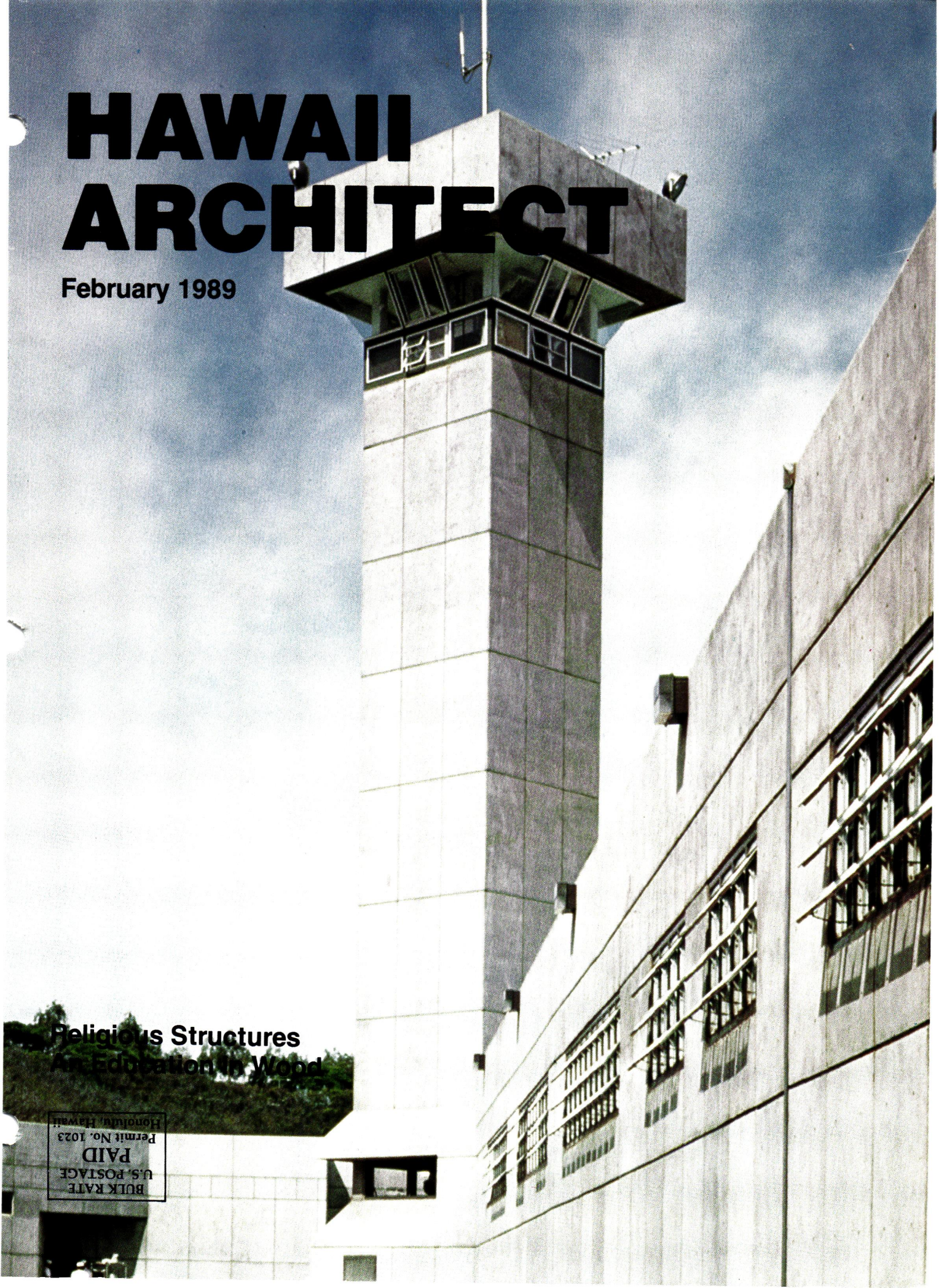
HAWAII ARCHITECT

February 1989



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Major improvements in scattered areas at the Princess Kaiulani Hotel called for a supremely accommodating contractor. Even as beautifully redesigned lobbies emerged, envisioned by the Gulstrom Kosko Group, and the popular Ainahau Showroom expanded with the overview of Ted Garduque, AIA, the hotelier continued to serve.

"We were on a tight timeline facing a holiday opening," observed Garduque. "Allied's crews were always responsive and concerned with quality execution. Even when the normal problems in renovation occurred, they stayed on top of things."

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Volume 18, Number 2 February 1989

Contents

Cover: *A tall tower at each end of the main circulation spine highlights the Halawa Medium Security Facility, a 1988 HS/AIA Design Award winner for Architects Hawaii, Ltd. and Anbe Aruga Ishizu Architects, Inc.* Photo by David Franzen

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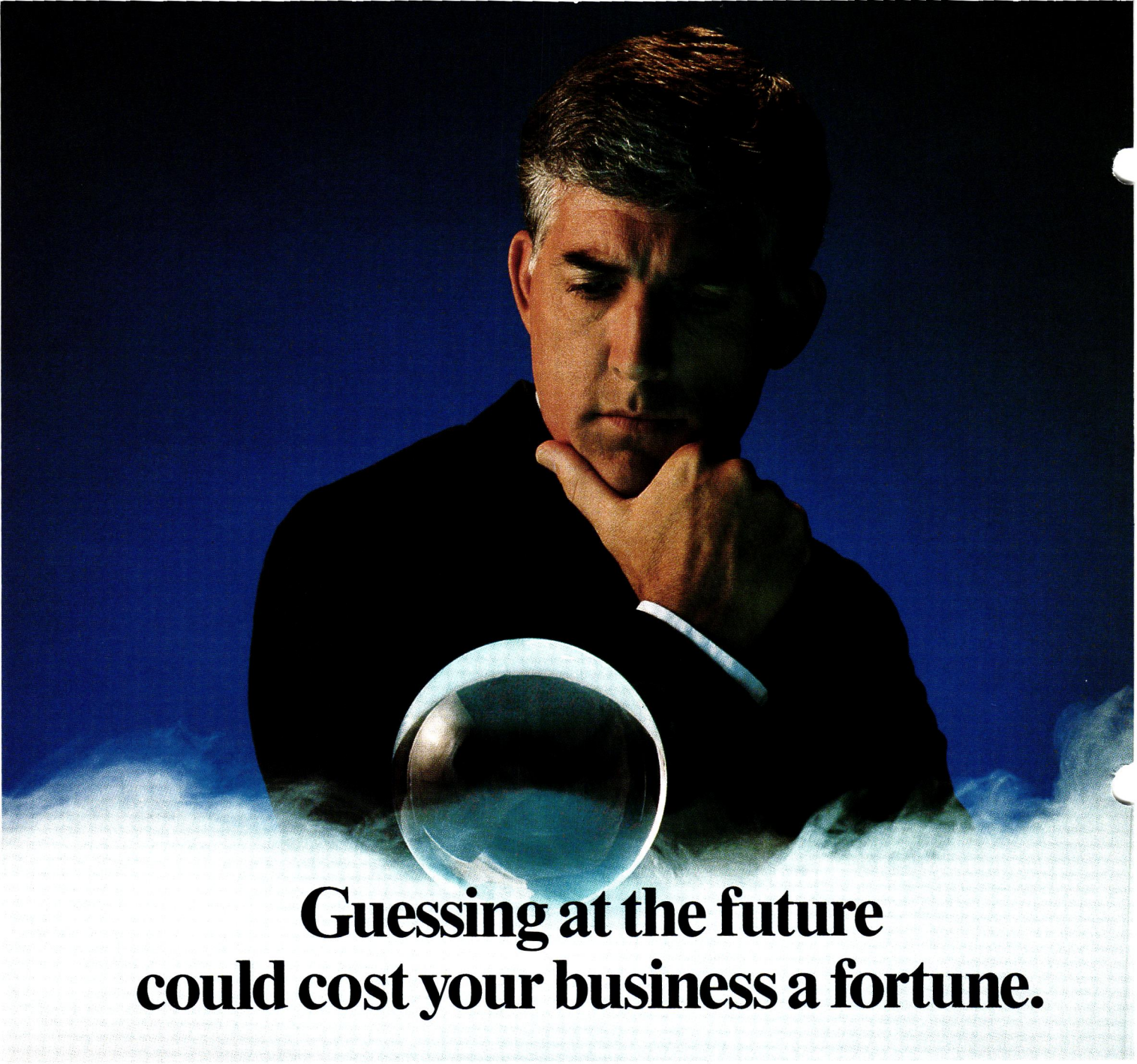

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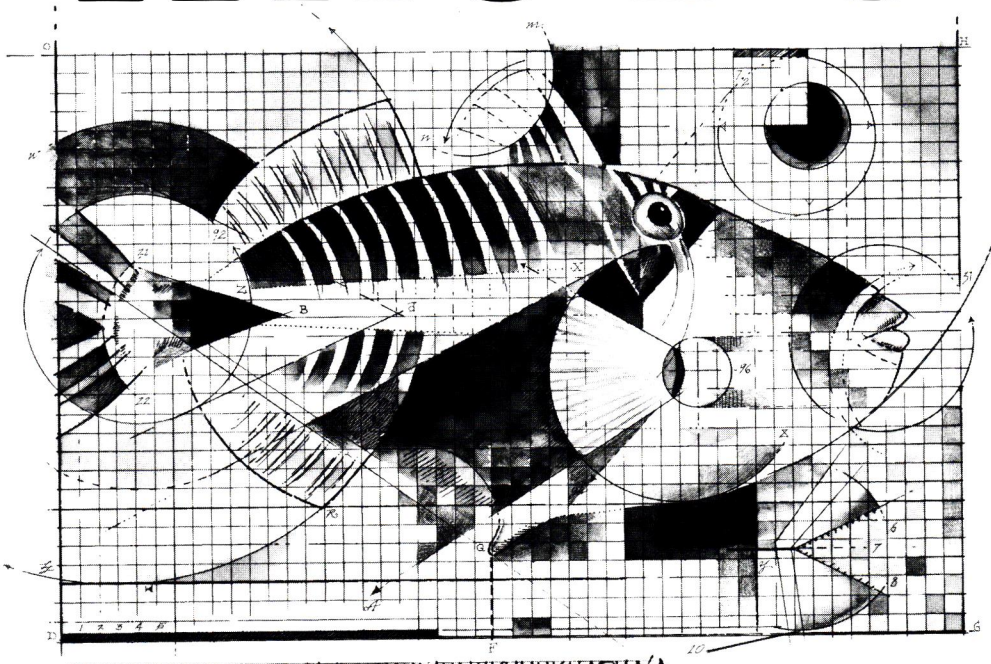

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President's Message

Prepare for Professional Survival

by Carol S. Sakata, AIA

One of the key responsibilities of AIA chapters and state organizations is to facilitate continuing professional education of members.

This is especially critical with today's explosive and ever-expanding rate of change in construction materials and building technologies, as well as increasing client sophistication and expectations, growing competition for commissions, decreasing fees, shrinking schedules and escalating professional liability claims and insurance rates.

We all have had experiences in our professional lives that remind us how fast the art and science of architecture, and the nature of its practice, have changed in just a few years.

When I came to Hawaii fresh from architecture school (not quite 20 years ago), the office I worked in provided T squares and drawing boards with plasticized paper stretched over them to mask thumbtack holes left by a previous generation of draftsmen.

Periodically we would add layers of exposed blue line paper to reduce the negative impact on line quality caused by the grain of the wood drafting board top telegraphing through the plasticized paper.

Two years later I moved to another firm where ink on mylar was the standard drafting medium and drawing boards had parallel bars and were covered with drafting linoleum.

Since then, we have progressed through primitive and advanced systems drafting and on to computer aided design, drafting, calculating, data base management and word processing.

Keeping abreast of the seemingly endless stream of challenges to our professional survival requires constant updating of our skills, as well as adding new ones we did not need in the past or that were non-existent until very recently.

To assist us in keeping current and preparing for the future, Hawaii Society/AIA will offer an extensive series of seminar/workshops during 1989. They have been planned by E. Alan Holl, chairman of the Society's Professional Development Committee, with the seasoned practitioner and intern in mind.

For the benefit of interns, an application has been submitted to the Institute for authorization to award value unit credits for the series under AIA's Intern Development Program.

The nine-part program, which will be held once a month on Saturdays beginning Feb. 25, will feature a variety of topics ranging from office and financial management and marketing and public relations to legal and liability issues and construction administration.

Special highlights will be two in-depth sessions anchoring the series. Leading off will be Elmer Botsai, giving his acclaimed workshop on water infiltration. Concluding will be Alfred Goldberg of San Francisco, who will present an introduction to the 1988 Uniform Building Code, utilizing a design guide to that code, which he authored.

It's time we all got our survival kits in shape. **HA**

NAVCAMS EASTPAC: No Longer Making Do

by Alan Rowland, AIA

For too long, NAVCAMS EASTPAC made do with a Quonset hut chapel. Since its opening, the Navy's Communication Receiving Station for Hawaii, located *mauka* of Whitmore Village, was in dire need of an appropriate non-denominational facility.

The site adjacent to the recreation field also was scheduled to receive a new theater, library and classroom building.

Ossipoff, Snyder & Rowland Architects was successful in persuading PAC DIV to allow it to master plan the site for all four buildings and parking, which allowed the chapel congregation a great north view through the altar window of a wooded ravine beyond.

The classic prototype of such a scheme is the Finnish Chapel of Otaniemi which, however, has a near wooded garden view.

The caution in our instance was to avoid a dark interior space in which the chaplain and altar furniture would be silhouetted against a skylit wall.

Use of gray-tinted glass and clerestory windows reflecting light off the ceiling minimized the contrast element. Also in our

In designing the chapel for the Navy's Communication Receiving Station for Hawaii, Ossipoff, Snyder & Rowland Architects had to avoid a dark interior space in which altar furniture would be silhouetted against a skylit wall.

Religious symbols are not evident, as the chapel must serve several faiths with services by visiting Navy chaplains.

favor was the new liturgy with kneeler chair seating on three sides of the altar, and sense of community further enhanced by including the organ and choir among the congregation.

A trellised walkway which passes under a pole bell tower connects the sanctuary with the fellowship hall/office.

The dais was made sectionalized and the truss-mounted track lighting dimmable to facilitate different altar/seating arrangements including theater-in-the-round for religious drama.

The program called for the usual features of a military chapel, such as a religious education/fellowship hall with nursery, kitchen, chaplain's office, reconciliation (confessional) space which doubles for Mass for Catholics, infant cry room, vestry and toilets.

Religious symbols are not evident, as the chapel must serve several faiths with services by visiting Navy chaplains.

The base chaplain at the outset of the project was Southern Baptist, so it was not surprising the program called for a full immersion baptistry.

The covered baptistry doubles as some seating for after-service fellowship on the trellised lanai adjacent to the sanctuary. Connecting the sanctuary complex with the fellowship hall/offices is a trellised walk which passes under a pole bell tower.

In terms of landscape design, as the new eucalyptus deglupta approach the size of other trees on site and trellises become enhanced by stephanotis, the memory of the Quonset hut will fade. **HA**

Alan Rowland is a principal in the firm of Ossipoff, Snyder & Rowland Architects, Inc.

Alteration . . . Without Change

by Glenn Mason, AIA

The restoration of the main sanctuary of Central Union Church was unique in several ways.

Completed in 1922, it is one of the better buildings done by the renowned firm of Cram & Ferguson. Original tracings and full size sketch details, some more than 14 feet long, were obtained by the church from the successor firm to Cram & Ferguson. Drawings for a compatible 1963 addition to the chancel by Mark and Gordon Potter also were available.

The client was a church committee composed of highly skilled design professionals, some of whom actually took responsibility for discrete portions of the work such as renovating toilet rooms and refinishing pews.

Some significant changes to the performance of the building were programmed despite the primary charge to the architect that, when finished, the building was to look fresher and well-kept, but not changed in any blatant way.

Accomplishing these goals without obvious changes to the appearance of the building became the most difficult design problem.

Project tasks included cleaning all unpainted plaster and stone

When restoring the main sanctuary of Central Union Church, Spencer Mason Architects was charged with the responsibility of making the building look fresher and well-kept, but not changed in any blatant way.

surfaces as needed, refinishing exposed concrete floors and all painted surfaces, increasing general light levels, improving pulpit and lecturn lighting and building acoustics and a myriad of other minor items.

This article will focus on three of the tasks mentioned.

Lighting

The original building was considerably underlit by modern standards. Virtually the only artificial light provided to the nave and side aisles was from 12 chandeliers which each contained one 300-watt incandescent lamp.

In daylight hours large side-aisle windows provided sufficient light, but evenings and cloudy days left the interior dimly lit.

General lighting was increased by changing the lamps in the chandeliers to 500 watts each and adding a row of twin fluorescents on each side of the nave. The fluorescents were hidden by the depth of the decorative cornice on which they sat and an added 4-inch trim, invisible from anywhere except the upper balcony.

The barrel vault essentially became the light source, with the bonus of a perceptual increase in the already lofty 55-foot height of the space.

Accent lighting was added through the installation of variable focus spotlights above column capitals or at other locations not within common sight lines. These were used to highlight the cross and light the lecturn.

Three small quartz down lights, dimmer-controlled, were installed in the hanging canopy to light the pulpit.

Acoustics

Acoustical measurements of the space confirmed the general impression of any visitor — the space was undesirably "dead."

Although original drawings had indicated a system of acoustical felt covered by stretched muslin spaced 1 inch from the felt, it is unlikely this system was practical, especially for the ceiling areas.

Large expanses of the ceiling had long been covered with what was now quite yellowed 12-inch square perforated fiber tile. To increase reverberation, the ceiling had to be made more reflective. To limit rear-wall echo, absorption to the back of the space was increased.

All tiles were removed and the church interior became a forest of scaffolding for two months while previously tiled panels of the vault and side aisles were covered with a specially formulated exposed sand finish plaster designed to approximate existing interior plaster finishes.

The scaffolding also was used by all other trades for their work.

To increase absorption of the

rear of the space, the last bay of the side aisle ceilings, the ceiling under the mezzanine and previously tiled areas of the back wall were infilled with large, highly absorptive acoustical panels of various thicknesses.

The mezzanine floor also was carpeted over a thick hair pad.

These efforts, along with fine tuning the electronic speaker system, have resulted in a space with the fullness of sound so desirable in a liturgical space.

Cleaning and Materials Testing

Prior to final decisions made on many specified methods or solutions, tests were performed on site under the supervision of the architect, often with the church restoration committee.

Various cleaning products and methods were tested to verify efficacy. Three different chemical cleaners were used on the building to remove rust stains and clean paint from stone and clean interior gypsum plaster.

The testing program showed expensive cleaners were not needed on exterior concrete cornices as medium pressure water washes did the job just as well.

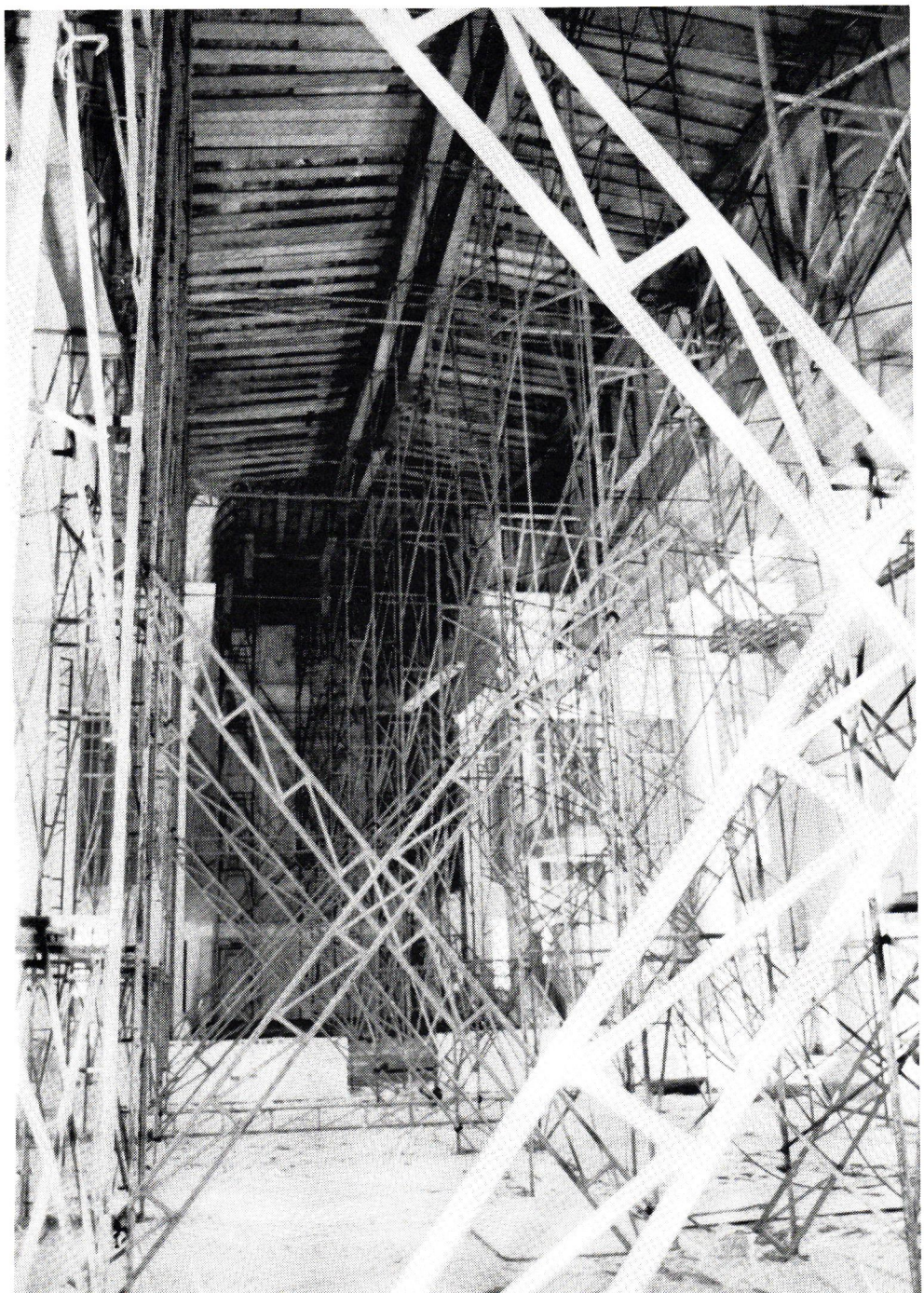
Sample installations of window tinting, fluorescent lights and reflectors and concrete floor treatment also were performed.

In the latter case it was determined the concrete floor had not been acid etched or stained but had attained a patina through decades of use. Cleaning removed dirty wax which had formed this patina. Mixtures of color waxes were tested to derive one which would approximate the desired color of the old floor but also provide a more even finish.

Our experience with the main sanctuary at Central Union Church confirmed that testing programs such as these are invaluable to a satisfactory completion of restoration projects.

That the project was a success speaks well for all involved, especially a client interested in doing only first class work and willing to do whatever was necessary to attain it. **HA**

Our experience . . . confirmed that testing programs . . . are invaluable to a satisfactory completion of restoration projects.



To improve acoustics at Central Union Church, all tiles were removed and for two months the interior became a forest of scaffolding while a specially formulated plaster designed to approximate existing interior plaster finishes was applied.

Glenn Mason is a principal in the firm of Spencer Mason Architects, a general service architectural firm with extensive experience in the restoration and preservation planning fields.

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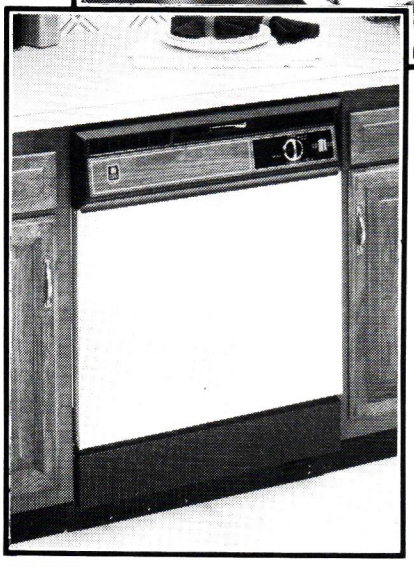

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A Step Beyond Sunday Worship

by Steven J. Winkle, AIA

Throughout history, religions have ministered to the spiritual needs of their adherents. However, depending on the particular historical time and place, many also have concerned themselves with the more physical day-to-day needs of people.

Today, more churches, especially those located within urban centers, seem to be focusing an increasing amount of attention on providing these needs through various community services.

This trend reflects not only social welfare needs of membership, but goodwill to the community as a whole.

It is not uncommon for churches to make meeting rooms available for use by community groups such as Alcoholics Anonymous, Girl and Boy Scout troops and others, or to provide worship space to a smaller ethnic

Individual chairs and a modular altar platform in the worship space of Christ Lutheran Church in Mililani allow rearrangement of the space for various religious occasions. Photo by Augie Salbosa

congregation just getting started.

Often churches want to build or renovate facilities such as a kitchen which can be used by the church and for community service activities such as Meals-On-Wheels.

Another example would be classrooms used not only for Sunday school but as a secular preschool or after-school care program during the week.

Some churches directly operate community oriented programs such as elderly housing, soup kitchens and thrift shops. Many members would contend that these "outside"activities are just as much a part of their sense of worship as the traditional Sunday morning worship service.

Existing and new churches that want to provide these kinds of facilities are faced with some rather complicated issues involving the establishment of criteria for which churches typically have little planning experience.

Not least of the planning issues facing churches are zoning and land use regulations dealing with multiple uses on particular sites.

Few churches require only a worship space, office and perhaps a church social hall/Sunday school. More often they require a "master plan" approach before design of new facilities or renovation of existing ones can begin.

Johnson Tsushima Luersen Lowrey has been involved with a number of master planning efforts for a wide variety of different faiths including Catholic, Lutheran, Mormon, United Church of Christ, Buddhist and Seicho-No-Ie.

The Kalihi Union Church on North King Street is a good example of a church that went beyond simply providing a place for worship.

Following a master plan completed by JTLL in 1985, the project involved demolition of the old educational buildings,

These regulations . . . mean a "master plan" is almost always the best starting point to offer a "road map" for the future.

renovations and additions to the existing gymnasium, construction of a new combination chapel and multipurpose building and creation of more parking spaces for the growing congregation.

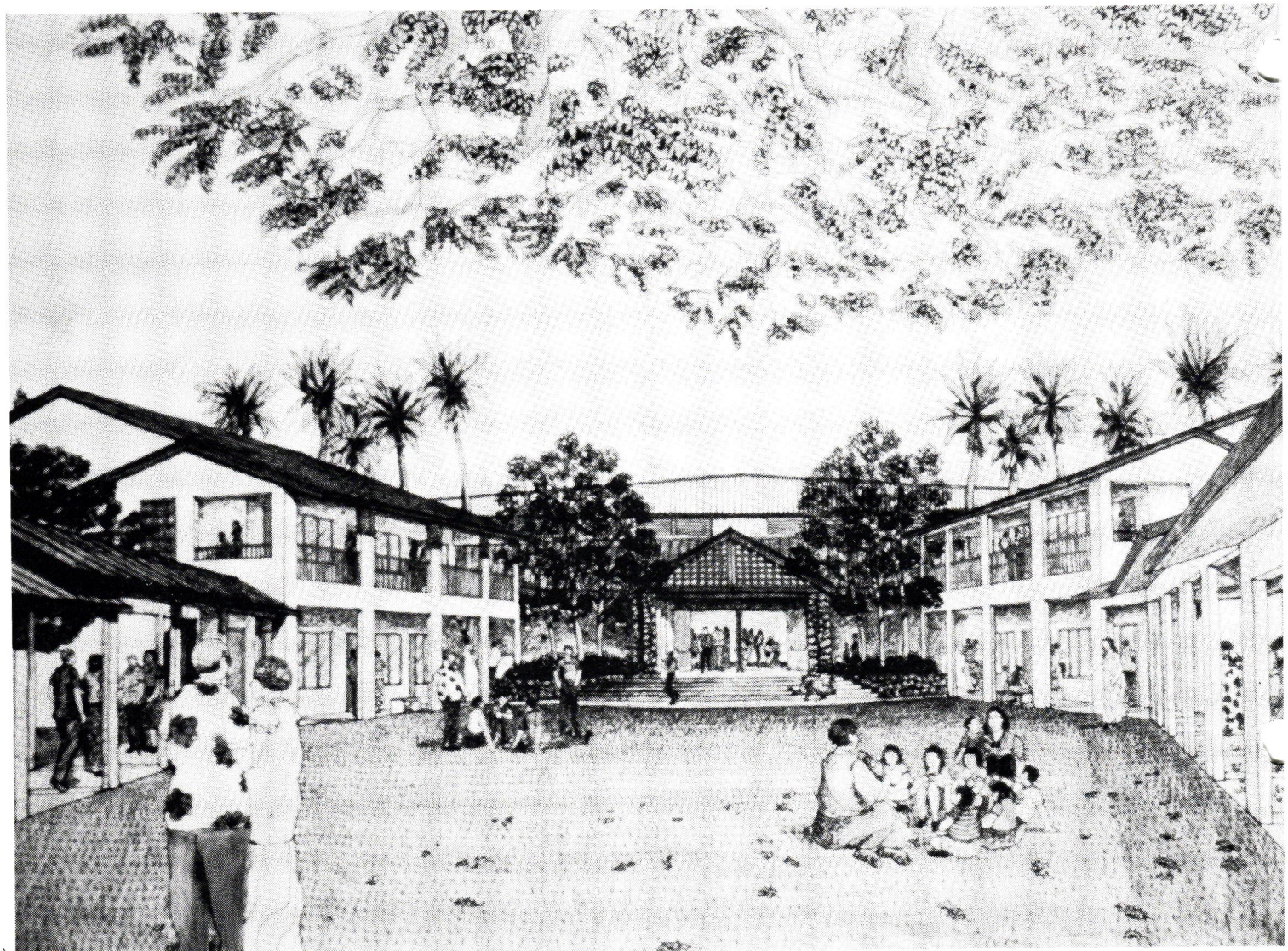
The new chapel/multipurpose building provides space for small weddings, funerals, lectures, ethnic worship services and choir practice.

The existing KUC preschool now occupies a portion of the new classroom building. Exterior play areas have been reconfigured to provide direct accessibility from preschool classrooms.

Since the prevailing wind orientation and freeway are on the same side of the new classroom building, parallel to the H-1 Freeway, an acoustical air scoop was designed for second floor classrooms to allow natural ventilation and mitigate unwanted traffic noise.

Christ Lutheran Church of Mililani, completed in 1987, is a new structure designed to meet the congregation's immediate needs of maximum flexibility and growth and a desire that the church have a warm, open and friendly appearance while remaining within a limited budget.

With plans for a new classroom building and renovated gymnasium, Kalihi Union Church is a good example of a church that goes beyond simply providing a place for worship. Rendering by William Chang



The church includes worship space, kitchen, classrooms and administrative areas. Master planning included provisions for expansion of these facilities for future operation of a preschool.

Among the growing number of churches which operate preschools are the Moiliili Hongwanji on University Avenue and Seicho-No-Ie Jisso Center in Kaneohe.

Seicho-No-Ie Jisso began with a master plan, of which the first phase has been constructed. The preschool requires support facilities such as kitchen/dining areas, classrooms and a covered activity lanai.

Moiliili Hongwanji also wanted to meet community needs for a preschool. In 1986 they constructed a new wing providing additional classrooms which, along with existing classrooms and kitchen, were required for the new preschool.

Meeting facilities, preschools, schools, overnight lodging and elderly housing each have their own land use and code requirements.

Meeting and day-care facilities also are subject to site plan review by the Department of Land Use in many zoning districts.

These regulations, combined with the fact that many churches can only afford to implement plans in small increments, mean a "master plan" is almost always the best starting point to offer a "road map" for the future.

While worship space remains the "heart" of almost all churches, many are showing a different kind of "heart" toward the community around them and providing new community services which require facilities thoughtfully planned and designed. **HA**

Steven Winkle is an architect with Johnson Tsushima Luersen Lowrey, Inc. During his three years with the firm, Winkle has worked on a number of church projects.

Wood Preservation: The Pressure is On

by Tad T. Ogi

Ground nesting Formosan termites are responsible for damage in excess of $60 million per year to residential and commercial structures in Hawaii, according to Dr. Minoru Tamashiro, professor of entomology at the University of Hawaii.

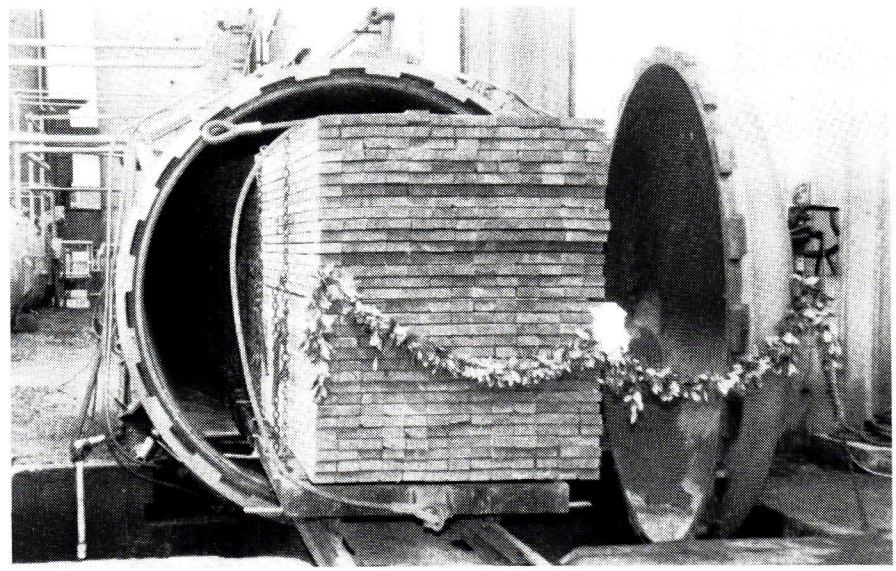
Our industry is doing its utmost to help curb this destruction by various measures such as soil treatment prior to construction and use of pressure treated wood products. All new construction should incorporate both measures simultaneously.

Until banned last April, chlorodane was, for many years, the primary chemical used for preconstruction soil treatment. The effectiveness of alternate chemicals such as Dursban TC, Torpedo and Demon remains to be seen.

However, general opinion is that new products will not afford the same protection as chlorodane. In order to maintain the same level of protection, other phases must be improved.

The most effective means of wood protection is the pressure treatment method, in which chemicals are forced into the wood. The specifier must select the proper type of preservative from those readily available to best fit the end use.

For example, if wood is to be left in its natural state, a colorless treatment should be specified. On the other hand, if treated materials are being used in a concealed area or will be stained or painted, the color of the treating solution may be irrelevant.



Because Hawaii's climate is so hospitable to pests such as termites and fungus rot, wood preservation presents many challenges. To meet those challenges, Honolulu Wood Treating recently installed this special chamber to treat Douglas fir, the preferred building material in Hawaii, with Chemonite. Photo by Aimee R. Holden

Standards

All preservative treated wood must meet specific quality standards for "penetration" and "retention."

Penetration is the depth which treating solution is forced into wood cells. Retention is the amount of active ingredient remaining in the wood after treating and drying.

Quality standards are written by the American Wood Preservers Association (AWPA), American Wood Preservers Bureau (AWPB), Underwriters Laboratory (UL), manufacturers and federal agencies.

Standards written by two or more agencies for a single product do not conflict, but complement. Generally, all treating specifications refer back to those of AWPA.

Most common locally is "AWPB approved, Hawaii use only" standard. It was written for use in Hawaii to provide the best treatment possible when using Douglas fir, Western hemlock or HemFir with CCA (Wolmanize or Osmose K33).

This was necessary because Douglas fir, the primary species used in Hawaii, is extremely difficult to treat with CCA, which was the only water borne arsenical available locally at the time.

A wider selection of treating solutions is now available in water borne, oil borne and fire retardants.

There is a quality control agency for most treating procedures. An inspector visits

treating plants unannounced to take samples for quality control purposes.

If quality is below minimums set by the agency, the treating plant could be suspended and not allowed to use the quality stamp until it requalifies.

Water Borne Preservatives

Arsenicals

Water borne arsenicals commonly specified are Chemonite ACZA, Wolman CCA and Osmose CCA. Materials to be treated with these arsenicals may or may not be incised prior to treatment and the general color after treatment is light to dark green.

Industry standards are written by AWPA, AWPB and federal agencies. Arsenicals were reviewed by the Environmental Protection Agency over a six year period and found safe and suitable for residential and commercial construction when handled in accordance with existing guidelines.

Some species accept treatment better than others and afford better protection. Consequently, it is important to consider species, type of treatment and end use in specification.

Chemonite ACZA penetrates deep into Douglas fir, Western hemlock and HemFir. AWPB LP2 and LP22 standards can be achieved, however, incising is required and color is very dark green.

It may be used for interior or exterior applications, as well as concealed or exposed. It readily accepts paint or stain when dry.

Chemonite ACZA can be used to treat Douglas fir dimensional lumber to .25PCF (LP2) for above ground use; to .40PCF (LP22) for ground contact; or to .60PCF when considered necessary, and with a penetration of .4 inch or greater.

If a specifier wants deeper penetration of ACZA without incising, he must specify it as

such. The LP2 stamp could not be applied if material is unincised.

Douglas fir, Western hemlock and HemFir do not treat as well with CCA as with Chemonite. Retention with CCA of .25PCF is easily achieved, however, penetration to LP2 standards of .4 inch is very difficult, if not impossible, to attain.

Ponderosa pine and Southern yellow pine will treat very well with ACZA or CCA, and either treating process can meet the LP2 standard with ease. CCA treated Douglas fir, Western hemlock or HemFir will be stamped "AWPB approved, Hawaii use only."

Plywood treats equally well with CCA or Chemonite. Both can penetrate 100 percent and retention of .25PCF, .40PCF or .60PCF are easily obtainable.

Fire Retardants

The fire retardant available in Hawaii, a Koppers Company product using the trade name Dricon, is under the quality control of the Underwriters Laboratory.

It may be used only with those species tested and approved by the manufacturer and UL. It is an interior type A, low hygroscopic product which will not absorb moisture in relative humidity up to 95 percent, and is no more corrosive than untreated wood.

It may be used successfully in protected areas such as roof overhang as long as it is not subjected to rain or wetting. Because it is low hygroscopic with little or no moisture movement, it does not leach and can be painted or stained.

Dricon meets UL 723, AWPA C-20 and C-27, UBC42-1 and NFPA 255 standards and has a Class FR-S rating of 25 or less for flame spread and smoke developed. It is registered termiticide and fungicide which penetrates Douglas fir well over the required .5 inch.

Dricon standards require material to be kiln dried after treatment to a moisture content of 19 percent for lumber and 15 percent for plywood.

Drying to standards requires additional plant time, therefore, four to six weeks should be allowed for treating and drying.

Dricon pressure-treated wood provides protection against termites and is a fire retardant.

Oil Borne Preservatives

Wood treated with one of the oil borne preservatives should be allowed to dry thoroughly before handling or installation.

Cutting and milling should be done in well-ventilated areas. Installation in occupied or confined spaces should not be done until wood is odor free.

Chlorpyrifos/IPBC

Chlorpyrifos/IPBC is available under the trade name Tribucide II Treated Wood.

Ingredients, registered with EPA for wood preservation, are used at extremely low levels, yet are effective enough to provide protection equal to or better than similar treatments.

Quality standards require penetration in Douglas fir in excess of half an inch, however, tests have shown penetration of 2-inch Douglas fir to be much deeper.

Tribucide II Treated Wood also is available for immersion (dip) treatment and, except for a water repellent, meets the National Wood Window and Door Association (NWWDA, formerly

(continued on page 32)

Tad Ogi and Ted Clay (l and center), vice president and president of Honolulu Wood Treating, and Al Baxter of J.H. Baxter and Company, parted the maile lei to complete dedication of Honolulu Wood Treating's Chemonite chamber. J.H. Baxter, a San Mateo, California-based company, supplies the chemical ingredients needed for the wood treating process.

Knowing When Lumber Makes the Grade

by Wyman Williams

Wood has been a primary building component since brush and trees were used to block the entrance to caves. A more sophisticated use of wood as a building material required selectivity.

Swan Albertson is credited with devising the first set of rudimentary grading rules for lumber in 1754.

Since 1924, the lumber industry, acting through the American Lumber Standards Committee, has developed voluntary product standards published under the U.S. Department of Commerce — PS 20-70. There is now a uniform national standard for softwood dimension lumber less than 5 inches thick.

Lumber grading for the western United States is supervised by Western Wood Product Association (WWPA) and West Coast Lumber Inspection Bureau (WCLB). WWPA, the largest association of lumber manufacturers in the United States, provides grading services in the 12 western states and monitors 13 species.

WCLB is perhaps the most important agency in relation to Hawaii since it covers lumber production on the western slopes of Oregon and Washington and the entire state of California.

The primary species covered by this grading book are Douglas fir, Western hemlock, Western red cedar, white fir and sitra spruce.

Since lumber used in Hawaii must be shipped from coastal

ports, the closer proximity of WCLB mills and their emphasis on Douglas fir means most lumber used locally is graded under these standards.

Fortunately, grading rules for dimension lumber are the same for WCLB and WWPA so either book may be used.

Neither grading book reads like a best-selling novel. WCLB standard grading rules No. 16 is more than 200 pages of definitions, descriptions, diagrams and tables describing limiting features and design values for various lumber grades and species.

It is, however, a valuable tool for most architects, specifiers, engineers, contractors and purchasing agents.

Cost is $2 and it can be ordered from West Coast Lumber Inspection Bureau, P.O. Box 10248, Eugene, Oregon 97440.

Lumber often used in residential and light frame construction falls under two categories: light framing and studs, and structural joists and planks.

The first is the basic 2 x 4 used in general framing and studs. The basic 2 x 4 has 3 grades: construction, standard and utility. The fourth grade, stud, is an end use product code for vertical members in frame construction limited to 10 feet.

Structural joists and planks include most lumber used in light construction. This material varies from 2- to 4-inches thick and 5 inches and wider. For practical applications, this would include lumber varying in sizes from 2 x 6 to 4 x 16.

Another grade which has a prominent place in light frame construction is structural light framing. Size limitations of 2- to 4-inches thick and 2- to 4-inches wide are the same as those for light framing and studs. However, these 2 x 4s are an engineered grade featuring high design values.

This product can either be visually graded or machine stress graded. The end product is most commonly found in roof trusses.

It is not practical to use structural light framing grade to design wall sections and joist for most residential applications since grades of light framing and studs and structural joists and planks are usually sufficient and more economical.

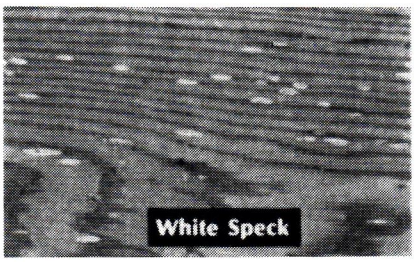
I will not subject you to a paragraph by paragraph analysis of grading rules. One trick in finding your way through the book is to remember grade classification and design values are a function of cross section sizes.

An example to reinforce this guide is as follows:

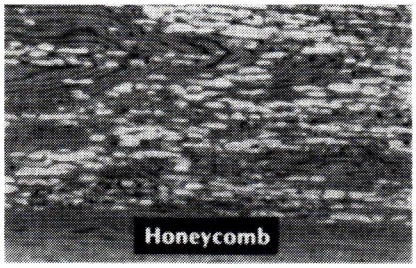
The 2 x 6 is often used in residential and light framing as a rafter or long vertical member in an exterior wall. However, it is not possible to choose a suitable grade from light framing and studs because this grade is limited to 2- to 4-inches thick and 2- to 4-inches wide except for 2 x 6 studs of 10 feet or less.

The elusive 2 x 6 will be found in structural joists and planks since this size falls within the wide scope of cross sections included in this grade.

One allowable characteristic in many grades of lumber that



White speck and honeycomb, common characteristics allowed in many grades of lumber, result from a decay fungus that lived in the tree while it was growing.



causes problems in Hawaii is white speck. These are pock marks or honeycomb resulting from a decay fungus that lived in the tree while it was growing.

The honeycomb area usually has a white deposit and may be any amount in stud grade as long as it is firm. It is, however, limited to one-third of the face of standard grade.

This organism does not live in cut lumber, so there is no danger of continuing decay.

Another common misconception is that this defect is the result of termite attack. The occasional piece of lumber that shows white speck should not be rejected because of an unfounded concern for rot or termite infestation.

Another defect allowed in even the best structural grades is wane, which is bark or lack of wood on the edge of lumber. If square corners are required, lumber must be specified as "free of wane."

A specialty grade that requires some additional consideration is select dex, frequently used in exposed ceilings.

This roof plank is often used with the underside exposed for paneled ceilings while the upperside serves as a base for roofing material.

This is graded for one side, so the face should be indicated if a resawn surface is requested. The back side is a much lower grade, so this surface may not be suitable for exposure.

Consideration also should be given to finish grades, often referred to as clear.

Under new WCLB grading rules, the best lumber under finish, stepping and bundled uppers is graded "C and BTR." This grade is not a perfect piece of wood.

Some small seasoning checks and slight rough surfacing are permitted. But the most surprising defects allowed are two small sound knots. This means even the best pieces of wood are subject to some blemishes.

In summary, remember wood is a natural product subject to limitation in size and appearance. Perhaps the most universally used building material in the world, it has met construction requirements for centuries.

Grading rules allow uniform standards and design factors for maximum utilization of this unique product. Proper application of grades, design and specification make an attractive and economical structure possible. **HA**

Wyman Williams graduated from the Oregon State University School of Forestry in Wood Technology. He has more than 35 years experience in the production and sales of lumber, plywood and other wood products. A Hawaii resident since 1969, Williams is currently executive vice president of Honsador, Inc.

A Once in a Triennial Opportunity

by Andrew Charles Yanoviak, AIA

Architects with a voice in government can be very effective in shaping the creative growth and development of communities.

Their visionary powers and abilities to visualize imaginative solutions often are enhanced by firsthand knowledge of governing design and planning regulations. Most governmental codes and regulations are subject to interpretation and application to particular environmental circumstances.

The American Institute of Architects Building Performance and Regulations Committee has been charged with the responsibility of getting more architects involved in development of governmental codes and regulations as well as environmental planning and design standards.

This year will provide an opportunity locally for architects, engineers, planners, designers, contractors, manufacturers' representatives, specifiers of building materials and products and other members of the construction industry to participate in the code change and development process.

The 1988 edition of the Uniform Building Code is now ready for modification and adoption by the city and county of Honolulu. The UBC code is published every three years by the International Conference of Building Officials (ICBO), headquartered in California.

Although ICBO convenes annually to permit building code officials (directors and superintendents of municipal building departments) to vote on code change proposals, and although ICBO publishes annual supplements to the UBC code, the Honolulu City Council generally adopts a new version of the "Building Code of the City and County of Honolulu" every three or four years.

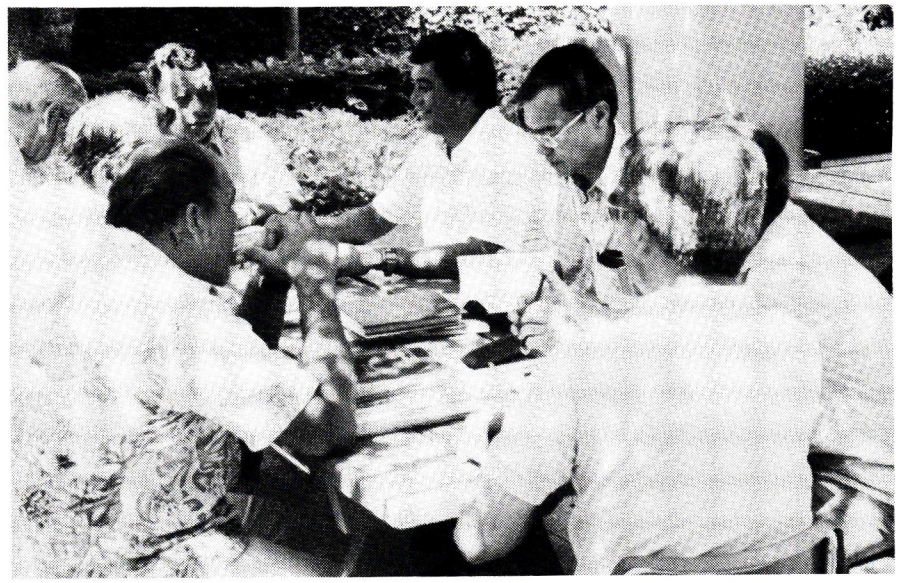
The Honolulu building code is an amalgamation of addendums and exceptions to UBC for local application.

Currently, Honolulu is using the 1985 edition of UBC adopted with modifications by city ordinance in March 1987. Kauai County adopted the 1985 UBC with amendments in May 1988.

Hawaii County is still using the 1982 edition of UBC with revisions, which was adopted in November 1984. Hawaii County plans to bypass the 1985 UBC and go directly with the 1988 edition, especially since there are major seismic design changes published by ICBO in the latest edition.

Maui County is still using the 1979 version of UBC adopted in September 1982. Maui County decided to forgo adoption of the 1982 UBC, and opted for the 1985 edition with modifications which is currently before the Maui County Council for adoption with amendments.

All four counties in the state are invariably using different editions and versions of the so-called Uniform Building Code, which can definitely present challenges to design professionals and contractors doing work in



County fire and building officials participated in a code development workshop during the 19th annual Hawaii Association of County Building Officials conference at McCoy Pavilion at Ala Moana Park. Photo by Andrew Yanoviak

several counties.

The Hawaii Association of County Building Officials will meet in June for the 20th consecutive year to respond to these challenges and resolve some overlapping issues confronting the construction industry, building owners and managers and government officials.

In addition to building department and division officials, these annual conferences include participation by fire department officials, electrical, mechanical, plumbing and structural plan reviewers and invited guests from all four counties.

In addition to proposals for code changes, legislative bills often are introduced and reviewed.

Historically, Hawaii has gained an excellent reputation at annual ICBO conferences for the quality of code change proposals and challenges presented over the years.

Generally, these sessions are more intense, more productive in enabling acts and better prepared than most council, legislative or congressional hearings conducted at county, city, state or federal government levels.

Traditionally, building and fire code officials in Hawaii are consulted periodically by their counterparts on the mainland. Several of Hawaii's code administrators have served in various capacities on ICBO national committees on Fire and Life Safety, General Design and Code Development.

There are no local chapters of ICBO, however, the Hawaii Society/AIA is an ICBO member with an active Codes Committee with liaison members on each of the neighbor islands.

At the ICBO level, code change proposals are researched by the staff for correlation with other provisions of the code and reviewed by various code development committees.

They are then published for presentation at the annual conference with committee recommendations for "approval," "disapproval" or "further study."

Although any member of ICBO can testify for or against any code change proposal, only "Class A" (building official) members can vote for changes to the UBC code. In this sense, the voting building and fire officials are even more powerful than the ICBO staff or committees, whose recommendations can be challenged on the floor.

Regarding code interpretations and applications, again the local building official is more powerful than the ICBO staff. The local building official at the county or municipal level reigns supreme in making decisions on locally adopted UBC code provisions.

If a misunderstanding develops between a building official and community entity or constituent

over a ruling, ICBO will only respond formally to a written letter from the building official.

These code interpretations are then published in the ICBO bimonthly periodical, "Building Standards," and eventually incorporated into the UBC Application/Interpretation Manual published by ICBO.

These formal responses are generally graphic as well as verbal, and are therefore often helpful in understanding certain code sections and provisions which are difficult to interpret and apply.

In this sense, the 1985 and 1988 UBC "Design Guide" is quite helpful in understanding, interpreting and applying various sections of UBC.

However, it is not an official ICBO publication and has never been sponsored or endorsed by ICBO.

Outstanding resources in government are building officials familar with code development who fully understand the origination and modification of certain code provisions over the years in a manner similar to perennial students of law.

A special committee has been formed by the Honolulu Building Department to discuss proposed amendments in conjunction with the adoption of the 1988 UBC. It is much less difficult to revise the UBC code locally than regionally or nationally.

Therefore, architects and other design professionals and members of the construction industry should be encouraged to make code development improvements for local adoption wherever possible. Your review and research comments should be filtered through your professional society or trade organization.

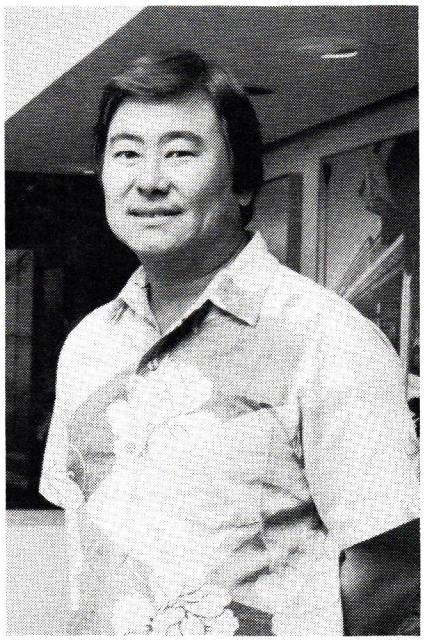
This is a once in a triennial (or longer) opportunity to propose changes to the code in areas where you may feel your creative design capabilities or construction practices are being limited, inhibited, squelched or stifled.

There also are other sections of UBC, which you know from your professional practice, representative of absolutely minimal requirements that fall below the standards of professional care in the community, and therefore should be revised to improve the quality of design and construction.

In the long run, you may even be making a contribution toward reducing your professional or general liability insurance rates. **HA**

Andrew Charles Yanoviak is chairman of the HS/AIA Codes Committee and the Professional Liability Subcommittee. He is a member of the AIA National Building Performance and Regulation Committee and the Consultative Council of the National Institute of Building Sciences.

Gima, Yoshimori Names New President



Alvin M. Yoshimori

Alvin M. Yoshimori has been named president of Gima, Yoshimori & Associates, AIA, Inc., in Wailuku, Maui.

Yoshimori, who holds a degree in architecture from Kansas State University, joined Stanley S. Gima in establishing the firm in 1983. From 1974 to 1983 he was with Architect Hawaii's Maui office. From 1965 to 1973 he worked in architectural firms in Honolulu.

Yoshimori attended the University of Hawaii School of Architecture for prearchitectural training after graduating from Baldwin High School.

Past president of the Maui Hawaii Society/AIA, Yoshimori has served as president of Planners, Architects and Landscape Architects of Maui (PALM). He has been chairman of the County Code of Appeals and vice chairman of the County Urban Review Board.

Gima, Yoshimori also recently announced the promotion of **Gregory A. Bayless** and **Jon Toda** to senior associates.

Bayless, a graduate of Brigham Young University, earned his master's degree in architecture from Arizona State University. Winner of the American Institute of Architects award for Design Excellence (Central Arizona chapter) in 1986, he has been with Gima, Yoshimori since September 1986.

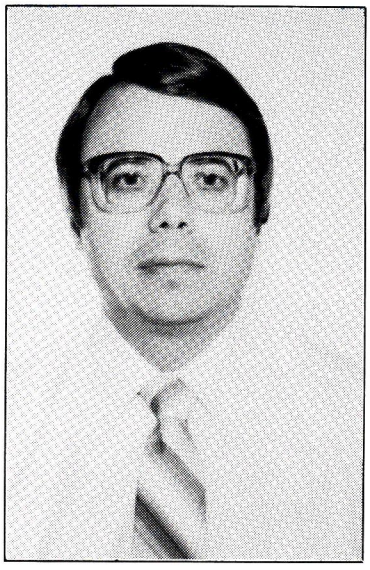
Toda, a graduate of Maui High School and the University of Colorado College of Design and Planning, has been with the firm since 1984. He is manager of computer aided design.

Anderson Joins Daly

Phillip L. Anderson recently moved to the Honolulu office of Leo A. Daly where, as director of operations, he will be responsible for design productions and coordination of personnel.

Anderson has 20 years experience with Daly in Singapore and most recently in Omaha where he was senior team captain for the 650-person international architecture, engineering, planning and interior design firm.

In Honolulu, Daly employs 40 professionals involved in the design of office buildings, hotels and shopping centers.



Phillip L. Anderson

EXPO 89 will Feature Design Awards

Ten...nine...eight...The countdown is on for a spaceport theme building materials exposition in Honolulu.

Open to architects, EXPO 89, co-sponsored by the Building Industry Association of Hawaii and GECC Financial Corporation, will feature 70 companies from Hawaii and the mainland displaying their newest construction products and services.

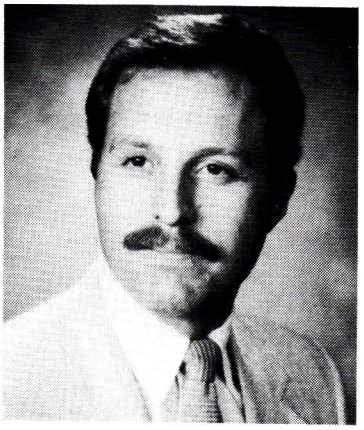
Hawaii Society/AIA 1988 Design Awards also will be on display at EXPO.

An exhibit by the Hawaii Office of Space Industry will focus on a proposed launch facility at Palima Point on the Big Island and include photos of 25 years of unmanned space exploration missions.

Nearly 2,000 visitors are expected to visit the 19th annual show at Neal Blaisdell Center Exhibition Hall March 8 from 4 to 8 p.m. and March 9 from 11 a.m. to 8 p.m.

A business card is required for entrance. Admission is free.

Ayer Promoted at Stringer Tusher & Associates



David Ayer

David Ayer was recently promoted to associate of Stringer Tusher & Associates, Ltd.

Ayer joined the firm in January 1988 as project architect for Outrigger Hotels' extensive renovation program. He will continue as project architect for completion of Outrigger Reef and work on Reef Towers, Outrigger Waikiki and other Outrigger properties planned for renovation.

In addition, Ayer will be project architect for master planning a residential/commercial complex in the Marshall Islands.

Prior to joining STA, Ayer, who holds a master of architecture from the University of Utah, was director of architecture for Daniel, Mann, Johnson & Mendenhall in Salt Lake City.

New additions to STA include **Rick Huxley** and **Ray Keim.**

Huxley, a design architect, will apply his expertise in residential design to several custom residential and condominium projects.

Prior to joining the firm he was president of his own company and worked primarily on custom residential projects in addition to multifamily housing and condominium structures.

Huxley holds a bachelor of architecture with a minor in urban design from the University of Oregon.

Keim, who joined the firm as specifier and production coordinator, recently moved from Anchorage, Alaska, where he was involved in design and specifications for government and private industry projects including Navy, Air Force and Army Corps of Engineers work.

He completed course work in arctic engineering while in Alaska and taught drafting and presentation graphics at the University of Alaska-Anchorage. He is currently involved in bringing computer applications into the construction documents production.

Wood Preservation

(continued from page 21)

NWMA) I.S. 4 standard.

Tribucide II Treated Wood is a clean process which leaves no residue or change of color. A co-solvent with a distinctive odor is used to identify material as treated. The odor dissipates with time and will hardly be detectable when the material is dry enough for handling.

Tribucide II is suitable for interior, exterior, concealed or exposed application. When used with water repellents, it will add dimensional stability to wood and help protect shingles against splits and warping.

TBTO

Tri-N-Butynl-Tin-Oxide, an oil borne clear treatment used for trim, mill work, etc., is an effective fungicide with limited termicidal capabilities. It is limited to interior use.

TBTO does not change the color or appearance of wood and does not leave a residue.

Until dry, TBTO treated wood has an odor and caution should be used in handling and storing. It should not be stored or used in confined spaces until thoroughly dry and odor free.

Penta Chlorophenol

For years, Penta Chlorophenol was one of the major oil borne preservatives. When used with light oil, such as solvents, it was in demand for residential and commercial construction.

EPA review of wood preservatives placed restrictions on the use of Penta, and as a result its use has diminished considerably. It may still be available in some areas, but use seems limited. **HA**

Tad Ogi is vice president, treasurer and partner of Honolulu Wood Treating Company, Limited.

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HAWAII SOCIETY/AIA 1988 DESIGN AWARDS

Award of Merit

Johnson Tsushima Luersen Lowrey Inc.
Early Education Center

JURY COMMENTS:

"While the preference is to not put anything there at all, the solution is a neat and orderly and playful complex of buildings, scaled for small children, which does not detract from the original, award-winning landscaped parking garage. Congratulations to the architect and contractor for overcoming difficult structural, budget and time constraints."

Space for children to play outside classrooms is provided at the Early Education Center. *Photo by Augie Salbosa*

The Early Education Center addresses the need for early child care services in a convenient locale and utilizes valuable urban land in a way that maintains an attractive park setting in the heart of Honolulu.

The design required Johnson Tsushima Luersen Lowrey Inc. to respond to a number of issues.

Fully landscaped, the roof of the underground garage was capable of carrying minimal additional loads. This issue was solved by placing the administration structure and nine classrooms in separated clusters directly over existing columns of the garage structure.

This cluster design feature also offered a maximum of natural ventilation and made it possible to separate children into different age groups, an important concept in early child care and education.

It was important to preserve the park-like environment surrounding the center.

Offset placement of the structures, together with their low profile and muted colors, makes it possible for the center to blend into the lawns, trees and gently rolling hillsides of the site.

As a result, the structures are barely visible from streets surrounding the center.

CREDITS:

Architect:
Johnson Tsushima Luersen Lowrey Inc.

Client:
City & County of Honolulu
Building Department
Herb Muraoka, Director and Building Superintendent

Structural Engineer:
James Adams International

Mechanical Engineer:
Ferris & Hamig

Electrical Engineer:
Bennett Drane Karamatsu

Landscape Engineer:
Department of Parks and Recreation

Contractor:
T. Iida Contractors

The hip roofs and segregated classrooms of the Early Education Center can be viewed from neighboring buildings. *Photo by Augie Salbosa*

HAWAII SOCIETY/AIA 1988 DESIGN AWARDS

Award of Excellence

Architects Hawaii Ltd. and Anbe Aruga Ishizu Architects, Inc.
Halawa Medium Security Facility

The Halawa Medium Security Facility, a joint venture between Architects Hawaii Ltd. and Anbe Aruga Ishizu Architects, Inc., is a 546-cell self-contained state prison project in Halawa Valley.

It houses inmates in four 124-bed modules and includes multipurpose areas, dayrooms, vocational educational facilities, a library, chapel, visiting rooms and staff facilities.

"The main challenge in designing the facility was to create a secure and safe structure that was very efficient in its manpower operations," said Stanley T. Yasumoto, principal in charge of the project for Architects Hawaii.

"This was achieved by design which extended sight lines and eliminated blind spots. This minimizes the number of fixed security posts.

"What resulted was a major circulation spine, or Main Street, connecting housing with inmate service and program areas and featuring two 80-foot watchtowers at both ends of the spine."

Yasumoto and Mits Aruga, principal in charge for Anbe Aruga Ishizu Architects, further achieved operational efficiency by creating the only naturally ventilated correctional facility in the state.

CREDITS:

Architects:
Architects Hawaii Ltd.
Anbe Aruga Ishizu Architects, Inc.

Client:
State of Hawaii Department of Accounting and General Services

User Department:
Department of Corrections

Landscape Architects:
Woolsey, Miyabara & Associates, Inc.

General Contractor:
Hawaiian Dredging & Construction Co.

Civil Engineer:
Wilson Okamoto & Associates, Inc.

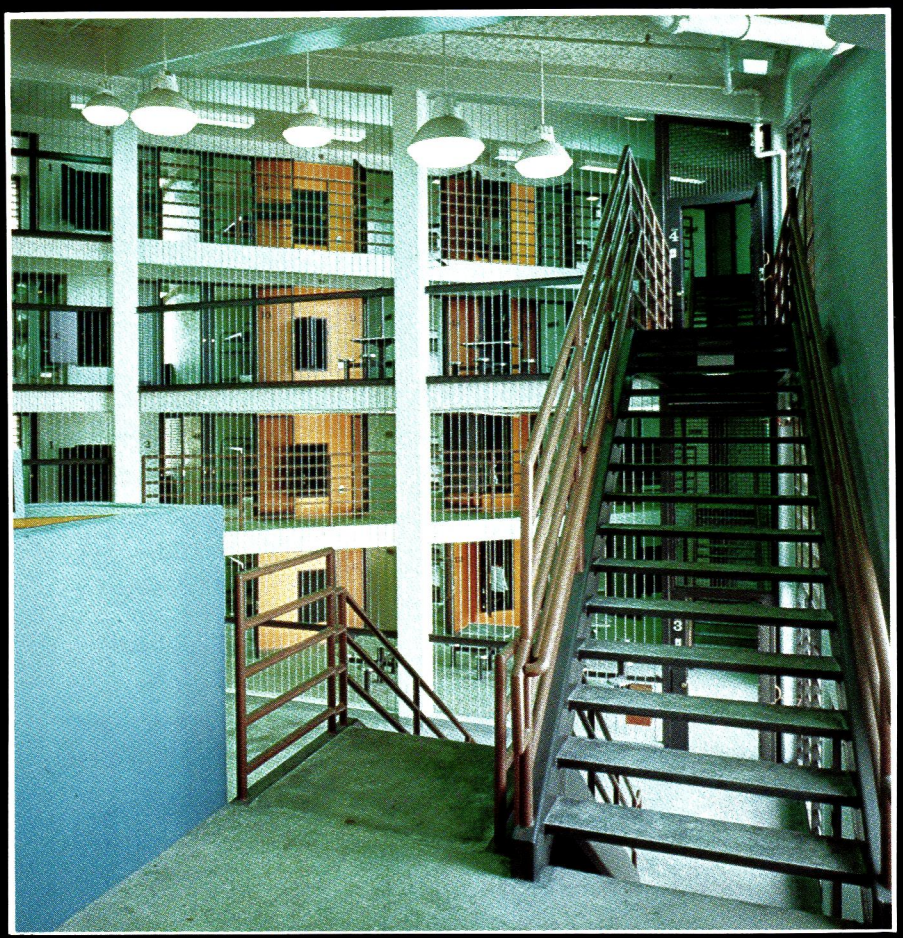
Structural Engineers:
Nakamura & Tyau, Inc.
Mitsunaga & Associates, Inc.

Mechanical Engineers:
Benjamin S. Notkin/Hawaii
Randolph Murayama & Associates, Inc.

Electrical Engineers:
Nakamura, Kawabata & Associates
Douglas V. MacMahon, Ltd.

JURY COMMENTS:

"A stimulating three-dimensional solution to a normally mundane and repetitive program. The plan is responsive to security requirements, provides natural ventilation where possible and creates spaces around several triangular-shaped courtyards to create an environment that is appropriate for incarceration and rehabilitation of prisoners. It is refreshing to see an innovative solution and use of bright colors for what could have been a very dreary institutional building with four gray walls."



Opposite: An aerial view of Halawa Medium Security Facility shows the major circulation spine connecting housing with inmate service and program areas, and two 80-foot watchtowers at either end. Above: To minimize the number of fixed security posts, sight lines were extended and blind spots eliminated. *Photos by David Franzen*

Seminar to Feature Document Production

The 1989 Construction Specifications Institute's "Specifications and Construction Contracts" seminar will be held in Honolulu March 2-5.

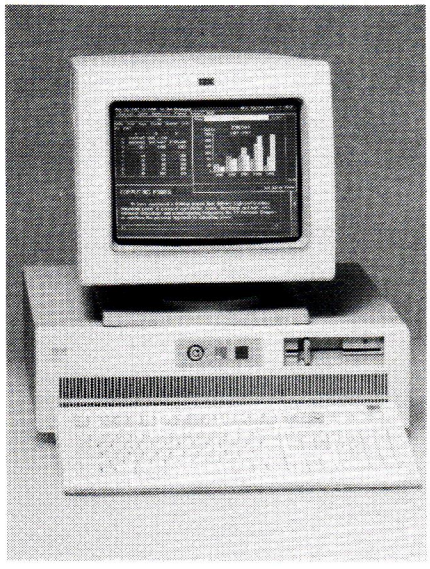
The two-part seminar is designed for construction professionals who want to improve interoffice communication, streamline document production and avoid legal entanglements.

"Specifications" runs March 2-3 and will address topics such as elements of a project manual, specification writing techniques and special applications. Cost is $395 for CSI members and $445 for non-members.

"Construction Contracts" will be held March 4-5. Topics will include introduction to contracts, role of the documents, bidding procedures and legal implications of contract documents. Cost is $345 for CSI members and $395 for non-members.

Participants may attend one or both sessions. Cost for both is $495 for members and $545 for non-members. CSI also will be offering a super-saver Hawaiian vacation package.

To register, call the education coordinator at (703) 684-0300, or write CSI at 601 Madison St., Alexandria, Va., 22314.



The new IBM Risk Technologies PC software system, being marketed by Systemsource, can decrease the amount of time it takes to complete a set of drawings for clients.

Systemsource Authorized to Market New Software

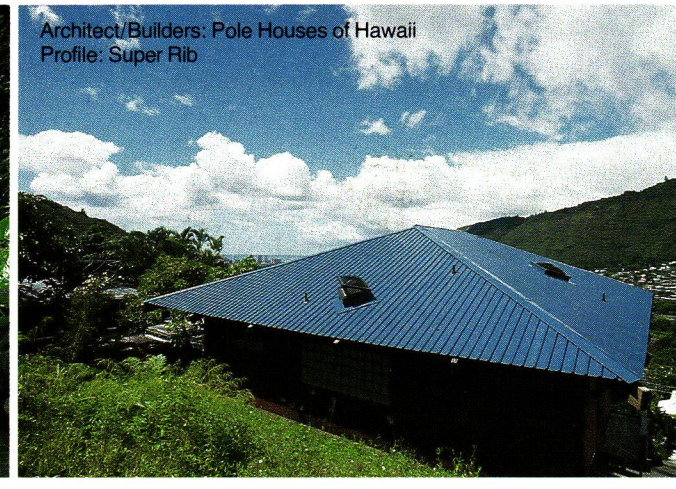
Systemsource in Honolulu has been authorized by IBM to assist in the marketing and installation of a new IBM Risk Technologies PC software system with the capability to recast an architectural firm's drafting software into a fully integrated information system.

The integrated three-dimensional RT PC-based computer aided design, engineering and drafting system can provide architecture and engineering applications ranging from preliminary design to detailed plan development.

It can be used to integrate structural applications with graphic analysis capabilities for complex structural systems.

The software comes preloaded on the hard disk of the IBM RT PC for package option orders. Optional modular programs support rendering, structural, energy, HVAC, piping, power and lighting applications.

JORGENSEN METAL ROOFING



Architect/Builders: Pole Houses of Hawaii
Profile: Super Rib

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