance with the proposed code would likely require high efficiency T-8 fluorescent lamps with electronic ballasts and occupancy sensors in the offices, adding approximately \$0.68 per square foot to the construction cost.

This three-story, 56,000-square-foot building features large windows that are generally shaded by lanais and overhanging floors. Clear glass is used on the first floor while tinted glass is used on the second and third floors. Because of the shading from the upper floors, the large clear glass on the lower floors complies with the code. The north-facing tinted windows on the second and third floors also comply with the proposed code.

The second floor tinted windows on the east, south and west facades have an RSHG factor of .45, exceeding the code RSHG limit of .35. To comply with the proposed code higher performance would require reflective or low-E glass to lower the shading coefficient from .7 to .56. Alternately,



Kent Royle

more shading could be provided for these windows or the windows could be reduced in size. Eley estimated the reflective glass would add \$6,732 to the building's construction cost.

Like the State Office Tower, the Hawaii Kai Corporate Plaza's insulated roof and uninsulated concrete walls comply with the insulation requirements of the proposed code. Required changes to the HVAC system include variable speed controls on the chilled water loop and high efficiency motors for fans and pumps.

This building features a 225-square-foot skylight which represents about 2.5 percent of the roof area. The proposed code allows clear glazing or any other type of glazing for a skylight of this size. Larger skylights would have to be tinted, reflective or have some other means of reducing their shading coefficient. The electric lighting under skylights would have to be switched separately to take advantage of potential energy savings.

ELEY ESTIMATED the proposed code would add \$1.37 per square foot of floor area, about \$77,000 in construction cost to the Hawaii Kai Corporate Plaza. Savings of about \$41,000 per year would result in a 1.9-year payback.

CDS International Project Architects Glen Miura, AIA, and Ken Whitcomb indicated that given the relatively small increase in construction cost and rapid payback of the energy conservation features, designing the Hawaii Kai Corporate Plaza to the proposed code would not have been a significant burden on the project.

♦ Kent Royle, AIA, is an associate, TRB Architects Ltd.

Opposing restrictive legislation Design Freedom

by
**Daniel G.
Chun**

The freedom to design, free from legislative restraint, is on the American Institute of Architects' perpetual legislative agenda. Architects are already required under Hawaii Revised Statutes to protect public health and safety in their designs. Architecture is a balancing act involving individual creativity and social responsibility. Laws governing the practice of architecture are consumer protection laws. By extension, legislative restrictions on the design freedom of architects also means limitation on consumer desires.

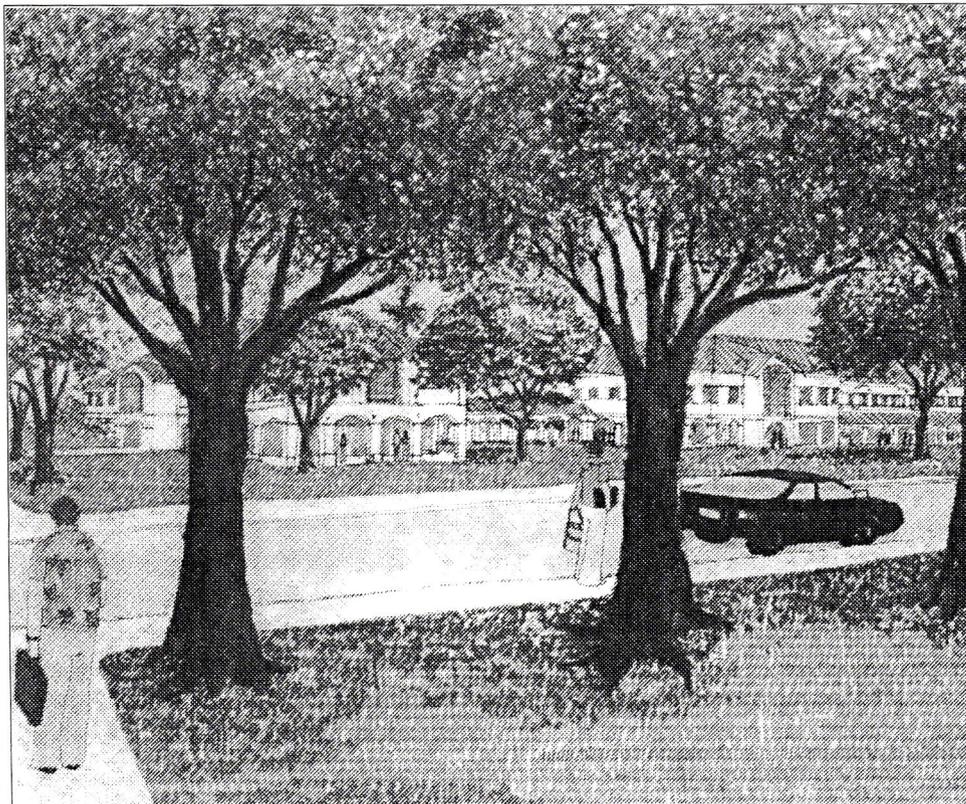
Because proposed legislation is difficult to remember by its assigned number, it helps to attach a descriptive label to it. The following are examples of design legislation which are of concern to architects:

"Just draw me up a box"

One piece of legislation that periodically resurfaces is a proposal that would require all buildings in Hawaii to be rectangular in shape with long sides oriented in an east-west direction. The rationale for this requirement is that such buildings are energy-efficient.

Although this may be true, the proposal never addressed the challenges of designing and developing buildings in Hawaii where urban-zoned land is so scarce. The proposed legislation never suggested the critical decision of what materials the buildings were made of. By contrast the new state energy standards, discussed in this issue of *Hawaii Architect*, combine energy efficiency with design freedom to meet performance criteria rather than prescriptive criteria.

Planting trees along highways carries the potential for liability against the planter. ▼



"Speak to me in English"

During the 1993 session, architects opposed a bill which would have required that all public signs display an English-language translation. Inspired by the proliferation of foreign-language signs in Waikiki, the bill would have trampled on the right to sell goods to as limited a market segment as a merchant desired. Architects were more concerned that all signs in Hawaii's multi-cultural society would have had to bear an English translation—including all Hawaiian language signs—if the bill's intent was to be carried out.

"Plant some 'Native Hawaiian' trees"

Another example of design legislation is the legislature's

attempt to force the planting of endemic or indigenous plants in the landscaping of all state projects.

State projects typically have no landscaping to speak of and the legislature did not seem to understand that coconut palms, a quintessential feature of the modern Hawaiian landscape, are not considered endemic or indigenous plants by most authoritative sources. The kukui, which is the state tree, is not in this plant category either! Both are Polynesian introductions.

During the 1993 session, the legislative mandate was changed to include Polynesian-introduced plants. Thus the original legislative intent, which was to increase the planting of endangered plants, has been watered down to where anything called "Hawaiian" can be planted.

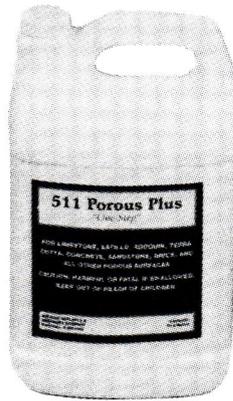
"When you drive off the road you're on your own"

During the 1994 session, another attempt will be made to pass a bill which would limit the liability of people who plant trees to beautify Hawaii highways and streets. Trees seem to be considered by some plaintiff attorneys to be killers lurking on the sides of streets waiting to crush drivers who drive over the sidewalk and curbing.

The city and county of Honolulu requires the planting of trees in new building projects. Developers, land owners and their architects will not get building permits unless landscaping standards are met. Should architects continue to design projects with trees and face growing professional liability? The tourist industry relies heavily upon the beauty of our island home. Yet, public agencies such as the State of Hawaii Department of Transportation are naturally reluctant to plant trees along the state highways because of potential liability faced by the planter.

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

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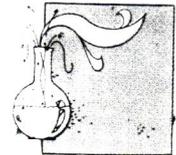
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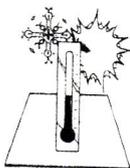
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An ongoing liability problem

Statute of Limitations

by
**Daniel G.
Chun**

Architects design buildings that last a long time. The pyramids of Egypt and the temples of the Acropolis are still standing after thousands of years. Many of our early skyscrapers are still in use. However, architects have an effect on these building projects only while under contract to owners. Architects carry errors and omissions insurance to cover claims for injuries—real or perceived—resulting from their involvement on a project. But should an architect be liable for claims that arise throughout the life of a structure?

Hawaii presently has unlimited time liability for wrongful death and bodily injury. A 1987 national study revealed that all claimants who received indemnity payments were injured within eleven years of the completion of construction; 95 percent within nine years. Claims filed after nine or ten years typically result in no payment to the plaintiff, substantial legal fees

for both the plaintiff and the defendant, and an increased caseload on an already over-burdened court system.

IN THE ABSENCE OF TIME limits on architects' liability, architects must maintain files and records in perpetuity. Insurance companies, if they can offer policies at all, must charge higher premiums. And, the public suffers from clogged courts and from architecture which reflects the caution necessitated by unlimited liability.

Statutes of limitations and statutes of repose, which limit the time frame of architects' liability, are therefore in the interest of both the architectural community and the public at large.

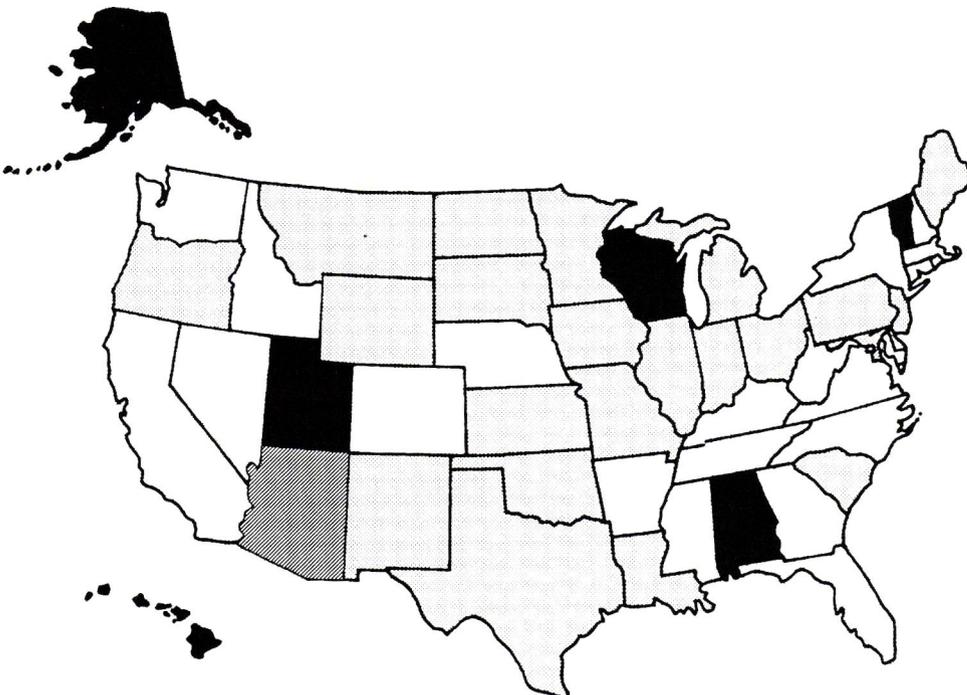
FORTY-FIVE STATES and the District of Columbia have statutes of limitations. The four evaluation factors included statutes with inclusion of bodily injury, inclusion of wrongful death, statutes in years shorter than the national average and inclusion of the sovereign state as subject to the statute.

Using these factors, Hawaii looks like a liability hell. Hawaii is one of only two states which excludes bodily injury and wrongful death from its statute.

The state has a statute of limitations which is longer than the national average. Hawaii has the only statute in which the state and its agencies are exempt from the law. Absence of a statute of limitations or a weak one may be an indication of an unfavorable business climate within a state.

Source: American Institute of Architects/State Government Affairs Compendium of State Statutes of Limitations.

Map of the 50 states shaded according to the severity of professional liability. Hawaii ranks at the top of the list. ▼



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Going back to cultural roots Hawaiian Architecture

by
**George S.
Kanahele**

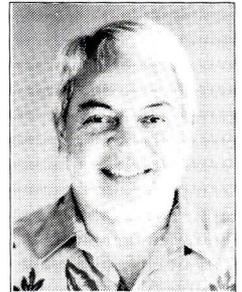
I hear or read more about the need for a “Hawaiian sense of place” from architects than almost any other group, yet I see the least evidence of it in the work of architects. Some of us in the Hawaiian community refer to this as “the architect problem.”

A few months ago I was conferring with a development team that included planners and architects about designing a “truly Hawaiian” resort. I asked if anyone could point to a resort structure in Hawaii that could be a model for the project. After some discussion, everyone concluded that there was no such thing.

WHY ISN'T THERE? That's a question I've tried to answer as a student of both ancient and modern Hawaiian culture (and as a “closet architect-wannabee”). For a while I assumed that architects were simply not interested in it. After all, given today's imperatives of cost, space and safety, what could you do with a thatched hut?

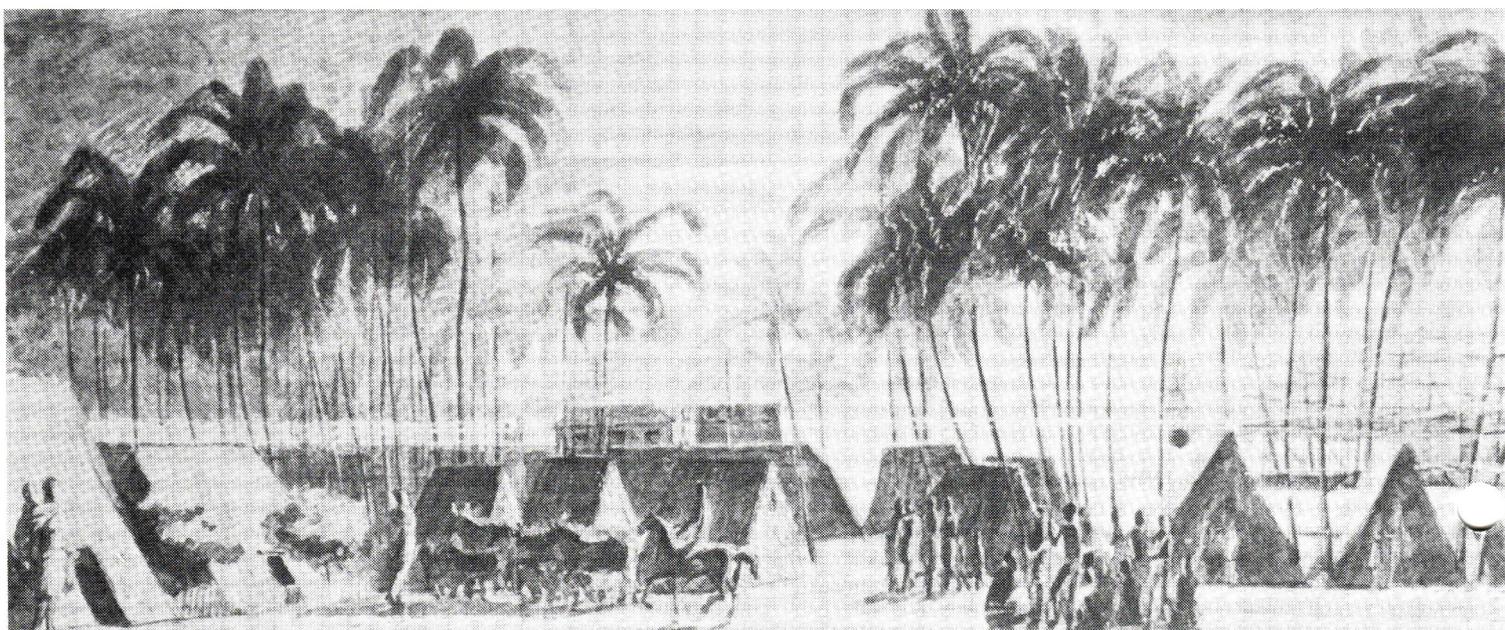
Early Hawaiian architecture. ▼

I think I got my answer one day when I heard a local architect tell a class of university students that he didn't think there was ever any Hawaiian architecture to speak of. If the ancient Hawaiians did not have any architecture, then there would be no logical reason to raise the question.



George S. Kanahele

I don't think he was arrogant or ignorant, just mistaken. Sigfried Giedion, the great architectural historian, wrote that the humble hut is “the exemplar of architecture” on which “all the magnificences of architecture are elaborated.” As I've written elsewhere (*Ku Kanaka—Stand Tall*), “In its honest simplicity, human scale and harmony with nature, the hut is about as close as the architect can get to a perfect imitation of *Bella Natura*, Beautiful Nature.” And, as the French theorist Laugier admonished the architectural fraternity, “Let



us never lose sight of our little hut."

So, there was and is a traditional Hawaiian architecture as defined by the native *hale*, or thatched hut. Its shape and construction are detailed in books by Dr. Peter Buck and Sam Appel. The sketches and paintings by Western artists, such as Choris and Webber, who visited the islands soon after Cook's arrival in 1778, depict a variety of hut types ranging from simple A-roofed wall-less structures belonging to commoners to four-walled, high-pitched roof and high-ceiling huts belonging to the chiefs.

BESIDES THE THATCHED HUT, there are the ancient *heiau*, or temples constructed of stone in myriad shapes and sizes located all over the islands. Some are truly monumental in size, such as the Mo'okini Heiau in North Kohala and the Pi'ilani Hale Heiau in Hana. There are dozens of books, monographs and articles that describe these structures.

What we may need to make the point stick is one book, dedicated

purely to traditional Hawaiian architecture, masterfully written and illustrated. There's a book on almost every conceivable subject of Hawaiian history or culture; it's surprising that no one has written a book like this.

I realize there's been a long debate about what Hawaiian architecture is, but that debate has been framed mainly by concepts and values of modern, not traditional, Hawaiian architecture. In a real sense, if we define "Hawaiian" as anything whose origins can be traced back to pre-1778 Hawaii, there's never been a debate on Hawaiian architecture.

BE THAT AS IT MAY, I'm not interested in a debate, but in an honest, dispassionate and relevant inquiry into a set of interrelated questions that begins with "What is traditional Hawaiian architecture?" and ends with "What elements of that architecture can be accepted, adapted or integrated into modern Hawaiian architecture?"

I'd like to propose that the American Institute of Architects organize and conduct one or more workshops on the subject, which could bring together architects and designers, among others, to further this inquiry into Hawaiian architecture. The WAIAHA Foundation, a nonprofit educational organization dedicated to the study and teaching of Hawaiian values, would be happy to co-sponsor such an event.

Francis Oda, AIA, writes about architects as "keepers of the culture." Well, this might be an opportunity to test that idea. Given the increased interest in and concern for preserving and nurturing the special character of Hawaii, this may also be an idea whose time has come.

♦ George S. Kanahale, Ph.D., is president of the WAIAHA Foundation. This is the text of a presentation Kanahale made at the Hawaii State Council/AIA convention at Kamehameha Schools, Oct. 9-16.

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Part I: An introduction to ADAAG

Accessibility Design

This is the first in a series of articles to help clarify the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

by
**Ben A.
Gorospe,
Jr.**

Although Hawaii Revised Statutes (HRS) 103-50 requires the commission to provide review and make recommendations on projects that fall under state and county jurisdiction, we see ourselves as partners or advisors to all parties, working together to provide products usable by all individuals within the community.

The Commission on Persons with Disabilities consists of 23 members, all of whom are volunteers appointed by the governor. These members include people with disabilities, parents or guardians of people with disabilities and public and private providers of services. Membership on the commission includes representatives from each county.

THE COMMISSION'S PURPOSE is to advocate and promote the full integration of people with disabilities into society. The commission oversees a staff of approximately 20 people on four islands to carry out its functions.

Program, Planning & Policy Development staff activities include monitoring legislation, rules, regulations and plans at the federal, state and county levels and assess their impact on people with disabilities. Staff members also provide information and referral to people with disabilities, their families, service providers and public on the needs of people with disabilities in the state of Hawaii.

The Special Parent Information Network staff provides parent-to-parent support, and parent involvement in the education of their children with special needs through information about the special education process options, and parent-professional partnerships, all consis-

tent with federal and state laws.

The Commission's Facility Access Unit staff provides technical assistance to facility managers, architects, engineers and other design professionals in the design of buildings and facilities to ensure their accessibility for people with disabilities.

THE 1993 LEGISLATURE appropriated funds for three additional facility access technicians because of the substantial increase in work-load and increased complexity of document reviews. Two positions were added, bringing the total Facility Access Unit staff to seven positions.

HRS 103-50 states that all plans and specifications for the construction of public buildings and facilities by the state or any county, or on behalf of the state or any county, "shall be prepared so that the buildings and facilities are accessible to and usable by people with disabilities."

All buildings and facilities which are to be accessible under this section conform to ADAAG.

Any state or county project whose bid opening date for construction falls on or after Jan. 1, 1994, will be reviewed according to ADAAG guidelines. (Jan. 1, 1994, is the effective date of Act 308-93, signed into law on June 21, 1993, amending HRS 103-50). The act does not affect buildings or facilities constructed prior to the effective date. Buildings and facilities built prior to this date must conform to the Uniform Federal Accessibility Standards (UFAS) (July 1, 1989 to Dec. 31, 1993) or the latest edition of ANSI (July 1, 1965 to June 30, 1989).

HRS 103-50 further states that all agencies of the state and county "shall seek the advice and recommendations from the Commission on Persons with Disabilities on all plans and specifications to ensure conformance with the ADAAG as well as any supplemental design specifications established by the Architectural

Access Committee.”

In addition to providing technical assistance in the form of review and recommendations on design documents on projects that fall under state and county jurisdictions, the commission also conducts training sessions for design professionals, building inspectors and project managers, provides information on products and laws and responds to telephone or faxed questions on accessibility guidelines.

HRS 103-50.5 gives the Architectural Access Committee the authority to issue design specifications not covered in the ADAAG in order to provide greater access for people with disabilities.

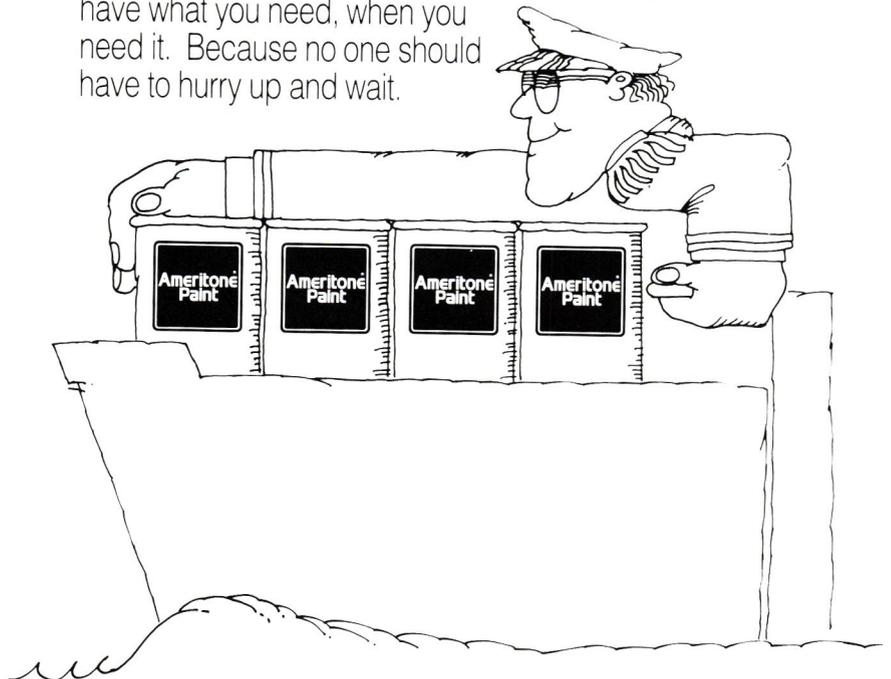
AS OF AUGUST 1991, this committee had adopted “Children’s Design Guidelines” to serve children with disabilities in elementary schools or other buildings and facilities where the primary users are children. Other supplementary guidelines, including Design Specifications: Areas of Rescue Assistance, and Design Specifications: Transportation Facilities, were amended to reflect the applicable sections of ADAAG.

A project that falls under the jurisdiction of HRS 103-50 can receive a more expeditious review when all pertinent documents, e.g., plans, specifications, cut sheets, are submitted to the commission. Voluminous projects should be sent to the commission during the early stages of design to ensure that accessibility requirements are implemented and to preclude any costly and unnecessary changes or delays. Communication between designer, project manager and the commission is also a key factor in obtaining an expeditious review.

➔ *Ben A. Gorospe Jr. is coordinator, Facilities Access Unit, Commission on Persons with Disabilities, State Department of Health.*

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Impacting water quality Nonpoint Source Pollution

by
**Bruce S.
Anderson**

We probably shouldn't forgive the bureaucrats who came up with the name "nonpoint source pollution." It is called "nonpoint source pollution" because it is pollution associated with rainwater runoff from urban and agricultural areas that does not come from a single point. Environmental groups call it "polluted runoff."

Whatever it is called, nonpoint source pollution has a major impact on the quality of water in our streams and the ocean. It not only degrades the quality of surface water, but may also affect groundwater used for drinking. Today, nonpoint pollution remains the most important water pollution problem in Hawaii. All major islands have areas where water quality standards are being violated because of nonpoint source pollution.

SINCE THE PASSAGE OF the federal Water Pollution Control Act in 1972 (known as the Clean Water Act), we have made considerable progress cleaning up coastal waters from sewage and industrial discharges. In Kaneohe Bay, for example, sewage discharges once caused massive algae blooms. Today, despite extensive urban development in the area, the bay is much cleaner than it was 20 years ago. The control of runoff from many divergent sources proves to be far more difficult. However, controlling pollution from these sources is critical if we expect to see further improvement in coastal water quality.

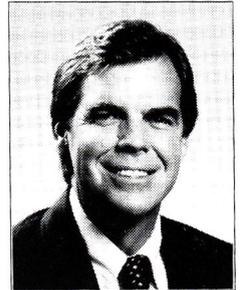
One major obstacle in managing nonpoint source pollution is the lack of understanding of the problem. Nonpoint source pollution is pollution from sources which are difficult to trace. Generally, it does not come from a single "point" of discharge, such as a sewage treatment plant. Human activities are usually responsible, but it can also be something which occurs natu-

rally. For example, pigs and other feral animals may eat away ground cover, causing soil to run off when it rains.

Significant nonpoint pollutants in Hawaii are sediments, nutrients, toxins and pathogens. Sediments picked up and carried by rainwater runoff from agricultural and urban construction activities may smother coral and other aquatic life. Nutrients (nitrogen and phosphorous) associated with commercial fertilizers, animal wastes, cesspools and other sources may cause algae blooms and disrupt the balance in marine ecosystems. Toxins, including pesticides, metals and petroleum-based products, may also be harmful to marine life and pose a threat to human health. Pathogens, such as bacteria, viruses and parasites from cesspools and other potential sources may be dispersed and carried by water.

AS A RESULT OF THE federal Clean Water Act amendments of 1987, the Hawaii Department of Health began developing a Nonpoint Source Program in 1988, supported by grants from the U.S. Environmental Protection Agency. The program works with others in sponsoring demonstration projects. An example is the Storm Drain Stenciling Project, a collaborative effort with the city and county of Honolulu involving painting storm drains with signs reading "NO DUMPING - GOES TO OCEAN." The NPS program has also been involved in a re-vegetation project along the H-1 Freeway, a cereal cover crop demonstration project on sugar cane lands, a feral animal control project on Molokai and other erosion control projects.

Two state laws have been significant in reducing nonpoint source pollution in Hawaii. First, Act 249 (1974) required each county to



Bruce S. Anderson



Mahalo...

To the many people who contributed their time and money so generously in support of the Moiliili Community Center Building Project.

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develop its own ordinances to control erosion. Once county grading ordinances were adopted, Act 249 was repealed. Act 249 was one of the first of its kind in the nation, placing Hawaii in the forefront of states implementing controls over erosion and sediment.

The second law that is significant in Hawaii's effort to control nonpoint source pollution was signed by Gov. Waihee last year. Act 345 called for the DOH to establish a "regulatory" nonpoint source pollution management and control program with an appropriation of \$100,000 for one year to fund the program.

NEW FEDERAL LEGISLATION is in effect that will also have far-reaching impact on land-use activities. In 1990, the U.S. Congress enacted Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA).

CZARA requires Hawaii and other states with an approved coastal zone management program to develop a regulatory coastal nonpoint source program to be approved by both the National Oceanic and Atmospheric Administration and the EPA by July 1995.

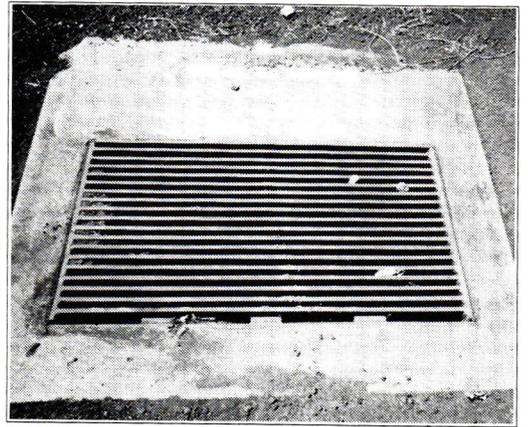
The "6217 Program" requires that approved management measures must be in place to control the nonpoint pollution caused by a particular activity, such as the development of urban areas, marinas, wetlands and other areas, as long as they are economically achievable. The program is broad in scale with management measures that can affect large developers and individual homeowners.

Management measures for a particular project might be, for example, a requirement that average soil loading from runoff be reduced so that it is less after construction than before construction, or that runoff rates after construction not exceed pre-development levels. Management practices may include infiltration basins or trenches, vegetated filter strips, grassed swales, porous pavements and wet ponds, to name a few.

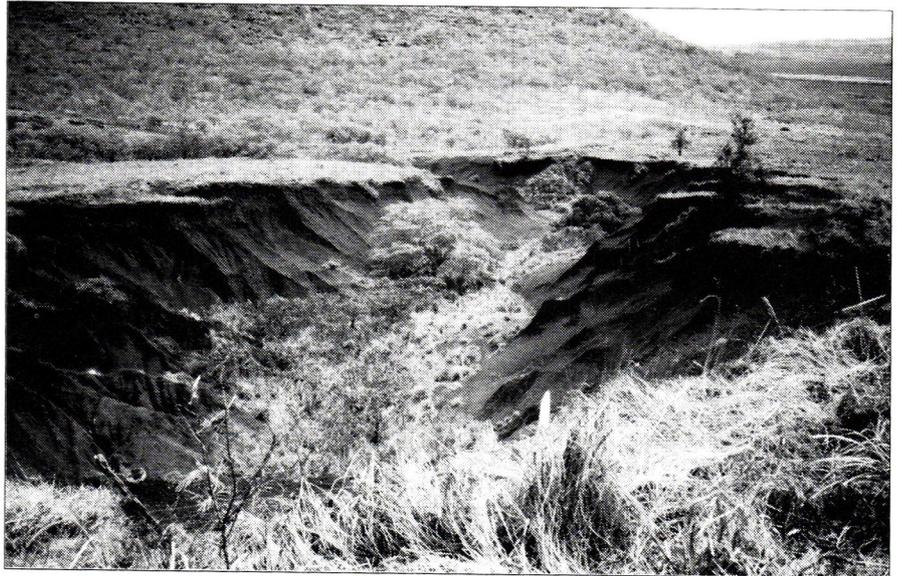
THE 6217 PROGRAM development

Public education, such as storm drain stenciling on Kauai, is an important aspect in controlling nonpoint source pollution. ▶

RANDY RUSH PHOTOS



This highly eroded area on Molokai can contribute sediments to nearshore waters. ▼



in Hawaii is in the early planning stage. A working group composed of affected government agencies and industry and environmental groups has been formed to develop a program that fits Hawaii's needs. Structural or landscape architects should have a significant role in planning how nonpoint source pollution is controlled in Hawaii. Indeed, with their practical experience, representatives from this group can make an impor-

tant contribution by advising which management practices are effective and can be accomplished economically. Certainly, they should be familiar with the program requirements.

To obtain additional information about the state's NPS program, or to receive public outreach materials, call the DOH.

◆ Bruce S. Anderson, Ph.D., is deputy director for environmental health, state of Hawaii Department of Health.

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dairy operations, farm buildings and a multitude of other applications.

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UH Fall Graduates

Twenty-five University of Hawaii students graduated from the school of architecture this fall (24 with bachelor's degrees; one with a master's).

They include: Aaron Akau, Lyle Asaoka, Ronald Catiggay, Shelley Fujikane, Glenn Hata, Vinson Hiraoka, Kyle Kagawa, Lena Kam, Cara Kimura, Thomas Lim (master's), John Llacuna, Richard Morris, Clint Nagata, Kenton Odo, Kazumi Ozaki, Tracy Sakamoto, Mark Tagawa, Glen Takahashi, Craig Takahata, Ray Teramae, Andrea Thomas, Brad Wakahiro, Debbie Wong, Sherman Wong and Jacob Young.

Sakamoto to Head BIA

Norman L. Sakamoto, president of SC Pacific Corp. has been elected president of the Building Industry Association of Hawaii (BIA) for 1994. He succeeds Brian T. Yahata, president of the Yahata Corporation.

Other officers are Ronald V. York Sr., president, Skylights Hawaii Inc., president-elect; Gerald Onaga, president, G.S. Onaga General Contractor, vice president; Sharon Hicks, president and CEO, Hicks Construction Co., secretary; and Thomas Cabrinha, partner, Biddle Erwin & Cabrinha, treasurer.

Beaux Arts Ball Set

The University of Hawaii School of Architecture Alumni Association will hold a Beaux Arts Ball at the Hawaii Prince Hotel Waikiki March 31, beginning at 7 p.m.

This costumed scholarship fund raiser also includes a light supper, dancing and prizes.

For ticket information, contact Choy-Ling Wong, ASID, at 942-7978.

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Students Attend Forum

Twenty-eight University of Hawaii school of architecture students attended the American Institute of Architectural Students Desert FORUM '93 Nov. 23 through 26 in Phoenix, Ariz.

FORUM is the annual convention for all architecture students in the United States and is hosted by a sponsoring school of architecture, this year the Arizona State University.

According to AIAS President Cheryl Gima, students organized fund-raising activities such as hosting at the Parade of Homes and selling Entertainment coupon books to help offset their travel expenses.

Giving Credit Where Due

The Oct. 22 Workshop Charette participant who contributed the rendering illustrating Gerry Takano's article, *Hawaii at the Crossroad: Introducing the new village concept* (see December issue of *Hawaii Architect*), has admitted authorship. It was sketched in five minutes during the workshop by Sidney E. Snyder Jr., AIA, of Ossipoff, Snyder & Rowland Architects.

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Award of Merit

Office, Commercial and Institutional Design

Architects Hawaii Ltd. Capitol Complex for the Federated States of Micronesia

In 1983, Architects Hawaii Ltd. was selected by the Federated States of Micronesia to design a modern 100,000-square-foot capitol complex on a 20-acre site in a valley four miles from the main town of Kolonia on the Island of Pohnpei. The complex was to express the aspirations and cultures of people in the island states of Yap, Truk, Pohnpei and Kosrae. The president of Micronesia also wanted the project to reflect his commitment to energy conservation.

The island of Pohnpei is unique not only for its geographical location but also for the ruins of Nan Madol, an ancient city of legend situated on dozens of man-made islands with high stone walls. A similar city is also found in the state of Kosrae. These structures are built of huge stone "logs"—a naturally formed five to six sided basaltic crystal weighing tons and measuring up to 20 feet in length. These basaltic logs are replicated and used as columns and wall veneer throughout the project. Other traditional design influences from each island state are incorporated into the building designs.

Rather than dominating by height or overall mass, the village setting of buildings is scaled and massed to its environment and is reflective of traditional village planning. Dramatic roof forms make up for the absence of height and breadth. Space requirements dictated that four of the nine buildings be two-story in height. These structures were camouflaged as single-story structures by "piggy backing" the second floor on to the first floor and thereby keeping the one-story scaled eaves throughout the project.

A traditional government style is symbolized by the circular Congressional Chamber and Supreme Court. This circular motif is further exemplified by the design of the public plaza fronting these facilities. To reflect the warmth,

and construction of vernacular structures, the architect selected wood slats for the roof gables and the dramatic ceiling of the Congressional Chamber. The long and narrow buildings were oriented east to west to take advantage of shading of the south and north eaves and the natural cross ventilation, which is augmented by individually controlled ceiling fans. Louvered shelves were provided in the event that the future building requirements might require partial air conditioning of some building spaces.

CREDITS

Developer/Client

The Federated States of Micronesia

Architect

Architects Hawaii, Ltd.

Principal in charge

Joseph G. Farrell, AIA

Managing principal

Darrell G. Welch, Jr., AIA

Project architect

Lloyd Arakaki, AIA

Mechanical engineer

Benjamin S. Notkin/Hawaii

Civil engineer

Austin, Tsutsumi & Associates

Structural engineer

American Structural Engineers

Electrical engineer

ECS, Inc.

Landscape architect

PBR Hawaii

Soils consultant

Geo-Engineering & Testing

Planning

Ivan Tilgenkamp

Estimate

Construction Services

Environmentalist

William A. Brewer & Associates

General contractor

Hanil Development Co., Ltd.

Jury's Comments

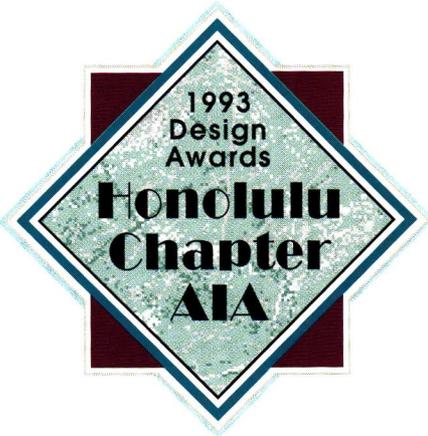
"The buildings are civic in scale but in keeping with the islands. Building types seem responsive to the users and the environment and use of natural building materials respects the island culture. Appropriate and creative interior spaces."

Opening day at the capitol complex, Federated States of Micronesia. Judicial building is in the background. ►

DARIEN PROFESSIONAL PHOTO LAB PHOTOS

Executive Branch buildings are nestled within a clearing in the tropical rain forest, in a valley near the town of Kolonia, on the island of Pohnpei. ▼





Award of Excellence

Office, Commercial and Institutional Design

Donald M. Shaw, AIA
The Moiliili Community Center

In late 1989, the architectural firm of Donald M. Shaw, AIA, was selected by the board of directors of the Moiliili Community Center to design a multi-purpose building as a replacement for a termite-damaged wood structure used as a thrift store.

The architectural challenge was to blend this two-story 3,000-square-foot masonry structure within a neighborhood built in the 1930s and at the same time provide a facility to meet modern day requirements.

The downstairs portion of the structure was to provide flexible retail space to help fund the center's activities. The upstairs portion was to

provide flexible space for the center's programs.

A major challenge was project funding. This challenge was successfully met by Moiliili neighborhood residents and others from the greater Honolulu area, who have extensively used the center since its inception as a Japanese language school at the turn of the century.

The center's president, state Sen. Matt Matsunaga, called upon one of the better known graduates of the old Japanese language school, Sen. Daniel Inouye, to assist with fund-raising activities.

The fund-raising drive was so successful in getting large donations from donors such as the

Upper floor now used as a dance studio. ▼



Weinberg Foundation to hundreds of local residents who kicked in \$5 or \$10, that construction in progress was halted and upgraded to include an elevator, air conditioning and a finished upper floor, now used as a dance studio.

Although work was hampered by a large subterranean drainage easement immediately adjacent to the building and delays were incurred by permits required for tearing up King Street, the builders managed to deliver a quality product.

Guidance was provided by the Moiliili Community Center building committee headed by architect Kurt Mitchell, AIA, and engineer Bill Bonnet.

CREDITS

Owners

Moiliili Community Center

Architect

Donald M. Shaw, AIA

Project architect

Andrew Hayes, associate

assistants: Steve Meder, Kora Korawali, Frankie Cheung

Mechanical engineer

Benjamin Notkin/Hawaii Ltd.

Structural engineer

Shimagura, Lau, Sakanashi, Higuchi & Associates, Inc.

Landscaping

Walters, Kimura, Motoda, Inc.

Contractor

S&M Sakamoto

project manager: Darrell Yee

Judge's Comments:

"The jury appreciated the building's high level of sophistication, its scale and detailing."



Moiliili Community Center showing makai entrance from the driveway.

HAL LUM PHOTOS

Design Excellence Rewarded



◀ Centre Court Restaurant, recipient of an excellence award in the 1993 Hawaii Renaissance Remodeling competition.

AUGIE SALBOSA PHOTO

▼ Tiger Restaurant in Lahaina, Maui, featured in Restaurant Design 3.

DAVID FRANZEN PHOTO

Two restaurants designed by AM Partners, Inc.'s architects—Tiger Restaurant on Maui and Centre Court Restaurant on Oahu—last year received recognition for design excellence.

The Tiger Restaurant, in historic Lahaina Town, was featured in the latest edition of the national design book, *Restaurant Design 3*; the Centre Restaurant, in Honolulu's Executive Suites Hotel, received an excellence award in the 1993 Hawaii Renaissance Remodeling competition.

The design of the \$1.2 million Tiger Restaurant was led by AM Partners' principals Charles Lau, AIA, and Duane Hamada, AIA.

In meeting the owner's needs for this 2,020-square-foot restaurant, architects had to work around an existing bar and incorporate a system of underground ducts for installation of gas grills at each table for the traditional Oriental teppan-yaki style of cooking.

To help eliminate a lower level "basement" feeling for the 166-seat Centre Court Restaurant, architects created a feeling of an outdoor street cafe.



Terrazzo

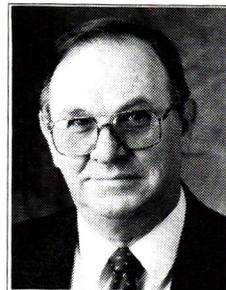
An attractive flooring solution

by
Nancy
Lee Von

More often than not, there is a terrazzo solution to meet almost any set of performance requirements for flooring surfaces." So observes Derrick Hardy, executive director of the National Terrazzo & Mosaic Association, who was in Honolulu recently to address the Second Annual Hawaii Tile, Marble & Terrazzo Trade Show, well attended by architects and interior designers. An architect by training and early experience, Hardy today travels the globe on behalf of this premier industry body, whose membership requirements are deliberately exclusive—"restricted to only the most proficient

craftsman" of terrazzo and mosaic installation.

The National Terrazzo and Mosaic Association, based in Des Plaines, Ill., operates a toll-free number (800/323-9736) for architects and interior designers wishing more information about the hard covering products it endorses. And when Hardy's not giving seminars



Derrick Hardy,
executive director,
National Terrazzo &
Mosaic Association

or visiting job sites, this former South African who once lived among the Zulus is apt to be personally fielding calls from professionals.

"We're very hands-on, very responsive and very proud of our superior product" says the man who logs thousands of miles a year traveling throughout America.

ORIGINALLY USED ON TERRACES (*terrassa* in Italian), terrazzo or terrazzo mosaic, as it's sometimes called, originated with the Venetians. A greatly creative people, they invented terrazzo by taking small pieces of colored marble that accumulated as they worked on their mosaic designs, and combining them with mortar to produce a hard, durable and attractive floor.

"Terrazzo is going through a tremendous rebirth. Ten years ago we weren't doing nearly as much of it as we are today," said Hardy. "Two things have happened to trigger this. Some of it relates to the rise of art deco in major architectural projects, and second, to the more recent use of computers as a design mechanism. CAD systems now come up with geometric patterns that are well suited to terrazzo."

Hardy says that while terrazzo has traditionally been applied to very large areas, some installations today are as small as 2,000 square feet. He estimates that to be front-end cost

Terrazzo flooring at
the Honolulu
International Airport.

AUGIE SALBOSA PHOTO



competitive (with other products) in a commercial setting, one would want to be working with 5,000 square feet of space. He hastens to point out, however, that its "ultimate cost" makes terrazzo truly economical as well as beautiful, because terrazzo is easily maintained and, unlike even the highest grade carpeting, for example, doesn't require replacement.

"Terrazzo can be poured in almost any shape, size or design and by using a wide range of chip sizes, can achieve many aesthetic effects. Its

application is also versatile, because it can be poured in place or precast, used in both vertical and horizontal surfaces, inside or outside. Some types of terrazzo resist flexural stresses created by noise and vibration. And there are chemical resistant and spark proof varieties."

THE POSSIBILITIES ARE SO DIVERSE, explains Hardy, that his association maintains detailed specs and application data on virtually all types of terrazzo—available without charge to design professionals.

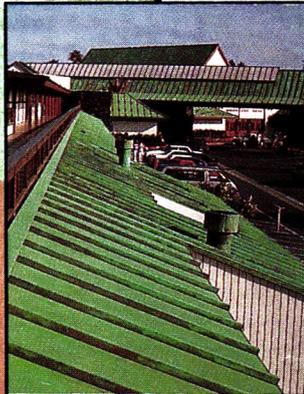
"Terrazzo is adaptable to just about anything," observes Hardy. "If you want a flooring that's as tough as granite, but has a geometric design that you yourself want to give it, then use a granite chip. Add an epoxy binder and it will be impervious to most anything. There are no seams and joints, and so it's easily maintained. Frequent damp mopping usually takes care of things nicely."

Membership in the National Terrazzo and Mosaic Association is not "open," according to Hardy. It's not a case of just filling out an application and paying a modest fee to join. Instead, an application form is submitted with evidence of jobs recently completed and in progress. A committee then checks out the work and, if adequately performed, the applicant is approved for "provisional" membership for two years. During that time, quarterly job reports must be filed, technical seminars attended and performance is continuously monitored.

◆ Nancy Lee Von is president, Nancy Von Public Relations.

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Tile Installers Re-Certified

Seventeen Hawaii contractors and suppliers have been re-certified by the Ceramic Tile Institute of America.

CTIOA professionals may use the special "CTC" designation after their name, signifying that they are nationally credentialed tiling professionals, according to Tim Lyons, executive director of the Hawaii Ceramic Tile, Marble & Terrazzo Contractors Association.

"Certification was offered for the first time in the islands last year," said Lyons.

Hawaii's newly re-certified CTC's are Scott Ai, Everett C. Allen, Russell Brown, Julianne M. Clark-Wason, Gladys M. Kaya, Michael Makabe, Charles W. McCrone Jr., Charles S. Nakaima Jr., Norbert Pfahler, Joseph F. Phillip Jr., Jeffrey S. Pompadur, Miquel Quintana Jr., Robert W. Stark, Mark Tanoue, Ramsey Tolentino, Peter Welch and Harry Yamanuha.

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