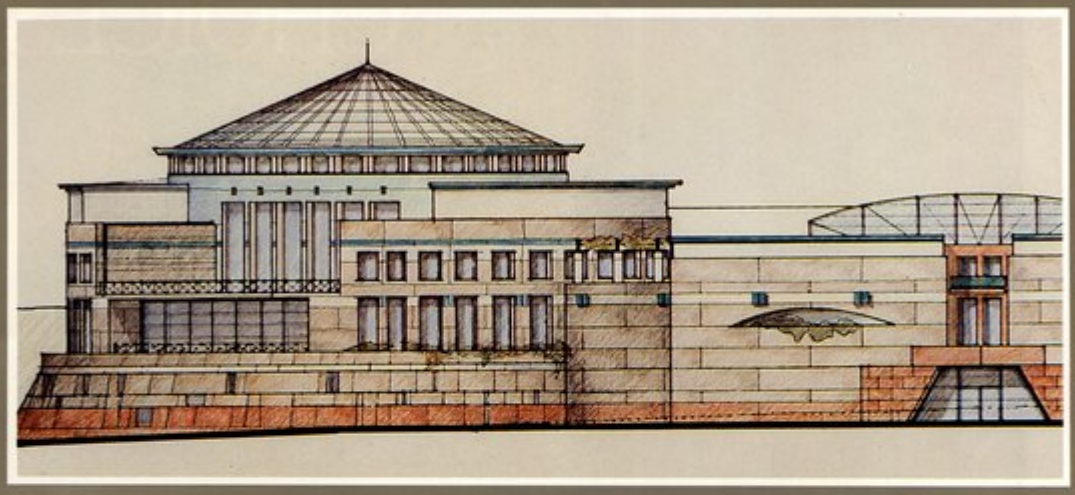
FLORIDA ARCHITECT
November/December, 1990



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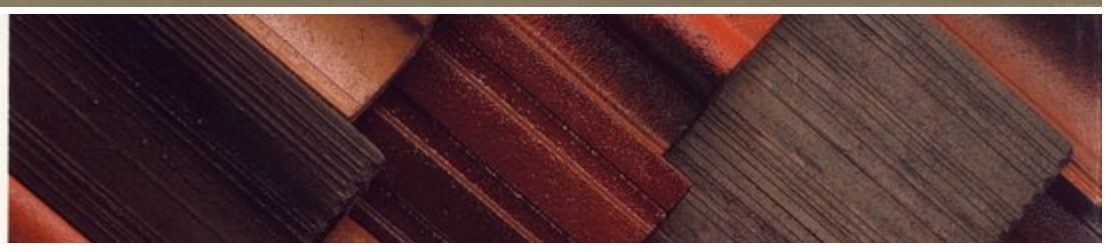
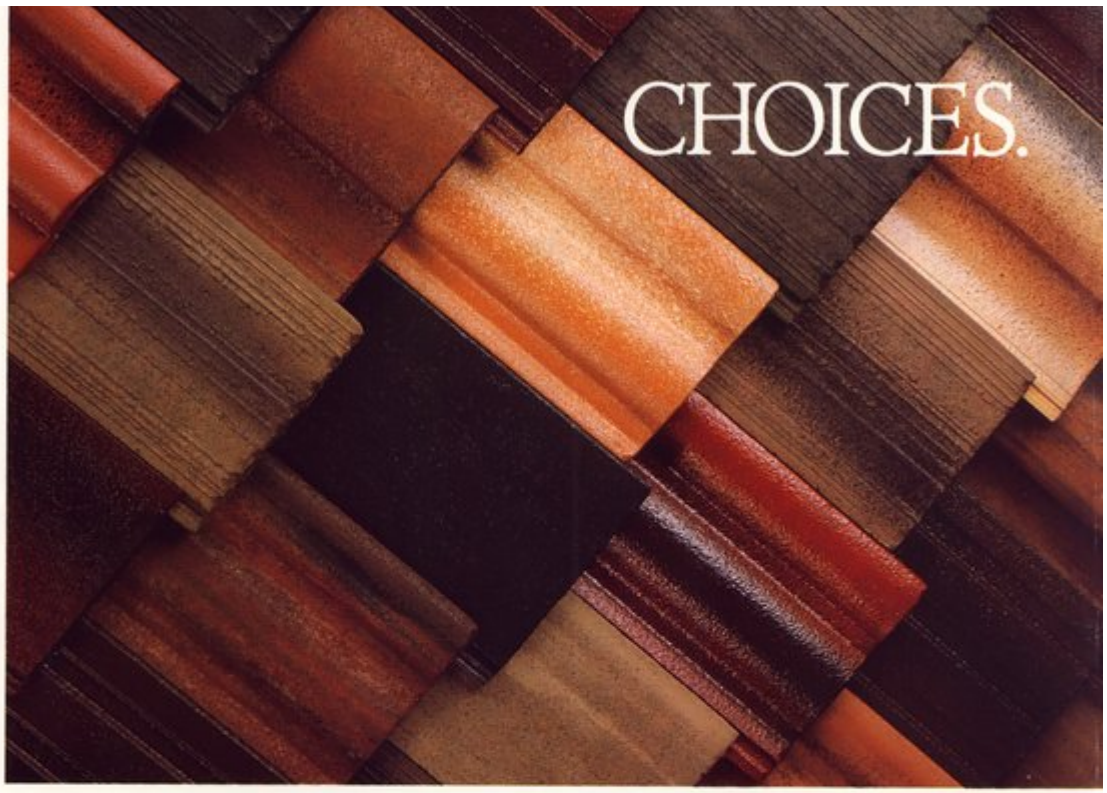
FA/AIA UNBUILT
DESIGN AWARDS





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Cover photo is of a drawing of the Costa do Sol by RTKL Associates, Inc.

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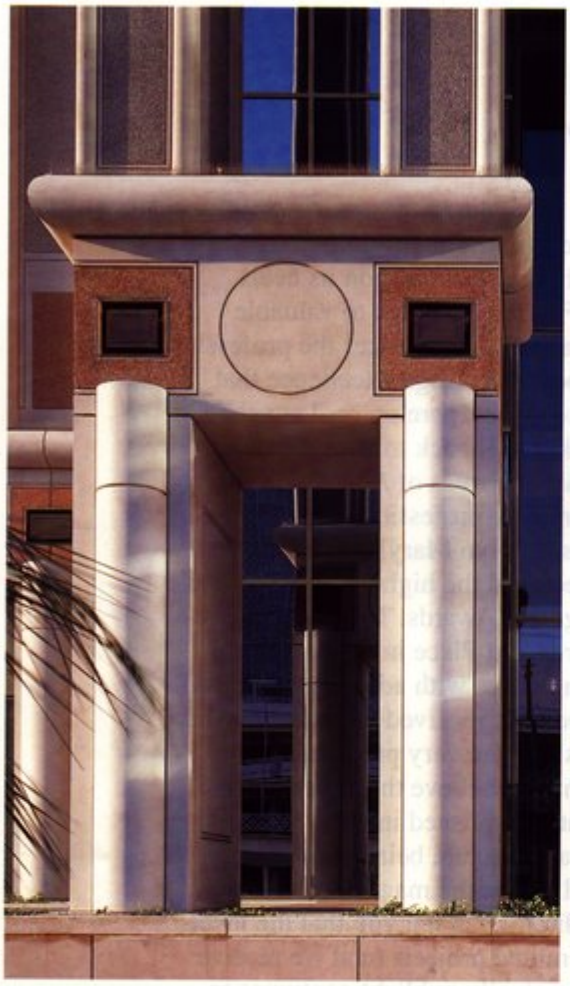
EDITORIAL

The holidays are here again. Thanksgiving is a week or two away and Christmas is right on its heels. Please consider giving *Florida Architect* to valuable clients and friends. It's a gift that enhances the profession and spreads the word about the design excellence that Florida architects have to offer. There's a card attached to this issue. Fill it out and send it back to us right away. Our promise is to publish six issues of *Florida Architect* during 1991 that will serve the profession well.

I am very proud, as is Carolyn Maryland, to tell you that *Florida Architect* received the highest award possible in the 1990 Florida Magazine Awards. The magazine received a "Charlie" Award – 1st Place in Overall Excellence for association magazines with advertising. In addition, the advertising media kit received an award, as did one of our recent covers. We are very proud of the magazine and we continue to believe that it is only as great as the material that is published in it. In short, if there was not excellent architecture being produced, *Florida Architect* would not be the magazine it is today. After eleven years as editor, I can tell you that the level of excellence in the submitted projects (and we receive many more than we can actually publish) continues to increase each year. Thank you for sharing your work with us so that we can share it with our readers.

Happiest of holidays from the staff of *Florida Architect*. **DG**



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Rely On Our Strength

Circle 20 on Reader Inquiry Card

Architects Gear Up For Americans With Disabilities Act

On July 26, 1990, President Bush signed into law the Americans With Disabilities Act (ADA), a civil rights bill destined to change the way we think about and work in buildings. The ADA is designed to prohibit discrimination in the workplace against persons with disabilities, an estimated 43 million Americans.

Designing buildings that are accessible to persons with disabilities means better buildings for everyone, a concept known among architects as "universal design." The bill requires that most new buildings, and buildings that are renovated, be designed so that they are accessible to persons with disabilities. Existing buildings that do not undergo extensive alteration do not have to meet ADA requirements, but their owners will have to make changes that are "readily achievable," that is, changes that are easy to do and are not prohibitively expensive. An example of a readily achievable change is the addition of a ramp for wheelchair users.

Architects across the country are gearing up to meet the design challenges in new and innovative ways that will best serve the building's users. Disabilities defined in the ADA include: orthopedic, visual, speech and hearing impairments and diseases including cerebral palsy, epilepsy, heart disease, diabetes, cancer and mental and psychological disorders, including recovery from alcoholism.

While it typically is more expensive to retrofit an existing building to be accessible, innovative solutions can save the economic day for specific projects. The Job Accommodation Network of America (JAN) has 26,000 different examples of accommodations that were made in the workplace and 31% of them cost nothing and 81% cost less than $1,000. AIA News Service

"Style" . . . An Essay by J. West, AIA

Style in architecture has been discussed for centuries by architects, historians and critics in order to define and categorize the tendency of several buildings of importance to share the same traditions, elements and other characteristics. And, as styles change, new styles must be understood in relationship to social and environmental patterns and new technological advances, and they must be compared and related to the past.

Yesterday, today and tomorrow, the inherent dichotomy of architecture, as both an art form and a specific solution to a specific problem, places it in quite a different context than any of the other arts. At the same time, the intimate relationships between all of the arts at a particular time strongly suggests that the contemporary pivotal forces of society bear on and strongly influence all of the arts in very similar ways.

Buildings of the past allow us the luxury of examining and experiencing them with fewer prejudices than we apply to newly created buildings. Even so, we almost never see monuments of the past without preconceptions molded by familiarity with drawings and photographs, reading of their greatness (or lack thereof) or being lectured to regarding the assessments (and preconceptions) of the lecturer.

And so a complete lack of bias in architectural criticism is unattainable. What else is new?

No matter. Some of us are sensitive to beauty. Some of us have read about and experienced architectural places, both good and bad. Many of us, having shared similar educational and first-hand viewing experiences, have come to remarkably dissimilar opinions regarding style and what constitutes fine art in architecture. This critical confusion is particularly prevalent today.

The history of form in art was largely constant and consistent throughout the many diverse regions and political entities of the world up until about the advent of the Industrial Revolution. The Industrial Revolution did not change art directly; rather it changed society and art inevitably followed. Patronage by the educated elite (with the exception of church patronage) has largely disappeared along with the past leadership whose only claim to power was birth or conquest. A true *revolution* it was, and in the field of art we have witnessed nothing short of a concurrent revolution . . . and an even more violent one.

Old traditions do not die easily and while the world of art was being constantly shocked and excited by the avant-garde creations of style, the imitation of historical styles replaced the previous slow evolution of new, valid and life-giving styles. The re-use of old and unrelated forms from the past became known as "eclecticism." Great works of art, whether they be architecture or any other fine art, must inevitably be judged by their own singular life-giving forces of design and craftsmanship. The creative artist (i.e., the creative architect) cannot be limited by any rules or design guidelines, no matter how enlightened. There will be many who criticize the final result and justify precepts which appear to be embodied in the design, or castigate design elements which impinge on the critic's own personal design principles. Do not be misled by these aftershocks of critical acclaim or outrage. The real importance lies in the work of art and the responsibility rests solely on the individual creative artist (architect) and his or her assistants.

The revolutionary modern architects did not dispute the greatness of historic architecture to its own era (although, Frank Lloyd Wright stated that the architecture of western civilization was pretty much worthless – except for French Gothic and almost anything built in Italy). They believed that the new materials, the new technologies and the new societies forged by the new equality of man demanded new, more rational solutions to building and urban planning than were available through the re-use of historic styles. In the beginning of the 20th century a potpourri of new styles were formulated including "Art Nouveau," "Constructionism," "De Stijl," "Art Deco" and finally, a European phenomenon, the "International Style."

Concurrent with the advent of the International Style in Europe, several American architects were originating what might have been a new, valid and richly significant style in the United States. From its colonial beginnings to the emergence of the new republic, the United States quite logically based its new architecture upon the English and European models with which it was familiar. Some architects, working in historical styles began to enrich their designs with truly original solutions to the architectural requirements of a new continent in a new age.

The beginnings of this new style could be seen in the great new railway stations, libraries, public buildings, residences and commercial buildings designed by traditionally-educated architects like Louis Sullivan and H.H. Richardson. The achievements of these Americans coalesced in the work of a singular American architectural genius, Frank Lloyd Wright, who called his new style "Organic Architecture." His architecture was known and admired even by the originators of the International Style – a style he himself condemned.

The International Style captured two generations of American architects and became the dominant style of emerging, influential commercial architecture throughout the world. It was an irrational style (based upon rationalism), and as a style it failed from the beginning. This is not to say that great modern buildings have not been built, but they were designed by individual creative architects. Le Corbusier, for example, proposed prototype architectural solutions to both housing and city planning, namely large nearly identical buildings on stilts with rooftop usage set in a sea of nature and highways. His concepts were socialistic nightmares, but his buildings (and paintings) were unique, one-of-a-kind creations of extraordinary beauty and power.

Mies Van Der Rohe, a modern pioneer with no formal architectural training, became the originator of a personal style which was emulated by more architects worldwide than any other modern architect. Although he admired Frank Lloyd Wright, he was essentially a minimalist and a purist who believed above all else in simplicity and visual structural clarity. He made the glass box avant-garde and he seemed to solve that most American of buildings – the skyscraper.

The International Style had easily won its race against the fledgling organic architecture of Frank Lloyd Wright, but it had begun to run its course. How could a style so bereft of reason continue to be pursued because of its claim of rationality? Enter post-modernism.

To put the record straight, none of the really gifted modern architects paid any more than lip service to the Inernational Style. Eero Saarinen, before his untimely death, explored more than any other 20th century architect except Frank Lloyd Wright, the potential of a new style for his time. His TWA Terminal at John F. Kennedy Airport in New York City probably contained one of the most beautiful interiors of the 20th century and his Dulles Airport Building in Chantilly, Virginia (1956-62 and 1958-62 respectively) is one of the most successful, monumental exteriors. All of Frank Lloyd Wright's great buildings were original creations of a gifted architect who borrowed nothing from the International Style. Louis Kahn's best buildings provided continuity between the great historic architecture of the past, technological tenets of the International Style and the creative genius to solve contemporary problems with contemporary solutions. His Kimbell Art Museum in Fort Worth, Texas, built in 1972, is particularly noteworthy for these reasons.

Continued on page 34

UNBUILT AWARDS

The 1990 FA/AIA Unbuilt Design Awards brought 123 projects
before a distinguished jury of Florida architects – Robert C. Broward, AIA, Mark Hampton, FAIA, and Peter Rumpel, FAIA.
Meeting in Jacksonville at the offices of KBJ, the jury premeated the following six projects.

Sawgrass Education Complex/Sawgrass Regional Park — Coral Springs, Florida

Architect
Sasaki Associates, Inc.
Marilys Nepomechie, AIA -
Designer

Structural Engineer
Riva Klein & Partners

Mechanical/Electrical
SOM Consulting Engineers

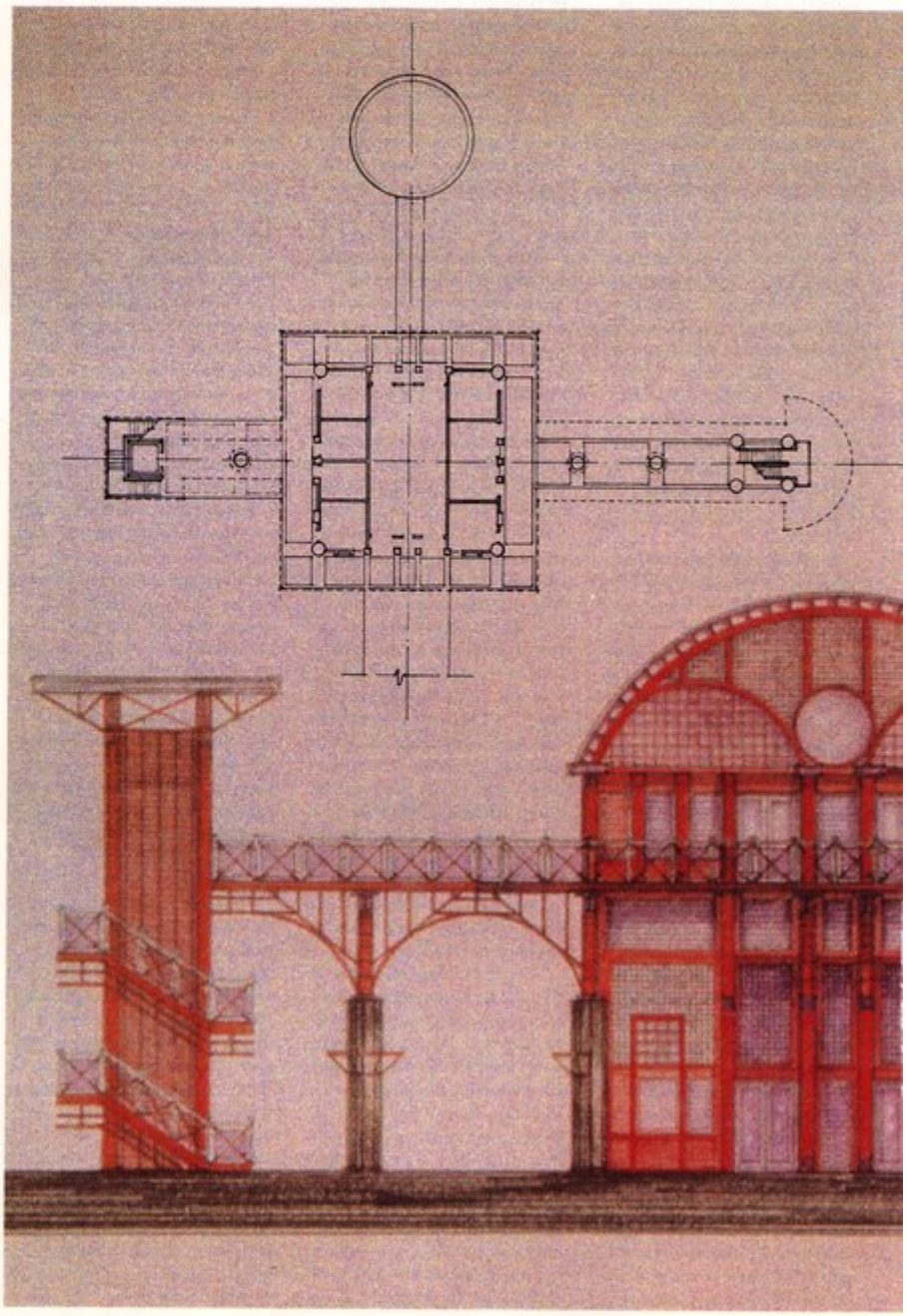
Civil Engineer
Williams Hatfield Stoner, Inc.

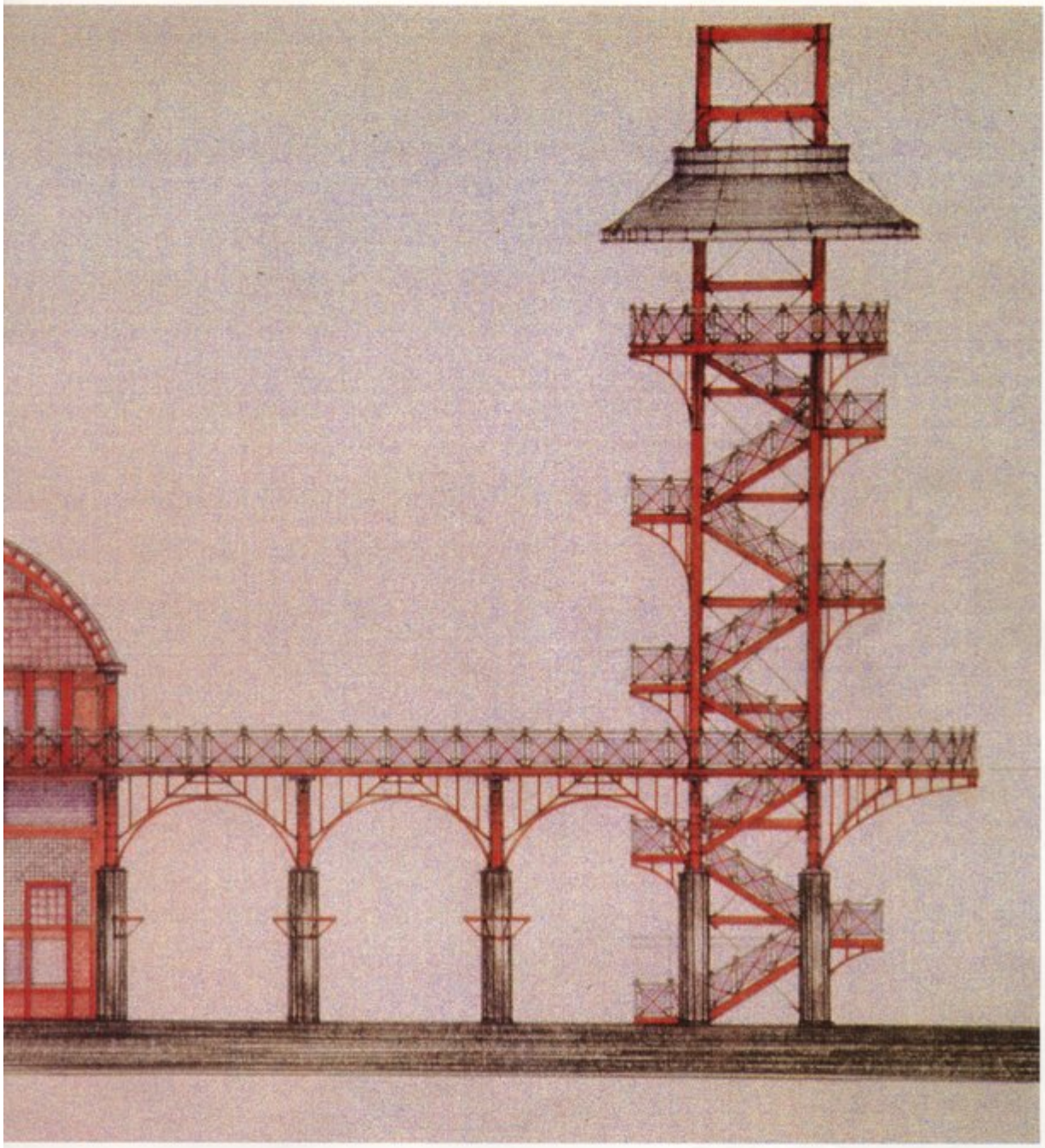
The program called for an interpretive center to be located at the northernmost edge of the Florida Everglades and serving as a point for the study and contemplation of that which Florida Poet Marjorie Stoneman Douglas has called Florida's "Sea of Grass."

Imagery for the observation complex derives largely from a memory and tradition of South Florida lighthouses. These are often steel structures whose filigree detailing forms a silhouette of simultaneous fragility and strength. Traditional Florida lighthouses have a scale and character that are a mixture of residential and industrial since lighthouses frequently served both functions in their role as final outposts.

The design solution for the interpretive center separates its various program functions into distinct building components. These smaller structures inhabit the swamp land environment and are connected to one another by a bridge 30 feet above the sawgrass which acts as the first observation platform level.

As the sole manmade intrusion in an otherwise untouched natural environment, the education complex is self-consciously geometrically precise in both plan and section. The design proposes that the buildings be colored bright red and violet to stress their artificiality and contrast them with the environment.





UNBUILT AWARDS

Fort Myers Regional Service Center — Fort Myers, Florida

Architect
Rowe Holmes Hammer Russell Architects
Tampa, Florida

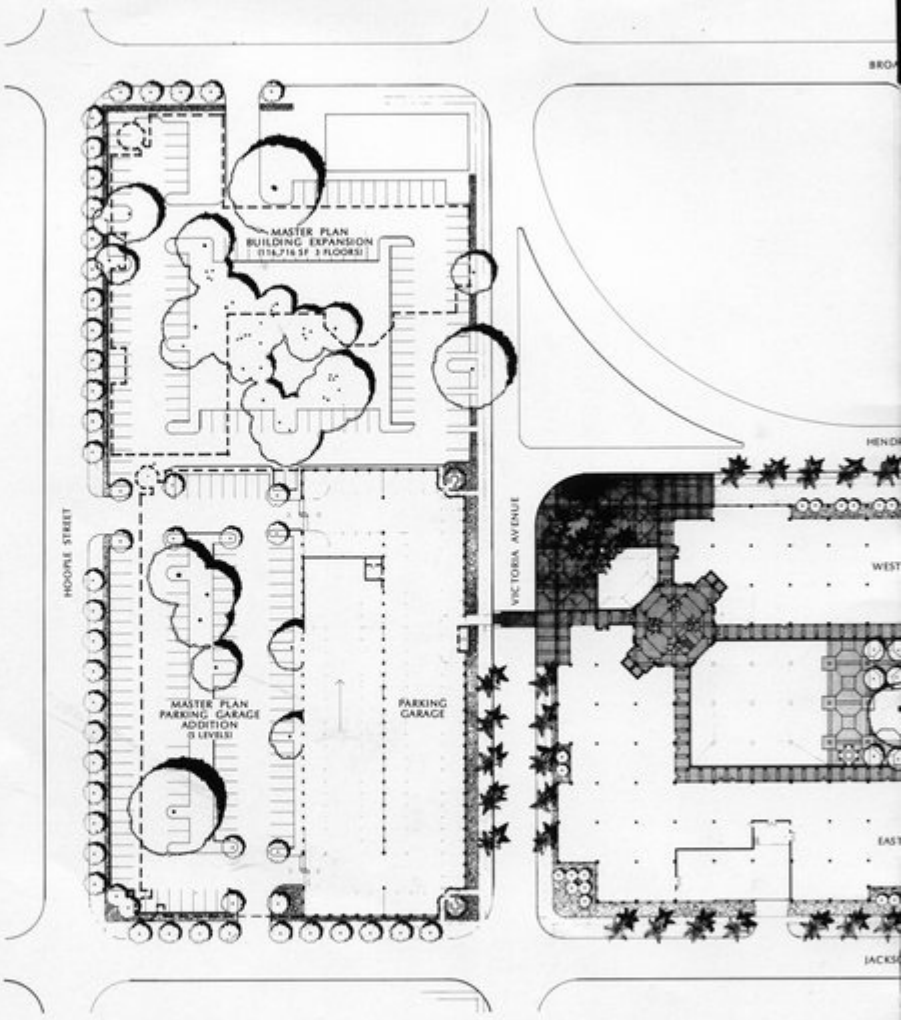
Architectural Consultant
Parker/Mudgett/Smith Architects, Inc.

Space Planning Consultant
Associated Space Design

Structural Engineer
Rast Associates, Inc.

Mechanical/Electrical Engineer
LWSM, Florida, Inc.

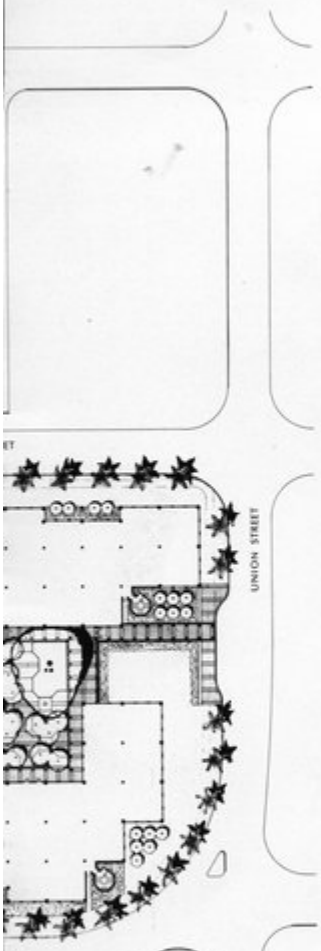
Civil Engineer
Butler Engineering, Inc.



This government office building is situated on a two-block, seven-acre site on the southern edge of a downtown redevelopment core. Since both blocks formerly contained residential and small commercial projects, many trees still exist. Since both blocks have weak sub-surface soil conditions, high and mid-rise construction was precluded without extremely high foundation costs.

The program calls for 232,000 square feet of office space plus parking for 766 cars and a plan for future expansion. The overall construction budget is $25,500,000. The client's goal was to produce a building complex which is compatible with the city, responsive to the urban street edge, functional and friendly to its tenants and visitors and serviceable and easy to maintain throughout its life.

Within a variety of constraints and opportunities, a modern three-story building emerged which is responsive to the climate and landscape of the region. The scale-reducing devices that were used to make the building harmonious with its low scale neighbors were broad overhanging sloping roofs, a continuous horizontal clerestory and the manipulation of a 60-foot building bay in both the footprint and elevation. Two "buildings" were connected by an octagonal entrance rotunda forming an inner courtyard to save existing specimen trees. This space also provided a pleasant outdoor room for use by building tenants.


UNION STREET

UNBUILT AWARDS

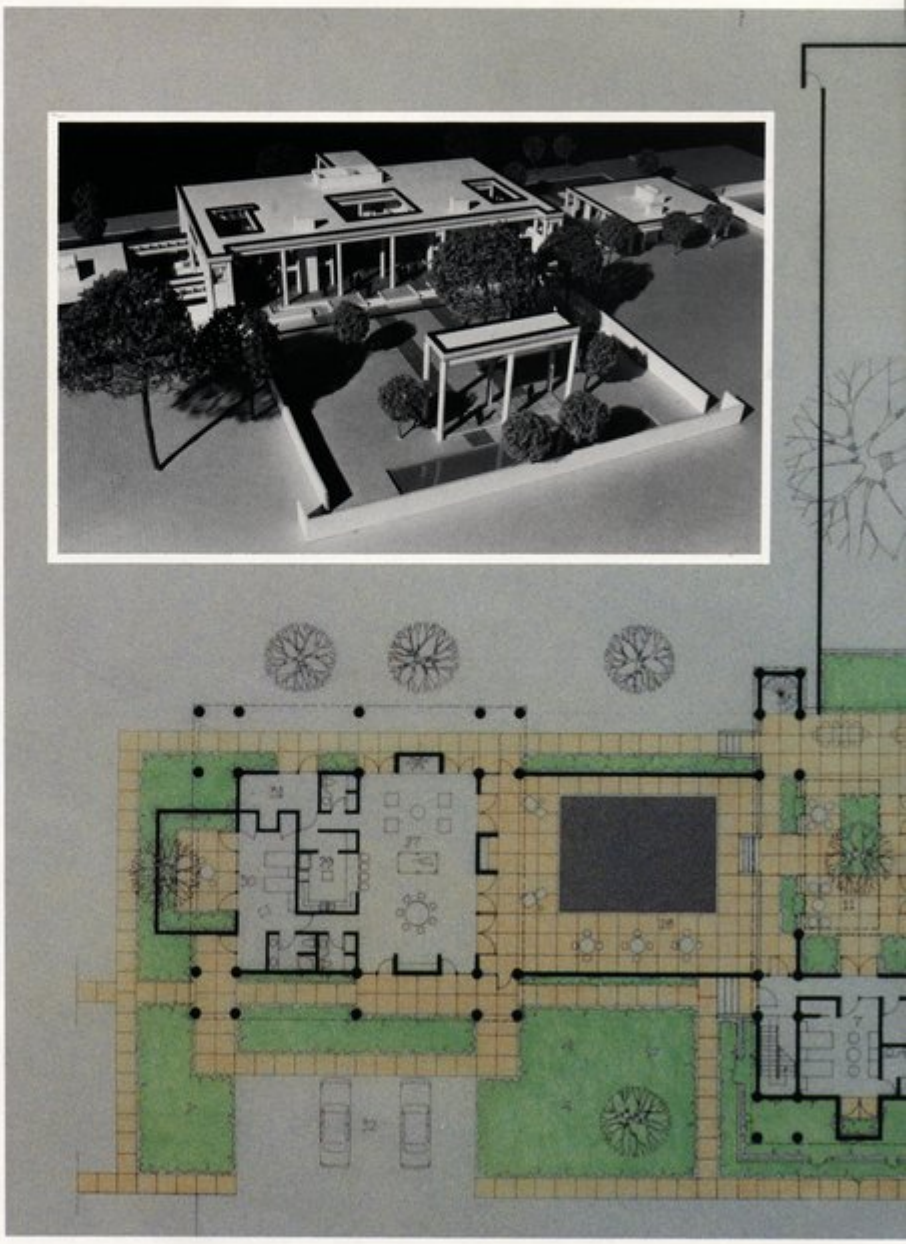
President's House, University of South Florida — Tampa, Florida

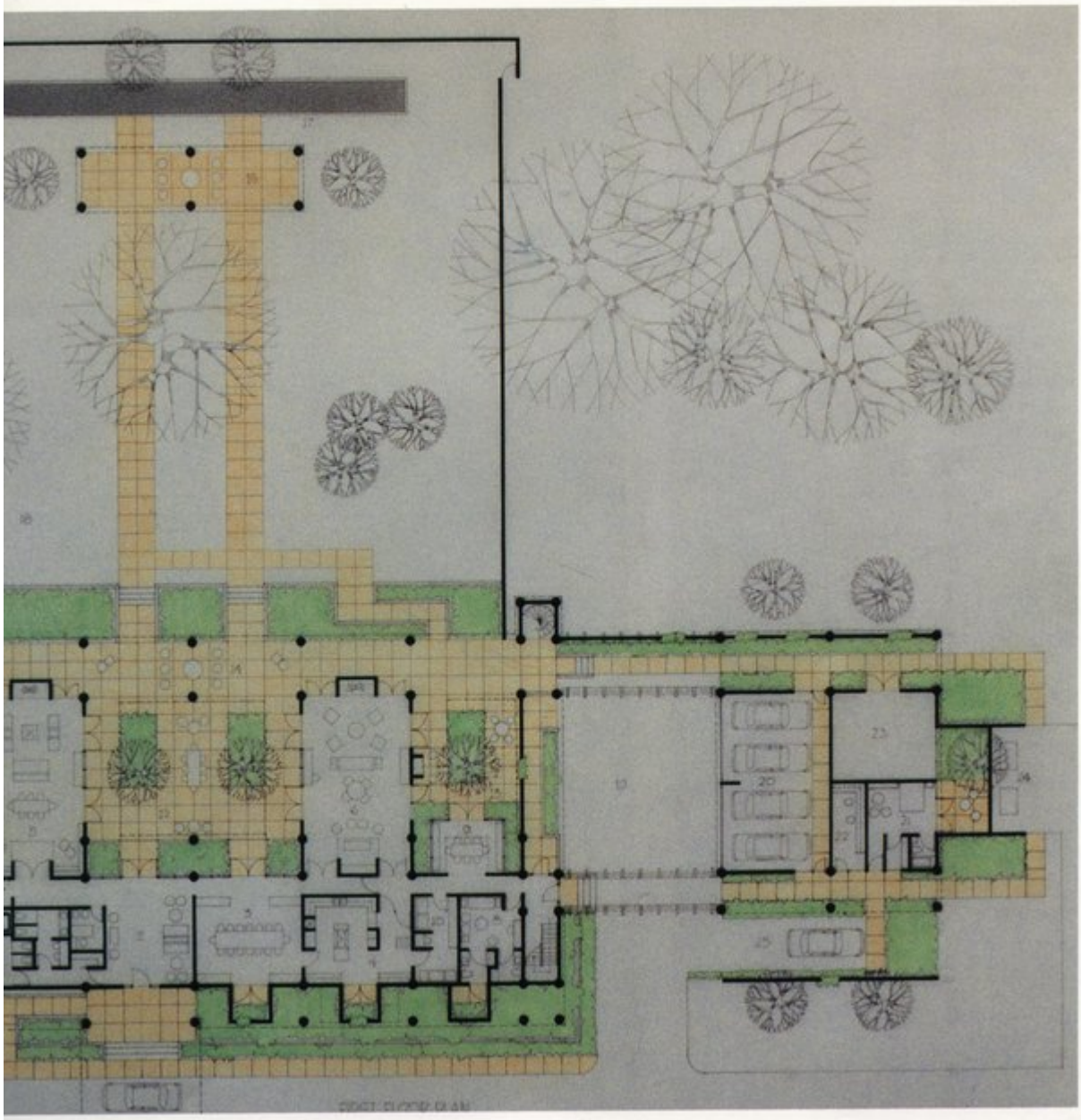
Architect
Gene Leedy
Winter Haven, Florida

This house fulfills the dual roles of being both a public and a private building. In addition to housing the President and his or her family, the building will accommodate the multitude of public functions which the President is required to host.

This is a classic contemporary house with an "antebellum character evoking traditional imagery." It was designed for the Florida climate with the use of outdoor spaces and eight foot overhangs. The house is simple and avoids all current cliches and it has a number of unusual spaces and vistas.

The structural system consists of a prestressed/precast concrete system with fluted masonry unit infill designed to be painted white.





UNBUILT AWARDS

Residence for Chapman J. Root, II — Ormond Beach, Florida

Architect
William Morgan Architect

Consulting Engineer
Bill Simpson & Associates

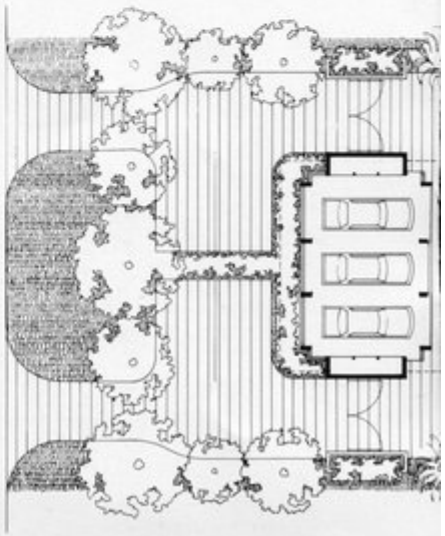
Interior Designer
Pasanella + Klein

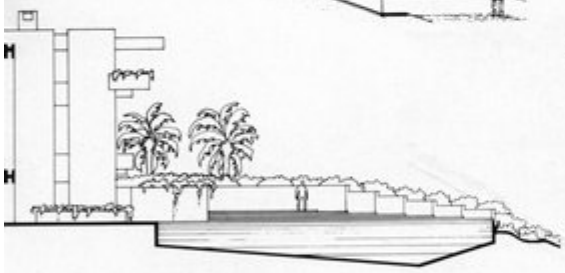
The 80-foot wide site's dominant view is toward the Atlantic Ocean to the east. Neighboring one and two-story houses lie near the north and south property lines. Zoning restricts new construction to a maximum height of 30 feet.

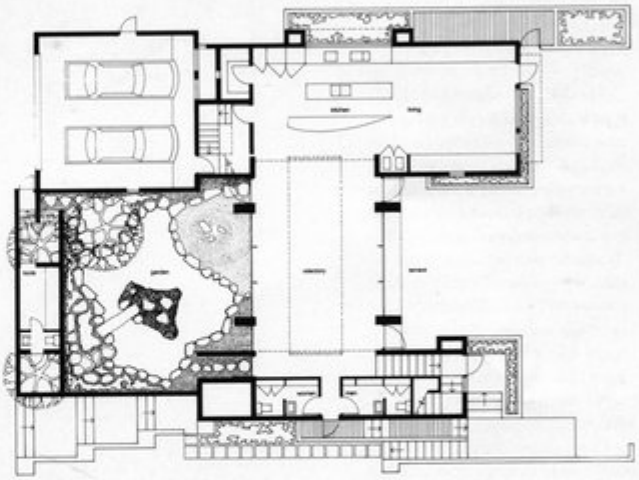
The client requires a place for informal entertainment and daily living, an area for formal receptions, a wind-protected garden inshore, a swimming pool and terrace facing the beach, extensive landscaping, two bedroom suitable for guests, a large dining room, a secluded study, spaces to display artworks and artifacts and an exhibition space for several of the owner's extraordinary automobiles.

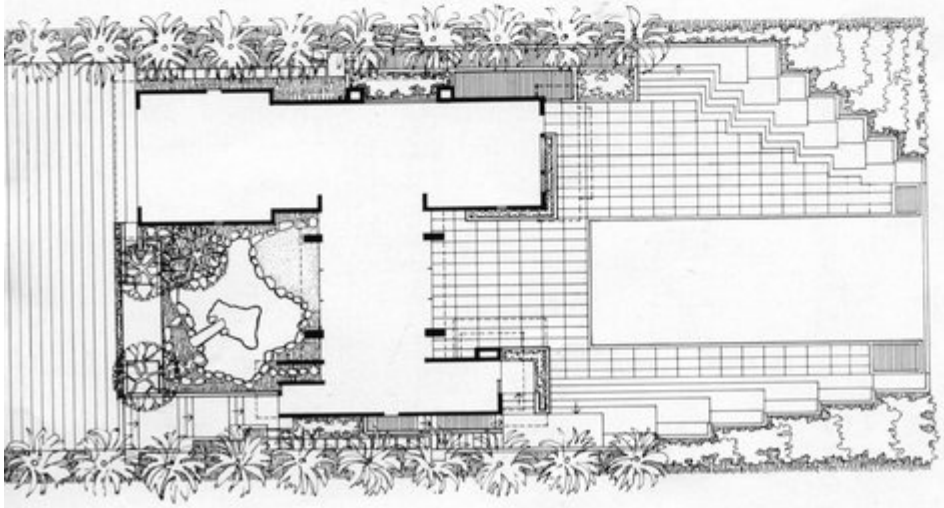
To gain additional building height, the site was excavated five feet. Arriving from the main road, the visitor leaves his car in a landscaped parking area and proceeds east to the entry court. Here one finds a pavilion exhibiting several vehicles. The garden wall guides the visitor to the main entry and from the foyer, a bridge leads north through the two-story high gallery to the library. Below the bridge, the refectory is flanked by a walled garden to the west and pools and terraces to the east. From the foyer, stairs ascend to the study and rooftop crow's nest.

On pile support, concrete masonry unit walls support wood framed floors and roofs above grade. Exposed fluted concrete masonry was used for exterior walls. Natural stone pavers on concrete slabs appear on pool terraces, balconies and lower level interiors. Tempered structural glass vertical fins reinforce the refectory's large glass wall.





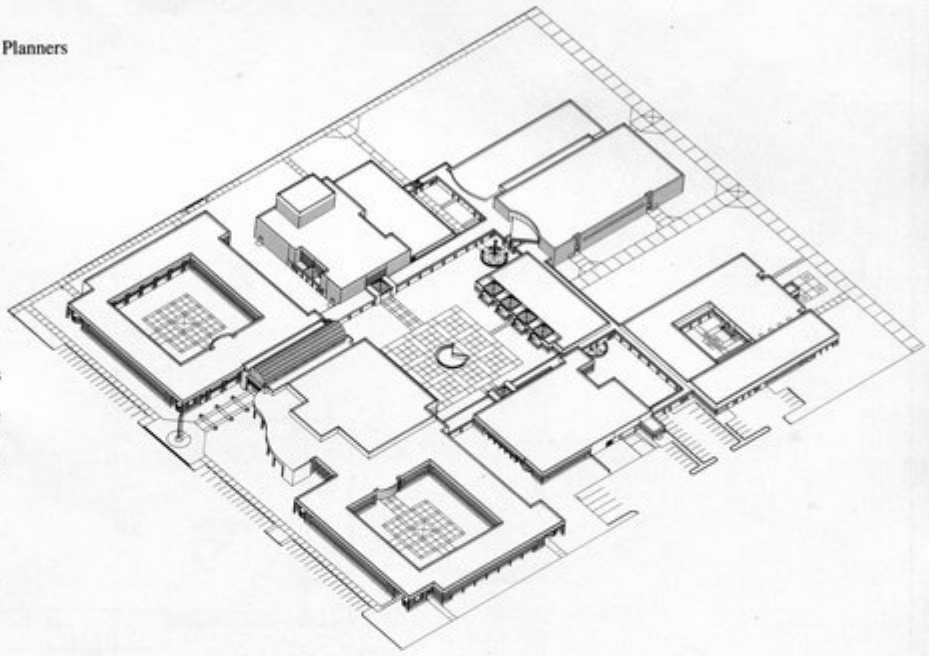




UNBUILT AWARDS

Prototype High School — Palm Beach Gardens, Florida

Architect
Peacock + Lewis Architects and Planners

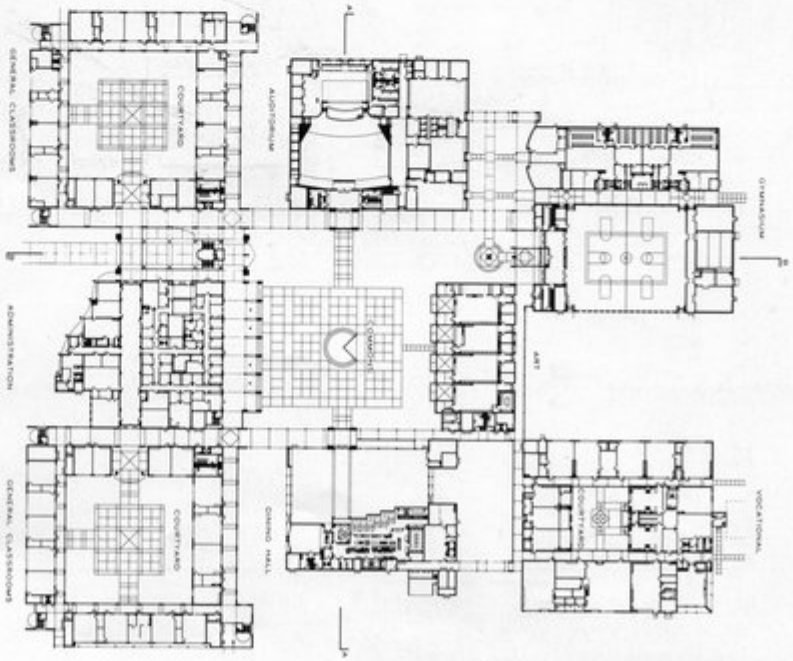


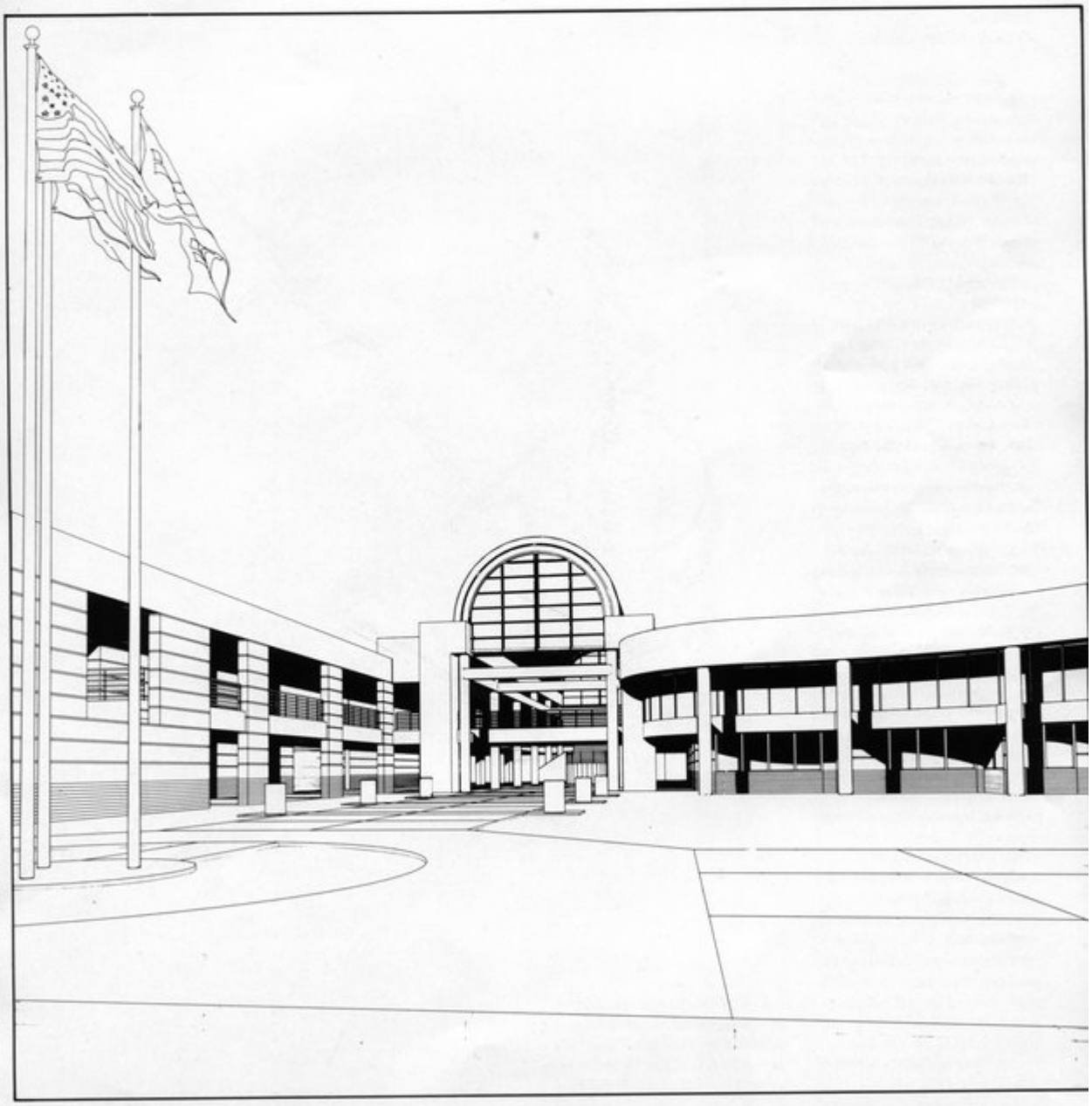
The client requested a campus design that would easily adapt to various sites, allow for strong visual orientation and control of students and that was organized to create a strong sense of place on campus with an image that would stand proud in the community mind.

This 340,000 square foot prototype high school serves grades nine through 12 with core facilities for 2,500 students to be built on various sites having a minimum of 60 acres. The building program requirements included general classrooms, science labs, computer labs, state of the art media center, auditorium with full height working stage and specialized vocational education labs. The site program consisted of athletic fields, play courts, and student, faculty and visitor parking.

Construction consists of standard spread footings, reinforced concrete frame with concrete masonry unit infill and two color brick banded veneer. A life cycle cost analysis resulted in the selection of low maintenance materials.

Passive energy design elements include the use of natural ventilation at all student-occupied instructional spaces, open air covered walkways in lieu of air-conditioned corridors and high efficiency glazing and insulating materials. The energy management system incorporates photo cells, time clocks and individual area switching to confine energy consumption to in-use areas.





UNBUILT AWARDS

Costa do Sol — Oeiras, Portugal

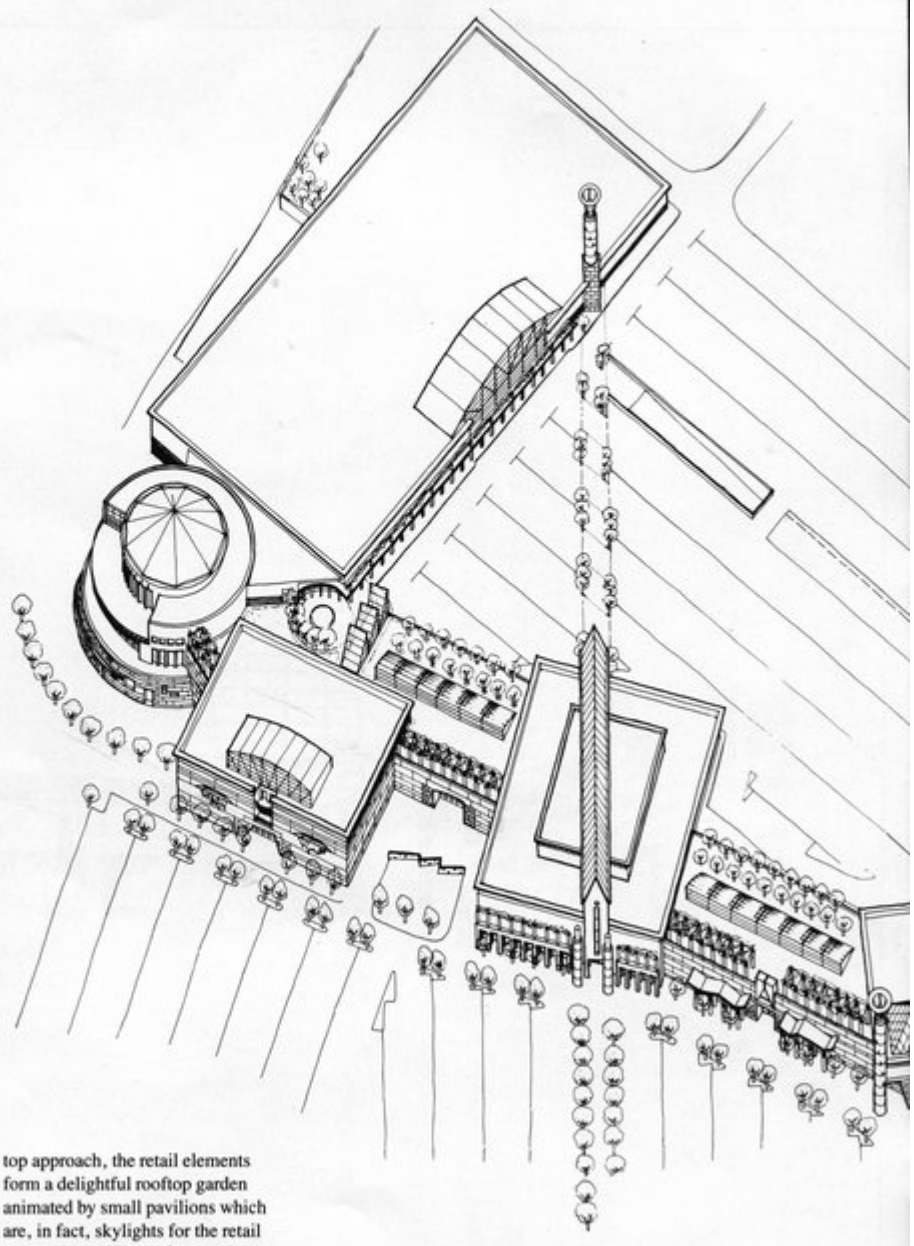
Architect
RTKL Associates, Inc.

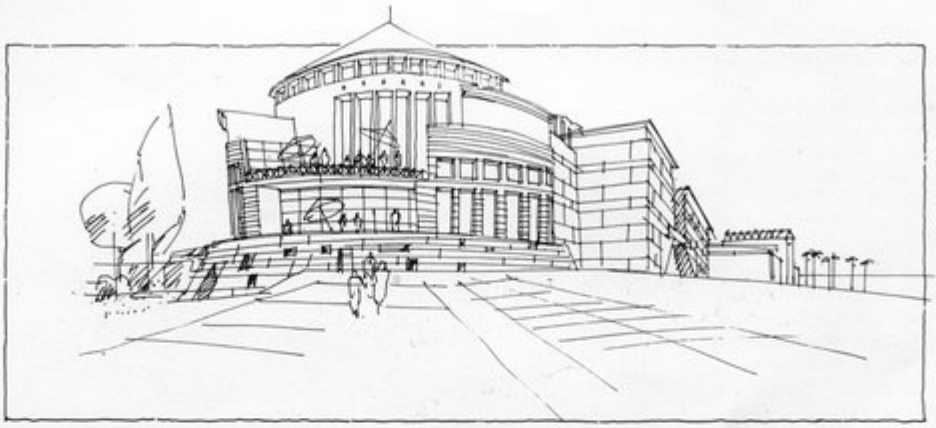
With its acceptance into the European Economic Community, Portugal is experiencing spectacular growth, much of it concentrated in the countryside around Lisbon. This 240,000 square foot retail project represents a study on the site of a new inland thoroughfare connecting the city of Lisbon to the northeastern coastal towns of Oieras, Estoril, Cascais, Sintra and others.

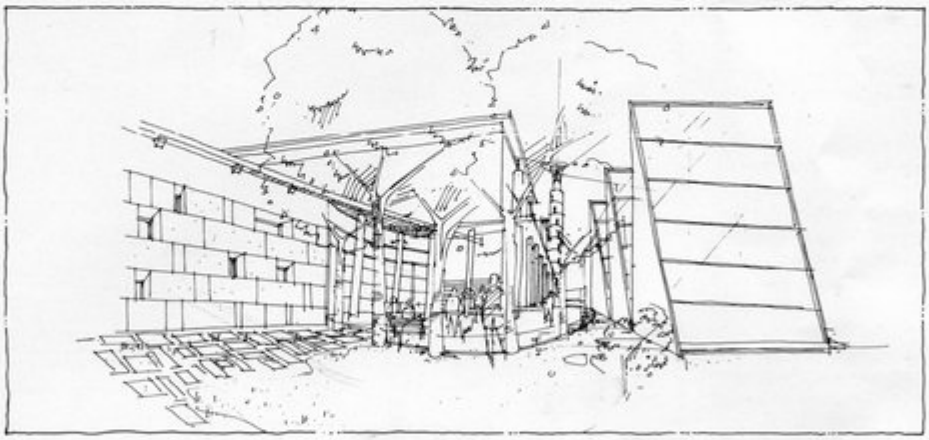
Proposed by a Brazilian developer to serve the residents of Oeiras, the project is comprised of a hypermarket, department stores, retail shops, food market and an entertainment component.

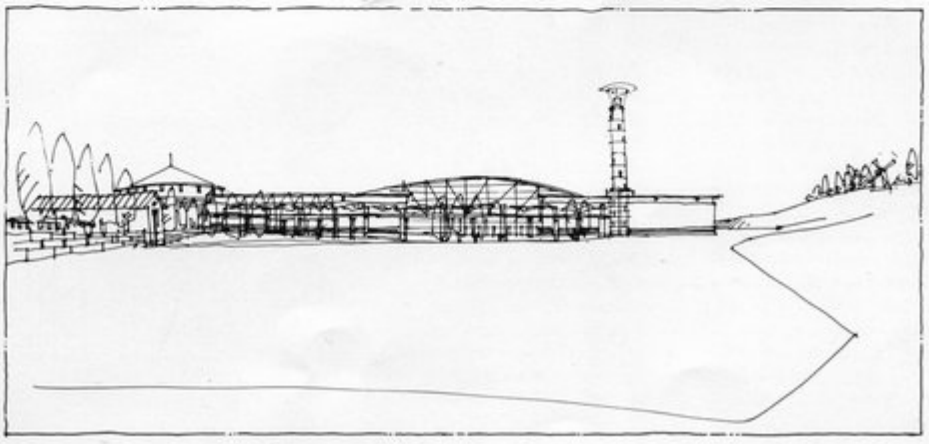
The project's farmland site encompasses a great deal of topography at the edge of a river valley. Its dramatic grade slopes toward a new highway and river valley which provide excellent visibility, but difficult access. An occasional country farm or quinta punctuates the rolling countryside around Oeiras. The buildings in this project were massed at the crest of the hill, positioned so that the larger hypermarket is tucked on the uphill side, above and behind the rest of the project and accessible to the nearby village. Two-level structured parking and lower-level reserves serve the hypermarket effectively and accommodate the grade change.

The retail elements were sculpted to emulate a cluster of individual quinta-like buildings on the hillside, with forms, patterns and materials derived from regional rural architecture. The body of the two-level retail center parallels the grade, carving into the hillside only enough to provide upper and lower-level parking. The lower-level parking is edged by a battery of fieldstone walls, which screen the parked cars from the adjacent thoroughfare and enhance the loft of the hilltop cluster. From the hilltop approach, the retail elements form a delightful rooftop garden animated by small pavilions which are, in fact, skylights for the retail center below. The rooftop garden also embraces specialty restaurants that enjoy spectacular countryside views.









TEST OF TIME AWARD

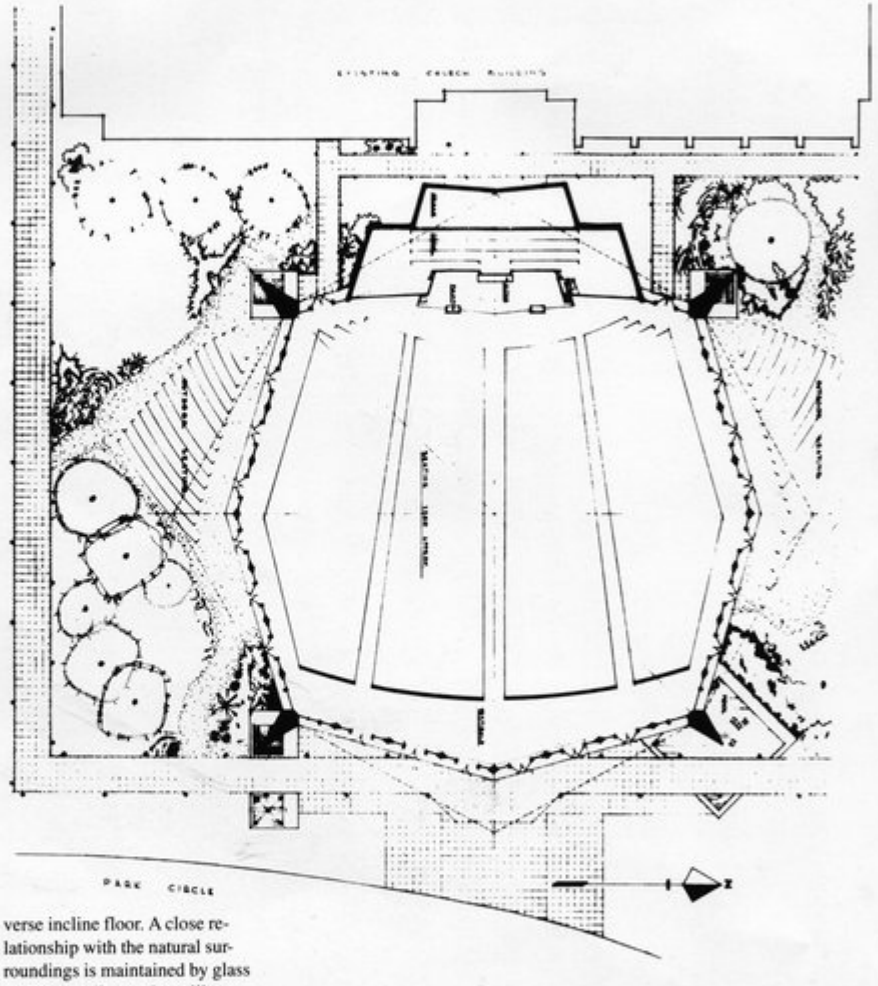
Pasadena Community Church — St. Petersburg, Florida

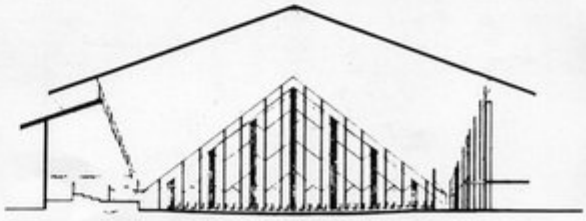
Architect
Harvard and Jolly, Architects AIA
(now Harvard, Jolly, Marcet and Associates, Architects, P.A., AIA
St. Petersburg, Florida
William B. Harvard and
Blanchard E. Jolly,
Principal Designers

The Pasadena Community Church was completed in 1960 and stands today a tribute to an outstanding and distinctive architectural design that has withstood the test of time for 30 years. The 2,500-seat church continues to be a contemporary work of architecture while retaining the dramatic and uplifting spirit of a church. The design of the sanctuary fulfilled all of the project requirements. The unusual shape, generated by those needs, provides not only an exciting space that functions well for religious and concert activities, but also possesses a unique and timeless design. The basic roof shape has excellent structural and acoustical qualities and its low profile helps it to blend with the existing buildings.

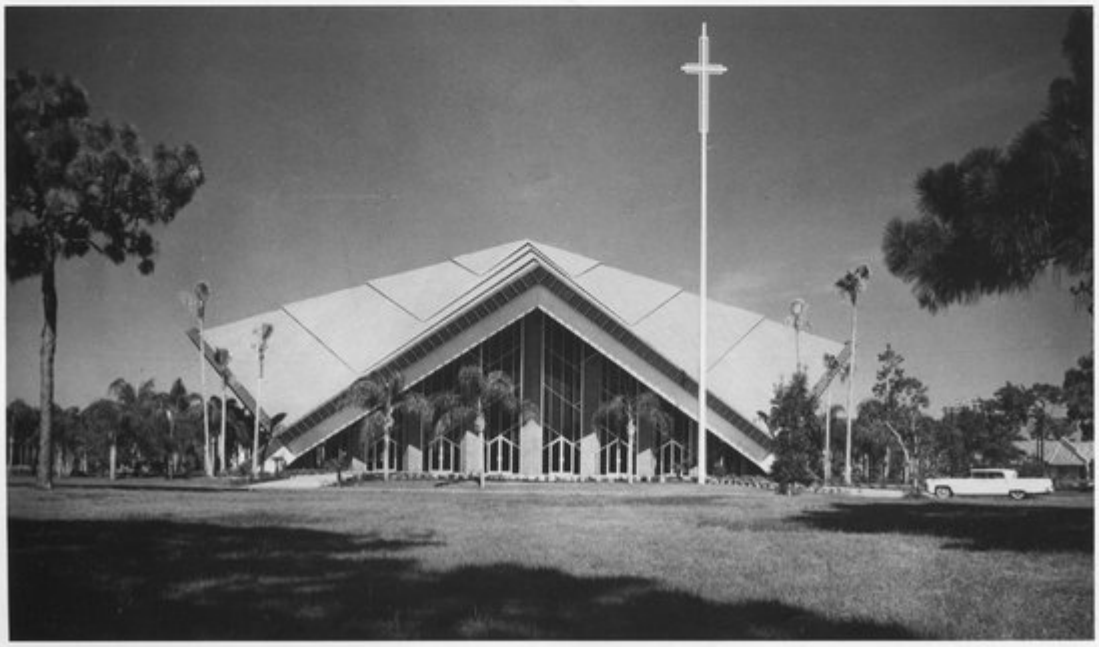
The original program called for a sanctuary that would comfortably seat 2,500 people and also function as an auditorium of optimum acoustical quality with facilities for radio, television and stage lighting. The Minister wanted to feel that he could whisper and yet reach out and be heard by the person in the congregation sitting farthest away. In addition, the client wanted the congregation to feel like they were in an outdoor surrounding, sitting in a palm garden.

The 75-foot height of the main sanctuary provides a soaring quality desirable for religious worship, yet a feeling of intimacy is gained by the low ceiling at the room's corners. This roof shape contributes to the optimum acoustical properties of the room. Seating is at ground level, as requested by the client, and was achieved by a reverse incline floor. A close relationship with the natural surroundings is maintained by glass walls extending to the ceiling. Another design feature is the extensive use of reflecting pools surrounding the building.





There has been no exterior maintenance required for 30 years due to the use of copper fascias over the six-foot wide glass exterior walls and a standing seam metal roof which was painted to match the existing buildings' Spanish tile roofs. The sanctuary has not been at all altered since construction in 1960.



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TECHNOLOGY

Fire-Rated Glazing: The Complexion Is Changing

by Jerry Razwick

For decades, the only glazing option for fire-rated locations in commercial buildings has been wire glass. With the introduction of new products, however, the complexion of fire-rated glazing is changing and some of these changes are bringing to light major developments in how fire-rated products are tested and installed.

Fire protection became an issue in the 1940s following a rash of fire-related fatalities and the groundwork was laid for more effective regulation through building codes. Over the years, the challenge in commercial buildings has been to create openings in doors, corridors, etc. for the purpose of lighting and visual access which, in the event of fire, would help fire fighters and others looking for escape determine where the fire has spread without opening the barrier or door.

The key to fire protection is compartmentalization – keeping fire and smoke contained in a specific area. As a result, all materials designed for use in fire-rated locations must withstand extremely high temperatures.

In the architectural and plan review process, areas in a building are assigned a 20-, 45-, 60-, 90-minute, two-, three- , or four-hour rating depending on the degree of fire protection required. The assemblies constructed in these locations must then carry a fire-rating of equal or greater value.

In general, the more easily an area can be exited, the lower the rating. Other factors, such as type of occupancy and local hazards can substantially increase a fire-rating. Building codes in North America require that all products in the fire-rated assembly pass code conforming tests conducted by testing laboratories such as Warnock Hersey or Underwriters Laboratories and bear certification labels from the lab. During the tests, glazing products are installed in special frames and subjected, on one side, to a furnace fire which reaches a heat of 1638 degrees Fahrenheit for a 45-minute rating, 1700 degrees for a 60-minute rating and 1925 degrees for a three-hour rating.

Immediately following the test, the assembly is impacted, eroded and cooled and with water. Water pressure at the base of the nozzle runs 30 pounds per square inch for 45, 60, 90 and 120-minute ratings and 45 pounds per square inch for three-hour or higher ratings. The duration of the hose steam test increases as the area and/or rating of the assembly increases.

There are three main glazing products able to achieve a fire-rating in North America: wire glass, Contraflam and FireLite.

Wire glass randomly cracks two or three minutes into the fire test with the wire acting as a webbing to hold the cracked glass in place. Labeled wire glass carries a 45-minute rating in sizes to 1,296 square inches when properly installed in labeled fire-rated frames and glazed with compounds in accordance with the tested assembly. Although many building inspectors consider wire glass a safety product, it actually breaks more readily than plain unwired annealed. The wire can also act like a spider web and catch a victim rather than allowing him to pass to safety.

Marketed as a fire-rated door or wall, Contraflam is an insulating glass unit made in Germany and consisting of two or more layers of tempered glass. In a fire, its gel turns an opaque white and will retard radiant heat. Although its unique design requires a special framing system, it is the only fire-rated glazing material to carry a safety rating. Depending on the thickness and number of gel layers, it carries a fire-rating of 30,60 and 90 minutes in sizes to 4 feet by 7 feet.

The third glazing option is a clear glass ceramic made in Japan called FireLite. It has an extremely low coefficient of expansion which keeps it from breaking when cooling is rapid. Although it has substantially more impact resistance than wire glass, it is not considered a safety glass. Just 3/16 of an inch thick, it fits standard fire-rated frames. Listed

by both Underwriters and Warnock, FireLite carries the current maximum rating allowed by code of 90 minutes in sizes up to 100 square inches and 60 minutes in sizes to 1,296 square inches when properly installed in labeled, fire-rated frames or doors using approved glazing compounds.

With such stringent testing procedures in place for fire-rated glazing, it is rather ironic that strict regulation is not required with regard to installation. Much of the confusion stems from a lack of consistency in building codes and their interpretation.

For example, in some parts of the country, codes do not state that wire glass will be used only to the maximum size tested for a specific rating (at UL, that might be 1,296 sq. in. for a 45-min rating). The code simply says, "use wire glass."

Building codes have been in existence for thousands of years, but like most things, they lack universal standardization and are subject to interpretation by some authority.

NFPA 80 (the Standard for Fire Doors and Windows) is one of the installation standards which conforms to UL's testing results. NFPA 80 is reflected in all major national and regional Model Building Codes and develops criteria for testing procedures used by UL and other testing agencies. Final authority for developing and enforcing building codes and fire regulations, however, rests with local code officials whose guidelines can in fact override or reverse NFPA standards.

Addressing the issue of maximum sizes, the 1990 edition of NFPA 80, Section 1-7.4 states, "Each individual glazing unit shall be permanently identified with a listing mark. The listing mark shall be visible after installation."

Unlike wire glass, FireLite and Contraflam currently have permanent labels containing the appropriate testing agency logos affixed to each piece of cut glass supplied to dealers. If permanent labels are required on all fire-rated glazing materials after installation, the use of wire glass in sizes larger than tested would certainly decrease. However, such labels have been soundly rejected by the glass industry.

With litigation a common threat in the United States, lack of awareness on the part of the glass industry, either about codes or installation procedures, is not an acceptable or affordable practice. All professionals involved in the construction or reconstruction of buildings including developers, architects, specifiers, contractors and glass dealers need to take responsibility for familiarizing themselves with specific codes used in their area as well as testing results to ensure that fire-rated glass is installed within the maximum size it was tested for, with proper fire-rated frames and glazing compounds.

The author is President of Technical Glass Products and is considered an expert in the glass industry and is a frequent speaker for architectural, glass, government and fire protection association meetings nationwide.

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New Products and Services

BACIX: The Building and Construction Information Exchange

Joseph Dennis and Thomas Martineau founded Productivity House as a Florida Corporation in 1988 for the purpose of providing management consulting and research services to private and public sector clients in the building design and construction industry. Since that time, Productivity House has been fortunate in serving a diverse group of individual clients, including 3M Company, Battelle Memorial Institute, Shimizu Corporation, AMP, Inc., Nippon Steel Corporation, and Diener Steinhaus GmbH, KG & Co.

From the outset of the Productivity House venture, Dennis and Martineau have attempted to create and offer to the building community various tools and programs to enhance productivity, profitability and competitiveness. BACIX is the first such industry-wide concept which has now reached the implementation stage.

Joseph Dennis brings nearly forty years of diverse construction management and real estate development expertise to the company. He has a Civil Engineering degree from Georgia Tech and a Master of Business Adminisration from Harvard. He is a certified general contractor and licensed real estate broker in Florida, and has for the past seven years served as a management consultant to numerous companies in the building design and construction industry.

Thomas Martineau, AIA, is a registered architect in Florida with over twenty years of experience in architectural and construction research. He holds Bachelor and Master of Architecture degrees from Rensselaer Polytechnic Institute. He served as a Research Associate with the New York State University Construction Fund, and as Manager of Construction and Facility Planning Research at Battelle Columbus Laboratories. He is currently Director of the Institute for Building Sciences at Florida A&M University. As an expert in international trends in technical and non-technical areas of construction, he has conducted world-wide studies of construction robotics, intelligent buildings technology, product needs for building rehabilitation, and trends in the design of industrial research and development laboratories.

How does BACIX work?

One of the best ways to get ideas for the solution to a problem is to ask your colleagues and competitors if they've had the same or a similar problem, and how they handled it – they are the people who have struggled with the same issues and concerns, and who have faced the same challenges as you. However, you shouldn't have to reveal your business shortcomings and vulnerabilities in the process. BACIX offers you access to other people in our industry without losing face or privacy. Here is how: Productivity House, Inc. maintains a central location for the exchange of information called the Building and Construction Information Exchange – BACIX. As a BACIX member, you can send as many problem descriptions as you wish to Productivity House. You need not identify yourself or your company on any of these problem descriptions. Your problems will be sent to all BACIX members for their suggestions and ideas. Their responses, in turn, will be sent to you and all other BACIX members.

What makes you think people will share their ideas and problem solutions?

It would be naive to assume that you or any prudent business person would readily give away trade secrets or information you believe gives you a competitive edge. However, most people in our industry are willing to share much valuable information (a) if they feel it benefits the whole industry, or (b) if they feel others might be willing to pay for the information, product or service they offer as a potential problem solution.

What will each monthly report contain?

At a minimum, each BACIX MONTHLY you receive in the mail will contain (1) a description of problems submitted by BACIX Members, and (2) suggestions, ideas, and comments submitted by other BACIX members to problem descriptions submitted during the previous month or earlier. The BACIX MONTHLY may also contain information from Productivity House on ideas found from other sources, and occasionally we may write an article or editorial about an issue confronting the industry. Articles submitted by BACIX members may also be included.

How will you keep everything organized? Are you planning to use a format like the CSI Classification and publish an index periodically?

BACIX will be an international information exchange. We will use the alphabet for access to its files because it is the most universal classification system across cultures, nations and industry members. We will publish an index at least every twelve months; more frequently if needed. The problem statements appearing in each BACIX MONTHLY will be numbered according to the month and year of publication. For example, 6-90-1 will be the first problem statement in the BACIX MONTHLY of June 1990. Each problem statement will also be keyworded for the aforementioned alphabetical index. The responses to each problem statement will be numbered sequentially and prefixed by the problem statement number. 6-90-1-12 is response number twelve to the first problem statement appearing in the BACIX MONTHLY of June 1990. An index listing where the responses to each problem statement can be found will also be issued annually or more frequently, if needed.

What are some typical problem statements you've received recently?

Questions come in concerning every aspect of building design and construction. Here is a typical question. *New materials and technologies are constantly being pushed on us at trade shows and by sales representatives. We are occasionally persuaded to try an innovation when it appears to have an appropriate application on one of our projects. However, many of our clients have told us that they do not want their buildings to serve as "experimental laboratories for new products and ideas," and therefore our attempts to innovate are frustrated. Is there no sensible way in our industry for innovation without fear of litigation?*

Other recent inquiries have dealt with franchising, office layout and productivity, hiring an architect or interior designer, searching for the perfect paint, roof leaks, intelligent buildings, codes and paying an architect "not to design."

For more information, contact **Productivity House, Inc., 3476 Valley Creek Drive, Tallahassee, FL 32312-3633 USA.**

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For free literature information, contact Steve Edwards, Technical Sales Manager, N.E.G. America 1-800-752-8099.

Fantasy and Imagination Available

Pacific Design Ventures is a new company specializing in a wide range of services ranging from theatrical sets and environments to custom furniture and cabinetry. The company, based in Nashville, Tennessee, specializes in color matching the furniture they make to fabrics, carpets, etc., and they can build to suit any dimension or color spectrum. Their furniture line is called ***"Objects on the Edge – functional art."***

The young company also specializes in the creative manufacturing of theatrical interiors and custom pieces and they are looking for architects and designers who have a need for specialty execution. Their products can be shipped anywhere with a comparatively short turnaround time or the products can be built on location.

For information, contact Pacific Design Ventures, Box 25325, Nashville, Tennessee 37202 or call 615-726-2773.

A Low-Profile Ridge Ventilator

A ridge ventilator capable of exhausting over 1100 cubic feet of air per minute (when an equal amount of intake air is provided) has been developed and is available from **Niff-Corr.**

Each side of the ventilator is capable of permitting the free exit of approximately the same volume of air without constriction. Other benefits of the **Lo-Pro I Ridge Ventilator** are louver slits on the side to prevent snow and ice buildup, attractive design to enhance any building style and the option to install individually or continuous (both types of flashings are included in each carton).

Available in bone white for immediate shipment, the **Lo-Pro** can

be manufactured in any standard **Niff-Corr** color. There are no minimum orders.

Contact Niff-Corr for information at 1260 20th Road, Tippecanoe, IN 46570 or call 1-800-348-2027 or FAX (219) 353-8101.

High Capacity Steam Bath Introduced

Three new models designated the Super Series have been introduced by **Mr. Steam** to add to its line of steam bath generators. These new generators are intended to fill the gap between **Mr. Steam's** convert-a-tub or shower into a steam room unit, and its larger commercial models designed to supply steam to multi-user club and hotel steam rooms.

The new unit can be used to provide steam to larger personal steam rooms, ranging from 450 to 650 cubic feet in size, or to provide the extra energy to smaller rooms where marble or glass has been used extensively. In such instances, a much greater amount of BTU is required to bring the steam room up to the desired temperature quickly.

Each Super Series unit is lightweight and easy to ship. Each generator package includes a 30-minute timer and room temperature controller. All models are UL listed and pre-tested.

For further information, contact Dan Reinhart at 1-80076STEAM or FAX the company at 1-718-937-4676.

New Viewing Device for Doorway Safety

Door Spy, Inc. has introduced the first, four-way viewing device for apartment, office, institutional and hotel room door security.

Traditional peepholes permit the viewer to see a limited area in front of the lens, and often the view is distorted or blurred. **Door Spy DS-5** permits the viewers to see forward, below and left and right of the door, for 20 feet or more – 90% distortion-free, by merely turning an easy-to-manipulate eye piece.

Door Spy engineers perfected the new viewing angles and developed a vital, fixed, pyrex lens which maintains the fireproof integrity of doors. **Door Spy** is made of durable plastic and it is available in beige and light gray. The unit comes fully assembled and ready for installation.

To obtain quantity pricing or product testing information, contact Lisa Degnan at Door Spy, Inc., 11 East 47th St., New York, New York 10017, (212) 754-0030.

Essay . . . *continued from page 9*

But the good has now been rejected with the bad. The Architectural Fashion Industry is now in full swing. Johnson and Burgee's AT&T Building in New York City looks like a piece of period furniture and, of course, Philip likes the comparison. Michael Graves' Portland Public Services Building in Portland, Oregon, is patently second-rate. Lloyds Building in London, designed by Richard Rogers, tends to thrash the once architectural splendor of London and even Prince Charles was outraged. Rogers then teamed with Piano to design the Centre Pompidoue in Paris. This building is a monument to Pop Art and functions poorly, but has attracted more tourists than the Eiffel Tower! Still, a stylistic maverick like Foster's Hong Kong and Shanghai Bank is such an original work of art and is so meticulously detailed and put together that we are once again reminded that there are no rules. What really counts is for a talented architect to design a building and, in so doing, create a work of art.

Exit post-modernism and enter deconstructivism and historic revival. But it takes great creative architects, great clients and great builders to combine their talents to create a valid new style. Second rate architects cannot create beautiful composition by merely exploding building elements into an array of new forms. They can create a happening and, at its best it can become abstract sculpture satirizing our society, but great architecture is created by great architects. Likewise, it is easy for the mediocre architect to be mesmerized into believing that it is easy to copy historic models – to borrow a detail here and there from great buildings and produce a great work of art. Robert A.M. Stern has not done it and, of course, it is not easy. It is nearly impossible. Great architecture can inspire great architecture, but great architecture has never been successfully copied. To copy the past is to misunderstand how it was created. To study and understand the past; to identify the needs and the means of the present; and to synthesize these elements with man's aspirations for the future. Here lies the beginning of forging a great new architectural style which would encourage talented, imaginative architects to once again build beautifully.

J. West practices architecture in Sarasota.

Editor's Note

The views expressed in this essay do not necessarily reflect the views of the editor.

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VIEWPOINT

Buildings: Better Safe Than Sick

by Leslie King O'Neal

Can a house or an office building make a person sick? Yes. Cases of "sick building syndrome" or "sick house syndrome" are increasing each year. Victims' complaints usually include headaches, eye and throat irritation, dizziness, lethargy and inability to concentrate. Some persons suffer symptoms of diseases such as asthma, hypersensitivity, pneumonitis, and humidifier fever. A building is "sick" if its occupants suffer from such illnesses simply from being in the building.

What causes "sick building syndrome" (SBS)? One cause is the energy reduction measures used in construction and renovation of buildings since the 1970's. Such measures include reducing the outdoor air supply, reducing the total air circulation, sealing windows and maintaining lower winter and higher summer room temperatures.[1] Also, indoor air is contaminated from many sources. These include (1) building materials and furnishings (some insulation contains asbestos or formaldehyde); carpeting, cabinetry or furniture may contain formaldehyde; (2) office equipment (mimeograph machines emit methyl alcohol; blueprint machines emit ammonia, office copiers emit ozone and toner chemicals[2]); (3) tobacco smoke, which contains formaldehyde; (4) polluted outdoor air; (5) biological contaminants which come from dirty ventilation systems or water damaged walls, ceilings and carpets.[3] A building's ventilation system may also contribute to the problem if air supply and return vents within each room are blocked or are improperly located.[4] Some ventilation systems do not have adequate intake of outdoor air, as a result of energy savings measures.

How can "sick buildings" be diagnosed and cured? If tenants or employees have numerous similar complaints, the building owner should consider hiring a building investigation company to interview occupants and inspect the building and its ventilation system. The National Institute for Occupational Health & Safety (NIOSH) will supply information about obtaining a health hazard evalution of a building or office.[5]

Correcting the "sick building" problem may be as simple as creating a "no smoking" policy or improving maintenance of the air conditioning system. However, it may require modification or reconstruction of the ventilation system.

When the problems caused by SBS become severe, litigation may result. Building tenants may stop paying rent and even move out, claiming constructive eviction. Tenants who stay may claim loss of key personnel, new business and productivity. Individuals suffering various complaints may make workers' compensation claims. Eventually the tenants and the individuals may file suit. In such a suit the defendants will likely include; the building owner; the architect; the mechanical engineer; the general contractor; the HVAC contractor; manufacturers, suppliers and distributors of various building materials, (especially floor and ceiling tiles, drapes and curtains, carpets, padding, glue, adhesives, HVAC systems, partitions, particle board, insulation.)[6]

Although there are relatively few "sick building" cases in litigation,[7] these cases will probably increase. Some predict that "SBS cases may well be the next major source of environmental litigation in the U.S."[8]

Building owners, architects, mechanical engineers, contractors and other likely defendants need to be aware that they may be involved in such cases, so they can prepare to defend themselves. Building owners may want to hire an air quality specialist, such as an industrial hygienist, occupational health consultant or environmental safety scientist to do air quality tests to determine if the building is "sick." Building owners should also make sure that HVAC systems are properly maintained to prevent growth of bacteria, viruses, yeasts and molds, which may cause SBS. Owners should also consider initiating routine air quality monitoring. This can be helpful in finding the cause of any new problems. It also helps the building owner's defense in a SBS case by showing that the owner has made every effort to control indoor air pollution. Building owners should consider smoking habits when setting fresh air flow into buildings.

Mechanical engineers should be sure that the ventilation system meets the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) voluntary standards which recommend a minimum fresh air supply of 15 cubic feet per minute per person. The mechanical engineer should also be able to document all assumptions made regarding occupants and pollutants.[9] Some new design trends which offer solutions to the SBS problem are (1) low cost individual zoning; (2) a return to low pressure systems; (3) a return to simpler, decentralized controls.[10]

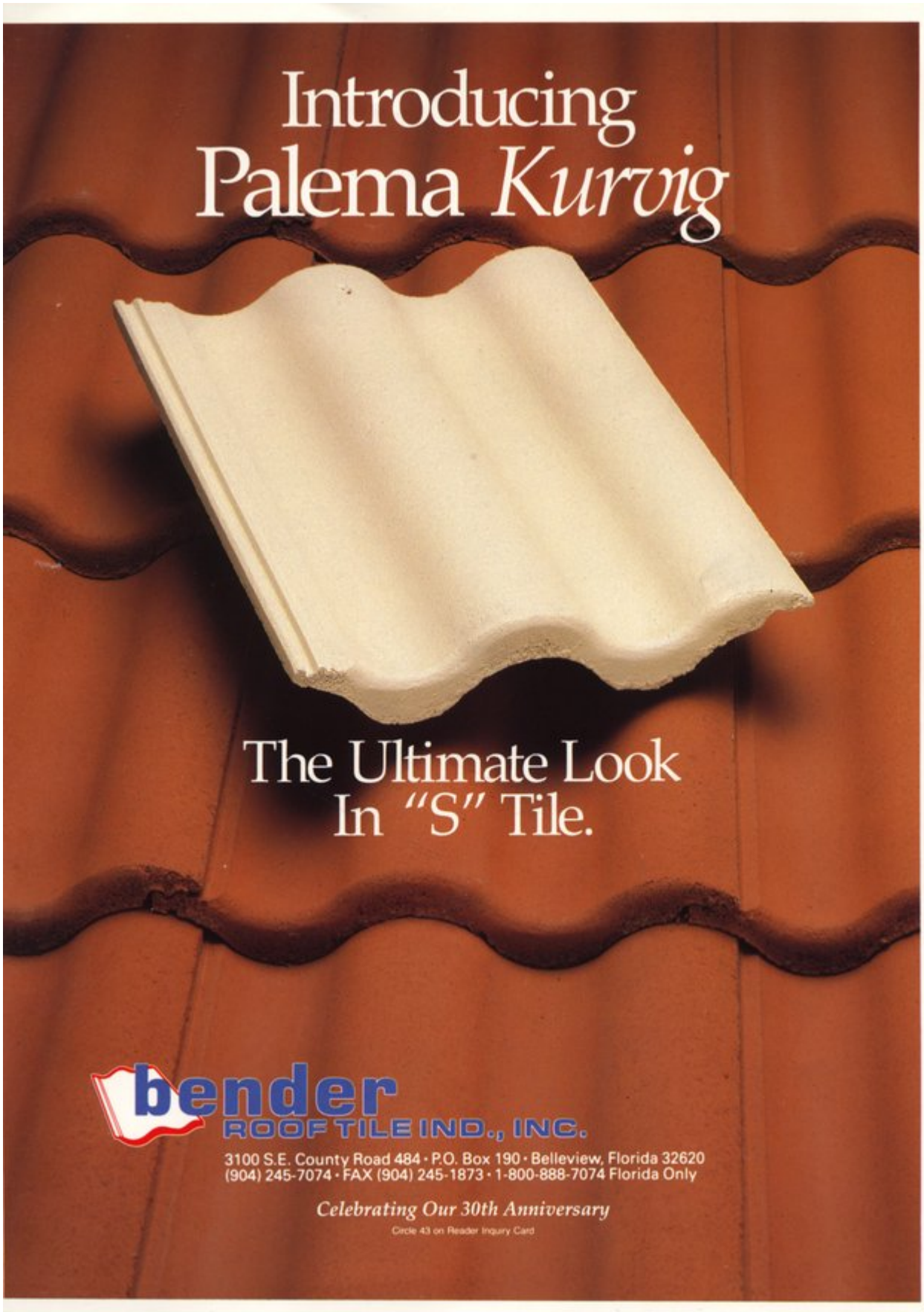
Architects and building material manufacturers should obtain lists of all ingredients and component parts in the building materials, draperies, room dividers, adhesives, carpeting, etc. to determine if they contain formaldehyde, asbestos or other volatile organic compounds. Some architects are recommending solar and electric energy rather than oil or natural gas. There is also a trend toward using natural, non-toxic products. These are more expensive, but may be worth it in the long run.

Building owners and others may not be able to avoid being drawn into SBS cases, but by knowing the elements of such cases, they may be able to limit their exposure for damages.

The author is a partner in the Orlando law firm of Markel, McDonough & O'Neal.

Footnotes

1. Hughes & O'Brien, "Evaluation of Building Ventilation Systems", *Am. Ind. Hyg. Assoc. J.* 47(4): 207-213 (1986).
2. *Id. See also* Testimony of James Melius, M.D. before U.S. House of Representatives, Subcommittee on Energy Development & Applications; Subcommittee on Natural Resources, Agriculture Research and Environment,; Science & Technology Committee (August 3, 1983).
3. "The Inside Story – A Guide to Indoor Air Quality", published by the U.S. Consumer Product Safety Commission (September 1988).
4. *Id.*
5. Contact NIOSH at 1-800-35NIOSH for information.
6. *See* Cohoon, "Indoor Air Pollution Litigation: A Primer for Defense Counsel," *For the Defense* (August 1989).
7. One of the first "sick building syndrome" cases went to trial in 1989, (*Beebe v. Burlington Industries, Inc.*, Case No: A8103037, Court of Common Pleas, Hamilton County, Ohio) and resulted in a verdict for the defendant, Burlington Industries.
8. *Cohoon, supra*, note 7.
9. See Working Draft 88/2 of ASHRAE 62-1981R (December 9, 1988).
10. Meckler, "Indoor Air Quality vs. Energy Efficiency: Impact of New Ventilation Standards; *Consulting Specifying Engineer.*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