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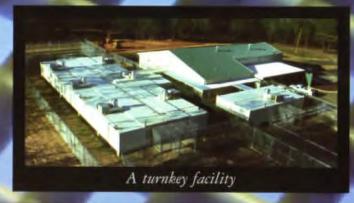
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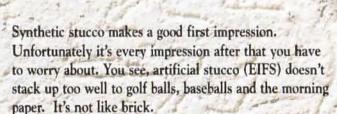
Day Room

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TEXASARCHITECT

FEATURES

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TEXASARCHITECT

March/April 1995

Volume 45, Number 2

Texas Architect (ISSN: 0040-4179) is published seven times per year (bimonthly and in April) by the Texas Society of Architects, 114 West Seventh, Suite 1400, Austin, Texas 78701. TSA is the official Texas state organization of the American Institute of Architects (David Lancaster, Executive Vice President). Copyright 1995 by the Texas Society of Architects.

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Second-class postage paid at Austin, Texas, and additional mailing offices. Postmoster: Send address changes to Texas Architect, 114 West Seventh, Suite 1400, Austin, Texas 78701. Phone (512) 478-7386. Printed in the U.S.A.

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Call it Leisure

I HAVE BEEN THINKING a lot recently about leisure time, particularly leisure time shared by adults and children, as I test out some of the options available evenings and weekends in Austin to parents with a five-year-oldson. There is a lot to do: canoeing on the lake, walking, meeting friends to play in the park, movies, and the occasional trip to the library. Later this year I plan excursions to some of the new projects that are presented in this issue: the Cockrell Butterfly Center at the Houston Museum of Natural History, Fiesta Texas, and Forbidden Gardens (I leave Michael's International in Houston off the list, for what I hope are obvious reasons). The rest of the activities fit the pattern for what I (and, I suspect, most parents

of young children) want my leisure time with my son to provide: fun in a safe, controlled environment; variety; and a broadening of horizons.

The problem with everything in this list, from my son's point of view, whether it's high-class edutainment, like looking at butterflies against a meticulously created background, or water rides and roller coasters in a weirdly scaled historical recreation, or touring an even stranger recreation of Chinese landscape and urban spaces outside Houston, is that they have too little recognizable content. To him, and to most of the kids his age that I know, a lot of the most important types of experience are organized around iron triangle: McDonald's, cartoons, and toys, all of which provide content that is tailored to meeting a child's desires, to stimulating and assuaging his curiosities, and even to provoking, then soothing his fears with visions of **UPCOMING ISSUES:**

We invite submissions to TEXAS ARCHITECT for all our upcoming issues. Scheduled issue themes for 1995 include

JULY/AUG '95 (deadline 16 Apr)
"Affordable Housing"

SEP/OCT '95 (deadline 16 Jun)
"Retail Architecture"

We also need stories about new architectural projects, interiors, historic preservation, urban design, zoning, mass transit and highway development, competitions, and education for our NEWS and SURVEY sections. In addition, we are looking for stories about innovations in technique and management for our SMALL PRACTICE ISSUES section.

If you can help with any of these topics, please call TEXAS ARCHITECT at 512/478-7386 or fax at 512/478-0528 JWB

menace quelled by grandiose power. Recently, McDonald's has been giving away toys that resemble innocent little trucks and airplanes but that pop open at the touch of a finger to reveal staring eyes and rows of fangs. Last year, it was the lion who overcame the stigma of killing his father to become king. The mall stores and supermarkets sell the clothes and lunch kits and snack foods that draw on the toys that look like the cartoons or action shows, and television makes sure that children know about all of them. I am not complaining, and I certainly make sure that there are limits to what we watch and buy. But I am constantly amazed at the fluency with which this system of images and merchandising ploys speaks to my son's imagination, as I am amazed at how the system can sometimes facilitate communication between me and my son on really important matters. Entertainment is colonizing every aspect of American life these days; what was once a problem is now simply an overwhelming fact. Now, at the boundary between adulthood and childhood, there is no respite from leisure. Joel Warren Barna





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Letters

Trouble with TBAE

I AM AN INTERN ARCHITECT and a graduate of Texas A&M University. I recently completed my internship and applied for eligibility to take the design portion of the licensing exam in December. I was informed that I was ineligible to take the exam because my construction experience did not apply toward my internship. It seems that the Texas Board of Architectural Examiners requires six months of continuous construction experience to get credit. And furthermore, construction experience is given half credit while office work is given full credit.

While in school, faculty and architects with whom I worked encouraged me to gain as much knowledge of the profession as possible. One way to acquire valuable experience was by working in the construction industry. The TBAE obviously thinks otherwise by giving construction experience such little merit in the intern development program.

My construction experience includes work on a high-profile project designed by a member architect who is an AIA fellow and who worked closely with the construction crew. I spent weeks hauling plywood and sacks of cement as well as cleaning floors. But I also eventually learned welding, glazing, forming and laying concrete and a multitude of other things that have made me a well-rounded architectural intern. I learned much more about the construction process working in the field than I have sitting in front of a computer in an office.

With the present TBAE rules, student interns may not receive credit for construction work during their summer vacations, but they can get full credit working in the office of an architect. As interns graduate from college, they will be more inclined to look for work in an office. With the yearly ARE exam schedule, most interns will choose to work in an office for full credit than work twice as long in the field. When is the best opportunity for interns to get construction experience?

In the effort to develop better architectural interns, I can not understand why the Texas Board of Architectural Examiners feels that construction experience is not a valid form of experience for the intern. The NCARB Intern Development Program (IDP), though it does not require construction experience, will allow a limited amount of construction experience at full credit. The State of Texas is actively (if perhaps inadvertently) discouraging an important part of the development of the architect.

> Craig Vaugbn, Assoc. AIA Mayse and Associates, Architects Dallas

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News

A Downtown Plan 12 **HOUSTON** A comprehensive new plan may make downtown development more attractive.

For the Children 12 **AUSTIN** Tom Hatch Architects won a competition to design a Texas Children's Memorial.

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Graphically Speaking 17 AUSTIN Kimberly Kohlhoos won best-of-show honors in the AIA Austin Graphics Competition.

Four winners named 18 EL PASO Four projects were selected as winners in the AIA EI Paso design-awards competition.

West Texas Winners 21 **ODESSA** Seven projects were chosen as winners in the AIA West Texas chapter designaward competition.

Brazos names honorees 21 COLLEGE STATION AIA Brazos honored two individuals and one firm in its annual awards program.

TA SPECIFIER 22

An early start and good communication are the keys to developing hardware specifications with a consultant.

LAWS, REGS & RED TAPE 24 A variety of nonconfrontational approaches to solving disputes may help keep architects out of the courtroom.

A Downtown Plan

HOUSTON A comprehensive new plan for downtown Houston, developed with the support of business and property owners as well as city government and planning experts, will provide a framework for revitalizing the central business district, its organizers say. The Downtown Development Plan, which was announced last August, evaluates the current state of Houston's downtown and provides a realistic assessment of where downtown needs to be in the future, as well as proposals for getting it there.

Since Houston's downtown high-rise building boom ended in the early 1980s, prospects for continued development downtown have been questionable. With increased competition from other parts of the city and a general surplus of office space, possibly for decades to come, more downtown office towers are hardly needed; only 11 percent of the

city's workers have jobs downtown. The CBD has also lost its diversity: Retail shopping. movie theaters, hotels, and residences have been making the flight to city edges since the '60s. Sidewalks have no pedestrian life (shopping and restaurants, geared to the lunch trade of office workers, are in the tunnels) and the whole area is vacant after business hours. The district is perceived to have a crime problem and there are few attractions, other than the convention center and theaters, to draw suburbanites into downtown.

These problems are not unique to Houston; every city faces similar concerns about keeping and restoring vitality to the center city. The essence of the problem is how to bring new life and energy to downtown that will, in turn, support renewed economic development. The key, of course, is people. For

For the Children

AUSTIN Tom Hatch Architects of Austin was selected last fall as the winner of the Texas Children's Memorial design competition sponsored by the Children's Trust Fund of Texas. Second place went to R.B. Klug, AIA, Architects of Austin, while third place went to Collins-Reisenbichler Architects of Dallas.

The project, to be built on a site owned by the Lower Colorado River Authority at the south end of Lake Travis, will memorialize children of Texas who have died as a result of child abuse and neglect, and, sponsors hope, will heighten awareness of such abuse and neglect. The Children's Trust Fund is a state agency dedicated to preventing child abuse in Texas.

The central feature of the winning design is a pair of serpentine walls of rough limestone; inset into one wall is a band of smooth limestone to be carved with names of children who have died as a result of abuse or neglect. Portions of the smooth limestone will be left blank to represent past abuse victims. The naming wall stands straight, while the opposite wall splays outward at the entry, then gradually leans inward, transforming an inviting walk into a seemingly precarious path. The project also includes a contemplative park and garden and a water play area.

Jurors were Michael Garrison and David Heyman, professors of architecture at UT Austin; Alan Taniguchi, former dean of architecture



Water cascades down a wall of the planned Texas Children's

Memorial and flows into a trough between the path and the wall.

at Rice University and UT Austin; Luchia Athens, landscape architect, Earth Sky Designs; Mike Walker, architect, LCRA; Jeff Singleton, project manager, LCRA; Dr. Peggy B. Smith, chairperson, Children's Trust Fund; and Mary Alice Brown, Children's Trust Fund.

The winning team at Tom Hatch Architects included Tom Hatch, Michael Antenora, Byron Blattel, Kimberly Kohlhaas, Pauline Lyders-Gustafson, Thea Luong, and Rodolfo Ybarra.

Fundraising will continue through 1995, with groundbreaking planned for early 1996. Interested donors should contact Sarah Winkler at the Children's Trust Fund, 512/ 458-1281. Susan Williamson a city to be alive and healthy, it needs people, especially downtown residents, to create activity and support a diversity of businesses. In fact, recent market studies in Houston indicate a substantial demand for downtown housing at all economic levels.

Traditionally, reluctance to pursue diversified or mixed-use development, in downtown and in the city as a whole, has been based on a lack of predictability about land use. Investors are hesitant to attempt something new without the modicum of control offered by zoning or a comprehensive plan that ensures that neighboring development will be compatible, not detrimental.

The obvious first step to remedying this situation is to create a master plan, based on economic reality and supported by landowners and business and political leaders, that brings predictability to economic development: not comprehensive planning or zoning imposed from above, but a consensus of desirable goals generated from the ground up.

With this kind of plan as its goal, Houston Management Development Corporation (also known as the Downtown District) was chartered as a public corporation by City Council in 1990 to manage the development planning process; the group began work two years ago. All the major players in downtown are involved: City Council, government agencies, landowners, and large and small businesses, as well as national planning experts. The Downtown Development Plan (DDP) provides a framework for decisions and strategies to guide new investment. The stated mission of the plan is "to harness the power of market trends, build upon current strengths, and op-

timize natural assets to assure that Downtown remains the diversified, vital, prosperous, exciting heart of a growing international city."

Instead of attempting to regulate land use and physical attributes, the Downtown Development Plan suggests broad principles to guide the preparation of the plan's economic management, infrastructure, and physical development components. The recommendations are organized into five strategic areas:

"Downtown," continued on page 16

Left: Map of downtown Houston shows neighborhood or subdistrict divisions as defined by the new **Downtown Devel**opment Plan.

OF NOTE

Historic Salvation

Efforts by preservationists and neighborhood groups may have saved Dallas's historic Dr. Pepper building (Thomas, Jameson and Merrill, 1948). Dal-Mac Corporation, which bought the art moderne structure from the FDIC in 1993 (see TA, July/Aug 1993), had planned to demolish it to provide space for a new shopping center. However, the DAL-LAS MORNING NEWS reported in December that Dal-Mac was negotiating with Barnes & Noble to place a store in the building; Dal-Mac presented the bookstore chain with a renovation proposal developed by Dallas architect Larry Good, FAIA.

Southern Hospitality **Austin architects Robert Steinbomer** and Donna Osborn of Robert Steinbomer & Associates won a 1995 Southern Home Award for their design of a Hill Country-style house in Austin. The house-the winner in the category for new houses from 1,800 to 3,200 square feet—was featured in the February issue of

SOUTHERN LIVING magazine, which sponsored the competition.

Hospitality of Another Kind Dallas-based IDS/B, Inc., recently won the 1994 Interior Design Specialty Award from the American Society of Interior Designers for its design of Mediterraneo, a restaurant in Dallas. The firm was also a finalist in the Gold Key Awards for Excellence in Hospitality Design for the same project.

Texas A&M students win HABS prize Three students from the Texas A&M College of Architecture were named fourth-place winners in the 1994 Charles E. Peterson Prize competition sponsored by the Historic American Buildings Survey (HABS). Elizabeth Barboza, Christopher May, and Scott Tibiletti won for drawings of the Rowell-Deware Dependency, an historic structure in Jefferson.



CALENDAR

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New ways of "seeing" architecture
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into form are the focus of this conference that will feature University
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Marcos Novak and San Antonio architect Ted Flato as guest speakers.
Monterey Design Conference,
Monterey, Calif. (Donalee
Hallenbeck, 800/866-7714), March
31-April 2

"Magic & Mystery"

This year's annual exhibition created and designed for family involvement includes work from 18 local and nationally recognized artists who create a magical and mysterious presence in their art. The Austin Museum of Art at Laguna Gloria Art Museum, Austin (512/458-8191), through March 26

Dallas Homes Tour
A private tour of homes recently
constructed in Dallas will include
designs by Antoine Predock, Steven
Holl, Richard Meier, and others.
Friends of Architecture, University
of Texas at Austin (Steve Ross, 512/
471-1922), April 28-29

Treasures of the Sultans"
An exhibition held in conjunction with the Houston International Festival will feature treasures from the Topkapi Palace, including 85 pieces of jewelry, carved ivory, ceremonial armor and weapons, illuminated manuscripts, ceramics, calligraphy, embroidered textiles, and carpets.
Museum of Fine Arts, Houston (713/639-7300), April 23-June 11

Total Quality Project Management A one-day "nuts-and-bolts" workshop presents concepts and tools of effective project management for architects, engineers, and interior designers. Association for Project Managers (312/472-1777), Dallas, May 4 "Downtown," continued from page 13

- Services: Public safety, maintenance, marketing, and other daily needs must be provided to all users of downtown.
- Economic development: Information must be compiled and made available to decision makers.
- Infrastructure: Solutions must be sought to transportation, utility, and open-space issues that affect the various areas of downtown.
- Key projects: Important projects will act as catalysts for further development and economic diversification.
- Neighborhoods: Downtown's subdistricts can be incubators for growth, as projects and services are integrated with their needs and potential.

The plan's proposals are organized around the neighborhoods, which, though lacking distinct identities, offer the possibility for a wide range of new development. Two large office cores, east and west of Main Street, will remain the economic heart of downtown; however, the plan identifies a need for restau-

Houston voters rejected zoning last year, but the Downtown Development Plan may be what was really intended as "Houston-style" zoning.

rant and retail development at sidewalk level. Transit options for Main Street itself, which has deteriorated into little more than a long bus stop, must be studied, and office and retail space there restored to usefulness. The historic district around Market Square should be protected and incentives offered to restore the few remaining vestiges of Houston's early years.

Courthouse Square will continue to be the center of legal activity as more jails are built there and city and county courts are expanded. The area around Union Station and the meager warehouse zone to the north are identified as possible locations for a variety of urban housing types. Expansion of the Convention Center is anticipated, as is construction of one or two hotels in the area in the next year. Other entertainment venues could congregate on the eastern edge of downtown.

The southeast corner, known as Leeland Place, is the least developed area within the downtown freeway loop. Medium- to high-density residential projects are feasible there, providing the market base to support further diversification throughout downtown.

The plan includes incentive and businessassistance programs to support improvements in downtown's economy and physical environment. The implementation of the plan will involve three efforts:

- Identifying current initiatives and guiding their implementation to provide maximum coordination with surrounding uses and overall development objectives.
- Focusing on incremental growth in markets such as retail, residential, entertainment, and office activity, by tailoring programs to the needs of those markets.
- Identifying "missing pieces" that can be practically pursued and encouraging their implementation within the broad planning framework.

With the initial concepts and direction of the DDP now in place, HDMC has requested public review and comment on the plan. In response, AIA Houston has organized more than 15 teams of architects to study the various districts of downtown and to come up with ideas for short-term improvements and long-term development. These visions will be published and exhibited later this year. A national symposium is also planned to further the public discussion of planning for downtown Houston.

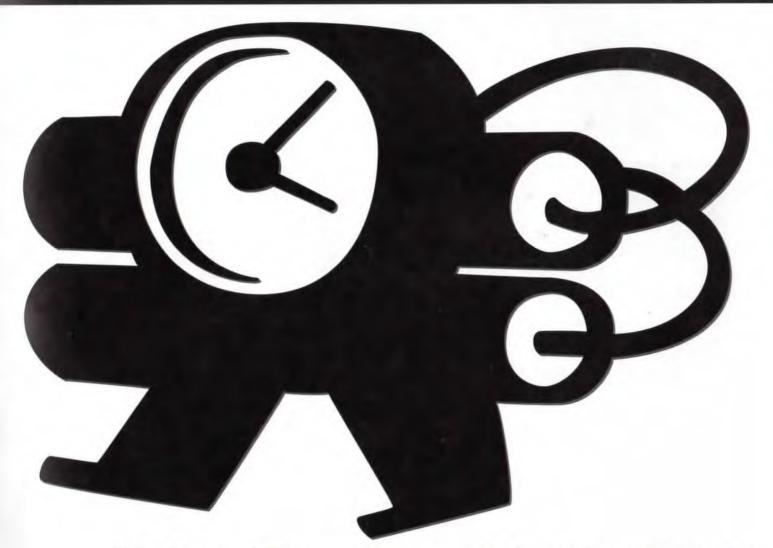
The Downtown Development Plan is not a traditional master plan: It does not prescribe land use or the physical attributes of development. It is more of a performance plan, setting out general goals and suggesting means of implementation.

Houston voters rejected zoning last year, probably for the wrong reasons, but the approach taken with the DDP may be what was really intended as "Houston-style" zoning. The plan has been undertaken from the ground up, beginning with property owners and businesses, and building support and consensus from there. With input from Houston's architects, the plan will take on a visual reality that can create real public excitement. The process will bear close attention.

Gerald Moorbead, FAIA

Gerald Moorhead, FAIA, is a Texas Architect contributing editor.

ATTENTION, ARCHITECTS



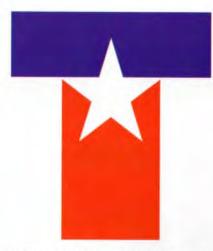
You've still got <u>plenty</u> of time to enter the 1995 TSA Design Awards. <u>Really.</u>

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See the May/June issue of Texas Architect for an entry form and complete rules.



TEXAS SOCIETY OF ARCHITECTS

1995 Honors Program Call for Nominations

Each year since 1971 the Texas Society of Architects has recognized individuals and organizations outside the profession of architecture who share its commitment to the quality of life in Texas. Accomplishments by past honorees have included roadside beautification: wildlife conservation; open-space protection; passage of laws protecting the public's health, safety, and welfare; downtown revitalization; preservation of historic buildings and sites; public-school programs enphasizing environmental concerns; museum programs and exhibits about community architecture; and reporting, publications, and articles promoting the appreciation of the built and natural environment.

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Awarded to groups or organizations whose activities make significant contributions to the goals of the architectural profession for improvement of the natural or built environment in Texas.

Llewelyn W. Pitts Award

Awarded to recognize a TSA member for a lifetime of distinguished leadership and dedication in architecture.

TSA's highest honor, awarded in memory of Llewelyn W. Pitts, FAIA, who served as TSA president in 1961 and was an influential and dedicated AIA leader.

Edward J. Romieniec Award

Awarded to recognize an individual architectural educator for outstanding educational contributions.

Awarded in memory of Edward J.
Romieniec, FAIA, a former professor and dean of architecture at Texas A&M University and the first recipient of this award.
Nominee must be a current or former member of the faculty of one of the seven accredited Texas schools or colleges of architecture, living at the time of nomination, and a full-time educator for at least five years. Criteria for selection will include evidence of the following: teaching of great breadth, influencing a wide range of students; and the ability to maintain relevance through the years by directing students toward the future while drawing on the past.

John G. Flowers Award

Awarded to recognize an individual or organization for excellence in the promotion of architecture through the media.

Awarded in memory of TSA's first executive vice president.

William W. Caudill Award

Awarded to recognize a TSA member for professional achievement in leadership development during the early years of AIA membership.

Awarded in memory of William W. Caudill, FAIA, recipient of the 1985 AIA Gold Medal and a pioneer of architectural design, practice, and leadership and service to the organization and community. Must be an architect member in good standing and an active member of the local AIA chapter for a minimum of two years, not to exceed ten years (40 years of age is a recommended maximum for a nominee).

The nominee should be a role model to the organization with these qualities: goes beyond the call of duty in service to the profession; influences improvement in the organization at the state level; encourages participation among fellow members and nonmembers; exemplifies qualities of leadership; and exemplifies qualities of professional practice.

Nomination

Each nominee's submissions should include:

- 1. a completed nomination form;
- illustrations (photos, publicity releases, other graphic material);
- letters of recommendation from individuals outside the architectural profession (mandatory for Honorary Members, but limited to five letters; optional for other nominees);
- letter of recommendation from chapter president (mandatory for Caudill Award; optional for other nominations);
- two photographs of nominee, one 3"x5" and one 8"x10" black and white glossy (mandatory for Honorary Membership, Flowers Award, Pitts Award, Romieniec Award, and Caudill Award).

All material should be enclosed in 81/2" x 11" plastic sleeves and submitted in a 3-ring binder. All oversize material should be reduced to fit within sleeves.

Questions may be directed to Gay Patterson at TSA, 512/478-7386.

Selection

The TSA Honors Committee will meet in June to review submissions. After the TSA Board has taken action on the Honors Committee recommendations, winners will be notified by a letter from the TSA President.

Presentation

Awards will be presented during TSA's 56th Annual Meeting at the Westin Galleria Hotel in Dallas, November 3-4, 1995.

Submission Deadline

All nominations must be received in the TSA Office no later than 5:00 p.m. on Thursday, June 1, 1995. Nominations should be sent to:

TSA Honors Committee c/o Texas Society of Architects 114 West Seventh, Suite 1400 Austin, Texas 78701

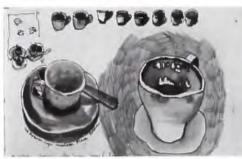
Graphically Speaking

AUSTIN Kimberly Kohlhaas, of Tom Hatch Architects, was awarded best-of-show honors in the ninth annual AIA/Austin graphics competition. Jurors for this year's competition were Shin Watanabe, Rebecca Levy, and Kelly Toombs. Watanabe is a Tokyo-based architect and was a visiting critic at the University of Texas. Levy is a freelance journalist and art critic, and Toombs is an Austin-area graphic artist. The jurors selected the winners from among 55 entries.

Kohlhaas's piece, a collection of travel sketches, was produced during an extended trip to Europe that Kohlhaas took after winning the Gabriel Prize last year. The first honor award went to Pauline Lyders-Gustafson and an honorable mention went to Rodolfo Ybarra, both of whom also work at Tom Hatch Architec ts. Second honors went to University of Texas student Subroto Nivogi, with third honors going to Stephen Dvorak of Moore/Andersson Architects. Sinclair Black, FAIA, and Jim Johnson received honorable mentions. Mark Haladyna

The original "problem wall" covering





Two of Kimberly Kohlhaas's winning drawings: Towers & Domes. Florence, Rome, Cluny (top); Romon Coffee Cups (above)



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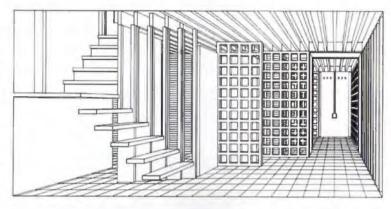
Four winners named

EL PASO Four projects were recognized in the 1994 AIA El Paso design-awards competition. Jurors were Gary Cunningham, FAIA; Max Levy; and Frank Welch, FAIA, all of Dallas.

Turner Lafving Architects received an honor award for its unbuilt design for the Pallottine Chapel in South Orange, N.J., and a merit award for a Private Residence in Ocean, N.J.

Merit awards went to Perspectiva Architects for the Pebble Hills Police Substation in El Paso and to Alvidrez Associates for the Library/Cafeteria Complex at El Paso High School.

MH



Left: Pallottine Chapel drawing

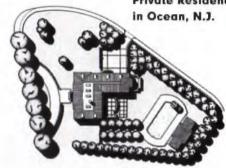
Below far left: Pebble Hills police substation

Below center: El Paso High library/ cafeteria complex

Below: site plan, Private Residence in Ocean. N.J.







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West Texas Winners

ODESSA Eight projects were selected as winners in AIA West Texas' biennial designawards competition. Jurors James Thomas Ashley, III, of Laredo; W. Mark Gunderson of Fort Worth; and John P. White of Lubbock selected the seven contemporary winners from among 16 entries; a 25-year award winner was selected by chapter members.

Two honor-award winners were selected:







Skylands Wine Cellar in Seal Harbor, Me., by Rhotenberry Wellen Architects, and the Junfor League of Midland Headquarters in Midland by Connolly Architects.

Three projects received merit awards: the City of Midland Animal Shelter by Connolly Architects; and the Morgan Residence in Bayfield, Colo., and the Knife Fork & Spoon Table, both by Rhotenberry Wellen Architects.

Two projects received citation awards: the Ector County Coliseum in Odessa by Johnson Seefeldt Architects, and the Connolly House in Midland by Connolly Architects.

The chapter's highest honor, the 25-year award, went to Ireland Elementary School in Odessa, completed in 1960 and designed by Peters & Fields. The project was chosen by the chapter's Odessa-based members; in 1996, when the next chapter awards program is scheduled, the San Angelo members will make the selection.





Junior League Headquarters (top left); Morgan Residence (top right); **Connolly House** (middle row left): Midland Animal

Shelter (center); **Ector County Coli**seum (middle row right); Knife Fork & Spoon Table (above); Skyland Wine Cellar (right)



Brazos names honorees

COLLEGE STATION AIA Brazos presented three awards at its 1994 awards program. Jurors Ronald Skaggs, FAIA, of HKS Inc., Dallas; Gregory Weiss of SBWV Architects, Houston; and Gerald Bratz of Bratz Architects, Longview, selected the honorees.

John Only Greer, FAIA, was chosen to receive the chapter's Service Award in recognition of his work as an AIA Director representing Texas, and for constant service to the profession. Holster & Associates was given the Firm Award in recognition of it's 18 years of public service and support of AIA programs. The Young Architect Award went to Chad Grauke for his achievements in private practice and his contributions as a chapter leader.

Right: St. Thomas Aquinas Catholic Church in College Station, designed by **Holster & Associates**



Getting Hardware Help

MOST ARCHITECTS shy away from preparing hardware specifications. It just takes one experience in reviewing a contractor's hardware submittal to be totally intimidated by all those mysterious codes and numbers. Fortunately, architectural hardware consultants (AHC) are more than willing to help prepare hardware specifications and schedules. These specialists can lead you through the maze of available products, advise on code changes that affect hardware, solve special applications, and assist in budgeting. Like all consultants, architectural hardware consultants require guidance and direction from the architect.

Start working with the AHC in the early stages of the project, after the overall design, function, and budget have been established. Acquaint the AHC with the building, its intended operation, use, and layout. Discuss the hardware trim design and finish. Make him aware of any special applications and designs that need to be considered. Discuss budget constraints and functional needs of the project. Do building operation requirements dictate heavier-duty hardware while budget constraints allow only light- or medium-duty? Investigate how code requirements and security requirements affect the hardware. Finally, inform the AHC of special preferences that the client may have regarding hardware.

Get an early start

STARTING EARLY allows you to develop the functional needs of the hardware as the project details are developed. If there is a need for custom hardware designs, there will be ample time to produce them. Code requirements affecting the hardware, such as requirements for fire-rated and smoke-control doors, can be identified. Don't be shy about asking the AHC for interpretation of the code as it affects finish hardware. The codes are full of nuances that affect the application of hardware. I always appreciate all the wise counsel I can get in regard to code compliance of finish hardware.

The AHC should guide you in selecting the appropriate quality level and function of hardware consistent with the performance, design, and budget requirements. Don't let him overspecify or underspecify the hardware. In selecting materials with the AHC, make sure that you fully understand the application and use of each type of hardware. If there is some question as to the appearance, shape, size, or form of an item, ask the AHC to show you a full-size sample. Don't let the appearance of a hardware item become an unpleasant surprise after it has been installed on the project.

Consider product options

WHEN YOU HAVE SETTLED with the AHC on the appropriate hardware, provide the AHC with instructions regarding product options. In other words, should the specifications be written as proprietary, listing only one brand for each item, or must they be "open," with several acceptable brands listed for each item? Or must the specification be written as a completely non-restrictive specification or be based on reference standards without listing any brand names? Make sure the AHC understands the substitution clauses that are included in Divi-

Writing a hardware specification can be less intimidating if you engage the services of a specialist.

sion One of the Project Manual. If the project requires the specifying of several "equal" products for each item, it is important that each one specified is equivalent in function, quality, and design, and are of comparable cost.

When the floor plans are completed with all doors shown and identified, including door swings, and the door schedule and details are about 90 percent complete, then you can proceed to finalize the hardware specifications and schedule with the AHC. Keep in mind that the architect is responsible for the final specification and that the AHC is a consultant and advisor to the architect.

The end product

THE FINAL hardware specification should be developed from the architect's office master or other commonly used master specifications such as MasterSpec or SpecText. In the actual preparation or writing of the hardware specification, the AHC should follow the recommendations of the technical pamphlet on hardware specification writing, "SP-1, Hardware Specification Writing," by William B. McAuliffe, DAHC/CDC, published in 1990 by the Door and Hardware Institute. One of

the most important points made in the pamphlet is that a hardware specification should contain a generic-sets-type schedule and not a detailed hardware schedule like those submitted for approval during construction. A proper hardware specification describes the level of quality and model numbers of the hardware in Part 2-Products, and lists the generic items required to provide the necessary operation of a particular door function or operation in a schedule of hardware sets. The appropriate hardware set number is entered in the door schedule for each door.

Allow for last-minute changes

THE QUICKEST PATH to disaster with a hardware specification is to allow a detailed hardware schedule that lists all the model numbers and brand names to be tacked on to an unedited master specification. The specification and the schedule will be lousy with conflicts.

Using a detailed hardware schedule for a specification, such as those prepared for approval during construction, will not allow for those last-minute minor changes in the plans or door schedule without making major changes to the specification. On the other hand, a last-minute change of a door swing or door size would not change the applicable hardware set scheduled for that door if the generic-sets-type schedule is used.

In summary, follow these procedures in developing hardware specifications with an AHC:

- Begin working with the AHC early in the contract document drawing phase.
- Ensure that the AHC understands your intent regarding performance, function, design, and budget,
- Utilize the AHC's expertise in determining the level of quality of hardware consistent with design, performance, and budget requirements. The final decision should be made by you.
- Obtain the AHC's assistance in determining the code requirements for hardware. He advises, you decide.
- Follow the recommendations of the Door and Hardware Institute technical pamphlet SP-1 in preparing the hardware specifications and schedule.

Weldon Nash, 7r., FCSI

Weldon Nash, Jr., a former president of CSI, is a principal at JPJ Architects in Dallas.

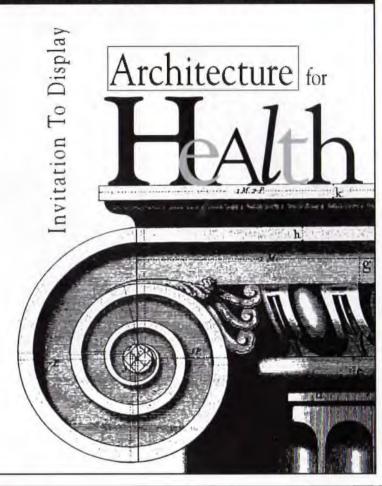
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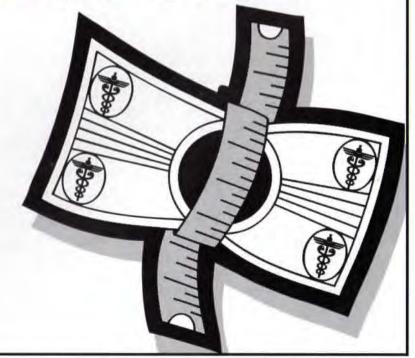
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Beyond the Courtroom

WITH THE COST and interminability of a trek through the court system, we are hearing more about other ways to settle arguments. These methods vary in their cost, in the control of the outcome by the parties themselves (as opposed to third parties), and in the likelihood of opportunity for advantage perceived by the participants.

There is nothing new about alternative dispute resolution. There are, however, some new terms and processes about which design professionals should be informed. Alternative settlement becomes impossible when too much has been invested in assigning blame or defensive posturing, both of which are prerequisites to litigation. The time to try something else is before the suit is filed.

PARTNERING is a formalized dispute avoidance process. With the help of facilitators, the parties agree to take defined steps to establish goals, open channels of communication, and hold regular conferences to defuse problems at the earliest stages when solutions are most attainable. This system has gained prominence through its adoption by public agencies and to a lesser extent by large-scale private building entities. It has demonstrated measurable success on projects that are usually dependent on bureaucratic management teams and public bidding procedures. It is worth noting that the techniques are similar to those informally employed at smaller scale in the private sector for years by competent architects, adequately funded owners, and skilled, fairly compensated contractors.

MEDIATION is the most commonly employed non-adjudicative technique. It has several variations, but, in all cases, the mutual consent of the parties is required to achieve settlement. The mediator is a disinterested third party, paid jointly by both sides. The mediator may be an expert in the field of the dispute, a judge or lawyer with no special knowledge of the issues, or even a person who brings nothing to the table but skill at negotiating. The job of the mediator is to listen to argument and evidence, to point out to each side the risks associated with their position, and to broker settlement offers. Attorneys and experts may be present, but the atmosphere is non-confrontational. All proceedings are confidential and non-discoverable should litigation ensue. Many courts now require mediation before a trial will even be heard, but



most often success occurs before large investments are made in pre-trial discovery.

MINI-TRIAL is a method where a condensed version of the evidence is presented before an arbitration panel, a judge, or even a jury for non-binding conclusions regarding the probable outcome of the dispute. The purpose is to lend leverage to settlement negotiations. Obviously, an investment in expert knowledge and skillful presentation of the issues can improve one's position. Mini-trials, or non-binding arbitration, are not well regarded by architects and contractors who have tried it, perhaps because too much investment is required to obtain a non-binding finding.

EARLY NEUTRAL EVALUATION, sometimes called fact-finding, involves joint employment by the two sides of a neutral expert for the limited purpose of making factual determinations. Such determinations often provide strong impetus to settlement, particularly when the determination is made prior to large investments in legal posturing. The risk is that the facts may be detrimental to your case, will certainly be discovered if litigation proceeds, and will probably carry more weight with the jury than any contrary opinion presented at trial by partisan experts.

their make-up and authority, but can generally be categorized as contractually established panels that provide on-the-fly dispute resolution services. The theory is that they enjoy the mutual confidence of the parties and have early access to the facts and origins

of the problem. If they have some contractual adjudicative authority they are more useful than if they rely solely on moral persuasion.

ARBITRATION is the system familiar to most design professionals. By contract, it can be binding, although there are legal exceptions to that as well. It can also be nearly as expensive and time consuming as litigation when attorneys and experts are fully employed. The obvious advantage is that technical issues are heard and judged by knowledgeable panelists instead of lay juries, thereby giving a better shot at true justice. That advantage may, however, be overrated. Most juries I have observed have finally gotten it about right, even through the smoke and mirrors of the legal system.

All of the alternative systems listed above imply a mutual desire for ostensible fairness, since they require the mutual consent of the parties to implement. They, therefore, offer no solution to frivolous lawsuits or those brought by barratrous lawyers. Nevertheless, we can expect use of these systems to increase as the court system becomes less viable as a means to resolution of common construction civil disagreements. As with any system, formal or informal, fair results still depend upon clearly presented facts without agenda-based science or tactics. John M. McGinty, FAIA

John M. McGinty, FALA, of Houston, a former president of the American Institute of Architects, is managing principal of American Construction Investigations, a forensic consulting firm.

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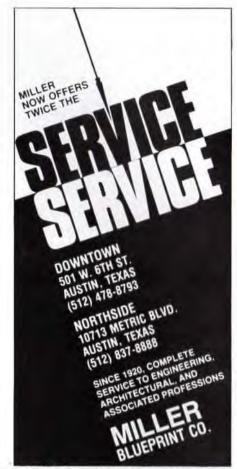
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Case Study: Public Schools

IN THIS SECTION we feature some of the winners of the 1994 Exhibit of School Architecture, a statewide design competition co-sponsored by the Texas Association of School Administrators, the Texas Association of School Boards, and the Texas Society of Architects.

Pearland Junior High School, Pearland

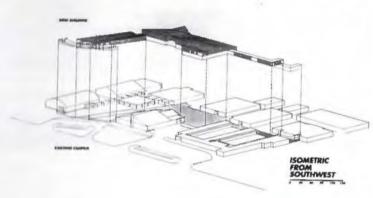
PEARLAND JUNIOR HIGH SCHOOL, by Ray Bailey Architects, Inc., of Houston, received the competition's highest honor, the Caudill Award. In the late 1980s, Pearland ISD's new junior high and high schools were overwhelmed by the district's rising enrollment. To deal with this growth, the district asked the architects to transform the recently abandoned high school into a new junior high, which was accomplished by renovating 83,000 square feet and adding 39,000 square feet of new construction. While work on the existing buildings was limited primarily to building-code issues and new finishes, the new construction unites the nine individual buildings that made up the old school and recasts the image of the entire project.

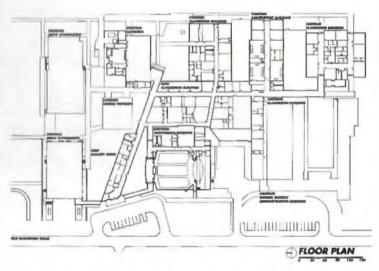


Resources

Structural steel: Chrismand, Inc.; arched canopies: Arch Technology Corp.; walkway canopies: Houston Building Products; glazed CMU: Featherlite; brick: Acme; metal wall panels: NCI Building Systems; gypsum wall panels: USG Interiors, Inc.; acoustic wall panels: Tectum; entrance doors: Vistawall; interior doors: Laminating, Inc.; overhead doors: Overhead Door Company of Houston; cement: Gulf Coast Products; resilient flooring: Armstrong; ceramic tile: American-Olean; ceiling system: Armstrong; roofing: NCI Building Systems; waterproofing/ sealants: Gulf States Asphalt, Sika, Tremco; insulation: Certainteed; paint: Sherwin-Williams; hinges: Hager; locksets: Best; closers: Norton; panic exits: Von Duprin; public address system: Telecor, Inc.; signage: South Texas Graphics; lighting: Hubbell, McGraw-Edison, Neoray Lighting, Columbia Lighting, Lightolier; sinks, lavatories and water closets: American Standard; faucets: Chicago Faucets; toilet stalls: Accurate Partitions; bathroom accessories: American Specialties; water fountains: Elkay Manufacturing Company; water heaters: A.O. Smith; airconditioning: Carrier; environmental controls: Automated Logic; carpels: Monterey; manufactured wood casework: Plas-Clad; casework: American Desk; chalkboards: Tac-Rite, Inc.; blinds: Stewart-Hartschorn; drapery hardware: Automatic Devices Corp.







CLIENT: Pearland Independent School District
ARCHITECT: Ray Bailey Architects, Inc., Houston
CONTRACTOR: Hale-Mills Construction Company
CONSULTANTS: Walter P. Moore & Associates, Inc.,
Houston (civil engineering); Cagley, Conti & Jumper,
Houston (structural engineering); MAS & Associates,
Inc., Houston (mechanical, electrical, and plumbing
engineering); Mulhauser/McCleary Associates, Inc.,
Houston (foodservice consultants)

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O'Donnell Middle School, Houston

PBK ARCHITECTS OF HOUSTON recieved an Honor Award with Distinction for its work on this 1,400-student facility in Houston's Alief Independent School District. The building is defined by a "Main Street" hallway that serves as the spine of the campus.

Academic, administrative, performing arts, library, and multimedia areas are all located along this spine. And as the designated technology center for the Alief ISD, O'Donnell serves as a showcase for the educational opportunities provided by advanced video and data communications. Each classroom is equipped to receive educational broadcasts from satellite and local sources, as well as in-house VCR and compact-disk media.

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CLIENT: Alief Independent School

ARCHITECT: PBK Architects, Inc., Houston

CONTRACTOR: Lee Lewis Construction Company

CONSULTANTS: Jones/Borne/Inc. (structural engineering); R.H. George and Associates, Inc. (mechanical, electrical, and plumbing engineering); Klotz Associates, Inc. (civil engineering)

Resources

Aluminum windows: Kawneer; entrance doors: Kawneer; EPDM single-ply roofing: Carlisle; terrazzo: American Marble Mosaic Company; carpet: Collins & Aikman

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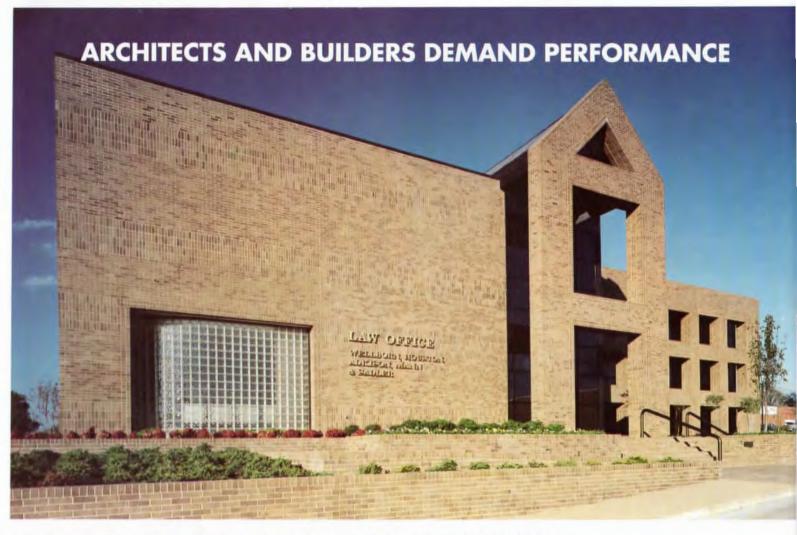
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Brookhaven Intermediate School, Killeen

BROOKHAVEN INTERMEDIATE SCHOOL, which recieved an Honor Award for Design Excellence, eliminates overcrowding in several adjacent elementary schools by consolidating 800 students in the fourth and fifth grades. This school, by JPJ Architects, Inc., of Dallas, was the Killeen ISD's first experience with intermediate school planning, and the architects worked with a



committee of 18 teachers and administrators while planning the project.

The resulting configuration consists of four "houses," each made up of two clusters of four enclosed classrooms centered around an art/science activity center, display area, restrooms, and a teachers' planning room. The common areas increase each classroom's resources, foster a team atmosphere among classrooms, and provide teachers with work areas near their rooms. Specialized classrooms are scattered along commonly traveled circulation routes to enhance flexibility.

Resources

Concrete slab: Southern Materials; reinforcing: Lofland; steel frame: Davis Iron; structural steel studs: A&S Manufacturing; structural OMU: Texas Building Products; metal deck: Wheeling Corrugating Company; cellular concrete: W.R. Grace; brick veneer: Texas Clay Products; gypsum board: United States Gypsum; ceramic tile: Dal-Tile; high building coating: Tnemec; aluminum windows: Peerless; entrance doors: Kawneer; hollow metal doors: P.W. Metal Products; plastic laminate doors: VT Industries; overhead doors: Cookson; carpet: Mohawk; rubber base: Roppe; vinyl tile: Azrock; lay-in ceiling: Armstrong; modified bitumen roofing: Siplast; metal roofing: Berridge; sealants: Tremco; insulation: Owens Corning, VC Industries, Zonolight; operable partitions: Hufcor; hardware: McKinney, Sargent, Von Duprin; public address system: Rouland; lockers: Penco; signage: The Sign Group; laboratory and library casework: Indeco; plastic laminate casework and millwork: Terrill Manufacturing; chalkboards and tackboards: Peninsular Slate; elevators: Dover; aluminum handrails: York Metal Fabricators; lighting: Lithonia; lavatories and water closets: Kohler; urinals: Crane; sinks: Just, Sloan, Flat; toilet stalls: Ampco; water fountains: Oasis; heating/air-conditioning: York; mini-blinds: Bali





CLIENT: Killeen Independent School District ARCHITECT: JPJ Architects, Inc., Dallas

CONTRACTOR: Emerson Construction Company, Inc.,

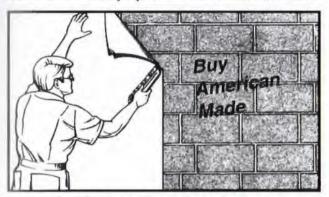
Temple

CONSULTANTS: Estes, McClure & Associates, Tyler (mechanical, electrical, and plumbing engineering); Ten Eyck, Merritt, Barnett, Pitt, Dallas (structural engineering); H.G. Rice & Company, Inc., Irving (kitchen consultants)

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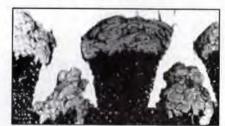


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PUBLIC SCHOOLS Special Advertising Section





Kleb Intermediate School, Klein

WHEN THE KLEIN ISD asked for a new intermediate school on a narrow strip of land adjacent to Klein High School, Cavitt McKnight Weymouth, of Houston responded with a project that won an Honor Award for Design Excellence. Working around constraints imposed by the narrow site, the architects designed a compact building with two-story academic wings flanking a central resource center. Students circulate from the resource center and classrooms to other parts of the school via a naturally lit, two-story corridor.

The cafeteria (top right) utilizes a fast-food scramble system, with students choosing from seven serving stations—each displaying a different menu and neon signage.





CLIENT: Klein Independent School District

ARCHITECT: Cavitt McKnight Weymouth Inc., Archi-

tects, Houston

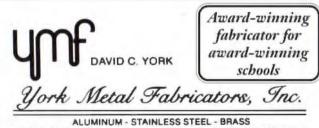
CONTRACTOR: The Cadence Group, Inc.

CONSULTANTS: JSE Consulting Engineers, Inc. (mechanical, electrical, and plumbing engineering), Jones/Borne/Inc. (structural engineering); American Engineering Company (civil engineering); Frank Clements Associ-

ates (food service consultants)



Structural steel: Jarco Steel; joists and deck: Vulcraft; concrete: Pioneer Concrete; reinforcing steel: Texas Cold Finish Steel; CMU: Houston Concrete Products; skylights: Skywal; wood doors: VT Industries; overhead doors: Kinnear; synthetic rubber floor: ChemTurf; terrazzo: Southern Tile and Terrazzo; carpet: Collins and Aikman; acoustical ceiling: Armstrong; single ply roof: Bond Cote; metal roof: Robertson; paint: Glidden; hinges: Hager; locksets: Corbin; closers: Norton; panic exits: Von Duprin; kitchen equipment: Hobert; lockers: List Industries; bleachers: Hussey Seating Company; work stations: PlasClad; laboratory casework: American Desk; elevators: Dover; aluminum handrails: York Metal Fabricators; lavatories and water closets: Eljer; water fountains: Elkay; chiller: York



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C.F. Brewer High School, Fort Worth

HAHNFELD ASSOCIATES ARCHITECTS/PLANNERS, INC. of Fort Worth recieved an Honor Award for Design Excellence for their expansion and renovation of C.F. Brewer High School. The new addition, located at the rear of the existing facility, includes ten general classrooms, four computer classrooms, and four science classrooms, as well as art, homemaking, and language labs. The new two-story classroom wing is attached to the existing building by a large atrium space (right), which now serves as a focal point for the sprawling campus.

Renovation of the existing facilities included expanding the cafeteria into an adjacent classroom building and refurbishing all corridors.

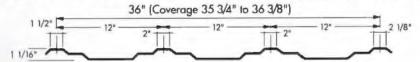
Resources

Concrete: Gifford-Hill; rebar: Lofland; steel frame: Modular Steel and Manufacturing; metal studs: Dietrich, Southwest Metals; steel beams and bar joists: SMI Joist; brick: Acme Brick; composite metal panels: Alucobond; CMU: Texas Industries, Inc.; gypsum: Gold Bond Building Products; glass block: Solaris; skylights: Naturalite/EPI; exterior doors: Amarlite, Door Pro Systems; interior doors: Marlite; overhead doors: Atlas Door Corporation; VCT: Armstrong; carpet: Stratton; tile: American Olean; lay-in ceiling: Armstrong; modified bitumen roofing: Siplast; sealant: Tremco; throughwall flashing: Dur-O-Wal, Inc.; insulation: Owens Corning; paint: Glidden; hinges: Hager; locksets: Russwin; closers: Russwin; panic exits: Von Duprin; kickplates: Tremco; lockers: Penco; plastic laminate millwork: Wilsonart; rubber treads: Roppe; lavatories: Norwich, Elkay; water closets: Crane; plumbing fittings: Kohler, Elkay; flush valves: Sloan; toilet stalls: Global; bathroom accessories: Bradley; water fountains: Elkay; air conditioning: Carrier; blinds: Bali; chalkboards: Leizer Board; tackboard: Krommenie





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CLIENT: White Settlement Independent School District

ARCHITECT: Hahnfeld Associates

CONTRACTOR: Muckleroy Demoss CONSULTANTS: Carter & Burgess, Inc. (mechanical, electrical, and plumbing engineering); Metro Engineers, Inc. (structural engineering)

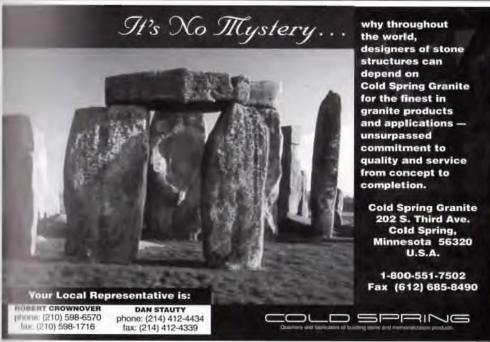
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Circle 90 on the reader inquiry card

Bethany Elementary School, Plano

CORGAN ASSOCIATES, INC. of Dallas received an Honor Award with Distinction for Bethany Elementary School in Plano. At Bethany, the architects managed to design a facility that provides an almost infinite number of teaching spaces and class groupings. The building's layout provides for class sizes ranging from one student to the entire school, allowing educators to mold the space to fit their teaching goals and objectives.



The building consists of five classroom pods arranged off of a large multipurpose room lit by a curving clerestory window (below and below right). Each of the five pods includes an art and science area, restrooms, an outdoor courtyard, and five classrooms with operable partitions for flexibility.

CLIENT: Plano Independent School District

ARCHITECT: Corgan Associates Architects, Dallas

CONTRACTOR: The Cadence Group, Inc.

consultants: Reed, Wells, Benson (mechanical, electrical, and plumbing engineering); L.A. Fuess Partners (structural engineering); Shrinkel Rollins (civil engineering); Mulhauser/McCleary Associates, Inc.

(foodservice consultants)

Resources

Steel frame: Searcy Steel; light gauge framing: A&S Manufacturing; joists: Vulcraft; brick: Hope Brick; tile: American Olean; interior wall systems: Duroplex; windows: Kawneer; interior doors: VT Industries; carpet: Mohawk, Suportron; pavers: Dal-Tile; VCT: Armstrong; rubber base: Burke; ceiling tiles and grid: USG Interiors; metal roof: Berbice; built-up roof: Manville; insulation: Guardian Fiberglass; operable partitions: Advanced Equipment; paint: Jones-Blair; hinges: Hagar; locksets: Schlage; closers: LCN; signage: American Graphics; acoustic wall panels: Conwed; lavatories: Lustertone; water closets: Crane; flush valves: Sloan; water heaters: PVI; built-in millwork: Wilsonart; projection screens: Draper









Special Advertising Section Computers in Architecture



Selecting a CAD Service Bureau

By Kelly B. Nunn

THE NATURE OF ANY BUSINESS is that there will be large, fast-moving projects that require a lot of staff time, and then slow, methodical projects that require less staff time. When work flow increases (the fast and large projects) and you do not need or want to hire permanent drafters, the answer may be to call on a CAD service bureau.

The advantages of using a service bureau include reduced long-term overhead liability and increased short-term production. Having provided AutoCAD services in Texas for five years, I would like to share my experience to help you avoid some of the expensive pitfalls that can occur when utilizing short-



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term support services.

A service bureau's ability to quickly adapt to a customer's project parameters is the key to a successful relationship and successful completion of the job. These parameters include a set of company CAD standards as well as the specific project requirements. A sample drawing file from the project is always helpful when determining parameters. While a set of standards is important in any CAD department, the key to success is the implementation of those standards into a project and into daily CAD operations. Before BLADE Technologies starts a project, we obtain a set of CAD standards from the customer and schedule a two-hour work session to go over each standard thoroughly and implement the standards into a prototype drawing file. If a company does not have a set of CAD standards, we spend the work session developing a set of standards, which we turn over to the customer once our work on the project is complete. This process is key in making CAD drawing files produced by a service bureau look and feel like they have been produced in house.

Once you have implemented or developed a set of CAD standards for a service bureau to work with, you need for the service bureau to bid on the work to be produced. Our firm's bidding process takes no longer than one hour and includes a deliverable list along with a "Not To Exceed" price. The

most important skill a CAD service bureau can have is the ability to bid a project realistically. When bidding a project I offer to show new customers our most recently completed project along with its bid sheet, so that they can see that we can complete a project on deadline and under projected "Not To Exceed" bid amounts.

There are two other key elements you should ask for from any service bureau. One is the names of drafters and managers who will be working on your project. It is equally important that you get a single contact name so that instructions are not passed around as your deadline is fast approaching. Second, make certain that there are a number of "check cycles" throughout the project. A "check cycle" should include plots of work completed that will be checked and marked by you to ensure that the drawing files created by the service bureau are representative of your in-house work. BLADE Technologies' standard is to have as many check cycles in the beginning of new projects as possible, so as not to interrupt a fastapproaching deadline in the later stages.

In conclusion, make sure you have a clear definition of the bid document, exact CAD production technique with CAD standards, contact name, and deliverables. It is important to address deliverables and payment before the

"Service Bureau," continued on page 40

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Circle 28 on the reader inquiry card

CAD Graphic Output Technologies

By Don Stewart

AS WE APPROACH the millennium, the evolution of computer-aided-design (CAD) software and hardware has been nothing short of unbelievable. You can open any CAD trade publication and see an amazing array of new products. The proliferation of new CAD products has created a dizzying matrix of choices, and the output devices used in CAD, usually called plotters or printers, have seen a similar explosion.

After you spend hours at your computer designing and editing a project, a hard copy is usually needed for clients or coworkers to review. Ten years ago, you only had two choices for large-format output: a pen plotter or an electrostatic plotter. (Large format, for purposes of this article, means a drawing or rendering that is 22 inches wide or more.) Today you can chose from a wide variety of output devices, because hard-copy CAD graphic output can now be done using any of the following technologies: pen or pen/pencil; direct thermal; electrostatic or laser; and ink jet.

Pen/pencil plotters are the old reliable output method. They are inexpensive and can do color plots. There are still over 1,000,000 of them being used.

Direct-thermal plotter manufacturers have targeted the electrostatic market where high volumes of plotting are done each month. They are fast, user-friendly, and require little maintenance.

Electrostatic and laser plotters are expensive to maintain, at least \$1,000 per month, and require constant user attention. However, they are the fastest technology in situations where hundreds or thousands of plots are done each month.

In the last four years, one technology has emerged as the front runner. Led by Hewlett-Packard and ENCAD, ink-jet technology is sweeping the CAD industry. In recent weeks, CalComp and Summagraphics (Houston Instruments) have announced their entry into the ink-jet arena, and it has been estimated that ink-jet plotters will account for 75 percent of total plotter purchases by 1996. Ink-jet

Output Cost Analysis					
Plotter Type HP 220/600 Ink Jet CalComp TechJet	Media Type				
	Bond	Premium Bond	Vellum	Film (clear or matte)	
Monochrome	\$0.65	\$0.79	\$1.91	\$7.10	
HP650C Ink Jet					
Color	N/A	\$1.50	\$2.25	\$7.10	
Monochrome	\$0.65	\$0.79	\$1.91	\$7.10	
Pen Plotter	\$0.55	\$0.65	\$1.65	\$5.45	
Electrostatic					
Color	N/A	\$1.55	\$1.80	\$11.50	
Monochrome	\$0.45	\$1.25	\$1.50	\$10.50	
Direct Thermal	\$1.35	\$1.80	\$2.40	\$9.05	
	* Costs shown are for standard 36" x 48" E-size mechanical drawings.				

plotters are fast, reliable, user-friendly, and economical. The output quality is better than laser, electrostatic, or direct thermal. Pen plotters, however, do still hold a slight edge in line quality.

Once you have made the decision to buy a plotter or printer for output purposes, the next decision to be made is what media is best for the application. The table shown above compares the approximate cost per drawing for technology types and media.

It is worth making a special note here about ink-jet media. The media for ink-jet plotters (paper, vellums, and films) have been designed to work specifically on ink-jet devices, and the media you use, in conjunction with the inks, need to be compatible. Using the wrong media can cause the ink to run, bleed, fade, pool, or not dry for days. When dealing with output media, try to remember the philosophy, "It doesn't matter if it's free. If it doesn't work, it costs too much."

After putting a great deal of care and forethought into the purchase of your CAD output equipment, be sure to give equal attention to the supplies that will be used on it. Choose a company that knows

the products, understands your applications, and can match the correct equipment and media.

Don Stewart is the President and CEO of Plotter Supplies, Inc., and has 25 years of experience in the plotter hardware and supply industry

"Service Bureau," continued from page 39

project begins. The worst possible scenario is for you to have to wait for plots because a service bureau will not turn over drawing files until they receive final payment. Our policy is for the customer to sign our bid document as an understanding of CAD deliverables and "Not To Exceed" amount, then when our work is complete we deliver drawing files. Our company motto is: "Provide fast, efficient and affordable CAD services and be flexible to the customer's changing needs."

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Architects + High Tech

By George T. Middleton, AIA, CSI

ARCHITECTS WHO ADD the right hightech software and hardware (some of it portable) to the "tools" of their profession can be more responsive to their clients and more competitive in today's technology-oriented marketplace.

American Institute of Architects (AIA) figures show that 50 percent of architectural firms are using CAD software. Architects use 2D programs primarily for drafting, though increasingly they are relying on them for designing as well. 3D CAD packages are generally utilized for modeling and "walk-throughs." CAD viewings or printouts can go a long way towards helping clients understand an architect's vision of their needs.

Offices with more than one work station that use CAD software should consider tying two or more computers together in a LAN—local area network. This way, several architects working on common projects can easily and quickly update or refer to common files, or share software, including specifying software.

CD-ROMs can provide prodigious amounts of data and graphics on one disc. Software packages on CD-ROM featuring electronic catalogs and CAD drawings of construction systems, product specifications, and related technical articles and manuals, are now available. Using this new technology, architects can paste data or drawings into files created with other applications.

For example, U.S. Gypsum Company has introduced an updated version of its product information and specification software, USG ACTION, on CD-ROM. It provides building professionals quick access to detailed data, drawings, and specification information on company products and systems.

A notebook computer and a lightweight, full-functioning flexible digitizer provide architects on the go with a way to accurately modify or change designs fast. CalComp's EstiMat, for example, which comes in D and E sizes, with either a cordless pen or puck as an input device, rolls up for portability. Used in conjunction with CAD software, it allows for direct entry of digitized drawings on-site or in a client's office on a laptop.

Basic hardware, like a fax/modem and a page scanner, make communications and revisions almost instantaneous. With a fax/modem in your computer, you can fax layout designs without printing them out first, thus speeding up the "design and approval" process and offering the opportunity for quick and efficient reaction to feedback.

Scanners also deserve a front and center spot in a busy office. You can scan cuts from brochures or catalogs and hand-sketched plans and elevations with either small hand-held or standard-sized full-page flatbed scanners. The more costly large-format units are a much better match for architectural plans. The large-scale units can scan sheets up to 36 inches wide in one pass and offer a direct means of efficient file management and retrieval.

Scanning is an excellent way to store plans, especially of completed projects. If the plans are slated for archiving, you can store them as is, as raster images right off the scanner. If you anticipate manipulating the plans in AutoCAD or other programs that use vector graphics, there is another step. You have to convert the plans to vector images, which maintain the original level of resolution, even when you zoom in and out. At any rate, scan with the best quality, cleanest drawing you have on hand. The digital images will be accessible by anyone who logs on to your office computer or LAN.

Though the digitally stored drawings save tremendously on physical office space, the sorted files still take up a lot of computer disc space and so should be compressed. (The federal government's CALS Group 4 specification—already making inroads as a scanning standard—compresses the file twenty times.)

For jobsite photos, you can also think "digital." Architects can use a relatively inexpensive digital camera, such as Logitech's Fotoman Plus Digital camera, as another means of passing on information quickly. Photos are "instant" in the true sense-no film, no developing. You can photograph original site conditions, maintain a visual daily or weekly dossier of work in progress, and record jobsite problems, then download the images onto your computer. Architects can utilize the images in a variety of applications or transfer them by either fax or modem to appropriate interested parties.

All these cutting-edge, time-saving, and productivity-enhancing computer tools are likely to become the norm soon enough. Put into action now, they will fast become strong, silent partners in any busy architect's office.

George Middleton, AIA, CSI, is the director of technical marketing for United States Gypsum Company. He is a licensed architect and holds a Master of Architecture degree from the University of Illinois.

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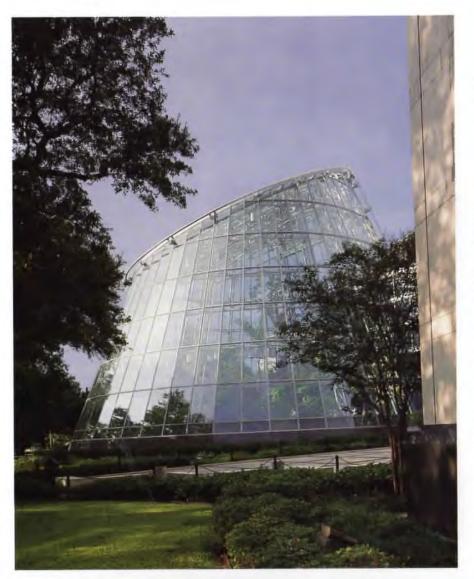


Simulations

LOOK AROUND: The architecture of leisure, with its characteristic strategies of illusion and replication, is colonizing one social institution after another.

Once-astonishing sights are no longer amazing, dotting the strip and shopping mall as well as the museum and the amusement park. Pre-dynastic China. Mayan Central America. German and Hispanic buildings from 19thcentury Texas. A vision of the future where men can relax into the roles of the past.

The really amazing thing is that the buildings themselves are getting lighter and thinner. Some lightweight steel framing, some EIFS, some cleverly shaped drywall, and a bit of clever planning, and you can have a replica, or a least a sort of convincing reminder, of nearly anything.

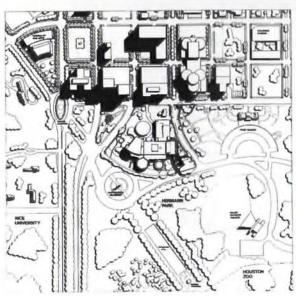


Butterfly House

By Gerald Moorhead, FAIA

SHAPED something like a huge butterfly net, the lacy conical structure of the Cockrell Butterfly Center at the Houston Museum of Natural History is a tropical-rain-forest habitat for thousands of brightly colored insects. Rising to a height of 75 feet, the delicately framed greenhouse is the first butterfly habitat of its kind in the U.S.; it attracts nearly 4,000 visitors per day.

The pavilion is part of a 65,000-square-foot expansion, designed by Hoover Architects (formerly Hoover & Furr Architects), that completes the second phase of the Museum of Natural History's current master plan. The original museum (George Pierce-Abel Pierce, architects; Staub, Rather, and Howze, associated architects) was built in 1964. It consists of a travertine-sheathed exhibition building forming a background to several geometric pavilions ranged along the facade that fronts nearby Hermann Park. A round, domed planetarium came first, followed by the hexagonal IMAX theater in 1989 (Hoover & Furr). The glazed cone of the butterfly center abuts new radially shaped exhibition space, built as part of the phase-two expansion, that



Above: site plan





follows the curve of Hermann Circle Drive, forming a hinge that will connect existing buildings to future additions.

Approaching the Cockrell Butterfly Center through the museum's grand entrance hall, the visitor is directed by a circuitous downward route into a damp cave, emerging under a waterfall into the well of the cone. The heat and moisture, oppressive even to weathered Houstonians, are necessary to support not only the butterflies but also the lush vegetation that provides their diet. Almost all of the several thousand butterflies on display, which live only a few weeks, are currently purchased from tropical countries around the world and shipped to the center as larvae. Special greenhouses atop the center's nearby parking garage will permit staff to eventually hatch up to 20 percent of the needed stock.

A spiraling circulation pattern leads the visitor up from the cave and pool, through a rain forest of real and artificial trees, winding around a flowery butterfly meadow and continuing up to an elevated overlook. The more entranced one becomes with

these fluttering, fragile creatures, the less aware one is of the structured enclosure.

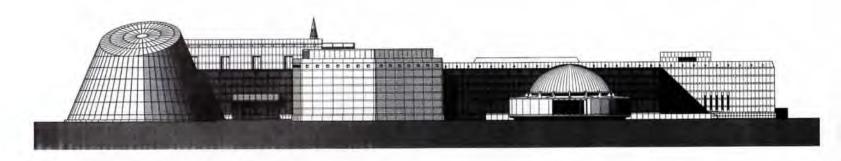
Design of the Butterfly Center's structural system had to allow for resisting Class-5 hurricane winds; at the same time, the design had to minimize shading, since both butterflies and plants need maximum light. In addition, the structure had to be "butterfly friendly": By using tubular sections and a tension chord bracing technique in the steel framing, the architects kept the number of sharp edges and flight obstructions to a minimum. The sloped perimeter trusses and radial roof trusses are connected by a compression ring. Special care was taken in the painting and assembly of the structure to protect the steel from the long-term effects of high humidity in the pavilion. Because of this care, the Cockrell Butterfly Center will give visitors a long-term chance to see a remarkable display of some fascinating, short-lived creatures.

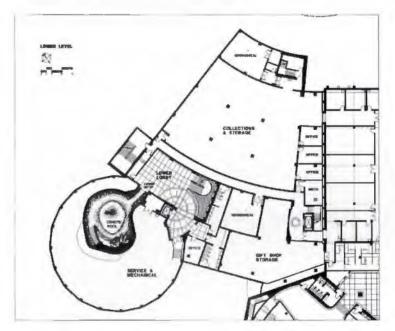
Award-winning architect Gerald Moorbead, FAIA, a Texas Architect contributing editor, is also Architectural Record's Houston correspondent.

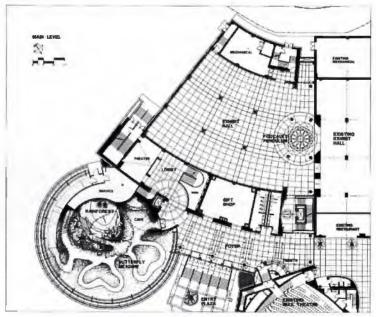
Facing page, top: The glass skin of the Cockrell Butterfly Center consists of 538 trapezoidal panes of glass on a "butterfly friendly" frame.

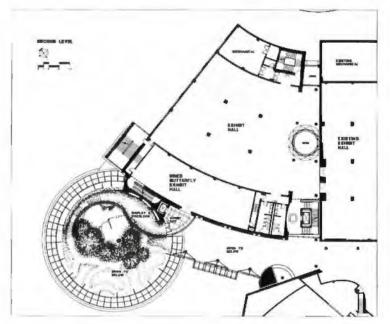
Facing page, bottom right: Falling water and a sculpted tree (actually part of the ventilation system) support and demonstrate the butterfly's wet, tropical environment.

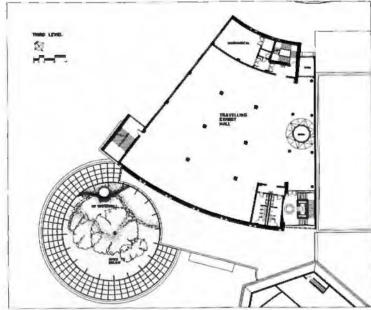
Above: Vitrines in the wall at the third level display hatching and metamorphosing butterflies.

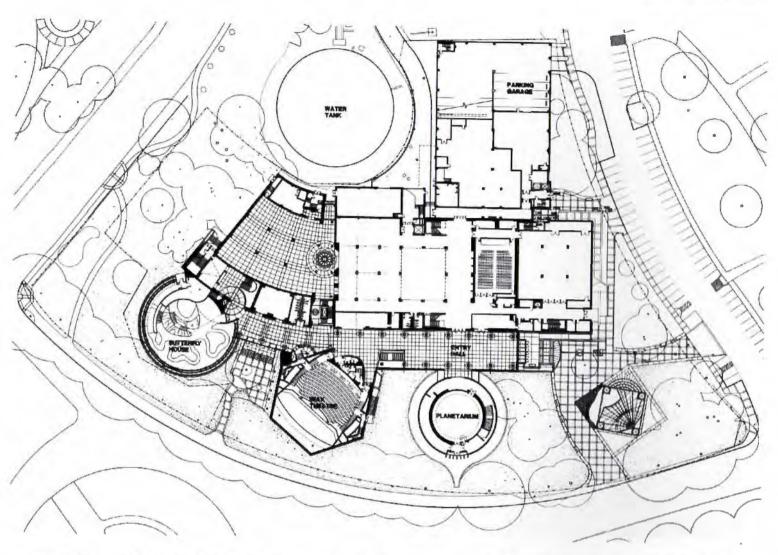












PROJECT Cockrell Butterfly Center and Donor Wing Expansion, Houston Museum of Natural Science, Houston CLIENT Houston Museum of Natural Science (Truett Latimer, president)

ARCHITECT Hoover Architects, a 3D/International Group, Houston (Norman Hoover, FAIA, design principal; Charlie Brookshire, project manager; Mark Lange, designer)

PROJECT MANAGER Century Development (Mike Riley, vice president)

CONTRACTOR SAE/Spaw-Glass Construction, Inc. (Jesse Gonzales, president)

CONSULTANTS Walter P. Moore & Associates, Houston (structural and civil engineering); Burns, DeLatte & McCoy, Inc., Houston (mechanical, electrical, and plumbing engineering); Studio of Richard Jeter, Houston (lighting); Rolf Jensen & Associates, Houston (code compliance and life safety); Southwest Laboratories, Houston (material testing); Charles M. Salter & Associates, San Francisco, Calif. (acoustical); Butterflyte Solutions, Cataula, Ga. (butterfly consultant); The Larson Company, Tucson, Ariz. (exhibit design); Howard Fields & Associates, Sausalito, Calif. (water feature design); McCaren Design, St. Paul, Minn. (interior landscape); Wild Sanctuary Communications, San Francisco, Calif. (sound): Neogard, Houston (coatings); Mee Industries, El Monte, Calif. (fog); H.S. Fisher Engineering, Orange, Calif. (scaffold-

PHOTOGRAPHER Richard Payne, EALA, Houston

Resources

Roof decking: Vulcraft; roof membrane: Chamberlin; stonework: Canaelosi: curtainwall: FRG/Facade Inc.; window coatings: Valspar; skylights: Plasteco; entrance doors: Door Pro; concrete pavers: Pavex; expansion joints: Balco; terrazzo: **American Marble** Mosaic; lay-in ceiling:

Armstrong; metal ornamental ceiling: Gordon; waterproofing/ sealants: Pecoro, Tremco, Hydrozo/ Jeene; paint: Glidden, Polymix; hardware: Sargent. Schlage, Hager, Trimco; emergency doors: Total Door; window washing system: Swingstage; elevators: Schindler; stairs/treads: Roppe;

handrails: Quality Woodwork; stage lighting: Altman; dimming and controls: **Electronic Theater** Controls; fibre optics: Fibrestars; toilet stall partitions: Mill Company; bathroom accessories: ASI, Paul Allen Company; air-conditioning system: Trane; entrance mats: R.M. Leach (Arden); Carpet: Bentley, Mohawk



El centro de atracciones Fiesta Texas, localizado en una cantera abandonada al Noroeste de San Antonio, presenta temas culturales mexicanos, alemanes, tejanos y del "lejano oeste." Diseñado en conjunto por el Grupo Benbam y Jones Kell de San Antonio, su arquitectura incluye elementos típicos de los mencionados temas. A este parque se le está añadiendo un area recreativa de agua de 1.5 acres.





PATTERNED after Nashville's country-music theme park Opryland, Fiesta Texas is located in an abandoned quarry northwest of San Antonio. The 150-acre, \$100-million project, which opened in 1992, was built by a joint venture of USAA Insurance, San Antonio's largest employer, and Opryland U.S.A. The park highlights local Mexican, German, Southwestern and "Wild West" cultural themes in its physical setting and attractions. Designed by a joint venture of The Benham Group and JonesKell of San Antonio, the architecture of Fiesta Texas provides historicized backdrops to the thrilling rides and musical shows that attract visitors, while housing restaurants, stages, retail shops, and support facilities throughout the park.

Fiesta Texas is undergoing a significant expansion, with the addition to the existing 14-ride complex of a 1.5-acre water activity area including waterfalls, geysers, and volleyball courts. New shows will include a summer-long concert series featuring country music stars, as well as "Bounce," an interactive juggling, trampoline, and gymnastics show. The park's laser show is also being upgraded.

SpecNote The architectural details found throughout Fiesta Texas, including the "quoins" shown below, were made by Albert Koehler of Fusselman Lath & Plaster in San Antonio, using Senergy EIFS



PROJECT Fiesta Texas Theme Park, San Antonio CLIENT USAA/Opryland USA Joint Venture THEME PARK DESIGNER Forrect Design International ARCHITECT The Benham Group/JonesKell-A Joint Venture-Architects (John H. Kell, Brent Lane, Richard Smart, Ronald J. Biediger, Thomas R. Jackson, Steven Land Tillotson, James G. Sterner, James R. White, Woodrow Woods, Charles Renson)

CONTRACTOR Lyda-Manbattan

CONSULTANTS Humberto Saldaña & Associates (associated architects); Walter P. Moore & Associates/Edens & Harper (structural engineering); Goetting & Associates (mechanical, electrical, and plumbing); Pape-Dawson Engineers (civil engineering); James E. Keeter, FASLA (landscape architecture); Pelton Marsh Kinsella in association with Carter & Burgess (acoustical/theatrical consultants); Rolf Jensen & Associates (building code); Mublhauser McCleary Associates (food service); Project Control of Texas (project manager)

PHOTOGRAPHER Donnie Beauchamp



Resources

Joists: Vulcraft; roofing: D'Hanis; EIFS: Senergy (Alamo Foam-distributor); wood siding: Allen & Allen; cost stone: Stromberg; wood windows: Marvin Windows (Fisher Home Design Center); glass: Samuels; doors: Eggers, Pearland; plastic laminate: Wilsonart; VCT: Azrock; concrete: Red-

land Worth SA; pavers: D'Hanis, Alamo Concrete Pavers; tile: Mission, Talavera; ceiling grid: Donn; ceiling tile: Armstrong; shade fabric: Hendee Enterprises (Enduro); paint: Sherwin Williams; carpet: Roppe; theater seating: American Desk; lockers: Lyon; water slides: Whitewater; pool: WavetechR

Above: Part of the Los Festivales section of Fiesta Texas, which draws on Mexican themes for its amusements.

Left: A roller coaster and water fall draw on the landscape features of the site, a former quarry.

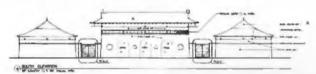
Facing page, top: part of Spassburg, the German-theme area

Facing page, center: park map

Facing page, bottom: The High School in the Rockville "nostalgia" area holds a theater.

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Right: Construction photograph shows how steel framing will be used to represent traditional Chinese building technology in a phaseone exhibit at Forbidden Gardens, near Houston.

Above: Elevations of the Forbidden City exhibit buildings

Facing page: site master plan (left) showing landscape development and replicas of a ceramic soldier (top far right) and horses from the Tomb of the Emperor Qin, one of the phaseone exhibits



Los Tardines Probibidos, un museo al aire libre de la bistoria, cultura e bitos de China será abierto al público en el otoño. Diseñado por el Grupo Slaney Santana, arquitectos paisajistas de Houston, el complejo consiste de miniaturizaciones y replicas situadas en un plano organizado axialmente, similar al de la ciudad de Beijing. Esta obra transforma un terreno plano y sin arboles en una atracción turística.

Forbidden Katy

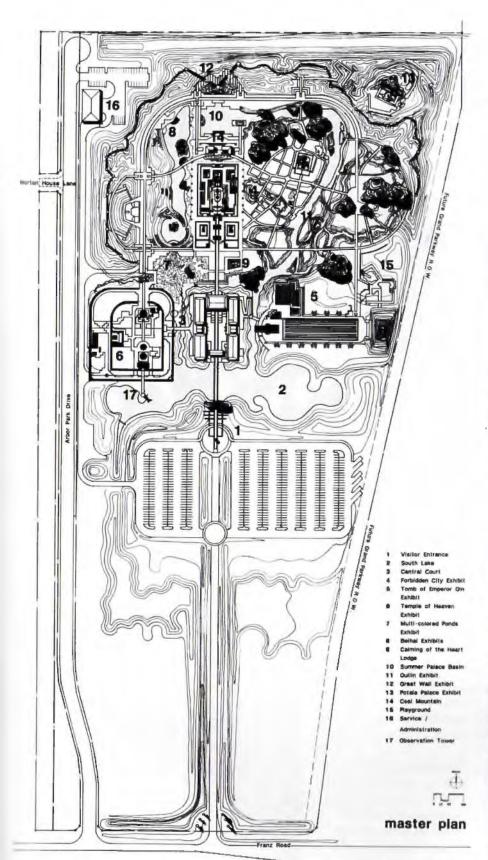
By Mark Forsyth

LANDSCAPES at miniature and full scale, along with recreated gardens and marvels of archeology will highlight the transformation of an area of flat, treeless fields near the town of Katy, west of Houston, into the Forbidden Gardens, an outdoor museum of China's history, culture, and landmarks. Designed as a family-oriented entertainment facility by the Slaney Santana Group, landscape architects of Houston, and financed by investors based in Seattle, the 85-acre project is scheduled to open this fall. (A similar park was built in the 1980s by the Chinese government near Orlando, Fla.)

Two main exhibits. The Forbidden City and The Tomb of Emperor Qin, will open as part of the first phase and will contain miniaturizations and replicas created by colleges of art and artisans throughout China. The Forbidden City exhibit is a 1:15 miniaturization of the Imperial City as it existed during the Qin Dynasty, including ancient gates, fortifications, and compounds. Recreating an archeological dig discovered just 20 years ago, the Tomb of Emperor Qin, containing 9,000 half-size warriors, horses, and chariots arranged in battle formation, celebrates the first unifier of China.

Scheduled to open in mid-1996, the second phase will replicate the landmark of North-central China called Multi-Colored Ponds. Also in phase two: the Temple of Heaven, a 1:15 miniaturization of Tian Tan Park in Beijing; Behai Park, which recreates China's North, Middle, and South Seas; and Calming of the Heart Lodge, a rural compound used by many of China's emperors. Following the second phase, future exhibits will include Summer Palace Basin, the ancient city of Quilin, and a miniature replica of the Great Wall.

The Slaney Santana Group organized the imported landscape of Forbidden Gardens by interpreting a Chinese watercolor dating back to the 13th century. The park follows in general the north/south axial organization of Beijing's city plan. Differing scales from miniature to full size present a variety of experiences; water is used as the transforming element between scales. The full impact of this transplantation of China to suburban Houston can be realized atop the pagoda-like fivestory observation tower, which gives an aerial perspective of Forbidden Gardens and its exhibits. TA







PROJECT Forbidden Gardens CLIENT G.E.C.I. LANDSCAPE ARCHITECT

Slaney Santana Group, Houston (Scott Slaney, principal-in-charge)
ARCHITECT Robert

Robinowitz with Cisneros + Partners, Houston

CONTRACTOR Humphries Construction Company, Houston

CONSULTANTS A.G.H. Engineering, Inc. (struc-tural); Wylie & Associates (mechanical, electrical, plumbing); Walter P. Moore & Associates (civil);

Brown & Gay Engineers, Inc. (water effects); Babendure Design Group (environmental signage); Showorks (exhibit video production); Studio R/Jeter (lighting); McBride Ratcliff (geotechnical)

Resources Structural steel frame: U.S.A. Steel; EIFS: Corev; concrete pavers: Pavestone; metal roof: Berridge



Palmer Brook Schooley, al rediseñar un "club de caballeros, " creó un espacio interior único en su clase. El propósito era crear una atmósfera diferente y mas agradable que la de otros típicos clubes. La configuración de las paredes, techo, accesorios y muebles es de forma orgánica, todo dentro de una barmonía de colores. El plano curvilineo aisla el espacio del exterior y desorienta al visitante, quien alrededor de espectáculos y música, se encuentra en un mundo de fantasia.

Above: Ceiling planes are sculpted to match the sensuous curves of the stage and bar areas, themselves derived from the forms of the club's dancers.

Facing page: Plan shows circulation patterns established by walls and floors, as well as sculptural effects achieved in the ceiling plane.

Right: the lobby area's surprise skylight

New Clubhouse

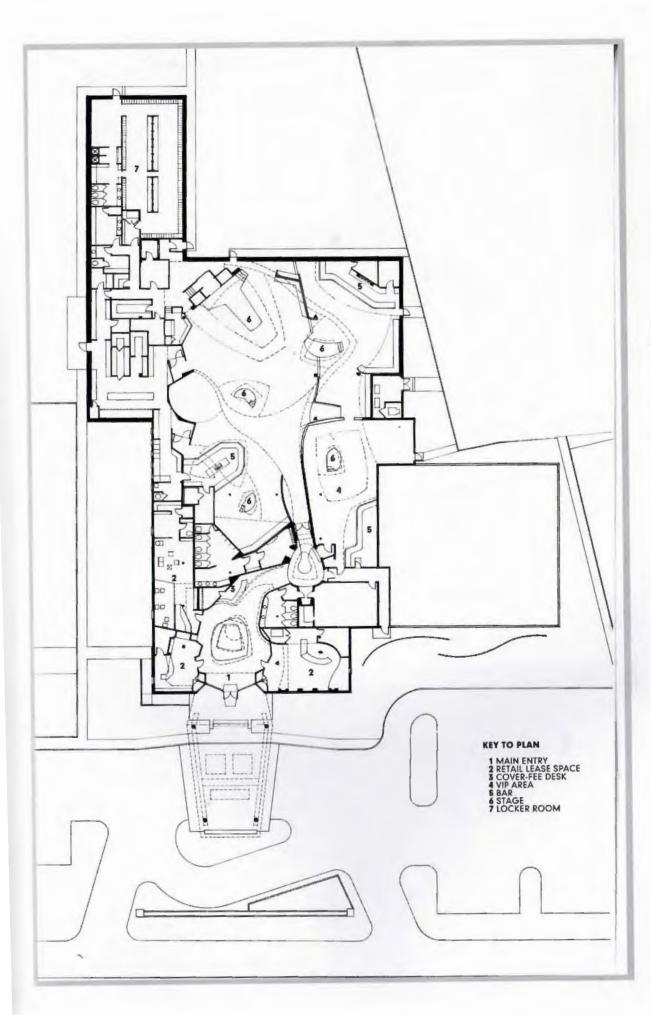
By Joel Barna

ARCHITECTS ARE SELDOM given the freedom and latitude that Palmer Brook Schooley AIA Architecture and Design was accorded in the redesign of an existing building for Michael's International, a "gentlemen's club" in Houston. The architects not only redesigned the facade of the building but completely reworked its interior, taking responsibility as well for the furniture, lighting, fineart selection, fixtures, and graphic design.

The client wanted his topless-dance bar and restaurant repositioned in a market that has increasingly redefined these sexually oriented businesses as places of upscale relaxation and even business: A rival Houston gentlemen's club advertises itself not with old-style appeals to lubriciousness but with the slogan, "The Art of the Deal."

The client's program called for a new porte cochere to provide a covered entry; a generous lobby; restaurant and club space of 9,000 square feet as well as a 2,000-square-foot VIP club area; and locker rooms, dressing rooms, and other support facilities. In addition, the architects were





PROJECT Michael's International, Houston CLIENT 6440 Southwest Frwy., Inc., Houston
ARCHITECT Palmer Brook Schooley AIA Architecture and Design, Houston PROJECT MANAGER Century Development (Mike Riley, vice president) CONTRACTOR 6440 Southwest Frwy, Inc. (Dale Hammond, construction supervisor) CONSULTANTS Structural Engineering Consulting
Co. and Peter J. Hurley
(structural engineering);
Dimensional Design Studio, Dick Butler (sound, stage lighting, and video)
PHOTOGRAPHER Ellis Vener, Houston



Facing page: The lobby at Michael's International begins a sequence that shapes space to match the experience of the gentlemen's club's patrons.

Below: views of main room, with lighted dancing stages and carved ceiling planes

Right: lobby, with cover-fee desk



to design three retail lease spaces accessible from the lobby: Having more than three businesses operating on the premises exempts the building from provisions of the city's sexually oriented business code, which would otherwise control signage and require that the exterior be painted brown or gray.

In meeting this program, the architects emphasized the procession that patrons make in visiting the club-from the freeway-side entry; through the lobby, with its twisting acrylic lamps and a surprising cupola-like skylight; into a narrow, wood-paneled corridor that is intentionally slightly disorienting; and finally into the club proper, with its swirling lights, color, music, and the featured dancers on island stages. Says Schooley: "It's a journey from reality, with all the pressures the patrons want to escape from, to a fantasy, which is what the owner said patrons come for."

The architects shaped this processional experience by using biomorphic shifts in the circulation pattern and wall forms. Together with the colors used for paint and lighting, as well as the custom-made fixtures, these elements create an unfolding dynamism that holds its own in support of the entertainment. Inside the club, where patrons are seated looking up at the dancers, the ceiling plane is similarly carved away and colored, creating zones of space around the stages while forming a backdrop of sensuous curves that reinforce the patrons' fantasies.



Resources

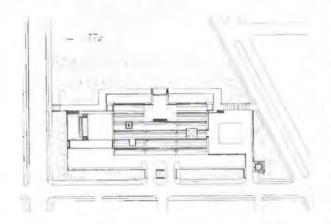
Windows: Meyerland Glass; entrance doors: Kawneer; concrete pavers: Eagle Products; slate: Thorntree; aluminum open-cell ceiling: Hunter-Douglas; paint: Sherwin-Williams; lockers: Treeform: handrails: **Hollywood Steel**; stage lighting: High-

End Systems; video projectors: Pulsar; power amps: QSC; speakers: EAW; water closets: American Standard; toilet stalls: Tex-lam; carpet: Lowes: tables: T.W. Productions; banquettes: Alfredo's Upholstery; chairs and barstaols: T.W. Productions

Back to Brown

Expanding the Kimbell

By George S. Wright, FAIA

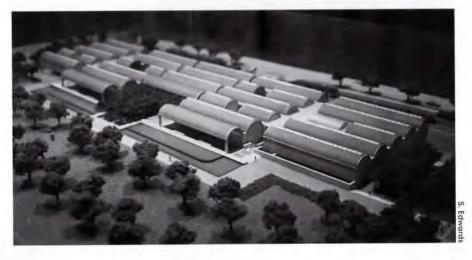


A LITTLE MORE than five years ago, the Kimbell Art Museum (KAM) announced plans for an addition that would increase gallery space by approximately 14,000 square feet. The design for the addition, by Romaldo Giurgola, was based on the strategy of duplicating Louis Kahn's beautifully proportioned gallery wings, attaching new galleries at the north and south ends of the existing museum. When the scheme was announced by Giurgola, KAM director Edmund Pillsbury, and the museum's trustees, it was bitterly attacked by critics, led by a who's who of famous architects, who decried the design as a sacrilege, a desecration of Kahn's finest work.

Now that there has been a five-year interval, it is time to review the issues involved and to start the planning process anew. To paraphrase Dr. Pillsbury, the question is: Must the KAM remain a good very small museum, or can it be permitted to become a very good small museum? To which I would add: Do the walls of the Kimbell belong to Louis Kahn or to the museum? Can the Kimbell be expanded without harm to Kahn's design? Why not fulfill the re-

quirements of Richard Fargo ("Ric") Brown's original program as delivered to Kahn in 1966?

Five years after Romaldo Giurgola's proposal for expanding the Kimbell was rejected, the museum still needs to revisit Ric Brown's original program.



El Museo de Arte de Kimbell babía sido planeado originalmente para exhibiciones permanentes y temporeras. Sin embargo, el alto costo exigido por las propuestas de diseño de Kahn impidió que el museo se realizara con la cantidad necesaria de espacio interior. La insuficiencia de galerías no permite al museo presentar su gran colección

(continuación, p. 58)

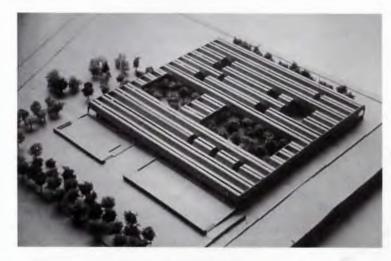
All museums grow

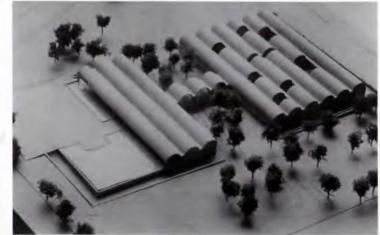
MANY OF THE CRITICS of Giurgola's design, including I.M. Pei and Robert Venturi, who had themselves been involved in highly controversial but ultimately successful museum expansions, seemed opposed to the very idea of expanding the Kimbell on its site, not just to Giurgola's design. But this is an unrealistic expectation. Expanding museums to meet the needs of a changing program is the rule, not the exception.

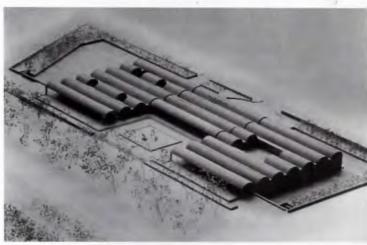
Pei expanded the Louvre, and Gwathmey & Siegel the Guggenheim Museum, using strategies that strongly contrasted with the existing conditions; Venturi Scott Brown used post-modern techniques to juxtapose the Sainsbury Wing with the National Gallery in London; Jørgen Bo and Vilhelm Wohlert duplicated the pavilions of their original Louisiana Museum in Denmark. All these expansions were attacked at first, but have come to be accepted, particularly in the case of the Louvre's pyramid. Bruce Pfieffer said it well: "Museums across the world seem besieged

with the problem of space requirements as their collections and office... [space needs] expand and the demand for more exhibition areas steadily increases."

In the last half century, art museums have been transformed from repositories for viewing art into cultural centers with art galleries supported by lecture halls, book and gift stalls, restaurants, and meeting places for social occasions. Large, expensive, but extremely popular traveling exhibitions









have come to dominate space needs, generating increases in attendance and bringing in muchneeded revenues.

An addition to the KAM to add gallery space, and especially space for traveling exhibitions, is surely needed as much today as it was five years ago. Consider: Of the four major art museums in the Dallas/Fort Worth area, all but the Kimbell have had sizable recent additions. Only the Kimbell has to remove parts of its outstanding permanent collection to accommodate traveling shows. The Kimbell, despite its large endowment, has high overhead costs to meet, and the ability to house traveling exhibits helps meet those expenses.

However, perhaps the strongest rationale for expanding the KAM is that a bigger museum would more closely match Ric Brown's original program, which, as Kahn's design slowly took shape, was cut back for cost reasons, creating the problems faced today. Ric Brown wanted a complete museum with no need for any future additions. Kahn's first design was for a building larger than the built museum's. Presently, of the 13 enclosed vaulted bays at the KAM, only seven are used as galleries. At the lower level, the east entry bay is used almost exclusively for exhibits of prints and drawings. The remaining space contains offices, shops, and other support functions. The Giurgola plan was designed to increase gallery space. A visitor familiar with Brown's program who came to the recent Barnes Collection exhibition would have realized that the show could have fit into the 7,200-squarefoot traveling gallery that Brown had specified but that was never built, with the permanent collection remaining on display. Space for art education, a responsibility that all museums owe to the public, was not emphasized in Brown's program, and is currently squeezed into the KAM's library and gallery spaces; a new addition should provide space for it.

Options

HOW COULD one add to the Kimbell? Not, clearly, by trying to replicate the existing galleries, which

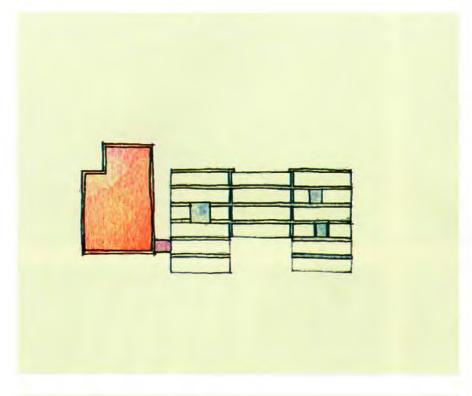
Facing page: Kimbell Art Museum site plan (top), and model of Giurgola's proposed addition (bottom)

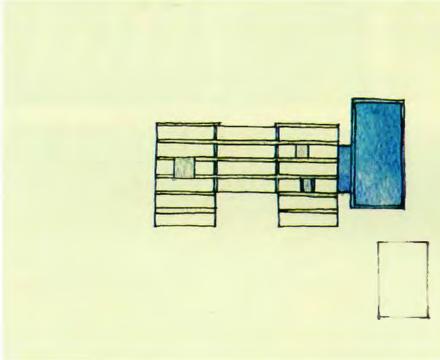
Top left: Kahn's first version (June 1967)

Top right: Kahn's second version (fall 1968)

Above left: Kahn's third version (late 1968)

Above: Kimbell, as built





(de p. 56) permanente a totalidad, y hoy mas que nunca una expansión es de necesidad urgente. Hace unos cinco años Romaldo Giurgola sugirió extender el edificio situando galerías identicas a las existentes a los lados del museo, pero su idea fue rechazada por "intrusión a un lugar sagrado." Hoy, oficiales del museo y arquitectos estudian formas de añadir espacio al museo sin obstruir la obra de Kahn.

Top: possible site plan of north addition

Above: possible site plan of possible south addition were created, only once, to perfection. As to how and where an addition might be developed, the accompanying rough sketches (presented in plan view only) indicate starting points for discussion and argument. There is no intent to indicate any architectural character; the sketches outline the obvious, but present some of the advantages and disadvantages for the relative locations.

North Unit

THIS ADDITION could be built over the existing parking and service area, much as in Giurgola's scheme, containing space for a traveling exhibit gallery or for relocated staff and office personnel. A hinge-type link, like that Venturi designed for the National Gallery addition in London (and Graves's proposal for the Whitney), could set the new unit apart from the existing KAM. A connection at the lower level would provide direct access from the shop and receiving area, thus allowing the setting up and dismantling of traveling exhibits without intrusion into the permanent galleries.

South Unit

THIS SITE can accommodate a two-level extension. Either a one- or two-story addition would, however, necessitate the relocation of Kahn's "stepped garden and grass theatre" with its Noguchi sculptures. The garden could be relocated to the west, but it would be difficult to replicate its character in another location.

West Lawn Units

DETACHED BUILDINGS might be erected to the west, with connecting canopies of trees and walkways. Lower-level utility tunnels could be built under walkways; a northwest unit might be connected at the lower level for servicing a traveling exhibit gallery, and a passageway for staff added. Either building would be separate then from the Kahndesigned Kimbell, and thus free of the criticism of an intrusion on the original design. The Getty Art Centre, under construction in California, is based on a campus plan of separate elements on a hilly terrain. Nevertheless, the concept of separate parts for a small museum, like the Kimbell, does not seem appropriate or desirable.

Off-site, close-by expansion, like that at the Menil Collection in Houston, is not possible, since the only two developable sites, directly to the east, are occupied by blocks of apartments and the central offices of the Fort Worth public schools.

Any one of the possible additions offers the opportunity to utilize the new space for a relocation of staff and personnel, thus permitting a re-

design of the present staff space for use as gallery space. Such a redesign, sensitively done, would add the approximate equivalent of the five vaulted bays directly overhead, substantially increasing display space and retaining all the exhibit spaces in the Kahn-designed museum. The lighting characteristics of these new spaces would not be the same as the upper level, but that is a difficulty that can be overcome, and a different ambiance might add to the KAM's overall quality.

Paul Goldberger raised the question: Do the walls of the Kimbell belong to Louis Kahn? As to the existing building, the answer is a qualified yes. Clearly, any addition must not detract from the existing building, a masterpiece perhaps never again to be equaled; any addition must also meet the standard of creativity already established, and must be permitted to be an individual work of its own merit.

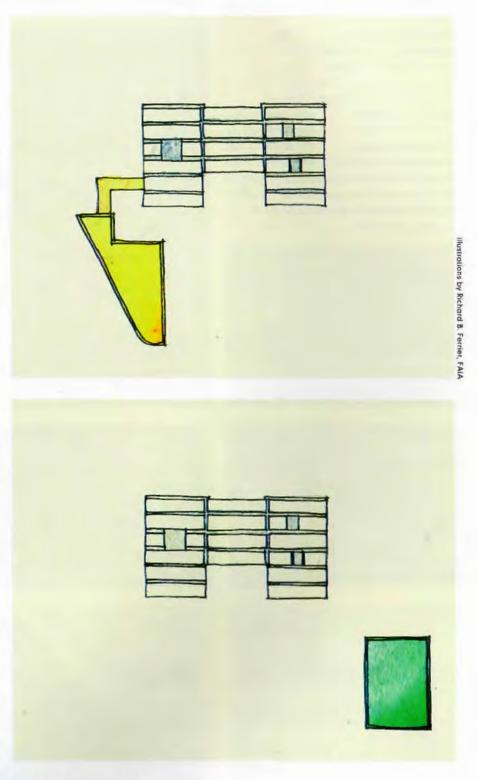
The decision as to whether the Kimbell should be expanded must be left to the trustees, as it is their right and obligation. Any such expansion must be done with the intent that it will do the least possible, or no, harm to Kahn's design. The benefits to the KAM of any expansion must be weighed against criticism of trade-offs, which cannot be avoided in any case. A sensitive and respectful addition, designed by a highly talented architect of international standing, might well enhance Kahn's design and benefit the KAM, along with all admirers of good architecture.

It is time to rethink the planning of an addition to the Kimbell, and to bring Brown's program to fruition along with other needs the trustees see for the present and the future. The KAM must be allowed to retain its primacy among museums and expand as it must in spite of the fire and brimstone still smoldering from 1990. "The Kahn Gallery of the Kimbell Art Museum" has a nice ring to it.

George S. Wright, FAIA, is a professor of architecture and dean emeritus at the University of Texas at Arlington School of Architecture.

The site plan of the Kimbell and photograph of the museum as built are used by permission of the museum and are taken from "Light is the Theme," a Kimbell Art Museum publication prepared by Nell Johnson. The photographs of three earlier schemes by Kahn are from The Three Museums of Louis I. Kahn by Patricia Loud, and are used by permission.

The quotation from Bruce Pfeiffer is taken from "The Solomon Guggenheim Museum," published by the Guggenheim Museum, New York.



Top: possible site plan of northwest addition

Above: possible site plan of southwest addition

Survey

Island City Exhibition 60
ARCHITECTURAL EDUCATION University of Houston students create "Visions for Galveston," an exhibition of ideas for the Island City's future development.

Around High School 62 SCHOOL ARCHITECTURE Perkins & Will Architects of Chicago, with PBK Architects of Houston, have designed a new high school for The Woodlands.

Auto Imaging 63
RETAIL ARCHITECTURE CRSS (now HOK) designed new car show-room prototypes for Volkswagen in Mexico and Audi in Albuquerque, N. Mex.

Products and Information 6

Marketplace 6

Soft-Focus Italy

ARCHIMOVIES Movie mavens Moorhead and Schmidt survey the video rentals that can help architects recapture the feeling of a visit to the architect's paradise.

Visions for Island City

ARCHITECTURAL EDUCATION A continuing collaboration between the City of Galveston and the University of Houston College of Architecture has produced "Visions for Galveston Seawall," an exhibition of student projects demonstrating various options for the rebirth of the island's beaches and adjacent Seawall Boulevard. Taking advantage of a grant provided by the City of Galveston and two charitable foundations, the school's fourth-year honor studio invited visiting critics Michael Wilford of James Stirling, Michael Wilford, and Associates of London and Enrique Norten of TEN y Asociados from Mexico City to join University of Houston faculty members Rafael Longoria, John Perry, and Ed Eubanks on the project. Additional funding was used to present the work as a traveling exhibition and to produce a catalogue explaining each proposal.

Eighteen students took part in the semesterlong project, in which four distinct masterplans were created for the economic and architectural rebirth of the seawall, a structure built five years after the disastrous hurricane of 1900. The four visions each were intended to revitalize Seawall Boulevard and to develop a portion of the waterfront as an urban beach. Longoria says, "Throughout the project it was emphasized that the creation of an attractive program and the consideration of economic strategies were as important as their physical manifestation in a design proposal."

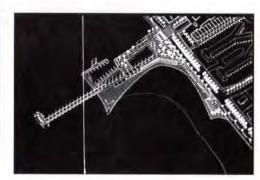
"Three Nodes along the Seawall," proposed by Alejandro Colon, Liem Dang, Manuel Esquivel, Bob Jewel, and Craig Stanton, designated three activity nodes at strategic locations along the beach that would serve as catalysts for economic development. Placed at the intersection of Seawall Boulevard with the end of Broadway on the east, at the main midtown civic cross-axis, and at the point of direct access to the interstate highway on the west, each node would be served by parking facilities containing 1,000 spaces and would be connected by a beach trolley.

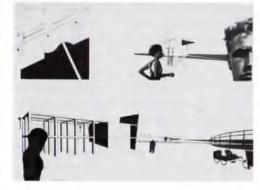
Gary Garcia, Jorge Huerta, and Roel Vicerra produced "Making an Urban Beach," a proposal seeking to revive the area surrounding





From the UH Honor Studio Galveston Exhibition, "Three Nodes along the Seawall": 6th Street project by Bob Jewel and Alejandro Colon (top left), and 61st Street project





by Manuel Esquivel (top right). Above, left and right: "Making an Urban Beach," by Roel Vicerra and Gary Garcia



Left, below, and second from top, this column: Images by Nathan Somera from "Seawalls, Breakers, and Sounds," a proposal from revital-

izing Seawall Boulevard in Galveston; the plan calls for construction of a new "megapler" amusement area stretching into the Gulf.



the existing Moody Convention Center. Six additions were proposed with the idea that "private investment will follow the new public infrastructure." They include a Dolphin Ring and a Public Resort serving as major attractions, along with more architectural elements, such as entrance towers and undulating arcades that act as project landmarks.

A third project, "A Seawall Promenade," sought to transform the beachfront into a recreational spectacle reminiscent of Mediterranean and Latin American waterfronts. Developed by students Michael Dreef, Lee Nguyen, Kinh Tong, and John Wooden, this project proposed creating a series of attractions along the waterside of the Boulevard that would be connected through a series of arcades designed to shield pedestrians from heat and direct sunlight. In addition, an open-air market was proposed, to find a home in the currently underutilized Menard Park.

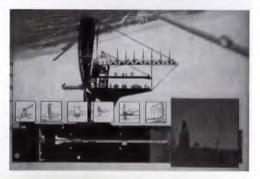
"Of Seawalls, Breakers, and Sounds," presented by Geoff Bay, Laura Bennett, John Boyd, Wulfe Focke, Kenny Jones, and Nathan Somera, would create an artificial bay in front of replenished beaches to provide the setting for numerous recreational activities. In addition, a "megapier" would be constructed at the termination of Broadway that would extend

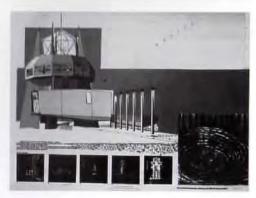


outward to the wave breaks of the new bay, forming a pedestrian loop for fishermen and tourists. These wave breaks would not serve solely as settings for future recreation, but would also provide extra protection against further erosion and storm damage.

At the completion of the semester, the four "visions" were presented as an exhibition in a waterfront gallery in Galveston. The importance of the work was underscored by College of Architecture Dean Robert Timme, who said, "There is a lot of potential for the seawall. It's a great asset."

Galveston's Mayor Barbara Crews praised the creativity of the student work at the show, saying, "The ideas will spark our imaginations and will help us think of possibilities for future revitalization." Mark Forsyth





Above left: "Seawall Promenade," by Lee Nguyen Above: Kenny Jones's proposal includes a cable car system powered by tidal action.

Around High School

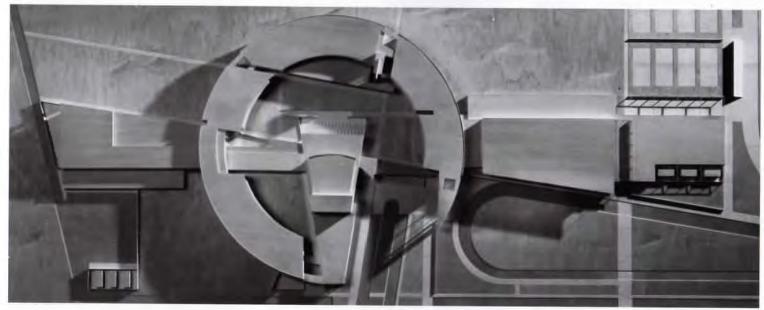
IN PROGRESS A dramatic—and enormous new high school complex in The Woodlands, north of Houston, will open for the 1996-97 school year. Designed by Perkins & Will of Chicago in association with PBK Architects of Houston, the 385,000-square-foot high school will provide space for 3,000 students from the Conroe Independent School District.

The project, built on 73 acres of flat, wooded terrain, is organized to match its surroundings, which include residential neighborhoods, golf courses, and a technology/research center. According to Perkins & Will associate Jerry Johnson, "The building and site organiza-

Below: Dramatic geometry creates unique outdoor courtyards , shielded from the wind, which the architects have transformed into meeting spaces for students as well as an arena for outdoor shows and theatrical productions.



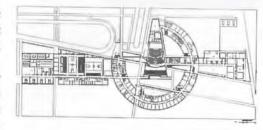
Left: A model of the new high school scheduled to open for the 1996-97 school year in The Woodlands, a suburb 30 miles north of Houston

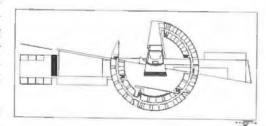


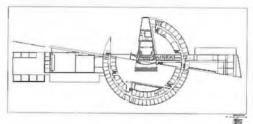
tion reflect the overlapping of two discrete grids: a "community" aligning with adjacent streets north of the property, and the cardinal grid established by true north-south axes."

Within this shifting of grids, both interior and exterior spaces are oriented according to their association with each axis. A 1,000-seat performing arts center, a 2,000-seat gymnasium, an 11,000-square-foot cafeteria, and a 15,000-square-foot library align with the community grid. Athletic buildings and playing fields follow the cardinal axes for proper solar orientation. The classrooms join these grid systems in a circular building enclosing a central courtyard for student gatherings.

The \$27-million school will be constructed using a steel frame and is to be covered on its exterior with brick, clear and grey-tinted glass, and glass spandrel panels. **MF**







Plans: first floor (above left); second floor (above); and third floor (left): The 385,000-square foot complex aligns volumes along shifted grids to respond
externally to the
community and
internally to the
students. The two
volumes are joined
by a large circular
classroom building.

Auto Imaging

RETAIL Two new automobile dealerships, one for Volkswagen de Mexico and a second for Audi of America, in Albuquerque N. Mex., attempt to integrate the image of each manufacturing corporation with the architecture of the facility. Designed by CRSS Architects (now HOK Architects) of Houston, a prototype dealership for Volkswagen was recently completed in Leon, Mexico and the Audi Presentation Center is currently being organized as a concept to be installed nationwide.

The Mexican facility, designed in consultation with Deiss and Associates, is intended to establish a countrywide image, and to upgrade dealerships to a uniform standard, supporting modernization efforts as well as creating a recognizable identity that will promote a positive customer experience.

"Auto Imaging," continued on next page



CRSS Architects (now HOK) of Houston, designed a new, higher-visibility prototype dealership showroom for Volkswagen in Mexico; the prototype includes ramped outdoor displays (left and below) and covered displays (center below)





The identity for the Volkswagen dealership in Leon includes a sign pylon (above), systems (right).

seen from the porch of the dealership, and interior display





"Auto Imaging," continued from previous page



Through the use of welded steel, perforated metal, and graphics in primary colors, the architects build and image to support brand association. In addition, punched openings in masonry and stucco walls reflect the traditional building construction in the region.

The Audi Presentation Center, in Albuquerque, N. Mex., creates a distinctive retailing environment that emphasizes the company's 60-year heritage and reinforces its image of quality, luxury, and engineering. The new presentation center is currently being promulgated by the company as a new product-display concept for centers throughout the United States. It was designed to cause only a minimal impact on the sales process of existing dealerships, using five prefabricated architectural elements that can be installed in approximately two days.



CRSS Architects (now HOK) created the prototype showroom for Audi



A freestanding, 20-foot-long laminatedglass-wall system highlights the Audi display space. The system's five connected, floormounted glass panels are transparent from one side but opaque on the other, with images of automobiles that seem to float in space. The visual effect focuses the customer's attention on specially lighted vehicles and the highly reflective, black granite floor. MF

of America, including the interior displays emphasizing high performance.

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Circle 153 on reader inquiry card



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expands to fill hard-to-reach openings, contains no CFCs and is UL listed. Circle 154 on reader inquiry card

New Con-Mate fasteners from Atlas offer a fast, secure, corrosion-resistant way to attach objects up to 4 inches thick to



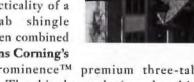
concrete, block, brick, and mortar. The fasteners are covered with an environmentally-safe coating that resists chipping and prevents stains. Circle 155 on reader inquiry card



Popular Science named the Cabrio Balcony Roof Window from Velux one of its picks for 1994's most innovative products. The window is designed for converted attic space or any underused area with sloping walls. The bottom portion of the window slides out to create a small step-out balcony.

Circle 156 on reader inquiry card

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new Prominence™ premium three-tab shingle. The shingles, to be introduced in Texas in April, will have a 30-year warranty. Circle 157 on reader inquiry card



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inquiry card

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manufacturer support and inspections from design through construction as well as re-inspections throughout an optional extended warranty and post-construction maintenance program. Circle 163 on reader inquiry card

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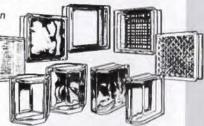
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Vicarious Vacation

IT'S TIME TO START planning for your summer vacation, and what architect doesn't dream of visiting Italy, that paradise of cityscapes and countryside poignant with history, art, culture, and, of course, food and wine, a landscape of picturesque order, natural yet entirely manmade. Italy is an Eden for both escape and rejuvenation. A few of the films described here may get you in the mood for Palladio and pasta. Buon viaggio.

After reviewing dozens of videos set in Italy, we decided that cinematic Italy can be interpreted as overlays of various "landscapes": the physical landscape of beautiful cities and countryside; a cultural landscape of art, history, and daily life; and a psychological landscape of people trapped in unpleasant lives and times. Since the physical and cultural "landscapes" are a given—of greater or lesser importance—in most of these films, we are going to concentrate here on the psychological "landscape."

In many of these movies, the psychological landscape is a prevalent theme, composed of torment, repression, and sadness staged in contrast with the physical beauty of Italy. The most ubiquitous type of movie we place in this category is the Merchant-Ivory style with tiresome English ladies vacationing in Tuscany, such as Room with a View (1985, James Ivory), Enchanted April (1992, Mike Newell), and Where Angels Fear to Tread (1992, Charles Sturridge). In these movies Italy is a place "flooded with love," where the stuffiness and restraints of everyday existence back home can be overcome and changed. The characters wish to be "transfigured by Italy, like the Goths." Italy, in their idealized view, is a magic land of rebirth, love, and romance. Sadly, their dreams are seldom fulfilled.

In more light-hearted films, Italy is often portrayed as a temporary refuge from a confining life. In Roman Holiday (1953, William Wyler), princess Audrey Hepburn has a "free day" incognito in the eternal city. Katherine Hepburn briefly escapes spinsterhood in Venice in Summertime (1955, David Lean). The three secretaries in Three Coins in a Fountain (1954, Jean Negulesco) all find love in Rome. In The Roman Spring of Mrs. Stone (1961, Jose Quintero), Vivian Leigh moves to Rome and to her doom. These movies are stories within a travelogue of location shots in some of our favorite places, made more interesting for us to-



day because they show Italy a couple of generations ago, with fewer cars and tourists.

The rich landscape of Italy also accommodates the truly tormented soul. In Stromboli (1949, Roberto Rosselini), Ingrid Bergman finds God and emotional peace after a heated encounter with a volcano. Decadent Dirk Bogarde remains too long in dreary, wintry Venice as the plague washes over the city in Death in Venice (1971, Luchino Visconti). In Love and Anarchy (1974, Lina Wertmuller), a simpleton peasant played by spaniel-eyed Giancarlo Gianini travels from the flooded fields of the Po Valley to the red walls of Rome to assassinate Mussolini. The scene of his proposed crime is a little-seen 1930s rationalist plaza, featuring an exquisite basilica with apsidal chapels, cylindrical baptistery, and a slender campanile.

Federico Fellini has his own curious psychology, luridly expressed in his largely autobiographical films. His memories and impressions of the city in *Roma* (1971) contrast and parallel the past with the present with imagery all his own.

Through the ages, Italy has played the muse to writers, composers, artists, and architects, even Shakespeare. In fact, our favorite of these movies set in Italy, for its hearty mix of literary art and garden art, is *Much Ado About Nothing* (1993, Kenneth Branaugh), filmed entirely in the little-known gardens of the Tuscan Villa Vignamaggio. This archetypal Italian garden, whose outdoor rooms

The physical landscape of Italy, like this Tuscan countryside, is an

such movies as Much Ado About Nothing.

integral part of

are delineated by sculpted cypress hedges, fountains, gravel walks, shade and dappled light, is the perfect setting for Shakespeare's Byzantine plot of misunderstandings, mistaken identities, and Monty Pythonesque antics.

Another favorite film, previously reviewed, is Mozart's Don Giovanni (1978, Joseph Losey), which explores the cultural landscape of Italy through Mozart's delirious music and Palladio's sublime Villa Rotonda. The production was filmed in Vicenza and uses Palladio's Teatro Olimpico and the surrounding countryside as well as the Villa Rotonda. Through these sets, costumes, pageantry, and music one is transported to a sumptuous Italy worthy of the wealthiest popes.

No matter how long it has been since you traveled to Italy, there is always the urge to go back—soon. Movies provide at least a vicarious vacation if you cannot make the trip soon enough. Whether you are completely metamorphosed or experience only some simple enlightenment, a cinematic trip to Italy will be a delight.

Yolita Schmidt and Gerald Moorbead, FAIA

Houston architects Yolita Schmidt and Gerald Moorhead, FAIA, write about movies in every other issue of Texas Architect.

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