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If you have ideas for "News" call us at (512) 478-7386, fax to (512) 478-0528, or e-mail [ssharp@texasarchitect.org](mailto:ssharpe@texasarchitect.org).

**On the cover: SpawGlass Corporate Offices; photo by Joe Aker/Aker Zvonkovic Photography**





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**Stephen Sharpe**  
EDITOR  
ssharp@texasarchitect.org

**Adam Fortner**  
ART DIRECTOR  
adam@texasarchitect.org

#### CONTRIBUTING EDITORS

Lawrence Connolly, AIA, Austin; Stephen Fox, Houston; Nestor Infanzón, AIA, Dallas; Max Levy, AIA, Dallas; Gerald Moorhead, FAIA, Houston; Ed Soltero, AIA, El Paso; Frank Welch, FAIA, Dallas; Willis Winters, AIA, Dallas; David Woodcock, FAIA, RIBA, College Station

**Judey Dozeto**  
ASSOCIATE PUBLISHER  
judey@texasarchitect.org

**Carolyn Baker**  
ADVERTISING REPRESENTATIVE  
512/249-7012

**Jennifer McCutchen**  
**Sandra Taylor**  
INTERNS

**David Lancaster, Hon. AIA**  
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# Sustainable Discourse

An architectural movement develops from a long history of intellectual theory.

THE SUSTAINABILITY MOVEMENT continues to evolve, encompassing architecture as one of many disciplines that directly affect how we interact with our fellow human beings and the natural world. Architecture's involvement within the movement has begun rather late in comparison to other fields, such as economics and biology. While theoretical discourse on sustainability has been ongoing for more than a century in those fields, architects first began seriously discussing sustainability in the 1980s. Over the past decade, that discourse within the architectural profession has taught many architects how buildings can be designed to be energy efficient, how construction can be better managed to reduce waste, and how built environments can be maintained to protect occupants' health.

Still, there is confusion among architects as to what the term "sustainability" means. As mentioned above, sustainability envelops a wide range of disciplines. In fact, as architecture professor Steven Moore of UT Austin has written, sustainability is an "inherently inter-disciplinary concept" that is informed by the hypotheses of no fewer than six related disciplines (philosophy, physics, biology, politics, economics, and public health). Moore suggests that the terms "sustainable architecture" and "sustainable development" are essentially meaningless unless viewed with an understanding that the built environment alters existing ecological, economic, and social conditions. In an article published in the UT Austin School of Architecture's Fall 2002 *Platform*, Moore traces the modern concept of sustainability to its multiple historical roots, from John Evelyn's 1664 *Sylva: A Discourse of Forest, Trees and the Propagation of Timber* and Charles Darwin's 1859 *On the Origin of Species* to Rachel Carson's 1962 *Silent Spring* and Herman E. Daly's 1999 *Ecological Economics and the Ecology of Economics: Essays in Criticism*. Moore concludes his article "Sustainability in History and at UT-Austin" by urging his architect readers to "play an increasingly central role" in the sustainability movement.

At present, that central role is being scripted by the U.S. Green Building Council, a consortium of public and private interest groups that "promote[s] buildings that are environmentally responsible, profitable and healthy places to live and work," according to the USGBC's mission statement.

Founded in 1993 and based in Washington, D.C., the USGBC is best known for its LEED Green Building Rating System. LEED (Leadership in Environmental and Energy Design) is a voluntary program that rates building projects on a point system that assesses design, construction, and operation methods. For a fee based on a sliding scale keyed to the project's overall cost, design teams may register projects for LEED certification. Ultimately, a project is either bypassed for certification or rated "Certified," "Silver," "Gold," or "Platinum."

In this edition of *TA*, we feature one project (IBM/Tivoli Systems Headquarters in Austin by HOK) that has achieved LEED Certified status and one project (SpawGlass Corporate Office in Houston by Kirksey) that is registered with LEED and is designed to achieve a Silver rating.

USGBC President & CEO Christine Ervin describes LEED as a "market transformation tool" developed by the USGBC to provide architects, contractors, and building owners detailed criteria to achieve sustainable building goals and third-party certification that she said "is an important element of the growth of this industry."

Asked whether LEED is just a checklist with points given for components that might be considered trivial, such as a bicycle rack or a gate allowing access to a bus stop, Ervin said the rating system offers flexibility for design teams to choose their own strategies for accumulating points. "You know, I think part of it really depends on the skills, the knowledge, and the flexibility that a design team

has," she said. "It is possible that if a project team simply wants to use LEED as a checklist, and at the Certified level, which is still a significant achievement, you could get that [but] you could not get the most out of those various features. So, in other words, you could use LEED as a passive checklist. The most experienced teams are going to use it as a means to an end, a means to inspire the conversation about why do we have that credit for mass transit, what are the incentives for locating in an urban, dense area that helps support the mass transit system and provide options for employees. I think a good measure of this really does depend on how the team functions. It really is as active and as dynamic a tool as the design team allows it to be. At its simplest, it is a checklist. At its most profound, it is a totally different way of doing business."

LEED is currently benefiting from great interest among the media both mainstream and trade, and that can only advance the understanding of sustainable design by the public and the profession. The practice of architecture improves as the sustainability movement evolves, as long as the goal leads not to just the winning of points but to good design.

STEPHEN SHARPE

**Expected to be the state's first building to achieve LEED Gold certification, the School of Nursing and Student Community Center at the UT Health Science Center in Houston is scheduled to be completed in February; rendering courtesy BNIM Architects.**





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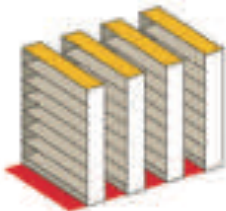
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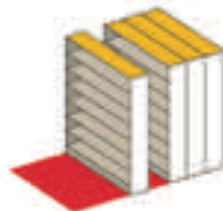
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### More Humor, Please. (We Need It!)

Congratulations are in order for an excellent issue! Tucked away amongst all those ads (so necessary to support publication) were the prolific comments of the design jury, seven jewels of architecture (all by Texas architects), and the frosting on the cake—a back-page piece of superb self-depreciatory architectural humor by San Francisco architect Ron van der Veen, AIA. Questions arise:

1. Will Texas architects (and others) heed the jury's wise admonishments? (I hope so!)
2. Is there anyone in the world who would not like to live in a house designed by Max Levy, AIA? (I hope not!)
3. Can *Texas Architect* continue to bring us a little architectural humor? (Lord knows, we need to laugh once in a while!)

Keep up the good work!

**Dave Braden, FAIA**  
Dallas

*Braden is a former Texas Architect contributing editor. His columns "Humor by Braden" and "Musings" appeared regularly from 1979 to 1989.*

### Awards Jury's Desire for "Originality" Overlooks Centuries of Good Design

The Sept/Oct magazine is a well done issue, as usual. One of the first things I do when I receive each issue is to read "Editor's Note" at the front of the magazine. After I first read your column "Here and Now," (*TA* September/October 2003, p. 5) I could hardly wait to see the entries this jury said were worthy. After looking and reading about each of the "Texas Seven" I had to go back and read "Here and Now" again.

Now I have to confess that I am one of the "'50s guys" (Texas Tech '55) so how could I be enlightened. That means that I am old enough to remember when something very near to this happened about 25 years ago when we had just of three awards, I think it was, from a high-brow jury from who-knows-where but not from Texas or the Southwest. Maryann Thompson seems to be the fairest of the bunch when she asked the questions she did after the massacre! Kind of like Sitting Bull saying "What did we do that for?" after Custer's Last Stand.

It seems that the jury is saying that most of the architecture of the last millennium is no good. Without looking back we would not have the U.S. Capitol building, the Texas Capitol, the Louvre addition in France, and most assuredly we would not be "wasting" millions of dollars restoring all the wonderful old Texas count courthouses. If we are always going to be looking for "unwavering allegiance to originality," we would never get anything "developed." We would

always be looking ahead and never getting there.

Back in the '50s and '60s we would not do anything that smacked of pre-1950. It was "out." Right here in Wichita Falls, the Wichita County Commissioners took one of the best looking county courthouses in Texas and raped it by air-hammering all the moldings and then cladding it in a "faux marble." I didn't like that then and I don't like it now. Perhaps it was that experience that proved to me and caused me to start changing my thought process about what is good architecture and what is not. Something does not have to look different or be original to be good. There is plenty of different and original poor architecture around. I certainly hope that most of that is not "leading us into a new era."

I have not seen the entries that were "thrown out" and it is probable that many deserved to be. I am disagreeing with the reasoning for the dispatching of 264 projects that is quoted, I am sure correctly, in "Here and Now." I might have "thrown" them out myself, but I think not all.

I just hope that there are not two male architects in Kansas and San Francisco grinning to themselves about "what we did to the Texans." God knows we give plenty of critical comments about Kansas and San Francisco!

**Charles F. Harper, FAIA**  
Wichita Falls

**CORRECTIONS** Please note the following corrections to the last issue:

In the article "Updated Masterpiece" (page 60), the membrane roofing was provided by Soprema.

In the article "Modernist Treasure" (page 48), Texas EIFS provided the materials for the exterior walls.

### HOW TO REACH US

#### Letters to the Editor

Address letters to:  
Stephen Sharpe  
Editor  
*Texas Architect*  
816 Congress Avenue, Suite 970  
Austin, Texas 78701  
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**Oakville's Old Jail was built in 1887 from a kit sold by the Diebold Safe and Lock Company of Canton, Ohio. Recent documentation by UTSA architecture students won the 2003 Peterson Prize for HABS measured drawings; photo courtesy UTSA School of Architecture.**

**UTSA Wins First-Place HABS Prize; Reveals 116-Year History of Old Jail**

**O A K V I L L E** A lone, mysterious building sits just off Interstate 37 halfway between San Antonio and Corpus Christi, offering hints to the history of the once booming town of Oakville. The structure has caught the eye of motorists for years and has prompted a few passersby to exit the highway for a closer look at its metal-barred windows and deteriorating stone shell.

Oakville's Old Jail, built in 1887 but not used for that purpose since 1919, continues to age, but it has recently been saved from being lost to the ravages of time. Thanks to the work of five graduate students of the University of Texas at San Antonio's School of Architecture, the Old Jail has been documented with measured drawings through the National Park Service's Historic American Buildings Survey (HABS). The student's recordings of the structure garnered First Place in the annual HABS' Charles E. Peterson Prize competition. (See page 24 for a related article, "HABS in Texas.")

The Peterson Prize was established 19 years ago to expand historical knowledge of buildings throughout the United States. Student competition submissions are donated to HABS and are archived by the Library of Congress as part of the HABS collection of measured drawings.

The Oakville jail's visible location along the interstate spawned the interest of UTSA professor Sue Ann Pemberton who suggested that her students make the building their subject for her measurement class. "It has had my curiosity for some time," Pemberton said recently. "It is the most prominent building in town."

During the summer of 2002, three of her students conducted a 10-week exploration in the classroom and in the field, and discovered that the jail was built by Live Oak County in 1887. At that time, Oakville was the county seat. Their research found that many residents settled in Oakville during that period because the town was a growing economic force in South Texas, having been a crossroads for Native Americans and stagecoach routes in earlier years.

Live Oak County built the jail as an adjunct to its courthouse

in Oakville downtown square. The town's growing population is believed to have required a new detention facility, so L.T. Noyes, an agent of the Diebold Safe and Lock Company in Canton, Ohio, presented the town with a jail "kit" called Plan S-4. During that era, there was a trend in using such kits around the nation. "You could basically buy the plans and the parts and build it," Pemberton said. Her students have found evidence that at least a dozen other Texas jails were built using the same kit, including one in Goldthwaite that remains almost perfectly intact.

For this reason, Oakville's jail is not attributed to a specific architect and it is unknown who built the structure, which the students describe as reflecting late-nineteenth century methods of construction.

After 32 years of service to the county, the jail became obsolete in 1919 when the town of George West was chosen as the new seat of Live Oak County. A new county courthouse and jail were erected, and George West became the regional center of industrialization. The decay of Oakville quickly began.

But the Old Jail wasn't completely abandoned. The UTSA students report that the jail was used for religious gatherings until the 1930s and as a residence from the 1940s to the 1970s. At some point, the metal security doors were removed and walls and lowered ceilings were constructed for bedrooms. After the occupants vacated, the Old Jail is thought to have been unused..

The team also learned that the demise of the county jail was not an isolated incident in history. One of the three students, Julia Dunks, is now pursuing expanded research on these jails. "I got so interested and fascinated in it that I decided to write my thesis on the jail and other ones like it across Texas," Dunks said. "It was amazing to me how much national significance it had, given how remote it was. We're not as isolated as we think we are."

Dunks said that producing archival-quality documentation was the most rewarding part of the Peterson competition. Getting out of the studio and into the field was a unique experience as well, she said. "It was such a raw encounter with the building itself," she said. "I learned a lot about when certain materials were used in history...and what construction of buildings at that time looked like."

Dunks and her teammates Cheryl Davani and Wanira Oliveira collected \$2,500 from the Peterson Prize and an additional \$1,000 for HABS' Anderson Prize, which judges the best measured drawings of a historic building in Texas.

UTSA previously won the first-place Peterson Prize in 1999 for documentation of the Maverick-Carter House in San Antonio.

S A N D R A T A Y L O R



## Houston's Hilton Americas to Open, Boosting Chances for Big Conventions

**H O U S T O N** The opening in December of Houston's new convention center hotel will complete a plan that has been almost two decades in the making. Originally intended to immediately follow the 1987 completion of the George R. Brown Convention Center, the hotel project became mired in political wrangling that resulted in scandal as well as a 16-year delay. The city's economic struggles during the late 1980s, exacerbated by a lack of public support for the project, also obstructed its progress.

Houston officials believe the hotel will improve the city's competitiveness as a host for national conventions. Virtually no major hotels are within walking distance of the convention center, although the convention center is on the edge of Houston's central business district. To fill that gap, Bob Lanier, mayor during the mid-1990s, submitted a request for proposals from the local development community. Out of this request, two prime competitors emerged. The competition between the two developers was contentious and the FBI investigation was called in to investigate. The probe ultimately led to the arrest of a Houston city councilman and the hotel project being put on indefinite hold.

The latest effort by Houston's current Mayor Lee Brown has been more successful, with the opening of the Hilton Americas slated for December. Designed by Gensler in association with Arquitectonica, the new hotel will connect to the convention center via two skybridges. In addition, the convention center itself is undergoing a concurrent expansion that by the end of this year will almost double its size to more than one million square feet of meeting and exhibit space.

The hotel comprises three towers of rooms wrapping around three sides of the site above a large street-level base housing ballrooms, meeting spaces, and other public areas. The towers are irregular in height, ranging from 17 to 24 floors, and contain a total of 1,200 rooms. Facing the convention center, the main lobby is almost completely glazed behind concrete columns that support the tower of rooms above. The three towers, all slim and angu-



RENDERING COURTESY ARQUITECTONICA

lar in profile, are clad in a combination of pre-cast concrete panels, prefinished metal panels, and glass curtainwall configured in a basketweave pattern.

The Hilton Americas joins a number of recent large construction projects on downtown Houston's east side, including the adjacent \$220 million Toyota Center basketball arena and several loft-style apartment complexes.

MARK OBERHOLZER, AIA

## Construction Underway at Prairie View on New School of Architecture by Roto

**P R A I R I E V I E W** Construction has begun on the new School of Architecture at Prairie View A&M University. The \$26 million, 105,000-square-foot facility is scheduled for completion in spring 2005. Michael Rotondi, FAIA, of Roto Architects in Los Angeles, designed the new building with a fluid interior space devised to enhance social exchange and dialogue between students and faculty.

The innovative building is predicted to draw more black students toward careers in the profession that in Texas has very few minority practitioners. In fact, less than one percent (70) of architects registered in the state (9,942) are black. Of that total, 16 of the black architects graduated from Prairie View. The architecture school gained accreditation in 1992 and is one of eight accredited schools in Texas.

"There are very few registered black architects in Texas," dean of Prairie View's School of Architecture, Ikhlas Sabouni, Assoc. AIA, told the *Houston Chronicle* at the time of the groundbreaking in August. "This building should attract more to the field."

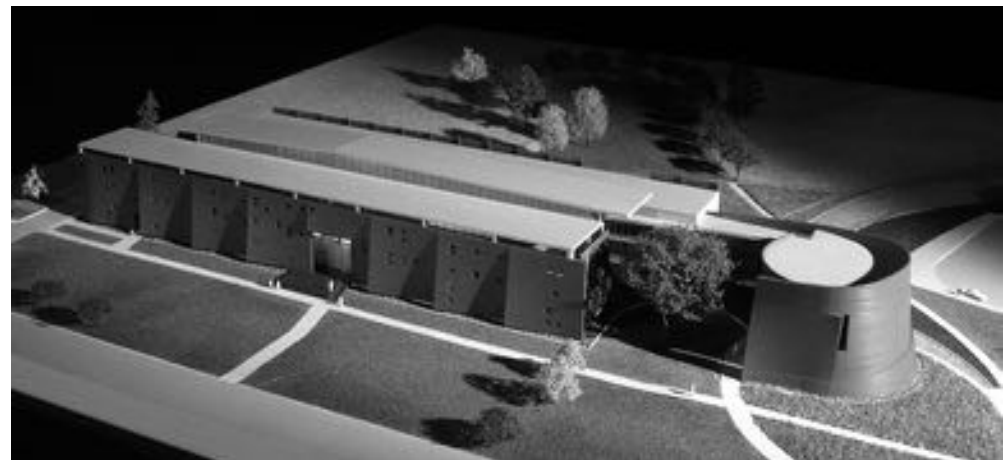


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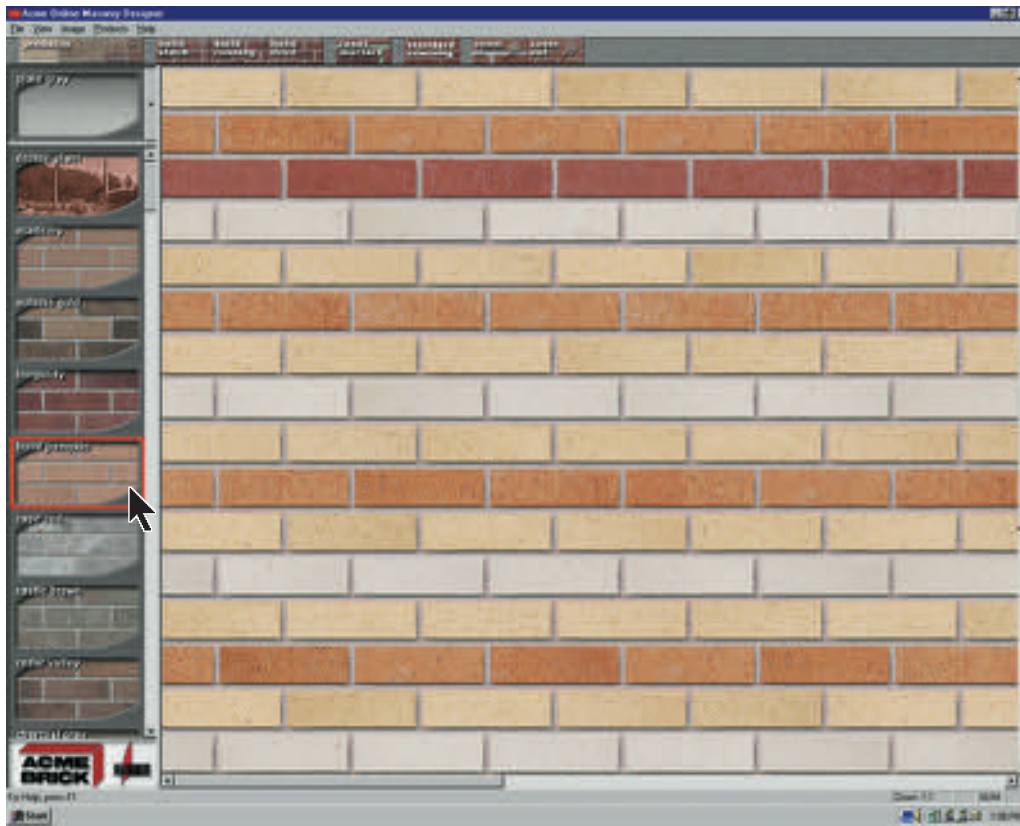
Rotondi is renowned for his stylistic and innovative designs. In constructing the building, he chose a brick that blends with the surrounding native prairie grass landscape. The brick is corbelled at varying degrees to form undulating curtain-like forms, which allow light to illuminate the classrooms and center of the facility. At the edge of the building, Rotondi has placed a cylindrical form that will house the Texas Institute for the Preservation of History and Culture. The cylindrical form contrasts

distinctly with the main facility's linear design. The two spaces are connected by a structural module and proportioning scheme. The new building also will include space for the Community, Urban and Rural Enhancement Service, the research and service arm of the architecture and community development program.

JENNIFER MCCUTCHEN



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# Announcing the 2003 IIDA Texas/Oklahoma Chapter Awards

**2003 Design Excellence Awards**



**Commercial Excellence Award  
 Gensler, Houston, TX**

Project: Baker Botts, LLP, Houston, TX  
 Photographer: Sherman Takata, Gensler



**Commercial Excellence Award  
 Kirksey, Houston, TX**

Project: Spaw Glass Construction Corp., Houston, TX  
 Photographer: Jack Thompson Photography



**Retail Excellence Award  
 Studio Works, Austin, TX**

Project: Ekitta Exhibit Display  
 Photographer: Andrea Katzberg

**Commercial Honorable Mention**

BECK, Dallas, TX  
 Project: BECK Corporate Headquarters, Dallas, TX

**Commercial Honorable Mention**

Susman Tisdale Gayle, Austin, TX  
 Project: Austin Ventures, Austin, TX

**Institutional Honorable Mention**

Gensler, Houston, TX  
 Project: KIPP Academy, Houston, TX

**Healthcare Honorable Mention**

Dick Clark Architecture, Austin, TX  
 Project: Northwest Pediatrics &  
 Adolescents Clinic, Austin, TX

**Retail Honorable Mention**

Omniplan Architects, Dallas, TX  
 Project: Chandler Fashion Center,  
 Phoenix, AZ

**Hospitality Honorable Mention**

Gensler, Houston, TX  
 Project: Anadarko Cafeteria,  
 The Woodlands, TX

**2003 Design Excellence Awards Jury:**

**Kevin Alter**, Associate Dean for Graduate Programs,  
 School of Architecture, University of Texas, Austin, TX

**Cary Johnson**, IIDA, Environments Group, Chicago, IL

**Mitch Sawasy**, FIIDA, AIA, Rothenberg Sawasy,  
 Los Angeles, CA

**2003 Pinnacle Awards**

The "Pinnacle" Award is the highest honor that the IIDA Texas/Oklahoma Chapter can bestow upon a design firm. The Firm of the Year Award recognizes interior design firms in the Texas/Oklahoma Chapter that have consistently contributed to the highest aspirations of the profession and the Association.

Large Firm: **Omniplan, Dallas TX**

Small Firm: **VanStavern Design Group Inc., Oklahoma City, OK**



## Between *Mexicanidad* and Modernity: Contemporary Mexican Architecture

**A U S T I N** Almost 30 years have passed since “The Architecture of Luis Barragán” was displayed at the Museum of Modern Art in New York City, a momentous event organized by Argentinean architect Emilio Ambasz who single-handedly put Mexican architecture in the spotlight. The catalogue of the exhibition (the first of book of Barragán’s work, published when he was 74) was followed by numerous publications across the globe. The sudden interest in Barragán culminated in 1980, when he was awarded the Pritzker Prize, architecture’s highest honor. In his acceptance speech he advocated for an emotional architecture “that offers the user a message of beauty and emotion.”

Barragán entered into the international architectural world like a fresh breeze at a time when modernist discourse was being questioned or altogether abandoned and replaced by a nostalgic post-modernism movement full of historicist references. Barragán’s mature work seemed to incorporate two seemingly contradictory traits—on the one hand, he employed rich spatial compositions and abstracted forms favored by modernists, while his use of courtyards, bright colors, and traditional materials evoked a local sense of place. His work was truly modern *and* Mexican at the same time.

### Of Note: Dallas Arts Master Plan

**DALLAS** The Dallas Center for the Performing Arts Foundation has unveiled the master plan for its new venues within the Dallas Arts District. The master plan is a joint project by Foster and Partners of London and the Office for Metropolitan Architecture. As described by OMA’s Joshua Ramus, the plan will transform the arts district into a harmonious and embracing zone with access from all directions. “The core of the master plan is to create an inclusive, vibrant destination out of a district that is currently home to many distinguished institutions but which lacks cohesion,” Ramus said. Spencer de Grey, senior design partner for Fosters and Partner, was just as emphatic: “Our master plan offers the city of Dallas a unique opportunity to deliver an exciting and vibrant new cultural district. Dallas will be able to boast a collection of cultural buildings to rival those of New York, London, and other world cities united by a landscape that is both welcoming and ecological.”

Ever since Barragán emerged as a prominent international figure, Mexican architecture has been associated with the serene spaces, the fountains, and the vibrant chromatism of Barragán’s few built projects. However, as demonstrated by the current exhibition “Masters of Light: 10 Contemporary Mexican Architects,” Barragán’s influence is only one of many tendencies in contemporary Mexican architecture.

The exhibition — curated by architect Miquel Adrià and featuring 20 recent buildings, two each by 10 renowned Mexican architects from different generations — presents an overview of the rich and varied architecture produced in Mexico in the last few years. Displayed at the University of Texas at Austin’s School of Architecture in September and October, “Masters of Light” opens Nov. 7 at the McKinney Avenue Contemporary in Dallas through Dec. 12.

Mexico’s architectural legacy of impressive pre-Columbian ruins, Colonial churches and convents, vibrant folklore, and vernacular architecture, has been a natural source of inspiration for generation of Mexican architects. Aware of a rich past, Mexican architects normally display tremendous confidence in their work, often not shying away from monumentality and bold gestures.

Starting in the ‘30s, Mexican architects embraced the teachings of the modern movement and tried to reconcile *Mexicanidad* (the essence of what is typically Mexican) and modernity ever since. The most ambitious attempt came in the 1950s with Ciudad Universitaria in Mexico City. Rigorously implementing modern planning principles and Le Corbusier’s “five points” for a new architecture, dozens of Mexican architects worked with artists to realize a common vision—creation of a new, modern Mexican identity. As in their shared pre-Columbian and Colonial past, they saw *integración plástica* (the integration of architecture, sculpture, and painting) as truly Mexican and so covered their modern buildings with murals and bas-reliefs. The result remains an outstanding landmark of Mexican architecture, despite mixed reviews both at home and internationally.

The oldest generation represented in “Masters of Light,” Teodoro González de León, Abraham Zabludovsky, and Francisco Serrano, continue to be unrepentant modernists in their convictions. Uninterested in the *integración plástica* of the Ciudad Universitaria, their work connects with the pre-Columbian past in its monumentality and massing.

Barragán took his cues from the walls, the colors, and the fountains of his childhood *haci-*



GGG house by Alberto Kalach; photo by Juan Miró.

*enda* and the *pueblos* and *conventos* all over Mexico. Ricardo Legorreta, a disciple of Barragán, is the architect who most successfully continues to explore the same interests of his master. His easily recognizable vocabulary adapts to corporate or institutional clients (for example, the new Latino Cultural Center in Dallas) and has gained him many important international commissions.

The younger generations have taken a clear stand for an architecture that is, above all, modern and international, and easily applicable anywhere. That is especially the case of Enrique Norten and Bernardo Gomez-Pimienta of TEN Arquitectos. They have replaced the search for a Mexican identity with other mainstream topics of research, such as new materials, lightness, and transparency. (They recently won an invited competition for the new Brooklyn Library exploring “institutional transparency.”)

With the GGG house by Alberto Kalach, one can appreciate as well this new, more universal paradigm for Mexican architecture. Inspired by the work of sculptor Jorge Yázpik, the house is a marvelous succession of carved spaces washed with changing light. The house superbly interprets the concept of integration of the arts while at the same time offering the inhabitants beauty and emotion, just as Barragán advocated.

JUAN MIRÓ, AIA

## MFAH Exhibits MoMA Masterpieces

**H O U S T O N** While the Museum of Modern Art in New York City undergoes renovation, 209 of its masterpieces are loaned to the Museum of Fine Arts, Houston through early January. “The Heroic Century” is an unprecedented exhibit which brings together paintings and sculpture that encompass the visual canon of modern art. Houston is the only North American stop for the tour which closes Jan. 4 and then travels to Berlin. The artworks will return to midtown Manhattan in late 2004 to be installed in the enlarged and renovated MoMA.

The exhibition—divided into eight sections and featuring works by Brancusi, Cezanne, Dalí, Duchamp, Johns, Lichtenstein, Matisse, Mondrian, Picasso, Pollock, van Gogh, and Warhol, among others—unfolds as an illustrated timeline of the modern art movement, an organizational scheme that also mirrors the maturation of MoMA itself.

“‘The Heroic Century’ represents a selection of works that not only reflect the range and strength of MoMA’s collection, but also form a cogent overview of modern art since 1880,” said John Elderfield, MoMA’s chief curator of painting and sculpture, who curated the show.

To prepare the museum for the show, all the walls on two floors of the Audrey Jones Beck building were painted white. Barry Walker, MFAH’s curator of twentieth-century art, said the colors of the walls did not conform with the conceptual underpinnings of the art movement whose works were to be displayed. “White is for modernism,” said Walker, who coordinated the Houston exhibition. “The earlier paintings were not meant to be shown in the white cube, which is a twentieth-

century concept.” Speaking generally about the MFAH’s suitability for the exhibition, Walker said, “It really shows what a remarkable architect Rafael Moneo (designer of the Audrey Jones Beck wing) was. The galleries that were built for American art, mainly easel-scale work and smaller sculptures, worked so brilliantly.”

While the exhibition draws crowds to the Houston museum, construction continues in New York on an expansive renovation and addition for the MoMA. Designed by Japanese architect Yoshio Taniguchi, working on his first American commission, the addition will nearly double MoMA’s capacity. Exhibition space alone will increase from 85,000 to 125,000 square feet.

MoMA has always had enriching relationships with architects and architecture, and relationships helped bring the show to Houston. Ludwig Mies van der Rohe, whose work was first introduced to the American public via the 1932 MoMA exhibition, designed the MFAH’s Cullinan Hall/Brown Pavilion which opened in 1973. (Mies also designed the Neue Nationalgalerie in Berlin where the MoMA artworks will travel after Houston.) Also, Philip Johnson, former curator for architecture at MoMA, has designed many high-profile architectural projects in Houston.

Unfortunately, despite these strong and successful relationships, architecture is not included in the MFAH “The Heroic Century” exhibition. (Also not part of the traveling show are pieces from the New York museum’s extensive collections of furniture, photography, graphic design, etc.) MoMA Director Glen Lowry said the greater public demand is for the museum’s permanent collection of paintings and sculpture, which he said traditionally never leaves MoMA’s galleries.

Before the show was put together, many of the works underwent extensive restoration, some for the first time since they were entered into the MoMA’s collections. “It was interesting to see the reaction of the couriers, many of whom had worked on the conservation,” Walker said. “First, they were glad to see the works again, but also to see them in this space and with different juxtapositions and looking so great.”

Lowry, too, enjoyed seeing the works again. “I’m really pleased,” he said. “I think Barry Walker did an extremely good job laying the collection out and presenting it in a way that is at times startling, at times incredibly exciting, and certainly at times very different from anything that we would have done. And that’s what makes it fun to see here in Houston.”

A D A M F O R T N E R

## Mexican Architecture Displayed in Dallas

The McKinney Avenue Contemporary displays “Masters of Light: 10 Contemporary Mexican Architects,” an exhibition featuring work by Mexico’s best-known contemporary architects. The MAC is located at 3120 McKinney Avenue. Visit [www.the-mac.org](http://www.the-mac.org) for more information. NOV. 7 to DEC. 12

## S.A. Seminar Focuses on Mold

“Mold in the Built Environment: Perspectives for Architects” is a one-day seminar dedicated to mold and sponsored by the AIA National Building Performance Professional Interest Area. The presentation will inform professionals of issues such as liability, remediation, and the health effects of mold. The seminar will take place at the St. Anthony Hotel in San Antonio. For additional information, call (202) 626-7576. NOV. 8

## Brazos Projects Shows Murcutt Model

A model of 2002 Pulitzer Prize winner Glenn Murcutt’s favorite project is on display at the Brazos Projects gallery, 2425 Bissonnet Street. The “Glenn Murcutt: Simpson-Lee House” exhibition features Murcutt’s drawings, photographs, and many writings about the project. Call (713) 523-0701. THROUGH NOV. 16

## Candlelight Christmas Tour in Ryan Place

“The Stately Homes of Ryan Place 20th Anniversary Candlelight Christmas Tour” will showcase five extraordinary homes on the National Registry of Historic Places in Fort Worth’s Ryan Place neighborhood. Four of these homes are located in the Elizabeth Boulevard historic district which offers significant examples of Italianate, Tudor, Spanish, Georgian, Colonial, Dutch, and Federal Revival styles. Call (817) 921-9976 or email [hometour@historicroyanplace.org](mailto:hometour@historicroyanplace.org) for more information. DEC. 5–7

## MoMA Masterpieces at MFAH

The Museum of Modern Art is touring highlights of its collection while its Manhattan facility undergoes new construction, and Houston is the only stop in North America. The exhibition highlights virtually every significant art movement of the twentieth century, from early 1900s Fauvism and Cubism to Abstract Expressionism and Conceptualism of the latter part of the century. Artworks by Cezanne, Degas, Picasso, Braque, Leger, Chagall, and Johns are included. The exhibition also displays such famous works as Van Gogh’s *The Starry Night*, Monet’s *Water Lilies*, Dalí’s *The Persistence of Memory*, and Pollock’s *Number 1*. THROUGH JAN. 4

## Of Note: Pitts Award Winner

**A U S T I N** Jim C. Doche, FAIA, is the 2003 recipient of the Llewellyn W. Pitts FAIA Award, the highest honor bestowed by the Texas Society of Architects on its members. A 1965 graduate of Texas Tech University, Doche is a founding partner of Wilson/Doche Architects (now WD Architects) in Amarillo. He was instrumental in gaining the architectural practice act in 1989. Doche served as TSA President in 1990 and was the Texas Director for AIA National from 1994 to 1996. Doche will be presented with the Pitts Award during ceremonies on Nov. 1 at the TSA convention in Fort Worth.



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## Collective Response

A rare opportunity to walk through houses in two very different border neighborhoods showed similar approach to Valley climate.

Detailed brickwork is a hallmark of the Border Brick-style buildings that line the narrow, unpaved streets of El Soliceño, Tamaulipas, just across the border from Harlingen; photos by Gerald Moorhead, FAIA



THE REMARKABLE ARCHITECTURE of the Lower Río Grande Valley demonstrates that sustainable design is not simply an alternative but a creative response to conditions imposed by nature. Houses in Harlingen designed by John G. York and Alan Y. Taniguchi in the 1950s, along with residences built a half-century earlier in the village of El Soliceño just across the Río Grande, respond to the borderland's semi-tropical climate through siting, orientation, and plan. Only 15 miles apart, yet disconnected inestimably by conditions both cultural and economic, these buildings conceptually intermingle to form a collective identity.

El Soliceño and the houses of York and Taniguchi were destinations of a tour in late September organized by the regional AIA chapter. Forty architects, interns, preservationists, and other interested parties experienced what the chapter's Executive Director Carmen Pérez García describes as the "immense wealth of regional architecture" in the two communities. (The day-long tour, organized for the chapter's annual conference, keenly embodied the "Looking Within" theme of this year's gathering.)

Mexican architect and preservation specialist Carlos Rugerio Cázares,

director of field operations for the bi-national preservation organization Los Caminos del Río, escorted the group on a walking tour of the Ejido El Soliceño, Tamaulipas. (The village in some ways appears similar to the evocative upriver ghost town of Guerrero Viejo, except El Soliceño is inhabited.) Located almost within view of the Río Grande/Río Bravo del Norte, El Soliceño is a townsite of about 30 blocks laid out on the ranch of an eighteenth-century settler, don Juan José Solís. Its narrow, unpaved streets are lined at intervals with one-story Border Brick-style houses, some inscribed with dates from the 1890s. Several houses have gabled wings framing interior patios in L plans. Rugerio arranged for visitors to tour one house, pointing out that it was through the arrangement of furniture and equipment, rather than spatial differentiation, that interior uses were determined. Rugerio especially noted the raised brick sidewalks, molded brick detail, wrought ironwork, and carpentry preserved in the houses.

The afternoon portion of the tour, led by Harlingen preservation advocate Mike Dailey and architectural intern John R. Percy, focused on the work of Harlingen's great mid-twentieth century modern architects, John G. York and Alan Y. Taniguchi. While the two halves of the tour at first seemed unrelated, similarities emerged as participants explored six Harlingen houses, three by York and three by Taniguchi.

York and Taniguchi responded to the Valley's hot, humid climate with L plans oriented to the prevailing breeze, screened breezeways, and open plans. On a dead-end block of S. 16th Street in Harlingen, tour participants walked through two compact Taniguchi houses and past three others he designed in the early 1950s, one of them formerly his own. The larger of the two 16th Street houses, built by Taniguchi's associate Gary Roggenbuck, featured a deeply recessed entrance alcove facing the street and a long, side breezeway (now glazed) that buffered south-facing rooms from a side courtyard.

The three York houses lie in Laurel Park, Harlingen's mid-century garden subdivision, which York and his partners Walter Bowman and Bartlett Cocke laid out along the Arroyo Colorado, a deep creek that flows through Harlingen. York's own house of 1952 is radical. It is a South Texas version of the Eames House in which exposed steel pipe columns, bar joists, and decking enclose loft-like spaces. A screened breezeway, still intact, was suffused by Gulf breezes penetrating the house through







Houses designed in the 1950s demonstrate architect John G. York's strategy for living in the Valley's hot, humid climate, including flat or low-pitched roofs, deep eaves, and sliding doors opening to patios and gardens; photos by Gerald Moorhead, FAIA.

steel and glass doors hinged directly to the pipe columns.

A pair of Cocke, Bowman & York houses from 1950 backing up to the Arroyo Colorado indicated the breadth of the firm's production. One house featured low-pitched roofs with cut-back eaves and glazed gables, which seemed to float above wall planes of limestone. The other was flat-roofed, with slender white-painted steel H-columns, fascia, and decking, evoking the sort of houses Pierre Koenig designed for the Case Study program in the late 1950s. Both houses featured variations on the L plan, with sliding doors opening to side or rear gardens. Storage walls of built-in cabinets lining corridors, sliding louvered panels instead of fixed walls, and corrugated translucent glass panels demonstrated the lyrical ingenuity characteristic of York's architecture.

The tour concluded with a visit to Taniguchi's largest house, across the Arroyo Colorado from Laurel Park. It is like a bit of the Berkeley Hills transposed to a tropical rain forest. Completed in 1956, this house differed from others on the tour. Interior spaces were vertically organized and, thanks to extensive use of dark, polished plywood paneling, dim in tone. As fascinating as its spatial introversion was the house's remarkable garden, where lush evergreen plants and vines proliferated, constructing outdoor spaces that were mysterious and enchanting.

The setting for the last house was so exhilarating it externalized the magical-realist sensation that pervaded the tour. El Soliceño and Harlingen possess unsuspected depths of cultural richness embodied in their architecture. The moving intensity of this architecture underscores the extent to which York and Taniguchi, no less than the builders of El Soliceño, amplified qualities of site, orientation, climate, and ultimately, community. The remarkable architecture of El Soliceño and Harlingen demonstrates how sustainability can be a key for unlocking the imagination, producing places that are magical precisely because they engage reality.

Architectural historian Stephen Fox teaches at Rice University where he is a Fellow of the Anchorage Foundation of Texas.





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**Architect:** Robert A.M. Stern Architects  
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**Contractor:** Lucia, Inc.  
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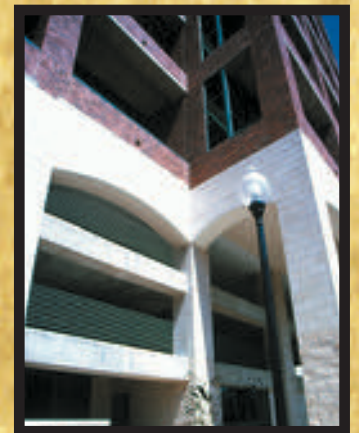
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**Project:** The Whitestones  
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**Contractor:** CD Lone Star, Inc.  
**Supplier(s):** Leander Cut Stone



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**Project:** Baker Street Jail  
**Architect:** Pierce, Goodwin, Alexander and Linville  
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**Category:** Residential/Other  
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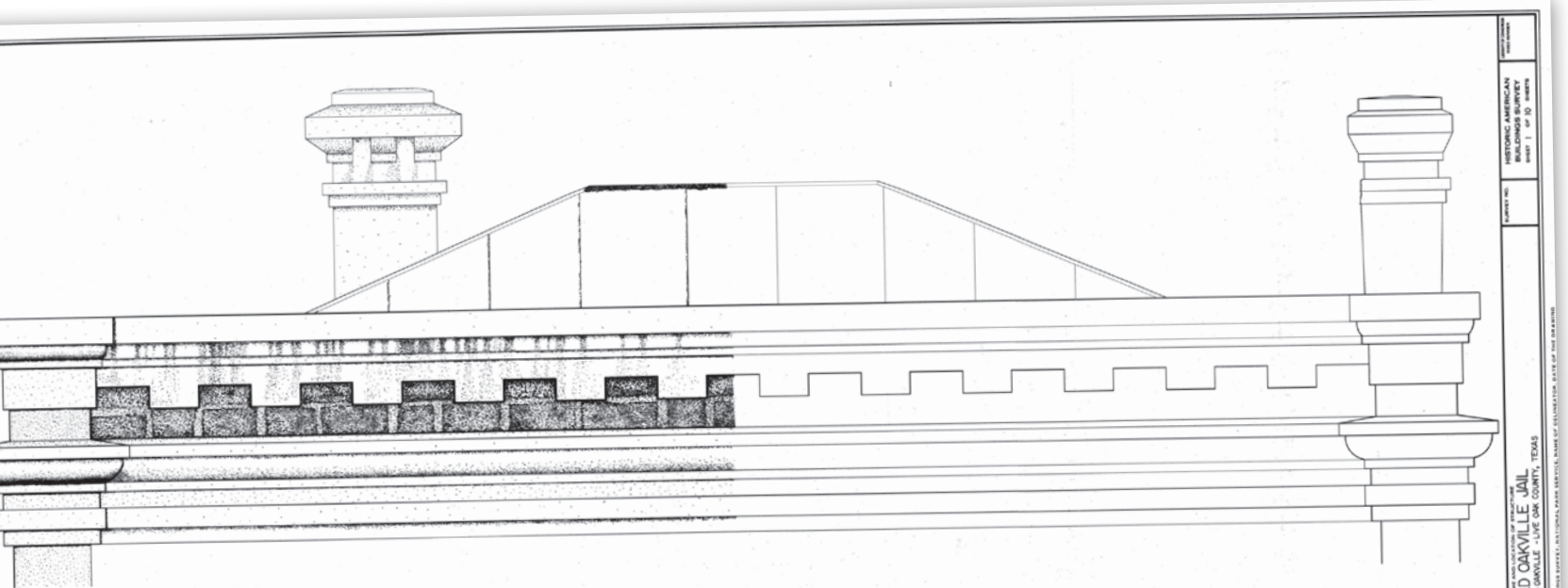
STORY BY: **STEPHEN SHARPE**

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UNITED STATES DEPARTMENT OF THE INTERIOR

# HABS IN TEXAS

From its inauspicious start in 1933, documentation teams have produced measured drawings of our state's historic buildings as part of a national program to preserve architectural treasures.



## THE OLD JAIL BUILDING

THE OLD JAIL BUILDING AT OAKVILLE, TEXAS IS ALL THAT REMAINS OF A TOWN THAT ONCE SERVED AS THE SEAT OF LIVE OAK COUNTY. BECAUSE THE SITE IS ABOVE THE FLOOD PLAINS IT HAS BEEN TRAVERSED BY INDIGENOUS AMERICANS, SPANISH EXPLORERS, AND A STAGE COACH ROUTE. THE TOWN WAS BORN AS A STAGE COACH STOP DUE TO ITS PROXIMITY TO SULPHUR CREEK, AND WAS CHOSEN AS COUNTY SEAT IN 1806. FROM 1887 TO 1919, THE JAIL ON THE EDGE OF THE COUNTY SQUARE ACTED AS LIVE OAKS THIRD AND MOST SOPHISTICATED DETENTION FACILITY WHILE, CONCURRENTLY, OAKVILLE'S POPULATION PEAKED TO FOUR HUNDRED PEOPLE. IN 1919 A LOCAL RANCHER CALLED FOR AN ELECTION TO CHANGE THE COUNTY SEAT TO HIS EPONYMOUS TOWN. HE WAS VICTORIOUS, AND WITH THE CRITICAL LOSS OF THE COMMERCE AND STATUS THAT HAD ALWAYS ATTENDED A COUNTY SEAT, OAKVILLE DECLINED SEVERELY. THE FINAL EVENT IN THE TOWN'S HISTORY OCCURRED WHEN STATE ENGINEERS RECOGNIZED THE VALUE OF THE TOWN'S SITUATION ABOVE THE FLOOD PLAINS. INTERSTATE HIGHWAY 27 WAS ROUTED DIRECTLY THROUGH THE FORMER TOWN.

THE JAIL RECALLS NOT ONLY A ONCE THRIVING TOWN, BUT ALSO AN ERA OF CONSTRUCTION WHOSE SIGNIFICANCE HAS BEEN ALL BUT LOST. THE COUNTY JAILS FROM THE LATE 1800S REFLECTED THE INFLUENCE OF ENTREPRENEURS WHO INTERPRETED DISCOVERIES MADE DURING THE INDUSTRIAL REVOLUTION INTO NEW PRODUCTS AND COMMODITIES. GERMAN IMMIGRANT CHARLES DIEBOLD FOUNDED A SAFE AND LOCK COMPANY BASED ON HIS PATENTED INVENTIONS, AND EXPANDED THE BUSINESS TO INCLUDE JAIL KITS THAT HE SOLD TO COUNTIES ACROSS THE WEST AND SOUTHWEST. DESIGNERS ALLOWED NOT ONLY FOR MODERN IRON AND STEEL APPLICATIONS, BUT ALSO HUMANE CONDITIONS OF LIGHT AND HYGIENE FOR PRISONERS. AT LEAST A DOZEN COUNTIES IN TEXAS BOUGHT HIS PLANS, INCLUDING LIVE OAK.

WHEN BUILT, THE JAIL IN OAKVILLE FLANKED A VERNACULAR COURTHOUSE THAT OCCUPIED THE CENTER OF THE SQUARE. IT WAS DISMANTLED IN THE MID TWENTIETH CENTURY AFTER IT HAD FALLEN INTO SEVERE DISREPAIR. THE SQUARE IN WHICH THE COURTHOUSE AND JAIL STOOD WAS TYPICAL OF LAYOUTS IN MANY SOUTHERN AND SOME MIDWESTERN STATES. SURROUNDED BY BUSINESSES OR GOVERNMENT BUILDINGS, EIGHT STREETS EMANATED FROM THE FOUR CORNERS. THIS PLAN'S ORIGIN HAS BEEN TRACED THROUGH CONTIGUOUS STATES TO LANCASTER COUNTY IN PENNSYLVANIA.

THE SHERIFF AND HIS FAMILY WERE PROVIDED LIVING QUARTERS IN THE JAIL BUILDING ON THE GROUND FLOOR. THEY WERE CHARGED WITH GUARDING AND PREPARING FOOD FOR THE INMATES WHO WERE AWAITING TRIAL IN THE JAIL CELLS. SOMETIMES JAIL BUILDINGS WOULD BE DESIGNED BY ARCHITECTS TO MATCH THE IMPOSING COURTHOUSES, AND JAIL KITS FROM COMPANIES SUCH AS DIEBOLD WOULD BE INSTALLED. OTHER COUNTIES WOULD PURCHASE AN ENTIRE JAIL DESIGN AND HIRE A CONTRACTOR TO OVERSEE CONSTRUCTION. THIS IS WHAT HAPPENED IN OAKVILLE, WITH THE PURCHASE OF DIEBOLD'S PLAN S-47. IT INCLUDED A BEARING STONE STRUCTURE AND A SECOND FLOOR OF I BEAMS AND POURED CONCRETE, WHICH SUPPORTED FREE STANDING FERROUS CELLS FOR THE INMATES. FENESTRATION WAS PROVIDED BY TALL ARCHED WINDOWS, BARRED ON THE SECOND FLOOR. A DOUBLE CORNICE OF LOCAL SANDSTONE, AS WELL AS PLASTERED WINDOW HOODS AND FILASTERS, STILL ATTEST TO THE AUTHORITY AND GRANDUEUR OF THE COUNTY EDIFICE.

AFTER BEING ABANDONED AS A JAIL, THE BUILDING WAS USED FOR PUBLIC MEETINGS OF GROUPS AFFILIATED WITH LOCAL CHURCHES. IT WAS RENOVATED IN THE 1940S, APPARENTLY USING MATERIALS FROM THE DECEASED COURTHOUSE, INTO A RESIDENCE. ONE FAMILY OCCUPIED THE BUILDING UNTIL THE 1970S. SOMETIME IN THIS PERIOD THE SECOND FLOOR WAS STRIPPED OF ITS CELLS, BARS, AND ORIGINAL WINDOWS, AND SUBDIVIDED INTO BEDROOMS WITH A NEW, LOWER CEILING. THE REMOVAL OF THE BARS APPARENTLY BROKE SEVERAL OF THE STONE SILLS. INDOOR PLUMBING WAS INSTALLED IN ORDER TO SUPPLY NEW BATHROOMS, ONE ON EACH FLOOR. AFTER THE 1970S, THE BUILDING WAS REPUTEDLY USED AS APARTMENTS. IT IS NO LONGER INHABITED.

THIS PROJECT WAS UNDERTAKEN BY GRADUATE STUDENTS AT THE UNIVERSITY OF TEXAS AT SAN ANTONIO. THESE EFFORTS HAVE SERVED AS A CATALYST IN PRESERVING A SIGNIFICANT BUILDING, CONSTRUCTION METHOD, AND TOWN HISTORY. VIA A NATIONAL REGISTER NOMINATION AND THESIS STUDY, THE STUDENTS INVOLVED IN THE BUILDING'S DOCUMENTATION, BEGINNING IN THE SUMMER OF 2002, WERE IMOGEN COOPER AND YOSHI SHARABIAN. BOTH DOCUMENTATION AND DRAWINGS WERE ACCOMPLISHED BY CHERYL DAVANI, JULIA DUNKS, AND WANIRA OLIVEIRA, UNDER THE SUPERVISION OF SUE ANN BERKERTON-HAUGH, ASSISTANT PROFESSOR, UTSA.

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(opposite page) A page from the University of Texas San Antonio's award-winning renderings of the Old Jail in Oakville. (above left) Texas A&M students work on their drawings of Montezuma Castle in Arizona. (above right) The A&M team takes measurements of the 1856 Hoch House in Hochheim; photos courtesy Texas A&M Department of Architecture.

IN 1933, AS THE NATION ENDURED the worst of the Great Depression, a young architect sent a memorandum to his superiors at the National Park Service.

"The plan I propose is to enlist a qualified group of architects and draftsmen to study, measure and draw up plans, elevations and details of the important antique buildings of the United States. It is the responsibility of the American people that if the great number of buildings must disappear through the economic causes, they should not pass into unrecorded oblivion..."

Charles E. Peterson's proposal led later that same year to the creation of the Historic American Buildings Survey (HABS), a make-work program for jobless architects, draftsmen, and photographers. Peterson was named HABS' first director. In a three-way accord, the National Park Service entrusted the AIA to find adequately trained personnel to produce field notes, drawings, and photographs to be archived by the Library of Congress. Still in force today, 70 years after originally drafted, the Tripartite HABS Agreement remains the last vestige of the New Deal's Works Progress Administration. Some aspects of HABS has changed radically since 1933, particularly with the recent advent of laser technology for field work and the Internet as a medium for instantaneous viewing of archived material via the Library of Congress' Web site (including documentation of many structures in Texas, some from the program's earliest years).

In November HABS will be celebrated during a symposium in Washington, D.C., co-sponsored by the AIA's Historic Resources Committee. The two-day event will honor Charles Peterson, now in his late 90s, and his 70-year legacy. Among those invited to speak are three academics from two Texas architecture schools—John P. White, FAIA, of Texas Tech University, "Thirty Years of Managing HABS Recording Teams"; David Woodcock, FAIA, of Texas A&M

University, "Teaching HABS in a University Setting"; and Elizabeth I. Loudon, AIA, of Texas Tech University, "Promise to Probabilities: Use of the Three-Dimensional Laser Scanner."

### Valuable Training for Students

HABS began as an emergency relief program to provide work for 1,000 unemployed architects during the darkest days of the Depression. Funded originally through the Civil Works Administration as a 10-week program, HABS teams fanned out across the country in January 1934. Forty men were allocated to Texas and split into squads. By March they had produced some 177 sheets of measured drawings and 242 photographs. Those first projects included the Spanish Missions of San Antonio, the French Legation in Austin, and residences in Fredericksburg, Castroville, and Panna Maria. Funding resumed in 1936 through the WPA, and by the outbreak of World War II a total of 272 structures had been recorded in Texas.

In 1957 when the program was re-activated, the post-war projects were undertaken largely by teams of student architects conducting summertime field work. Peterson, then still the national director of HABS, strongly believed that architecture schools and their students should be actively involved in HABS. That same year, D.B. "Blake" Alexander was teaching architectural history at the University of Texas at Austin when Ernest Allen Connally, a protégé of Peterson, suggested that Alexander travel to Pennsylvania to direct a summer HABS project under the auspices of the University of Pennsylvania. His small team of local architecture students documented four rural farm houses built in the eighteenth century in the countryside near Redding. The work to produce measured drawings, Alexander quickly realized that summer,





**Documentation on the Old Jail in Oakville garnered the UTSA student team the 2003 Peterson Prize; photo courtesy UTSA.**

benefited students through useful training as well as advanced the cause of preservation.

“When I returned to Austin I thought it would be worthwhile to involve my students in measuring buildings in Texas,” Alexander recalled recently. “The idea of historic preservation was in its infancy and yet there were quite a few of us interested in preserving historic buildings in Texas. We were losing them at a rapid rate and we wanted to do whatever was possible to preserve what we had.”

Early in the 1960s, Alexander offered his students the option to produce measured drawings as projects for credit in his architectural history courses. “It might have been their first opportunity to measure an actual building,” Alexander said, adding that his students often discovered that buildings weren’t always square and neat as they might have expected. Plus, he said, most of his students never had drawn existing structures. “That was a new experience,” he said. While the projects were not officially part of the HABS program, his students followed HABS’ stringent guidelines. Some students’ drawings were accepted by HABS while others were not.

Actual HABS documentation in Texas after the war didn’t resume until 1961 when W. Eugene George directed several projects in Roma and students from UT Austin began measured drawings of San Antonio’s Mission San Antonio de Valero, better known as the Alamo. Not until 1966 did the first full-scale summer HABS project in Texas begin. That was when a team of four students from Texas Tech University under the supervision of Willard B. Robinson recorded 16 buildings in Jefferson. Also in the mid-1960s, Texas A&M began

externally funded summer projects under architecture professors Melvin M. Rotsch and Roy C. Pledger.

By the end of the decade HABS was in full swing in Texas, with documentation projects being accomplished by student teams from Texas Tech, Texas A&M, and UT Austin. However, the student projects were not yet part of any Texas school’s curriculum. That changed in 1974 with summer programs at UT Austin and Texas Tech: Wayne Bell established UT’s Winedale Preservation Institute which continues to sponsor HABS summer documentation projects, and John White supervised his first of 26 consecutive summer programs for Texas Tech.

The HABS program became part of A&M’s formal coursework in 1977 under the direction of professor David G. Woodcock. A&M’s first HABS project was Main Street in Calvert, an 1860s railroad town just 35 miles north of College Station and once the center of cotton production in the Brazos River Valley. Students drew elevations on both sides of the street in the once-prosperous town’s four-block historic core. Trained as an architect in his native England, Woodcock was eager to impart to his students the knowledge and skills he himself learned by documenting architectural elements and assemblies. In an address last year at an A&M symposium on documentation methods, Woodcock explained why he believes measured drawing is an important element of the education of future architects. “Theoretical issues notwithstanding, my personal academic concern by the middle of the 1970s lay in the belief that the schools were graduating individuals who generally had no hands-on knowledge of the building industry, and who had only the most superficial experience in office practice.”

Two other Texas architecture schools began HABS programs in the 1990s, beginning with the University of Houston in 1991. UH has since expanded its measured-drawings projects to include field work in Mexico documenting sixteenth-century UNESCO World Heritage Sites in cooperation with the Mexican government’s equivalent of the U.S. Department of Interior. The University of Texas at San Antonio established its HABS program in 1996 and this year won its second First Place in the HABS annual competition for best documentation.

### Competition and Collaboration

HABS programs currently are part of the curriculum at five Texas architecture schools, with summer programs taking students to historic sites all around the United States and its territories. Perhaps the nation’s best known structure documented by Texans is the Statue of Liberty, which a team from Texas Tech recorded in July 2001 using three-dimensional laser scanning technology. (See related article.)

The highest profile project undertaken in Texas was the documentation of the State Capitol over three summers, beginning in 1986, by a team of students representing five Texas schools. Texas Tech’s John White supervised the effort, the first HABS project in the nation in which computer-aided drafting tools were employed. As White reported recently, “It was a learning experience and the first year was not as successful as the next two years. There were not enough workstations available for the students to use to be efficient. But we did get the plans and some elevation drawings done that first summer.”

On a national level, the best student documentation work is recognized each year with the Charles E. Peterson Prize which HABS inaugurated in 1981 to honor its founder on his seventy-fifth birthday. The first Peterson Prizes were awarded in 1983 in celebration of HABS’ fiftieth anniversary. Three Texas schools have won first-place prizes in the national competition. Texas A&M has won three times—in 1990 for the Grimes County Courthouse in Anderson; in 1991 for the Giddings-Wilkin House in Brenham; and in 1997 for the



Students from the University of Houston's Center for Historic Architecture have documented several structures in Mexico as part of a preservation program sponsored by the Mexican government. One of the UH teams is shown here on the roof of the National Cathedral in Mexico City; photo courtesy University of Houston.

Union Trading Company Complex in Fort Davis. UTSA has won twice—in 1999 for the Maverick-Carter House in San Antonio and in 2003 for the Old Jail in Oakville. (See news story on page 13). UT Austin has won once—in 1998 for the Lee County Courthouse in Giddings.

In recognition of documentation excellence on historic structures in Texas, HABS co-sponsors the Kenneth L. Anderson Prize. The prize, named for a Texas Tech graduate who later became the director of HABS, is awarded annually for the best set of measured drawings of a Texas structure. UT Austin has won the Anderson Prize twice—in 2001 for Laguna Gloria in Austin and in 2002 for the Point Bolivar Lighthouse in Galveston County. In addition to winning First Place in the Peterson competition, UTSA won the Anderson Prize this year for its drawings of Oakville's Old Jail. ■

Stephen Sharpe is editor of *Texas Architect*.

A substantial portion of research for this article derived from Texas Catalog: Historic American Buildings Survey compiled by Paul Goeldner and published in 1974 by Trinity University Press.

The Library of Congress' HABS database (searchable by project name, location, and keyword) is accessible at ([memory.loc.gov/ammem/hhhtml/hhhome.html](http://memory.loc.gov/ammem/hhhtml/hhhome.html)). The Web site also includes archived material from the *Historic American Engineering Record* (established in 1969) and the *Historic American Landscape Survey* (established in 2002).



## HABS Evolves Through New Technology

Texas Tech University's Digital Liberty Project has introduced new technology to HABS, the latest innovation in the program's 70-year history. While previous technological advancements have changed the way measurements are taken in the field and how that information is processed in the studio, the introduction of three-dimensional laser scanning technology represents a significant change in the way monumental HABS projects are accomplished.

The Digital Liberty Project utilized a \$250,000 piece of equipment called a Cyrax scanner that works much like radar. The Cyrax system uses LIDAR, or light detection and ranging technology, which transmits a beam of high-intensity light toward a surface or target that is bounced back to the scanner. The result is a "point cloud," a collection of data points that when processed yields a three-dimensional contour of the scanned object. The Texas Tech team spent four summer days in 2001 measuring the 305-foot, one-inch colossus from several ground-based vantage points.

According to Elizabeth Loudon, one of the project's three supervisors, the efficiency of the Cyrax scanner – capable of capturing more than 800 measurements per second – reduces immensely the amount of time teams must spend in the field taking measurements. However, there has been a tradeoff: processing the scanner's digital output initially stretched the limits of computer resources available at Texas Tech. Following a few false starts, including finding software that could open the large digital files, the studio work commenced.

The introduction of such high-tech methods has prompted some questions within academia about the overall affect on the training of students for careers in architecture. Rendering measured drawings by hand, so the argument goes, is more beneficial to students than operating expensive gadgetry.

To that argument, Loudon responds: "The students have the opportunity to learn so much more with this new technology. I suppose it is a trade-off with the hand-measuring, but the reality is that in architectural practice today has to compete using all the speed, accuracy, and precision that is available. The students that are learning to use the scanner not only are learning the technology, but are also still using the HABS standards as a baseline of excellent documentation technique and representation of historic buildings."

"At the end of the day," Loudon continued, "the students still learn a great deal, have a skill and knowledge that very few other architecture students have the opportunity to learn and that gives them an added advantage in the job market. Technology won't let us stick to the old way of doing things. We have to try to keep up with the advancements in the digital world. HABS also has to keep up, like it or not. But I still believe that we will always need to keep a hard copy of the drawings that meet the Library of Congress standards for a 500-year shelf life....just in case."

STEPHEN SHARPE



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Educating the next generation of design professionals will require a holistic approach to planning and realizing the built environment. Essential to developing a new pedagogy is an understanding the interconnectedness of factors heretofore considered unrelated.

# THROUGH A WINDOW OF SUSTAINABILITY

by RIVES TAYLOR, AIA

THE TEXAS DESIGN PROFESSIONAL IS, at a minimum, familiar with the terms “sustainable,” “high-performance,” and “green,” and many understand the rudiments of sustainable design methodologies. Touted almost universally as a new model for practice, this design philosophy seeks to maximize the quality of the built environment while concurrently minimizing the impact to the natural environment. Other factors, such as a project’s impact on the local economy and quality of life, contribute to the overall success of sustainable design, therefore underscoring the comprehensive reach of our profession. Evidence of this shift toward sustainable design is everywhere. Articles and ads employ these buzz words to draw one’s attention, although the message’s true connection to sustainable design is sometimes debatable.

The growing demand among public and private clients for sustainable design is transforming curricula in our architecture schools. Key to responding to this institutional challenge for a new pedagogy is an educator’s clear understanding of the holistic nature of sustainable design. Only then can educators teach the appropriate methodology. Ideally, more than a menu of dos and don’ts, the broadened pedagogy must reflect the far wider role the architectural profession is taking in the creation of the built environment.

In essence, architectural education must emphasize the interplay involved in the full-building design process; that is, a firmer grasp of engineering, construction, finance, and life-cycle assessment. Such a holistic perspective requires the architect to understand the triple bottom line of a project’s economics, environmental impact, and social impact. Without this rudimentary understanding of balance, the design team cannot become the long-term partner of the building owner beyond a first effort in construction.

Because sustainable design is not simply sound design but the integration of several disciplines, today’s architecture education must broaden the student’s understanding of the architect’s role as the manager of the sustainable design team. As leader of a multi-disciplined team – ranging from engineers and biologists to economists and environmentalists – the properly trained architect is vital to any sustainable project that is cost effective both during construction and through its overall life cycle. Design leadership is essential for the multi-disciplined network approach to succeed, along with constant loop feedback during the design and construction of high-performance buildings.

### Shared Lessons

Perhaps the unique mixture of roles I find myself performing explains these observations. As the university architect at the University of Texas Health Science Center at Houston, I manage all the architectural projects on campus. Basically, I am the client for other architects, but a client who also builds and then operates the completed facilities. The university now is in the midst of a series of projects totaling almost \$500 million, including the \$57 million School of Nursing and Student Community Center that is designed to be a high-performance facility. The university has partnered with the UT System Office of Facility Planning and Construction in forming a project team led by Berkebile Nelson Immenschuh McDowell Architects (BNIM) of Kansas City and Lake/Flato Architects of San Antonio. The School of Nursing and Student Community Center, scheduled for completion in the spring, is expected to attain a LEED gold rating (second only to platinum in meeting LEED’s stringent guidelines) from the U.S. Green Building Council.

As the Health Science Center’s projects have evolved, I have sought to share the lessons of the integrated design process as adjunct faculty of both the Rice University School of Architecture and the Gerald D. Hines College of Architecture at the University of Houston (as Kirksey Fellow of Sustainable Design). Also, over the past six years I have served as a visiting studio critic

“Through a Window” continued on page 61

## Resources for Sustainable Design Methods and Technology

Alliance to Save Energy	<a href="http://www.ase.org">www.ase.org</a>
Am. Council for an Energy-Efficient Econ.	<a href="http://www.aceee.org">www.aceee.org</a>
American Solar Energy Society	<a href="http://www.ases.org">www.ases.org</a>
American Wind Energy Association	<a href="http://www.awea.org">www.awea.org</a>
Building Env. Science and Technology	<a href="http://www.nrg-builder.com">www.nrg-builder.com</a>
Business Roundtable	<a href="http://www.brtable.org">www.brtable.org</a>
Center of Energy & Climate Solutions	<a href="http://www.cool-companies.org">www.cool-companies.org</a>
Center for Health Design	<a href="http://www.healthdesign.org">www.healthdesign.org</a>
Center for Resource Solutions	<a href="http://www.green-e.org">www.green-e.org</a>
CERES Network for Change	<a href="http://www.ceres.org">www.ceres.org</a>
Conservation International	<a href="http://www.conservation.org">www.conservation.org</a>
Environmental Building News	<a href="http://www.buildinggreen.com">www.buildinggreen.com</a>
Energy Star	<a href="http://www.energystar.gov">www.energystar.gov</a>
Envirosense Consortium	<a href="http://www.envirosense.org">www.envirosense.org</a>
Environmental Defense	<a href="http://www.edf.org">www.edf.org</a>
Environmental Defense Scorecard	<a href="http://www.scorecard.org">www.scorecard.org</a>
Environmental Design + Construction	<a href="http://www.edcmag.com">www.edcmag.com</a>
E/The Environmental Magazine	<a href="http://www.emagazine.com">www.emagazine.com</a>
Environmental News Network	<a href="http://www.enn.com">www.enn.com</a>
Forest Stewardship Council United States	<a href="http://www.fscus.org">www.fscus.org</a>
GNET	<a href="http://www.gnet.org">www.gnet.org</a>
Green Building Alliance	<a href="http://www.gbapgh.org">www.gbapgh.org</a>
Green Building Resource Guide	<a href="http://www.greenguide.com">www.greenguide.com</a>
Green Culture	<a href="http://www.greenculture.com">www.greenculture.com</a>
Green Globe 2 1	<a href="http://www.greenglobe.org">www.greenglobe.org</a>
green-haus	<a href="http://www.home.earthlink.net/~dlombard">www.home.earthlink.net/~dlombard</a>
Green Seal	<a href="http://www.greenseal.org">www.greenseal.org</a>
Intn’l Design Center for the Environment	<a href="http://www.idce.org">www.idce.org</a>
International EcoTourism Society	<a href="http://www.ecotourism.org">www.ecotourism.org</a>
National Wildlife Federation	<a href="http://www.nwf.org">www.nwf.org</a>
Natural Resources Defense Council	<a href="http://www.nrdc.org">www.nrdc.org</a>
Natural Step	<a href="http://www.naturalstep.org">www.naturalstep.org</a>
Portland Energy Conservation Inc.	<a href="http://www.peci.org">www.peci.org</a>
Rain Forest Alliance/SmartWood	<a href="http://www.smartwood.org">www.smartwood.org</a>
Recycler’s World	<a href="http://www.recycle.net">www.recycle.net</a>
Renewable Energy Policy Project	<a href="http://www.crest.org">www.crest.org</a>
Residential Energy Service Network	<a href="http://www.natresnet.org">www.natresnet.org</a>
Scientific Certification Systems	<a href="http://www.scs-certified.com">www.scs-certified.com</a>
Smart Growth Network	<a href="http://www.smartgrowth.org">www.smartgrowth.org</a>
Steel Recycling Institute	<a href="http://www.recycle-steel.org">www.recycle-steel.org</a>
SUNetwork	<a href="http://www.sustainable-usa.org">www.sustainable-usa.org</a>
Sustainable Arch., Building & Culture	<a href="http://www.sustainableabc.com">www.sustainableabc.com</a>
Sustainable Sources	<a href="http://www.greenbuilder.com">www.greenbuilder.com</a>
Sustainable Hospitals	<a href="http://www.sustainablehospitals.org">www.sustainablehospitals.org</a>
Tropical Forest Foundation	<a href="http://www.tropicalforestfoundation.org">www.tropicalforestfoundation.org</a>
Urban Ecology	<a href="http://www.urbanecology.org">www.urbanecology.org</a>
United Nations Div. for Sustainable Dev.	<a href="http://www.un.org/esa/sustdev">www.un.org/esa/sustdev</a>
U.S. DOE Energy Information Portal	<a href="http://www.eren.doe.gov">www.eren.doe.gov</a>
U.S. DOE Smart Community Network	<a href="http://www.sustainable.doe.gov">www.sustainable.doe.gov</a>
U.S. DOE Sustainable Bldg Tech. Manual	<a href="http://www.sustainable.doe.gov/freshstart">www.sustainable.doe.gov/freshstart</a>
U.S. Green Building Council	<a href="http://www.usgbc.org">www.usgbc.org</a>
U.S. General Services Administration	<a href="http://www.fss.gsa.gov/enviro">www.fss.gsa.gov/enviro</a>
Whole Building Design Guide	<a href="http://www.wbdg.org/design">www.wbdg.org/design</a>

Researched by W. Dean Rowell, Assoc. AIA, based o list compiled by Greg Roberts, AIA.



A photograph of a modern, brightly lit interior space, likely a lobby or hallway. The space features a curved wall on the left with a series of recessed lights. Large windows on the right side offer a view of the outdoors. The floor is light-colored wood. The overall atmosphere is clean, minimalist, and contemporary.

# SUSTAINABILITY, INC.

by LARS STANLEY, AIA



(opposite page) Ample fenestration of low-E glass, seen here on the southwest facade, contributes to the building's overall energy efficiency. (this page) The approach runs alongside a four-acre retention pond, seen in the foreground at left, to the main entry plaza visible at the far right.

**PROJECT** IBM/Tivoli Headquarters, Austin

**CLIENT** IBM

**ARCHITECT** Hellmuth, Obata + Kassabaum

**CONTRACTOR** The Beck Group

**CONSULTANTS** Gensler (interiors); Richardson Verdoorn (landscape); Bury+Partners (civil); The Delphi Group (energy simulation); Horizons Environmental (environmental); WHM Transportation Engineers (traffic); Jancom (telecom); Rolf Jensen (code); Pelton Marsh Kinsella (audio/visual); JEAcoustics (mechanical noise control); Bliss Fasman (lighting); I.A. Naman & Associates (MEP); Kroll Schiff & Associates (security); Martensen & Associates (specification); Walker Parking Consultants (parking garage); Persohn/Hahn (elevator)

**PHOTOGRAPHER** Paul Bardagjy

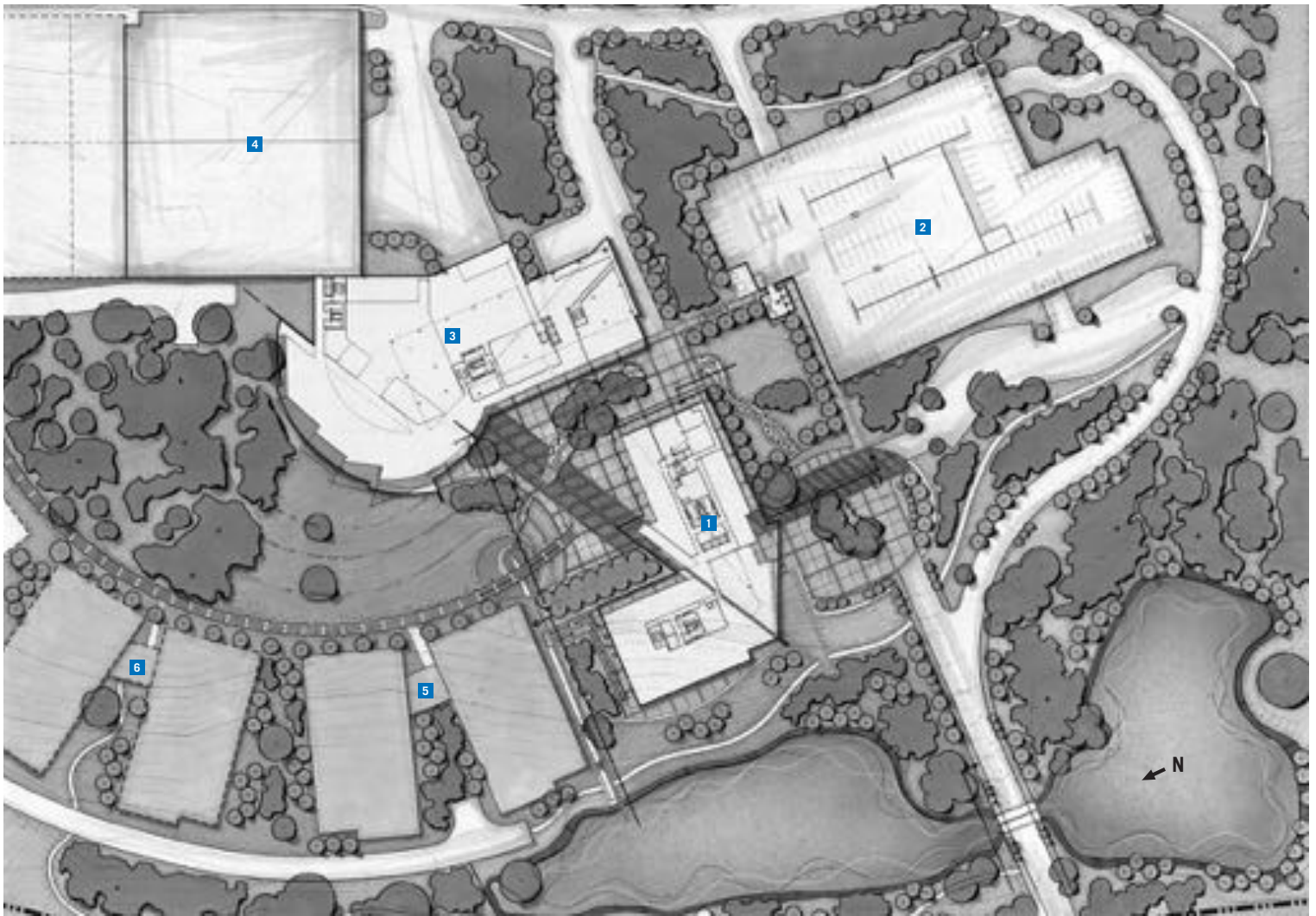
A VEIL OF HILL COUNTRY LANDSCAPING marks the processional entrance to IBM/Tivoli's new Austin headquarters. After fighting thoroughfare traffic, the road-weary guest enters the campus through a small section of native forest and crosses idyllic water features before seeing a gleaming new structure. The sight is immediately relaxing.

These first impressions reflect IBM/Tivoli's thoughtful corporate culture, and a tour of the facility reveals the skillful process through which IBM Real Estate and Facilities Project Manager Thomas Gunther, along with Julie Barr and Craig Ashburn, directed the project. As the first phase of a planned one million-sf office campus,

the 200,000-sf headquarters building includes office space for 750 Tivoli employees, a visitors center with extensive audio-visual capabilities, software development labs, employee gathering areas, and a parking garage. IBM/Tivoli selected Hellmuth Obata + Kassabaum Inc. (HOK) of Houston to provide master planning, as well as A/E services, with the Delphi Group of Austin as sustainability consultant and Gensler's Houston office as interior designer.

Tivoli Systems was a growing maker of network software when IBM acquired the Austin-based company in 1996. Leaders of both firms desired a smooth merger and wanted Tivoli to retain





**SITE PLAN**

- 1 IBM/TIVOLI HEADQUARTERS
- 2 PARKING GARAGE
- 3 FUTURE BUILDING 2
- 4 FUTURE GARAGE
- 5 PHASE 3
- 6 PHASE 4

its independence which reflected the youthful, creative, and fast-moving, tech-savvy culture of its hometown. “IBM was very open to satisfying Tivoli’s desires as best they could within the budget,” recalls Al Younkin, AIA, project manager for HOK.

For example, Tivoli’s creative personnel needed spaces which encouraged collaborative work on different scales—areas for large groups to meet and discuss options, as well as nooks for one-on-one brainstorming sessions. The design team responded by creating several large conference rooms in the center of each floor, along with “team rooms” for meetings of 6–8 people, all outfitted with printing stations, stairs, elevators, and restrooms. Flanking these core areas are multiple office cubicles that extend to the exterior of the building. The cubicles are arranged in back-to-back rows with wide walkways in between. Through abundant low-E glazing, diffuse natural light penetrates deep into the building’s interior spaces. Materials rendered in crisp, natural colors

and well-crafted details (such as glass panel dividers etched with leaves) contribute to an informal yet vibrant work environment that supports Tivoli’s commitment to its personnel.

During the initial phases HOK also quickly discovered that Tivoli’s employees embrace a strong desire for environmentally sensitive design, another reflection of the culture of Austin. As described by HOK Design Director Roger Soto, AIA, “Tivoli knew that a building designed with a sustainable focus could become a valuable tool for employee attraction and retention.”

HOK proved to be equally as focused on sustainable design as its client. Bill Odell, the firm’s sustainable design principal, reviewed potential approaches to a sustainable design with the entire design team and everyone agreed to try for LEED (Leadership in Energy and Environmental Design) certification through the U.S. Green Building Council. The Delphi Group, with assistance from the local municipal utility’s Commercial Green Building personnel, shepherded the



(top) The water feature at the entry plaza includes boulders excavated during construction. (below) Diffuse natural light floods the main lobby as in most of the interior workspaces.



project through the intense evaluation process and ultimately led to IBM/Tivoli's being distinguished as one of the state's first LEED-certified projects.

Early consensus on an integrated design approach is critical to the success of the LEED process, yet the team accomplished that objective despite a late start. Most important is early commitment by the owner, especially because some strategies add to a project's cost (in this case, about three percent per square foot) and dictate aspects of the design. The LEED categories targeted by the IBM/Tivoli team addressed the following issues:

- sustainable site/water efficiency – The master plan allows necessary development while preserving and reestablishing as much of the native landscape as possible. A four-acre pond and other smaller ponds comply with Austin's stringent water retention ordinances.

- energy and atmosphere – The exterior of the building mixes native stone, cast stone, and low-E fenestration which together harmonize with the contextual surroundings and, with its light-colored Energy Star-rated roofing system, combines for an energy-efficient envelope.

- conserving materials and resources – Much of the material cleared from the site was reused (as mulch for newly planted vegetation, stones for the ponds and landscaped courtyards, etc.) and up to half of the construction waste was recycled.

- indoor environmental quality – Workplaces benefit from ample natural light, exterior views, open plans, stairways that encourage walking, and efficient HVAC systems.

All of these sustainable design features coalesce as a unifying theme at IBM/Tivoli, and the resource-conserving facility will pay dividends for many years. But more importantly, the design has captured the vibrant culture of its occupants while recognizing that human beings have a responsibility to be stewards of the planet. **T**

Lars Stanley, AIA, is principal of Stanley Architects in Austin.

**RESOURCES** CONCRETE PAVEMENT: Cemex USA; RETAINING WALLS: Arcon, Inc.; CONCRETE MATERIALS: Cemex USA; PRECAST ARCHITECTURAL CONCRETE: Core Slab Structure; MASONRY UNITS: Featherlite; STONE: Champions Stone; LUEDERS LIMESTONE: Mezger; CAST STONE: Advanced Cast Stone; ROOF COATING: Uniflex Coating Systems; PENTHOUSE PANELS: Alcon Composites; METAL DOORS AND FRAMES: Raco; TILE: Burlington Stone; ACOUSTICAL CEILINGS: Armstrong; METAL CEILINGS: Ceilings Plus; SPECIAL CEILING SURFACES: Ceilings Plus; WOOD FLOORING: Bamboard; LAMINATE FLOORING: Armstrong



The new police headquarters represents the City of Dallas' first attempt at sustainable design. The project was chosen as a demonstration of the city's commitment to environmental stewardship.



# GREEN FOR THE BLUE

by **DUNCAN FULTON, FAIA**

**PROJECT** Jack Evans Police Headquarters, Dallas  
**CLIENT** City of Dallas Public Works and Transportation  
**ARCHITECT** Phillips Swager Associates  
**ASSOCIATE ARCHITECT** alb Architects & Associates  
**CONSTRUCTION MANAGER** Centex-3D/J Joint Venture  
**GENERAL CONTRACTORS** AUI (sitework); Satterfield & Pontikes (shell); Constructors & Associates (finish package); Datastar (telecommunications); Wilson, Allsteel, Interior Resources, Southwest Solutions Group, Facility Interiors, American Signs (interiors); Constructors & Associates (landscape/hardscape); The Whitlock Group (audio/visual); RTC Waterproofing & Restoration (garage modifications)  
**CONSULTANTS** McClaren, Wilson & Lawrie (programming); Corgan Associates (interiors and furniture); Campos Engineering (plumbing and electrical); Blum Consulting Engineers (mechanical); Charles Gojer & Associates (structural); Halfff Associates (civil); Caye Cook (landscape); DeShazo, Tang & Associates (traffic/parking); H.G. Rice and Company (food service); GME (geotechnical and environmental); Amtech (roofing); Nottestad Design (environmental graphics); Ensar Group (green design); Lerch Bates (vertical transportation specialist)

**PHOTOGRAPHER** Mark Trew Photography

ONE WOULD EXPECT the City of Dallas' first LEED certifiable building (and a \$55 million one at that) to be the product of a deliberate initiative—demanded by a determined constituency driven by a compelling vision who then lobbied hard for the necessary funding and support. Instead, the Jack Evans Police Headquarters is more the result of a happy accident in which separate initiatives serendipitously merged together.

As far back as the late 1970s, city officials engaged in a series of studies to determine ways to alleviate the severe limitations imposed by the police department's undersized and decaying 1914 headquarters. Among the most critical concerns was the lack of operational cohesion, a lingering effect of an earlier policy that dispersed groups of police officers beyond central headquarters as the department grew. The studies mirrored other events in Dallas over that same 15-year period—long on analysis, but short on consensus. Finally, in 1995, with an eye toward the then-abundant supply of vacant downtown office space, the City Council authorized \$5 million to secure and convert some of that space into a new police headquarters. Problem solved—or so it seemed—until internal delays prevented acquisition of an appropriate building at the anticipated price.

Then, in mid-1998, Phillips Swager Associates (PSA) of Dallas was selected to renovate the still-unidentified building. However, city officials began to realize that the window had closed and new construction would be required. A site search immediately focused on The Cedars, an area in the shadow of downtown dominated by early 1900s warehouses and industrial buildings, which was just beginning to stir with new development. The search quickly concluded when local developer Matthews Southwest offered to give the city a 3.4-acre site near the area's epicenter. The brownfield site at 1400 South Lamar was one block from a DART light-rail station. Also nearby stood a woefully underutilized 1,500-car garage (built by





Built on a brownfield site just south of downtown and near public transit hubs, the Jack Evans Police Headquarters exemplifies the economic benefits of sustainable design.



Sears to support a presence that had since moved) which the city was able to lease, thereby solving a parking requirement that had proven intractable in downtown locales. With an additional \$42 million from a 1998 bond package, the city instructed PSA to proceed with a “conventional” program (i.e., nary a nod toward sustainability) and the firm began schematic design in the fall of 1999. By May 2000 the design delivered by PSA was approved and safely tucked away in the flat files of Robert Van Buren, the city’s project manager.

Shortly thereafter, Van Buren departed for the AIA’s annual convention in Philadelphia where he attended a seminar on the U.S. Green Building Council’s LEED Rating System. During the presentation he began mentally comparing what he was hearing to the work done to date on the Evans Police Headquarters. By the time the session ended, Van Buren realized the project was within striking distance of LEED’s base-level certification, largely due to site factors such as reclamation of a brownfield site, proximity to bus and rail transit, and the “recycling” of the adjacent parking garage.

Concurrently, the Dallas city manager’s office was involved in a benchmarking exercise—some-

thing that’s becoming popular among the professional management class. In particular, as part of the exercise, Assistant City Manager Jill Jordan was studying other cities to determine how Dallas stacked up in a variety of areas. From this benchmarking a number of findings emerged; one being that Dallas’ peer cities were beginning to embrace sustainable design, often as part of a larger movement toward improving environmental stewardship. That’s when the notion of a demonstration project began to take shape: Dallas, although its locale is not noted for natural surroundings, could enhance its environmental standing by the way it developed its built environment. The idea had immediate appeal, and it coincided with the project team’s incipient understanding that their building could achieve LEED certification. The two groups — the city manager’s staff and the project team — soon learned of the other’s conclusions and both immediately understood that each could be the vehicle to aid the other.

Accordingly, the initiative to morph the completed design into a LEED showcase was quickly embraced by key city officials, and some ground rules and strategies began to develop. First and foremost, the realities of funding had to be

addressed; more specifically how to work within the confines of a city bond program, where the bonds already had been sold and there was no more money—or so it seemed. This was addressed via a two-pronged strategy: first, that any sustainable “upgrade” offered a 10-year payback or better, and second, that such upgrades would be funded with interest that had accrued on the bonds after their sale but was not yet budgeted. Additionally, since this initiative was emerging at the beginning of design development, rather than abandon the work completed to date, the team elected to focus their efforts on building system, component, and material decisions that were yet to be made or still malleable.

The result is a six-story, 360,000-sf building with the general character of a corporate or municipal office. While it doesn’t scream “green,” it instead relies heavily on enhancements to its building materials and systems (MEP in particular) to qualify for LEED’s Silver certification. These include enhancements based on the traditional strategy of selecting high-performance components, along with less conventional techniques emanating more directly from the sustainable design movement. The former includes use of



- FLOOR PLAN**
- |                           |                      |
|---------------------------|----------------------|
| 1 LOBBY                   | 8 LOCKERS            |
| 2 RECORDS                 | 9 FITNESS            |
| 3 EXECUTIVE PARKING       | 10 COMPUTER SERVICES |
| 4 SALLY PORT              | 11 POLICE CHIEF      |
| 5 JUVENILE                | 12 DISTRICT CHIEFS   |
| 6 YOUTH & FAMILY SERVICES | 13 ADMINISTRATION    |
| 7 GANG UNIT               |                      |



high-efficiency light fixtures (which, along with high-performance glass, reduced the heat load by an impressive 100 tons), low-flow plumbing fixtures, a highly reflective roof coating, occupancy sensors, and increased wall insulation values.

The more atypical features include extensive use of low-VOC products and compounds, diversion of 80 percent of construction waste away from landfills, utilizing an unconventional source (an off-site storm drain) for irrigation supply, enthalpy wheels to reduce energy loss from vented air streams, ionization and filtration of the cooling tower water system, and, its most talked about curiosity, waterless urinals. The building also includes facilities to support other types of sustainable programs, such as vanpooling, commuter cycling, and a comprehensive janitorial recycling program.

As a demonstration project, the Evans Police Headquarters is a success, if for no other reason than the City of Dallas has since decreed that all its future buildings larger than 10,000 sf must attain LEED's Silver certification or better. However, as with any demonstration project, lessons are being learned. For example, the janitorial contractors have neither fully embraced recycling

nor optimized the facilities specifically provided to support it. Likewise, the vanpool and biking amenities appear to have resulted in more LEED credits than users.

The LEED certification program itself appears to be a work in progress. One emerging trend is that some owners who embrace LEED's tenets are reluctant to seek certification because of the time, expense, and aggravation involved; the voluminous submission requirements being a particular deterrent. As a result, some owners have introduced a new term – LEED *certifiable*, as opposed to LEED *certified* – to designate a building that exemplifies the rigorous guidelines of the LEED program without actually undergoing the LEED process. Hopefully, the U.S. Green Building Council will remedy this perception because, as the Evans Police Center demonstrates, sustainable design can be affordable, achievable, and is ultimately laudable. ■

Duncan Fulton, FAIA, is a founding principal of Good Fulton & Farrell Architects in Dallas.

**RESOURCES** CONCRETE PAVEMENT: Southern Star (formerly Hanson); FENCES, GATES, AND HARDWARE: Arco Metal Fabrications; CONCRETE MATERIALS: Southern Star (formerly Hanson); MASONRY UNITS: Acme Brick; EXTERIOR STONE VENEER: Knoxtile; CAST STONE: Dallas Cast Stone; ARCHITECTURAL METAL WORK: Metalrite; REINFORCING STEEL: SMI Steel Products (Castelite); STRUCTURAL STEEL: TXI Chaparral Steel; LAMINATES: Wilsonart, Formica, Nevamar, Arborite; WATERPROOFING AND DAMPPROOFING: Polyguard Products; BUILDING INSULATION: Dryvit; MEMBRANE ROOFING: Soprema (Conner-Legrand); METAL DOORS AND FRAMES: PW Metal Products, Ceco Door Products; PREASSEMBLED METAL DOOR AND FRAME UNITS: Graham; WOOD AND PLASTIC DOORS AND FRAMES: Overhead Doors, Won Door; SPECIALTY DOORS: Vistawall; DETENTION SECURITY WINDOWS AND SCREENS: National Bulletproof; GLASS: Oldcastle Glass; GLAZED CURTAINWALL: PPG; TILE: Daltile; TERRAZZO: Key Resin Flooring; ATHLETIC SURFACING: Tuflex; LINOLEUM: Forbo; PAINTS: Sherwin-Williams, ICI Dulux; HIGH-PERFORMANCE COATINGS: Tnemec; CARPET: Interface; SIGNAGE AND GRAPHICS: Identitec, American Signs; CASE: Paoli; CHAIRS: Allsteel; STORAGE FILES: Teknion; SYSTEMS FURNITURE: Haworth





by STEPHEN A. JOVICICH, AIA

# EXPRESSLY FUNCTIONAL

**PROJECT** SpawGlass Corporate Offices, Houston

**CLIENT** SpawGlass Construction Corporation

**ARCHITECT** Kirksey Architecture

**CONTRACTOR** SpawGlass Construction Corporation

**CONSULTANTS** Kudela & Weinheimer (landscape); Klotz & Associates (civil); Haynes Whaley Associates (structural); Kirksey (LEED consultant); Sebesta Blomberg & Bourassa (commissioning)

**PHOTOGRAPHERS** Aker/Zvonkovic Photography, Jack Thompson (where noted)

THE CONCERNS OF FUNCTIONALISM and new technology in modern design read true in the new SpawGlass office building. Although originally

intended as a design-build tilt-wall structure, Kirksey successfully championed the value of an ecologically friendly approach with the owner. Designed to achieve LEED's Silver certification, this project builds upon the foundations of modernism and merges modernist ideals well within the precepts of sustainable design.

Those who practice sustainable design understand the importance of a frugal use of materials in realizing the built environment. Our resources, which may be considerable, do have limits and a significant amount of energy is consumed in creating these new materials. Designing with a paucity of materials in mind may seem too limiting to

many in our profession, but a true beauty exists when materials are allowed to be expressed. The structural rationale applied in this project would be immediately recognized by Viollet-le-Duc where nearly all of the components are readily visible elements constituting a significant part of the overall design.

This functionalist expression extends beyond the readily accessible steel structure to include a significant amount of polished concrete floors, an abundance of glass curtain wall, exposed air ducts, and plumbing. The Spartan nature of such a design certainly tests the skill of the craftsmen involved where any defects or patchwork immedi-

Extensive use of glass provides numerous opportunities for views and daylighting of interior space; photo by Jack Thompson. (opposite page) Shading devices minimize glare.





- FLOOR PLAN**
- 1 ENTRANCE/LOBBY
  - 2 SUBCONTRACTOR ROOM
  - 3 CONFERENCE ROOM
  - 4 TRAINING ROOM
  - 5 BID ROOM
  - 6 SERVICE COOR
  - 7 OPEN PLAN
  - 8 ENCLOSED OFFICES
  - 9 ASSISTANT AREA
  - 10 LUNCH ROOM



ately becomes manifest with little hope of concealment. The contractor rose to the occasion and was able to successfully integrate the components into a unified whole with a minimum amount of error. A difficult task indeed.

The extensive use of glass establishes a direct connection with the outdoors and permits an abundance of light into the space, addressing two of the numerous requirements under the LEED certification guidelines. Views from the outside are provided for most of the occupants and access to daylight is available for all from windows or clerestory. Designing with so much transparency is not without its perils. Typically, solar gain is a significant problem with this type of design, however, solar gain is kept under tight reign through proper building orientation, overhangs at the upper clerestory, exterior solar shades at the majority of the windows, translucent glass above the shades, and insulated glass systems. Glare remains a problem in some areas but is surprisingly less than one might expect. These problem areas are obvious, particularly to the design professional since the few areas affected are the only ones where windows have received interior blinds to mitigate the glare. Overall, the result is a light, airy, and welcoming space. In the event of a major storm, however, the same openness can quickly create a sense of exposure from lightning and the loud drum of a pelting rain.

Organized in a linear plan with alternating high and low bay areas, the floor plan furthers the rational, functional approach to the design. The plan and structural volumes establish a dialogue or rhythm of high and low, transparent and opaque along the main axis. Each open bay is bracketed by enclosed offices which allows considerable adaptation for each aspect of the corporation's business needs. Walking along the continuous halls on either side of the main axis, one is treated to ever-changing lighting conditions and views. The scheme is at once understandable, logical, and coherent, and should serve well over time.

The early modernists embraced new technology in conceiving their design solutions. Where their explorations were generally focused on building methods and materials, architects today have a nearly endless array of new technologies and strategies to consider as well in creating a truly sustainable project. Although many of these new technologies may fall to our engineer brethren to resolve, they should remain of critical concern to the architectural profession since each of the components connect and integrate in the final creation. A sustainable design should be more than the sum of its parts, integrating the systems within the structure and space into a coherent whole. With the SpawGlass project, considerable effort to achieve such a balance was doubtlessly put forth toward this end.

Where the modernists sought and developed new building materials, we must now make a careful assessment of these materials for hazardous waste released in their creation as well as their potential depletion of resources for future generations. All building materials, finishes, furnishings, and construction staging must also be assessed to improve and maintain the indoor air quality, a major aspect of the LEED certification process.

Energy use necessarily received similar scrutiny since energy reduction and protecting the atmosphere account for a substantial part of the certification. HVAC systems were analyzed and specified for maximum energy efficiency and non-ozone depleting refrigerants. Energy-conserving light fixtures, lighting strategies, and occupancy controls were carefully assessed and integrated within the context of the daylighting program. One of the better aspects to the LEED program is the requirement to have an independent commissioning authority verify that the equipment and systems function as designed and oversee the overall energy consumption. Notwithstanding the final result of that analysis, SpawGlass officers report that their current energy cost is half that of their previous offices with twice the square footage.

Practitioners of sustainable design understand all too well that a significant part of the "new" technology is actually a simple application of estab-



**(top) Landscaping appropriate to the region minimizes maintenance and water requirements. (bottom) Solar gain is minimized through proper building orientation, overhangs at the upper clerestory, exterior solar shades, translucent glass, and insulated glass systems.**

lished design methods. These old methodologies became manifest in addressing the control and use of water in the landscape. Site design for the Houston area requires careful attention to managing storm water. The project successfully eliminated the need for extensive excavation and underground storm water systems with the creation of a series of swales, ditches, and vegetation. The end result provides a sculptural landscape which not only controls and retains the on-site water but provides sufficient checks and surface area to reduce erosion, allow water to percolate into the soils, and remove non-point source pollutants through natural means. The SpawGlass Corporate Office building is a good example of the synergy that can be achieved when the entire team – owner, designer, and contractor – is committed to meeting the challenges sustainable design presents. It also is evidence that design style and principles need not be sacrificed in the process. **■**

Stephen A. Jovicich, AIA, teaches sustainable architecture and sustainable development at the University of Houston and is a partner with Heights Venture Architects.

**RESOURCES** CONCRETE INTERLOCKING TURFSTONES: Pavestone; CONCRETE MATERIALS: Southern Star (formerly Hanson); SLATE: Thorntree; PLASTIC AND SOLID POLYMER FABRICATIONS: 3form; MEMBRANE ROOFING: Johns Manville; GLASS: PPG; GLAZED CURTAINWALL AND SUNSHADE: Kawneer; TILE: Daltile; ACOUSTICAL CEILINGS: Armstrong; PAINTS: Sherwin-Williams; CARPET TILE: Shaw; FURNITURE: Herman Miller; PASSIVE INFRARED OCCUPANCY SENSORS: Pass & Seymour/Legrand





# EXPEDITIOUS CONSOLIDATION

by LAWRENCE CONNOLLY, AIA



**PROJECT** City of San Antonio Development and Business Services Center, San Antonio

**CLIENT** Southern Pecan Joint Venture: Embrey Partners and Zachry Construction

**ARCHITECT** Rehler Vaughn & Koone

**CONSULTING ARCHITECT** Andrew Perez III

**CONTRACTOR** Metropolitan Contracting

**CONSULTANTS** Jaster-Quintanilla (structural); Goetting & Associates (mechanical and electrical); Pape-Dawson Engineers (civil); Bender Wells Clark Design (landscape and graphics); Arias & Kezar (geotechnical and construction testing); Cochrane & Associates (fire protection); Angel Rodriguez-Diaz (artist consultant)

**PHOTOGRAPHERS** Greg Hursley, Bob Wickley

THIRTY YEARS AGO getting a building permit was a straightforward exercise, usually involving just one governmental entity—the city’s building inspections department. To obtain a permit now requires the assistance of, and coordination with, several layers of municipal bureaucracy, including the departments overseeing building code, accessibility, fire, streets, water, sewer, solid waste, and landscaping. In San Antonio the difficulty of this compliance process was compounded because

you had to go downtown, find and pay for a place to park, then locate each department’s office on one of the six floors of the Municipal Plaza Building. Not only did this make permitting a dreaded part of the building process, it also was expensive for the city to administer.

That user-unfriendly system has been improved. City officials, recognizing that administration problems were hindering development, decided three years ago to revise their permitting process. One of their decisions was to hire the local firm of Rehler Vaughn & Koone Inc. (RVK) to design one facility for all of those departments and to provide abundant space for free parking. The architects’ solution is the regionally inspired 75,000-square-foot, two-story Development and Business Services Center located on the southwestern edge of downtown. Better known as “One-Stop,” the nickname succinctly denotes the convenience and efficiency of the new facility and the city’s new permitting process.

To conform to the city’s new Unified Development Code, as well as instructions from the mayor and the city’s Historical Review Board, One-Stop is set prominently at the corner of two major streets,

(opposite page) At night, the lobby mural accentuates One-Stop’s transparency; photo by Bob Wickley. (this page, left) Clerestory windows and the vaulted ceiling create a bright and airy interior while the wavy balusters reference the design theme derived from the nearby San Antonio River. (right) The arced front desk contributes to the customer-friendly ambiance; photos by Greg Hursley.





South Flores and Alamo, to give the building the highest visibility possible.

The goal at the project's outset was to make One-Stop a model of good design. That goal was achieved via three city mandates: make the building operations as transparent as possible; demonstrate the newest conservation technologies; and implement the city's Design Enhancement Program.

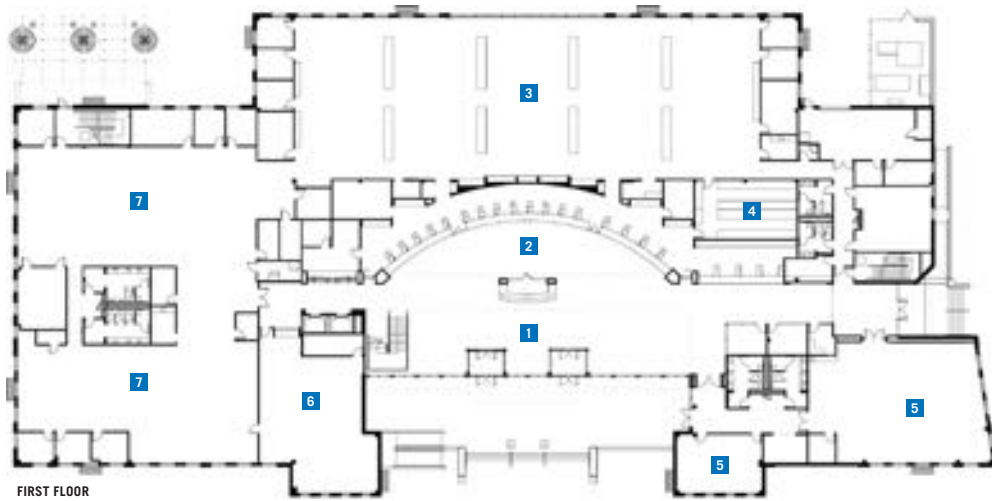
One-Stop's transparency facilitates wayfinding and reflects the Development Department's stated mission to be "customer oriented." The building's two-story glass curtain wall provides a welcoming entry, and the transparency continues inside its double-height lobby where a hundred-foot-long desk arcs as if to invite visitors who have just entered the front doors. Large, open-plan offices, with views to the outside through banded windows, add to the clarity of the building's interior configuration. The only rooms void of natural light are seldom-used support spaces and a large audio-visual meeting room. Exposed structural components, electrical conduit, and mechanical ductwork on the first floor reinforce the intent that the building be transparent.

While the building's exterior includes two-tone masonry, the south-facing lobby's two-story window wall adroitly accomplishes the requirement for transparency. This fenestration, running the length of the lobby, is complemented by northern clerestory windows made possible by a hundred-foot-long vaulted and exposed standing-seam metal ceiling. Careful placement and sizing of other windows, most with deep, galvanized steel sunscreens, provide generous daylighting to multi-occupant areas and reduce the need for electrical lighting.

Mark Webb with the city's Asset Management Department says city officials challenged RVK to make the project an example of conservation opportunities, and the architects responded with both passive and active "green" features. In addition to the daylighting, the most visible features are the building's solar collectors and condensation harvesting system.

Solar collectors mounted atop of the entry canopy provide two percent of the building's energy needs. (A solar array covering the entire roof would have provided only 10 percent, according to the architects, so city officials declined to implement a larger system.) While this might be considered a token gesture toward alternative energy sources, city officials chose to install the collectors in a conspicuous place to emphasize that such systems are available and will become more viable in the future as the technology advances.

One-Stop's most inquired-about conservation feature is the building's condensate harvesting



FIRST FLOOR

FLOOR PLAN

- 1 PLAN REVIEW
- 2 MAIN COUNTER
- 3 PLAN REVIEW
- 4 PLAN VAULT
- 5 PUBLIC MEETING ROOM
- 6 CENTRAL RECORDS
- 7 OPEN OFFICE AREA
- 8 BALCONY
- 9 GIS
- 10 TRAINING ROOM
- 11 BREAK ROOM



SECOND FLOOR



from its mechanical systems. The reason for the attention is the low-tech nature of the system—and its affordability—that harvests more than 100,000 gallons of water annually for storage in three 4,000-gallon tanks. The closed system (which, unlike rainwater harvesting, does not require filtration) provides enough water to irrigate the landscaping of the six-acre site.

The project's design theme is based on the words of General Domingo Teran De Los Rios upon his discovery of the San Antonio River more than 300 years ago. His "river giving life" quotation is cast into the concrete risers of the steps to the blue-green stained terrace in front of the building. Stained the same color, with swirls that suggest water movement, the lobby floor also reflects the theme. The water theme is expressed in wavy patterns throughout the building, such as with the monumental stair balusters, the second-floor handrail balustrade, and ceramic and carpet tiles.

Similarly, the design team chose to honor the site's topographical history when they acknowledged the former existence of an old *acequia*—a gravity-flow irrigation ditch dating back to the era of the Spanish Missions and in active use until the early 1900s. As with other *acequias*, trees originally grew along both sides of the ditch but they were felled and the *acequia* filled in almost a hundred years ago. To mark where the *acequia* once flowed, the architects planted sycamores and placed limestone rocks. Plaques tell the story of the old *acequia*, based on research by a UTSA archeologist.

The art elements of One-Stop, like those at all of city's new buildings, derive from the city's Design Enhancement Program. The most prominent art feature at One-Stop is a 16 x 45-foot mural depicting downtown San Antonio. A work by local artist Angel Rodriguez Diaz, the mural is installed in the lobby and is visible from the street at night.

According to Terry Kannawin, the city's fiscal operations manager, the consolidation of the different departments has contributed to a perceptible esprit de corps which also has accelerated the permitting process. It is too early to accurately quantify the benefits of the new building and procedures, but the staff and the public appear grateful for the convenience and efficiency of the improvements. ■

Lawrence Connolly, AIA, is a contributing editor of *Texas Architect*.

**RESOURCES** RETAINING WALLS: Eagle-Cordell Concrete Products (Oldcastle); BRICK: Acme; CMU: Acme; METAL JOISTS: Vulcraft; METAL DECKING: Vulcraft; METAL ROOF: Berridge; METAL SOFFITS: Berridge; METAL SIDING: Berridge; MODIFIED BITUMEN ROOFING: US Intec; METAL DOORS AND FRAMES: Deansteel; WOOD DOORS: Lamrite; SECURITY ROLL UP DOORS: Cornet Iron Works; ALUMINUM WINDOW SYSTEM: Kawneer; GLASS: Craftsman Glass; BULLET RESISTANT GLASS: Oldcastle Glass; AUTOMATIC DOORS: Horton; SOLID COUNTER SURFACES: Formica; ARCHITECTURAL MILLWORK: Gunckel Architectural Millwork; TILE: Daltile, American Tile; SOLAR PANELS: Southwest Photovoltaic Systems; LIGHTING CONTROLS: ERT Lighting; VINYL WALL-COVERINGS: Maharam, Denovo; ACOUSTICAL WALL TREATMENT: Accutrack; INTERIOR SIGNAGE: Vista Systems; SYSTEMS FURNITURE: Herman Miller; LOBBY SEATING: Harter

(left) RVK also designed the galvanized steel bus stop. (right) Tanks on One-Stop's north side store condensation from its mechanical systems; photos by Bob Wickley.





# TEACHING

by STEPHEN SHARPE

# BY EXAMPLE

**PROJECT** Warren Skaaren Environmental Learning Center at Westcave Preserve, Travis County

**CLIENT** Westcave Preserve Corporation and Lower Colorado River Authority

**ARCHITECT** Robert Jackson Architects

**CONTRACTOR** D.L. Bandy Constructors

**CONSULTANTS** Architectural Engineers Collaborative (structural); Johnson Consulting Engineers (MEP); Jill Nokes Landscape Design (landscape); Meridian Energy Systems (solar exhibit); Drew Patterson Studios (outdoor exhibit panels); Tejas Engineering (wetlands design)

**PHOTOGRAPHERS** Robert Jackson, AIA, Ron Sprouse

WESTCAVE PRESERVE, a 30-acre sanctuary for native plants and wildlife, straddles the boundary between two disparate ecosystems in the Hill Country about 30 miles west of Austin. Here, above the valley of the Pedernales River, the rugged

uplands of the Edwards Plateau abruptly fall away into a limestone crevice. From the parched ridge a mile-long trail leads hikers on a 125-foot descent through a sequence of geological strata where the harsh savanna above steadily transforms into a verdant canyon. Summertime temperatures can drop 20 degrees by the time hikers reach the mossy grotto. Created thousands of years ago by springs that continue to flow today, the Westcave grotto is a wondrous and rare place, and home to several endangered species of animals.

John Ahrns, the preserve's long-time resident director, recalls a time when the grotto's fragile travertine columns and plant life were seriously threatened by people who carelessly trampled the vegetation and littered the site with trash. Recovery began in 1974 with the founding of the nonprofit Westcave Preserve Corporation, which

sought to keep the site open to the public but with minimal disturbance to the natural environment. Heavily in debt by 1981, the corporation sold the land to the Lower Colorado River Authority which in turn leased the land back to the corporation for 99 years. Guided tours on the weekends (and by appointment on weekdays) educate visitors on the ecology of the area and introduce them to a remote nook of Texas that in the 1960s and early 1970s verged on devastation.

In 1997, Westcave's board of directors asked Robert Jackson, AIA, of Austin to design a building near the ridge-top trailhead that would orient visitors to the environmental aspects of this unique place. Only 30 people at one time are allowed to visit the grotto—and groups of 150 kids are typical during schooldays—so the board asked Jackson to provide an architectural program that included





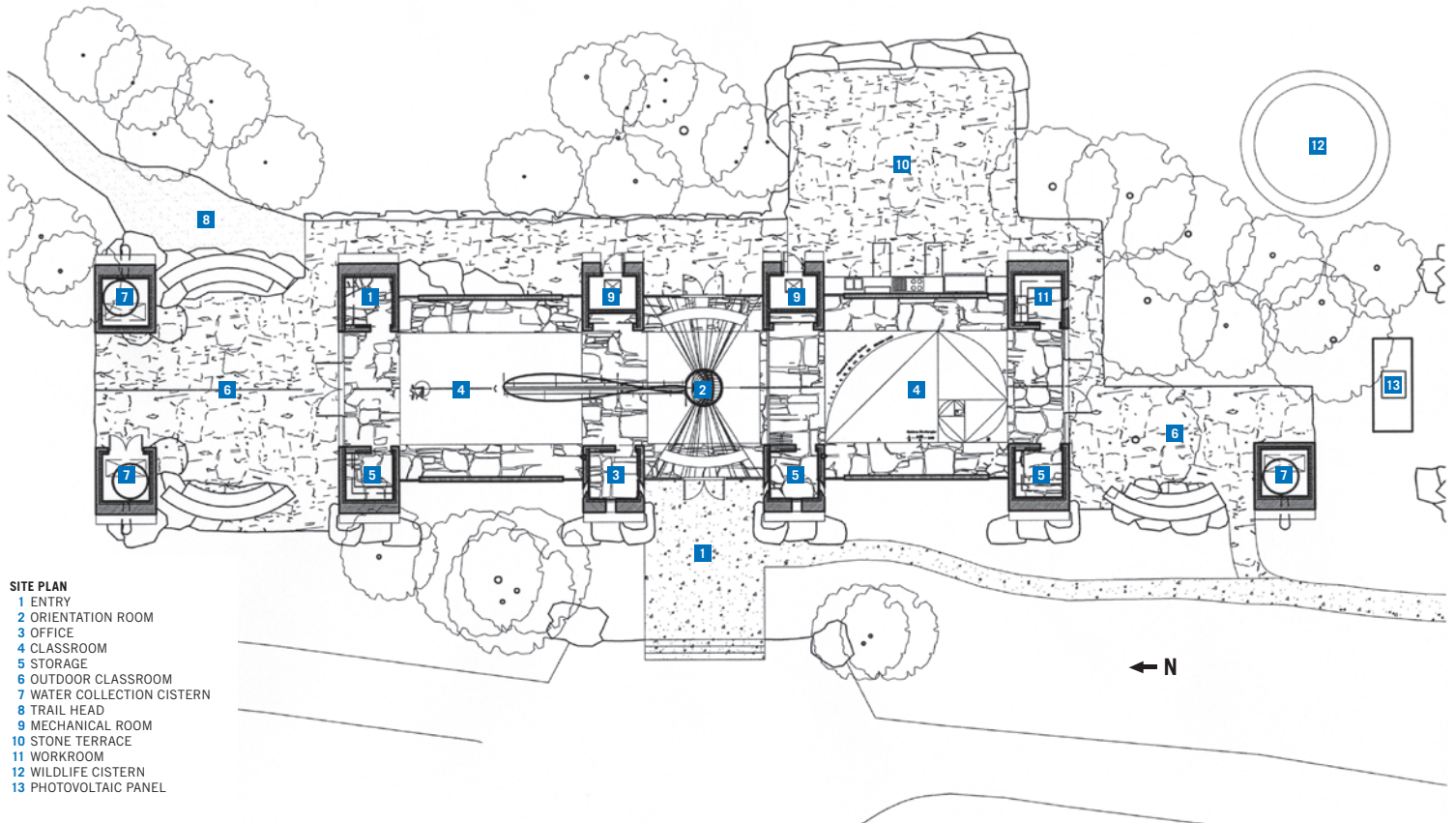
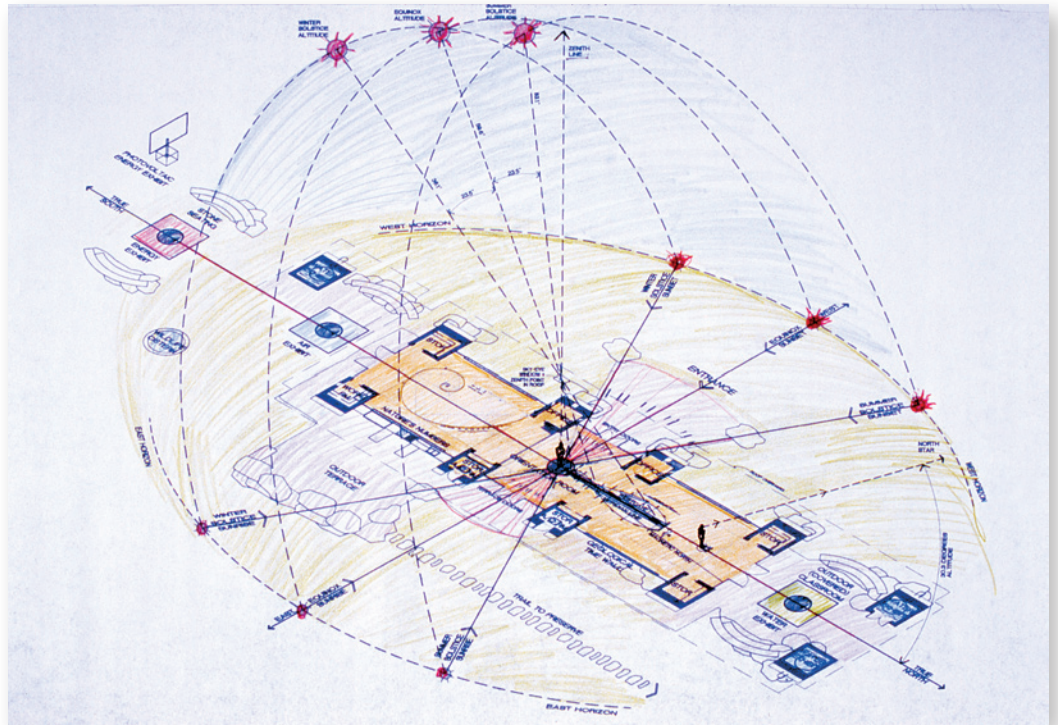
(opposite page) Lushly dense with ferns and moss, the grotto contrasts sharply with the parched landscape just 125 above; photo by Ron Sprouse. (this page) Westcave Preserve's new learning center reflects the rugged features of the arid uplands.



interactive exhibits to teach visitors about the natural sciences. The challenge to Jackson, along with designing a building that settled lightly on the land, was to distill the complex fundamentals of environmental science into simple lessons involving the natural elements found at the site.

The Warren Skaaren Environmental Learning Center at Westcave Preserve was completed in time for the vernal equinox on March 21 of this year. Named for a principal benefactor, the 3,000-square-foot facility achieves the board's objectives with aplomb while gracefully responding to its arid upland surroundings.

Its most prominent architectural feature is a broad, arcing roof that suggests the dome of the sky, a metaphorical design element that takes on additional significance when visitors step inside to view the celestial observatory – essentially a solar calendar – integrated with the interior. The celestial observatory is a long, narrow metal plate fixed in the floor along which shines a shaft of sunlight that enters the building through a small hole in the ceiling. Appearing as a disk about four inches wide, the circle of sunshine slowly moves across the floor each day and at noontime crosses the linear plate etched with tick marks designating the days of the year. (Jackson's model is the 300-year-old observatory inside the Santa Maria degli



- SITE PLAN**
- 1 ENTRY
  - 2 ORIENTATION ROOM
  - 3 OFFICE
  - 4 CLASSROOM
  - 5 STORAGE
  - 6 OUTDOOR CLASSROOM
  - 7 WATER COLLECTION CISTERN
  - 8 TRAIL HEAD
  - 9 MECHANICAL ROOM
  - 10 STONE TERRACE
  - 11 WORKROOM
  - 12 WILDLIFE CISTERN
  - 13 PHOTOVOLTAIC PANEL





(opposite page) A sketch by the architect illustrates the celestial observatory. (this page, top) A shaft of sunlight is tracked along the observatory's meridian; photo by Robert Jackson, AIA. (this page, bottom) The facility offers many opportunities to learn about the preserve's ecosystems; photo by Ron Sprouse.

Angeli basilica in Rome.) Although it's actually the earth's rotation and orbit rather than the sun's motions that causes the disk to move, the observatory illustrates the dynamic celestial relationship between the earth and the sun that is the source of our annual cycle of seasons.

Jackson envisioned the learning center as a facility where visitors could acclimate themselves to the terrain and begin to understand the natural forces at work all around. "It's a gateway, a landing site for this spectacular place," Jackson says, adding that he wanted the building to "push you out" beyond its limestone walls to see nature as manifested in outdoor exhibits. Along the perimeter of the building Jackson has erected three cisterns filled with rainwater fed from downspouts, and a wildlife cistern where aquatic plants flourish and which attracts native wildlife.

While the building is air-conditioned, Jackson sited it to be cooled naturally by prevailing breezes. In addition, a continuous perimeter clerestory maximizes natural light.

"For the most part, the sustainable features are not apparent but are instead carefully integrated into the overall simplicity of the design," Jackson says. "We wanted the themes of nature, such as the cycles of the seasons and the idea of the interconnection between living systems and environmental systems, to be the focus of the building."

Numerous other eco-friendly features – including self-composting toilets, a frame of recycled steel, and a foundation of concrete with 25 percent flyash – comprise a learning center that teaches by example, especially to city folk who may have forgotten that they still are connected to our planet's irreplaceable resources of land, sky, and water. **T**

Stephen Sharpe is editor of *Texas Architect*.

**RESOURCES** CONCRETE MATERIALS: Transit Mix; RAIN WATER COLLECTION: Rainman; STONE: San Jacinto Materials; LIMESTONE: San Jacinto Materials; WALL INSULATION: Celbar International Cellulose Corporation; METAL ROOFING: MBCI; ROOF INSULATION: Atlas Roofing; METAL DOORS AND FRAMES: Pearland Industries; FOLDING GLASS WALL SYSTEM: Nana Wall Systems; ALUMINUM WINDOWS: Columbia Commercial Building Products; GLASS: AFG Industries; TERRAZZO: Venice Art Terrazzo; SOLAR ENERGY SYSTEMS: Texmate SD Loop Power Meters, BP Solar Photovoltaic Module, Watsun Solar Tracker, SMA America; SELF COMPOSTING TOILETS: Clivus; GROUND SOURCE HEAT PUMPS: Trane; RAINWATER COLLECTION AND FILTRATION SYSTEM: Amiad Filtration, Atlantic U Ultraviolet Corporation; LIGHTING: Focal Point





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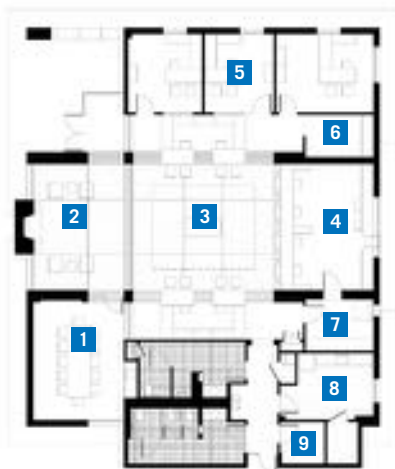
# Grand Bank of Texas



**PROJECT** Grand Bank of Texas, Grand Prairie  
**CLIENT** Grand Bank of Texas  
**ARCHITECT** Good Fulton & Farrell Architects  
**CONTRACTOR** Moore Construction Management  
**CONSULTANTS** Raymond Goodson, Jr., Inc. (civil and structural);  
 Veselka + Mycoskie & Associates (landscape); Basharkhah  
 Engineering (MEP)  
**PHOTOGRAPHER** Charles Davis Smith, AIA

Completed in April, Grand Bank of Texas sits along Interstate 20 in Grand Prairie. Locally owned and independently operated, this new 4,000-square-foot facility called for a simple design to distinguish it from neighboring commercial establishments. Wanting to express the bank's Texas heritage, the architect chose a limestone veneer and a standing seam-hipped roof, and prominently placed a fireplace and chimney to add a warm sense of hometown familiarity. The steel canopy that covers the bank's five-lane drive-through horizontally complements the structure's volume while simultaneously anchoring the building in the site. "Structural steel played a very important role in the design," recalls project architect Maria Gomez, AIA. "The steel is concealed in the interior, but the steel canopy gives the project a modern connotation which was one of our goals during the designing process." At the entry, a wide soffit shields customers from elements. The natural stone and stucco exterior walls merge into the interior's glass, wood, stained concrete, and cast stone. Light-gauge steel studs frame the walls and partitions, as well as the pre-fabricated roof trusses. The "knife-edge" eave that sharply defines the silhouette is maximized by the contour of the trusses. Additionally, a parapet line that rests below the eave stands alone next to the stucco volume that projects west from the main facility. The finish of the standing seamed roof, the eave, and metal fascia is "paint-grip", which gently contrasts with the Texas stone. Inside, above the curved check-writing stand in the center of the bank, a cupola illuminates the building with natural light. A dropped ceiling above the tellers' stations underscores the separation between the bank's visitors and employees.

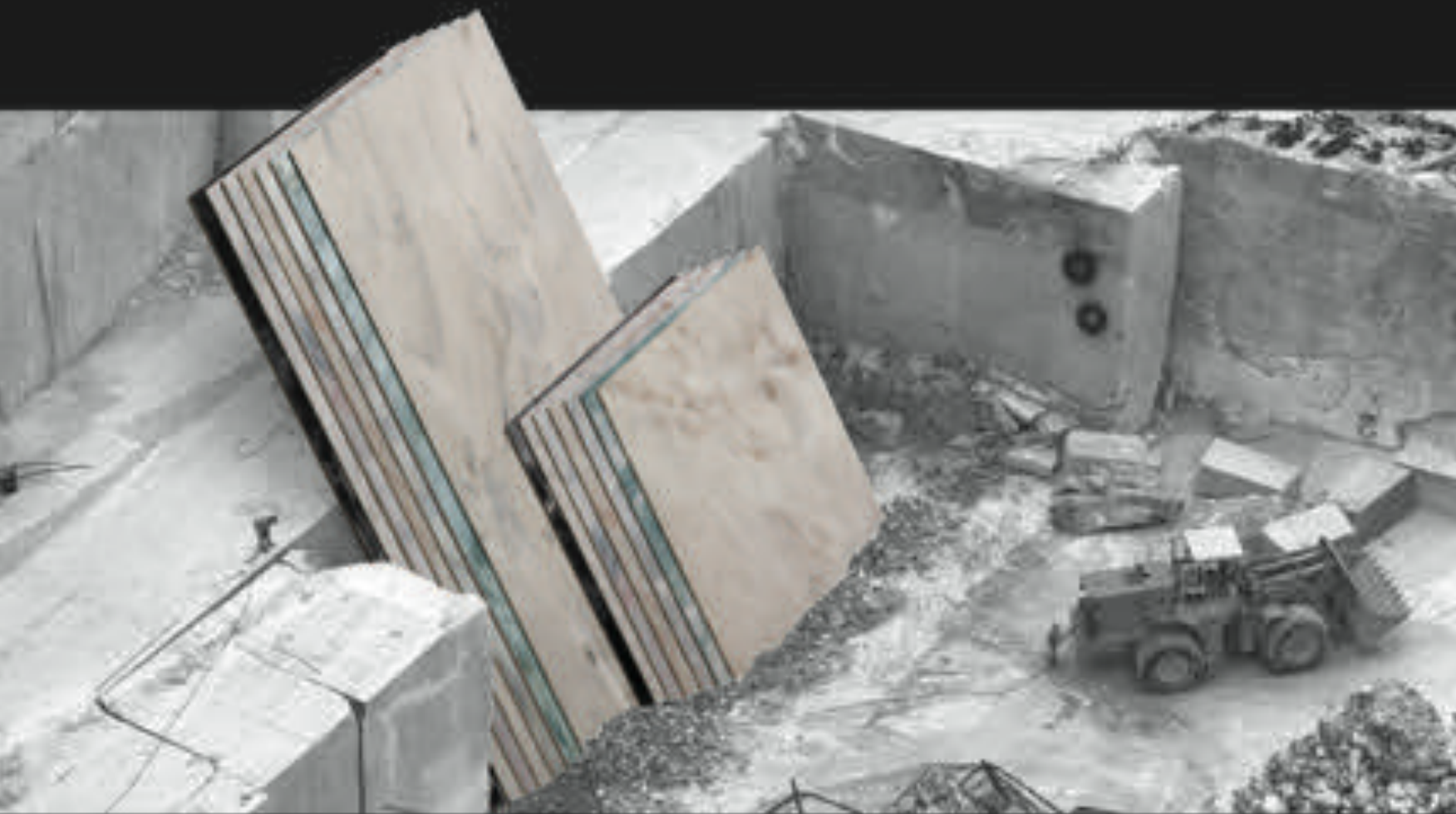
JENNIFER MCCUTCHEN



- FLOOR PLAN**
- 1 CONFERENCE
  - 2 LOBBY
  - 3 OPEN OFFICE
  - 4 TELLERS
  - 5 OFFICE
  - 6 COPIER ROOM
  - 7 WORK ROOM
  - 8 BREAK ROOM
  - 9 RESTROOMS

**RESOURCES** CONCRETE MATERIALS: Redi-mix Concrete; LIMESTONE: Salado Quarry of Florence, TX; CAST STONE: Americast; METAL MATERIALS: Ennis Steel; ARCHITECTURAL WOODWORK: Wellington Lauderdale; LAMINATES: Formica, Nevamar; METAL ROOFING: Cleburne Sheet Metal; FASCIA AND SOFFIT PANELS: Cleburne Sheet Metal; WOOD AND PLASTIC DOORS AND FRAMES: Buell; ENTRANCES AND STOREFRONTS: Kawneer; DETENTION SECURITY WINDOWS AND SCREENS: American Vault; GLASS: Oldcastle; GYPSUM BOARD FRAMING AND ACCESSORIES: National Gypsum; TILE: American Olean; ACOUSTICAL CEILINGS: Armstrong; WOOD FLOORING: Woodwright Company; PAINTS: Sherwin-Williams; HIGH-PERFORMANCE COATINGS: Tnemec; STRUCTURAL STEEL ROOF TRUSSES: Nuconsteel





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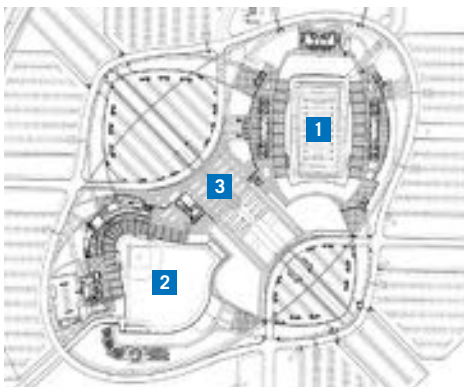
# Scharbauer Sports Complex



**PROJECT** Scharbauer Sports Complex, Midland  
**CLIENT** City of Midland  
**ARCHITECT** Parkhill, Smith & Cooper  
**SPORTS CONSULTANT** HOK Sport-Venue-Event  
**CONTRACTOR** MW Builders  
**CONSULTANTS** Agnew Associates (mechanical and electrical); Wrightson, Johnson, Haddon & Williams (audio/visual); Bredson & Associates (stadium lighting); KDC (landscape)  
**PHOTOGRAPHER** JQT Photo Graphics

To satisfy Midland's growing ambition to become a West Texas regional hub for sports tourism, the city built the Scharbauer Sports Complex (top), which opened in April 2002. Designed and constructed within the planned 30-month period and \$40 million budget, the complex caters to a variety of sports fanatics' interests. The 15,000-seat Grande Communications Football/Soccer Stadium and the 5,000-seat First American Bank Ballpark span across a 100-acre site and will house the minor-league Midland RockHounds and Midland ISD functions. The Scharbauer Sports Complex replaced an obsolete 50-year-old facility with a modern interpretation of the earlier utilitarian structure. While the previous complex exposed much of its steel framing, the new facility (center left and right) makes architectural reference to it by exposing its own structural steel frame, truss work, and columns. Coated with a durable, high-performance paint and aluminum flecks, the steel exhibits an enhanced metallic shine and depth. Sheet steel roofing, chosen for its resilience, also enhanced the aesthetic design of the complex. Although the stadiums still resemble traditional models with their steel architecture, the design was updated in hopes of attracting a number of Midland events. "The community of Midland has an expectation of quality," said project manager Dan Hart, AIA. "We are accustomed to having nice things." Hart's biggest challenge was accommodating all of the city's abundant needs within the set budget. The objective was to provide a family-friendly atmosphere, access for the disabled, and adequate shelter from the sometimes harsh winds of West Texas. The enclosed, below-grade bowls shield visitors from the wind and provide an intimate setting. "It makes a difference in our wide open space to have a place down in a bowl," Hart said.

SANDRA TAYLOR



**SITE PLAN**  
 1 GRANDE COMMUNICATIONS FOOTBALL/SOCCER STADIUM  
 2 FIRST AMERICAN BANK BALLPARK  
 3 FUTURE COMMUNITY BUILDING



**RESOURCES** ATHLETIC SURFACING: SRI Sports, Inc.; PRECAST STRUCTURAL: Southwest Pre-Stress; MASONRY UNITS: Featherlite; METAL SIDING: Berridge; MEMBRANE ROOFING: GAF; METAL ROOFING: Berridge; ENTRANCES AND STOREFRONTS: Kawneer; GYPSUM BOARD FRAMING AND ACCESSORIES: USG; AWNINGS: Birdair; EXTERIOR SUN CONTROL DEVICES: American Metalcraft; STRUCTURAL STEEL AND TRUSSES: TXI Chaparral Steel (Hirschfeld Steel); LIGHT GAUGE STEEL FRAMING MATERIALS: Dietrich



## Moisture and Flooring: Problems, Causes, and Solutions

AS ANNUAL INSURANCE CLAIMS DUE TO moisture-related flooring failures and conditions have soared into the billions of dollars, many design professionals are seeking to better understand the cause of the problems. Health concerns have surged to the forefront of our litigious society, making it more critical than ever to learn what has happened to accelerate these situations to such an alarming rate.

While multi-million-dollar individual claims are not uncommon, one example that comes to mind cost the architect's errors and omissions insurance carrier \$1 million to settle out of court to avoid a potential \$10 million lawsuit. All this occurred because of inadequate specification and poor construction practices that resulted in mold growth throughout the building due to severe moisture intrusion through the concrete. This caused every type of flooring material in a 100,000 square foot building to fail.

### Problems and Causes

Flooring and concrete-related products have changed over the years, and this had led to each industry blaming the other for the increase in flooring failures. Due to EPA regulations, both industries have had to change with regard to manufacturing and disposal. These changes have resulted in significant performance and compatibility issues. In the case of flooring and concrete, some examples of these changes include asbestos, trichlorethane, volatile organic compounds (VOCs), environmental restrictions, outdated guidelines, and more.

By the middle of the 1980s the majority of floor covering manufacturers ceased using asbestos in their products. Asbestos is no longer used in building products because of environmental and health concerns. Industry experts continue to debate on the subject regarding flooring materials that contained asbestos versus the newer flooring materials to their tolerance of excessive substrate moisture vapor emissions.

In the mid-1990s the use of 1,1,1, trichlorethane was curtailed in adhesives due to environmental and health concerns. As a result, modifications and changes to adhesives have occurred.

VOC's combine in the atmosphere with other chemicals to form ground-level ozone. The Federal Clean Air Act Amendments of 1990 gives the EPA authority to control VOC emissions for products. In 1999, the EPA mandated a reduction in VOC levels for consumer products. For the concrete industry, the EPA ruling on VOCs affects the following materials:

- form release agents
- curing compounds
- dampproofing materials
- wall and floor coatings and primers
- membranes
- sealers
- water repellents

For the flooring industry, these products are affected:

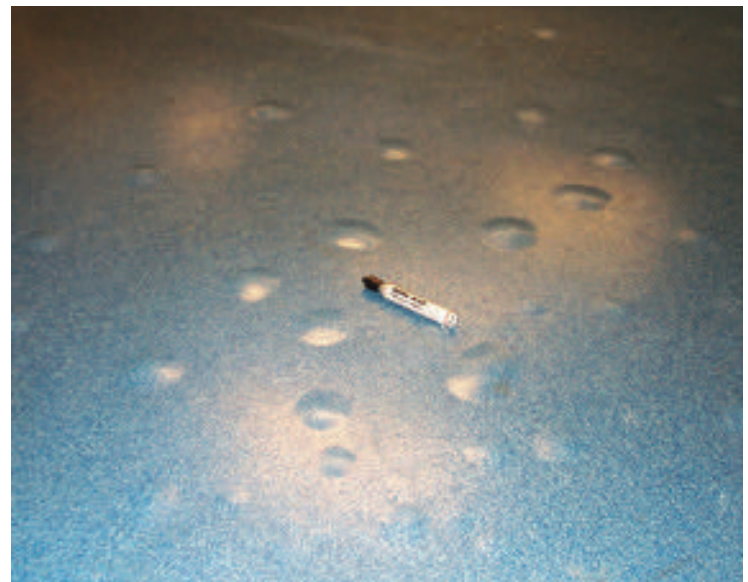
- adhesives
- seam sealers
- manufacturing processes
- maintenance products

Environmental restrictions have also imposed stringent rules and regulations concerning emission of kiln gases and fines into the atmosphere. This has led to some alterations in the composition of cement, eventually affecting the properties of concrete.

Due to high demand, the industry is engineering products from various resources (e.g., young and older trees), but failing to remember these products are still made of materials that respond to temperature, humidity, and/or moisture.

Other situations impacting successful builds have more to do with the human element. Some are:

- Fast-track and value engineering driven by time and budget only and not taking into regard any of these issues addressed throughout this section.
- Poorly staged installations due to fast-track and getting on and/or laying the floorcovering too early before the adhesive or the setting materials have had a chance to effectively dry.
- Poor acclimatization or, worse yet, no acclimatization of the building during the construction



**Osmotic blisters from moisture-related causes. Photo courtesy Peter Craig of Concrete Constructives.**

and during the moisture testing process, leading to potential dew point conditions at the concrete surface during installation.

- Not appropriately protecting the concrete from the top (roof) and bottom (vapor barrier/retarder), allowing the concrete to be rewetted from the top and bottom resulting in moisture related issues, even years after placement.

- Poorly-written specifications; misunderstanding, misapplication, and misinterpretation of recommended industry standards, guidelines, and procedures; incompatibility between CSI Division 3 (concrete) and Division 9 (flooring) specification (e.g., flatness/levelness criteria).

- Poor communication between the members of the chain of responsibility including, but not limited to, the flooring and adhesive manufacturer, design professional, landscape designer, general contractor, concrete subcontractors, flooring installer, flooring maintainer, and owner.

- Various conflicting terminology, methods and recommendations used for quantitative and qualitative moisture testing.

- Lack of and incorrectly executed concrete pH and moisture testing.

- Installing a floor (although test results indicate different) that cannot—or should not—be installed due to elevated moisture vapor emission rate and/or pH levels.

- Potential of mold growth from concrete related concerns and/or moisture intrusion into the building envelope.



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- Not allowing for the proper expansion for products that change dimensionally due to thermodynamics and structural movement.

- Mixing dimensionally unstable flooring products together without honoring to contraction and expansion characteristics.

- Poor maintenance and/or lack of maintenance resulting in accidents.

## Solutions

The solution to moisture-related problems begins at the design stage. A clients' health, safety, and welfare must lead the design team to make every effort to make informed choices based on the most current and reliable information available. Unfortunately, due to all of the real world problems, many decisions often end up being made solely on the basis of schedule or cost. Statistically speaking, the cards do not favor such an approach and often lead to failures that end up costing many times more than what was thought to be saved.

Here are a few tips to help make educated choices:

- Write the specification based on the most current industry documentation and guidelines.

*Remember: If these standards and guidelines are not written into the specification, even though the industry recognizes them as being "applicable standards," your document will not be considered a complete specification.*

- Do not rely on outdated specification resources. Call to make sure you are using current data and applicable to the product you are going to specify.

- Thoroughly read and be sure you understand every standard and installation guideline before specifying a product in order to determine if it is applicable for that particular application. Also, pay special attention to the kind of environmental and installation criteria needs that must be met before, during, and after the building process.

- When considering an alternative specification suggestion, make sure that you are comparing an apple to an apple.

- Use appropriate products for the type of application and stage the job appropriately if a project is to be fast-tracked and value engineered due to cost and time. Also, ask how much time are you really going to buy and what potential costly damage is risked by doing this fast-track procedure. Where are the savings in the end? It is not with eliminating something like a vapor barrier/retarder because your client just doesn't want to spend the money.

- Have the concrete tested for moisture and pH by an independent resource and/or laboratory in

accordance with testing standards and applicable manufacturer's recommendations.

- Ask the manufacturers questions such as, Do your products meet testing standards written by the industry? How were they met?

- If possible, get an installation and performance history on products new to the market.

- Have all members of the chain of responsibility attend some of the design team meetings? If so, consider the information they provide from their area of expertise. If necessary, bring in an independent consultant who specializes in flooring, substrates, and/or concrete.

- Be certain that the installers are appropriately certified, trained, and have verifiable years of experience.

- Understand the difference between floor FF/LL tolerances for concrete when compared to a straight edge measurement required of flooring.

- Protect the job site as much as possible. Studies have shown that the vapor emission levels in concrete are affected by improper water/cement ratio, by rewetting of the concrete from rain, and/or lack of protection from beneath by a vapor barrier/retarder.



VCT adhesives oozing due to moisture and no vapor retarder under an old school floor. Photo courtesy Howard Kanare of Construction Technology Laboratories.

- Pay close attention to the concrete specification with regard to appropriate water/cement ratio, air content, unit weight, non-reactive aggregate, compressive strength, slab thickness, and surface finish. Some floors may require different concrete finishes and a hard steel trowel finish may not be appropriate. Also look at wet cure as an alternative to curing compounds and make sure to protect the concrete from rewetting as a result of rain. Most importantly, for on- or below-grade slabs use a

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vapor barrier/retarder as specified in the ACI 302 Index and following the ACI 302/360 specification documents.

• Consider using dehumidification and drying technologies as an alternative during the construction process. Not only does this help with the drying of all the building products and significantly reduces the chance for mold growth, it also provides a comfortable productive work environment for the trades. Due to the various changes in materials, the drying process has changed for many setting products and, when placed in an unacclimated environment with varying relative humidity and temperature (sitting at potential dew point), some products may never dry. In these cases, floor failure and potential mold growth is virtually inevitable. Trafficking a floor too early can also cause products to debond and/or indent. Also, it is much healthier for the environment and HVAC unit to have it turned on for the first time after construction and after the subsequent dust has settled down. **T**

CLAUDIA LEZELL, ASID

Claudia S. Lezell, ASID, is the owner of a full-service interior design and flooring company and a full-time instructor for The Flooring Technology Institute. She has spearheaded the hard surface inspection program for the Institute of Inspection Cleaning and Restoration (IICRC) since 1996.



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in the schools of architecture at Texas A&M University and the University of Texas at Austin. Each of these four schools has sustainable design programs that are flourishing. In these venues I have come to see a holistic methodology as fundamentally important in preparing our next generation of design professionals for successful careers.

One critical factor to teaching sustainable design is the case study. At Rice and UH, for example, case studies taught in seminars and lecture classes focus on the myriad aspects of sustainable design projects. Leonard Bachman's *Integrated Buildings: The Systems Basis of Architecture* (published 2003 by Wiley-VCH) has shown the power of this avenue of critical thinking. With the case study linking particular geographical and program uniqueness, students realize that sustainable approaches are not meant to reinvent the wheel, particularly with advanced technologies, but rather to learn about place and history. Case studies also teach lessons about design objectives and how design and construction teams collaborate to achieve common goals.

In my teaching I am able to use the insights I have gained as a client at the UT Health Science Center. As has been pointed out to me on several occasions, the case study method does a far better job at illustrating the holistic nature of the design process in comparison to a theoretical and technical approach. (Steven Moore, Ph.D., of UT Austin's School of Architecture notes that the National Architectural Accrediting Board is considering making case study analysis a mandatory part of the internship program.)

A second factor critical to an integrated approach to teaching sustainable design is an appreciation of the interconnected nature of architectural design and its impact on the surrounding community (not to mention its impact on the planet). Asking students to investigate an "ecological footprint" emphasizes the overall effect of materials and assemblies on the natural environment. Students select a simple building component and research its origins, from its mining, refining, and manufacture to its transit, installation, and maintenance, and ultimately to its potential for future reuse. When possible they look both at the component's first-costs and its larger societal costs.

Correlative to this investigation is the lesson on material specifications which involves field trips to construction sites and discussions with other design and construction professionals about the integrated team approach. Particularly salient here are the notions that no design decisions stand alone and that creation of a high-performance facility does not adhere to a linear process: for example, cladding impacts interior daylighting which impacts floor-to-floor height and spatial organization which impacts the scale of mechanical systems and delivery methods which impacts operational costs, and so forth. I have come to assign these research investigations in team efforts to emphasize the collaborative nature of data gathering and problem seeking/problem solving.

### A Wealth of Resources

Teaching about the collaboration that is the heart of integrated sustainable design is well served by the breadth of talent and differing perspectives that comprise the collective pool of faculty at the architecture schools in Texas. The architecture schools at UT Austin and A&M are particularly noted for drawing on the diverse resources available across their respective campuses. At UT Austin that has led to the founding of the only graduate program in the nation devoted to sustainable design. According to Dr. Moore, the program's director, the graduate program offers a broad range of electives outside of the School of Architecture; in fact, the school offers two professional degrees with either emphasis or specialization in sustainable design. With about 35 graduate students currently enrolled (up from just a handful of students five years ago),

the program's curriculum emphasizes the reciprocal influence that practice and theory have on each other.

A&M's Department of Architecture benefits from a cross-campus collaboration with the Department of Mechanical Engineering's Energy Systems Laboratory (ESL). (Nationally recognized for its lead role in helping to develop most of the monitoring and verification methods now used by the U.S. Department of Energy and USGBC, the ESL is currently leading an effort to develop methods to measure performance of a new building as compared to its design expectations.) The ESL/Architecture collaboration has fostered a number of successes, including a recent study of improved energy efficiency in low-income housing conducted jointly with Habitat for Humanity. Courses for graduate students

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include a thermal simulation course and an applied solar thermal course that teaches students how to design and size solar thermal systems.

My own teaching at the Gerald Hines College of Architecture has been fundamentally elevated by partnering with educators long immersed in high-performance building design and its education (including Leonard Bachman, Joseph Colaco, Robert Morris, and Stephen Jovicich, AIA) under the leadership of Dean Joseph Mashburn, AIA, who is expanding this methodology across the college. Sharing that educational intent are Dean Lars Lerup and Gordon Wittenberg at the Rice School of Architecture.

Beyond the halls of academia, my experiences have led me to realize the vast wealth of resources available in a state often derided for not pursuing sustainable design. The architects of the School of Nursing—Lake/Flato's David Lake, FAIA, and BNIM's Bob Berkebile, FAIA—have sought out local talent with knowledge of sustainable design and each has helped to raise awareness about this new way to build. Berkebile speaks widely about sustainable design team management. Additionally, Pliny Fisk III and Gail Vittori of the Center for Maximum Potential Building Systems, an Austin monument to persistence in linking sustainable design education with practice, and William Browning of the Rocky Mountain Institute have contributed to the Houston design community's rapid metamorphosis into national prominence.


This much-abbreviated list serves to underscore the essentially collaborative nature of true sustainable design, as well as to illustrate the abundant resources for information we have in Texas. The result is a broadened architectural education that is contributing greatly to our profession as it transitions toward sustainable design. While some benefits already are being realized, it's the next generation of architects that are being prepared to take full advantage of the seemingly unlimited possibilities. ■

Rives Taylor, AIA, is manager of architecture for the University of Texas Health Science Center at Houston's department of facilities, planning, and engineering.



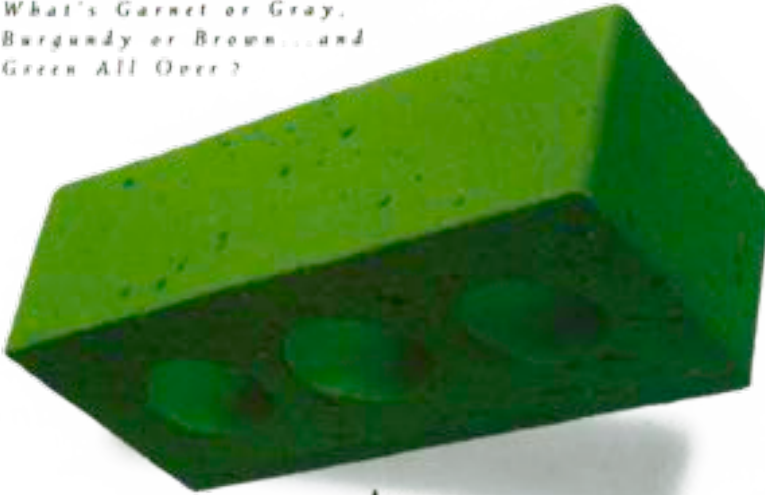
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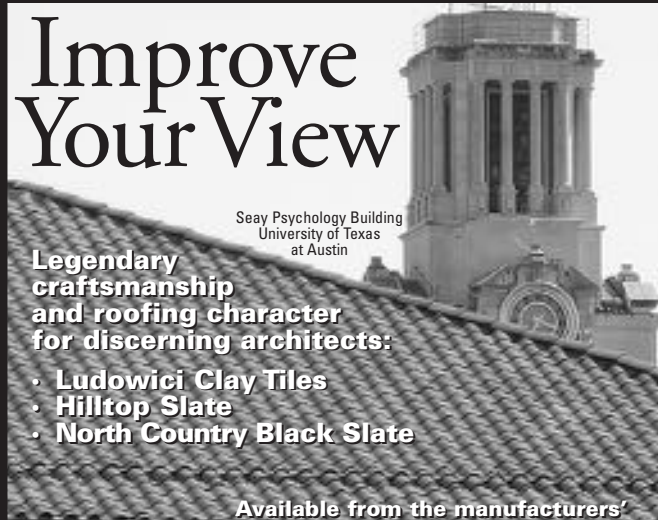
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# Living on Italian Time

For two thousand years, sustainable design has been in vogue all over Italy.

FORTEXASARCHITECTS accustomed to presenting 25-year awards for design excellence, Italy is instructive to any of us seeking truly sustainable design. At every turn are magnificent examples of heroic architecture patinated by time and polished by touch. Buildings, piazzas, and city planning resonate with centuries of human history, yet these places are as vibrantly alive and “used” today as when they were built long ago. To walk where Leonardo, Michelangelo, and the Apostles Peter and Paul trod engenders a deep sense of humility, and to visit the same buildings and places they knew instills an exhilaration of hope for the future of enduring and creative place-making.

The most heroic example is the Pantheon in Rome, arguably the model for every great domed building created since its construction in 35 A.D. Its grandeur, the perfection of its proportions, and its venerable presence reverberates across two millennia. Originally dedicated to “all the gods” before being consecrated as a Christian church in the seventh century, the Pantheon continues as a place of celebrations and services.

Although materials pillaged in the 1600s were used to adorn the interior of St. Peter’s, even in its “stripped down” status, with that shaft of light illuminating the coffer, one doesn’t miss the bronze recycled to the Vatican.

As an urban venue for public gatherings, few places rival the Piazza Bra’ in Verona. The piazza, completed in 30 A.D., is the site of the world’s third-largest amphitheater, which was built to hold 20,000 spectators and has been used almost continually, from first-century gladiatorial combat to twenty-first-century operatic performances. Colorfully enlivening this “archeological theater” are shops and restaurants that flank its edges and still attract the locals and visitors that have sustained Piazza Bra’ and smoothed its stones with two thousand years of human interaction.

Almost lost in the Florentine polychrome of Brunelleschi’s Duomo and Giotto’s Campanile is the humble (by contrast) Orfanotrofo del Bigallo. Anchoring a shopping edge of Piazza San Giovanni, this Renaissance structure’s deep overhanging roof and shady loggia sheltered abandoned chil-

dren in the *Quattrocento* heyday of Florence. (If not claimed, the children were sent to foster homes.) A place of refuge for sure, but a place of sorrow as well. It continues today in a recycled state as a fine bed and breakfast graciously providing calm refuge from the hustle of the Duomo’s plaza.

Of course, Italy isn’t frozen in time. While antiquity seems ever-present, Italy also exudes modernity, from the slink and slouch of Milan’s runways to the sleek and slant of Turin’s auto test tracks. But in contrast to the ephemeral allure of high fashion stands an age-old enchantment with what endures, and Italy is ideal for experiencing well-planned buildings and places that have adapted to the needs of multiple generations. Italy teaches a lesson that we in Texas must remember: value remains after the worries about project costs and politics are long forgotten.

BRYCE A. WEIGAND, FAIA

The writer is a principal of Good Fulton and Farrell in Dallas.



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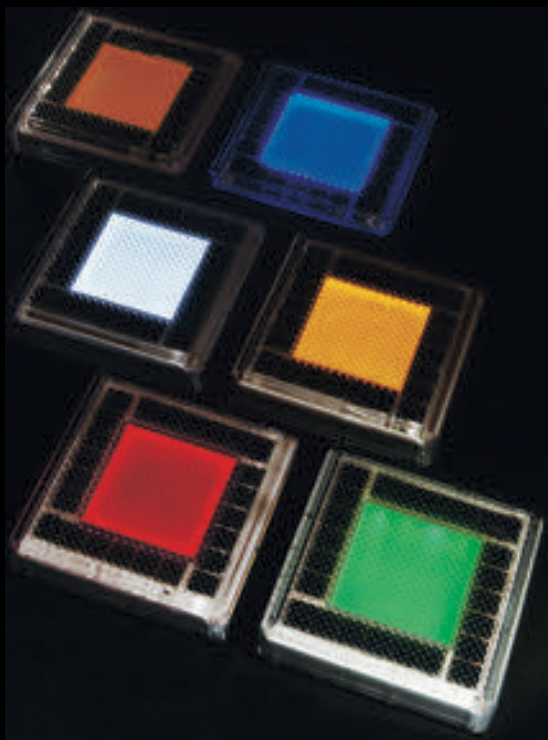


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