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A stone as monumental as granite, at half the cost

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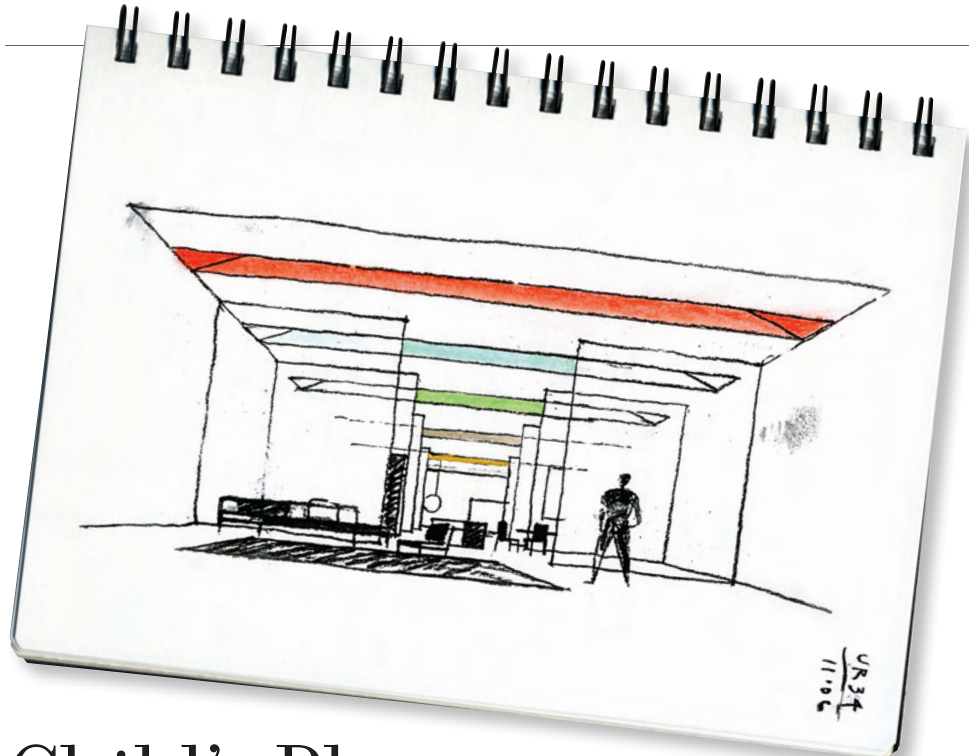
TA Staff Changes

As reflected on the masthead opposite this page, considerable changes have taken place in the last few months in regards to the staff of *Texas Architect*. First, as keen observers of *TA* have already noticed, a new art director is steering the magazine's graphic design and the evidence is most noticeable in the feature section. Julie Pizzo started in June while her predecessor, Ashley St. Clair, designed and produced the pages of the July/August edition, her last as *TA's* art director. Ashley's colleagues at TSA and *Texas Architect* wish her the very best.

Julie Pizzo holds a degree from Texas Tech University where she studied mass communication, fine arts, and cognitive science. After graduation she completed an intensive professional studies program on book and magazine publishing at New York University. While in Manhattan in 2003, she interned in the art department at *Glamour* magazine. Since returning to Texas, she has worked as a creative contributor, art director, and production manager for several Austin-based publications.

The second change to the masthead is the addition of Chellie Thompson as *TA's* advertising representative. Chellie takes the reins from long-time ad rep Carolyn Baker, who has forged many strong relationships between *Texas Architect* and its advertisers in her 17 years promoting *TA* as a venue for companies to reach architects and other design professionals across Texas. Carolyn decided last year to retire and spend more time with her husband. Carolyn's knowledge of the business side of the design and construction industry is encyclopedic, but the staff will also miss her for her tips on significant architectural projects currently in development. Carolyn is truly one-of-a-kind, and the staff continues to value her for her breadth of knowledge and her enthusiasm for the architectural profession.

Chellie Thompson, too, has lots of experience with the design and construction industry. For the past five years she has managed sales of booth space for the TSA annual convention, along with several other important responsibilities as an full-time employee of the Texas Society of Architects. Her colleagues at TSA know her to be extremely capable and always willing to help make any task a successful endeavor. She now transitions to working for TSA as an independent contractor, and the *TA* staff is very pleased to have her as part of the team.



DRAWING BY MAX LEVY, FAIA

Child's Play

Drawing by hand renders the intangibles of architecture

by STEPHEN SHARPE

THE BEST ARCHITECTS practicing today are essentially grown-up children, says Max Levy, FAIA, without a hint of disparagement. Drawing by hand releases a child-like sense of wonder, he explains. Unfortunately, by the time they reach adulthood, most designers have forgotten that feeling of creative release. To Levy, that's a significant loss to the practice of architecture because rendering ideas by hand "draws out of you possibilities that you didn't realize you had in your mind." He adds, "Children draw to explain reality to themselves. That process should never end. The fact is almost all of the better designers draw by hand [and] the reason their work excels is that they are able to operate along the borderline of being and dreaming."

Architectural education no longer demands the rigorous training of drawing by hand that once was so critical to the skill set of young designers entering the profession. The scapegoat, of course, is the computer, which typically is accused of replacing the pencil as the tool of choice for expressing ideas and exploring possibilities. That accusation, however, is a simplistic response to the shift that has taken place over recent decades.

But drawings are not inherently better when rendered by hand. They can confuse and distort because the pencil's operator has failed to capture the appropriate information. In particular, construction documents require drawings that visually explain how the parts of a building go together. And more critical to the profession than the demise of hand drawing is the omission by many schools of training in construction documents. "The emphasis is on design," says Dan Espinoza, AIA, who came out of retirement two years ago to oversee construction administration for Halff Associates in Dallas. The result is, he says, "hardly any schools are teaching any kind of construction documents for that reason. That presents a problem for offices." While the computer can produce very accurate documents, he recommends taking opportunities to draw by hand in the field because it helps one understand the intricacies of a building's assembly.

Observing and drawing an object *in situ* undoubtedly intensifies one's focus on the tangible components of a building, but Max Levy stresses the importance of the transfer of information between the mind and the hand that produces something less concrete and more wonderful. "It's the intangibles that really makes the architecture that stirs us deeply," says Levy. "Drawing opens a door to your own intuition. Drawing gets you beyond the facts."

Keep Up the Good Work

The November/December issue of *Texas Architect* is a pleasure! From the cover, which is a grabber right out of the mailbox—a wonderful piece of pure Texas architecture in the O'Neil Ford mode. Direct, clearly contemporary, but true to Texas traditions, a really quality piece of design. To the gossip—nice piece on UT San Antonio's design-build program and the George W. Bush library (skipping the urge to joke about the only book having already been colored in), but missing the old school tie connection to Yale and Bob Stern, which is probably the only reason the Texas guys didn't get the commission. To the content—our third-year students could have greatly benefited in their design of "sacred space" if you had only put together this really pleasing and informed discussion and review a couple of months earlier.

Great stuff, Stephen. Kudos and thanks. Keep up the good work.

Peter Wood, AIA
Prairie View A&M University

Houston Set to Expand Ideson Library Based on Cram's Original Intentions

HOUSTON Eighty-four years after opening as Houston's Central Library, the Julia Ideson Building will finally be completed according to the plans of its original architect, Ralph Adams Cram. Dedicated in 1926 and named for the city librarian who pressured for a new facility to replace the Carnegie Library of 1904, the Ideson Building is about to undergo restoration by Gensler's Houston office.

Cram's use of the plateresque style of the early Spanish Renaissance for the library was, like his composite Eastern Mediterranean confection at Rice University, a personal choice of an appropriate style to reflect the area's traditions and climate. His design for the downtown library was originally intended as a picturesque composition of a main block oriented east-west with a projecting wing to the west and another wing to the south that defined several fenced gardens. However, the west wing was eventually shortened and the south wing was never built.

The library was planned as the cornerstone for a new civic center designed in a belated City Beautiful mode by Hare and Hare of Kansas City, Mo. The 1925 scheme arranged several court buildings and a city-county administrative building around a long reflecting pool. Today, the only remnants are the Ideson Building, the 1939 City Hall, and the reflecting pool.

With Cram's drawings at hand, Gensler's lead architect, Barry Moore, FAIA, has fashioned a strategy that will realize the south wing that was never built. While the exterior facades will duplicate the intended originals, the new interior spaces will house state-of-the-art archive storage and work areas for staff and the public. With much of the library materials moved to high-density shelving in the new wing, the grand lobbies and reading rooms of the historic building will be opened up for additional new uses like special events, receptions, and exhibits. The new south wing will also enclose one of Cram's gardens, an outdoor space that was never developed but now will be accessible from the reading rooms and used for events.

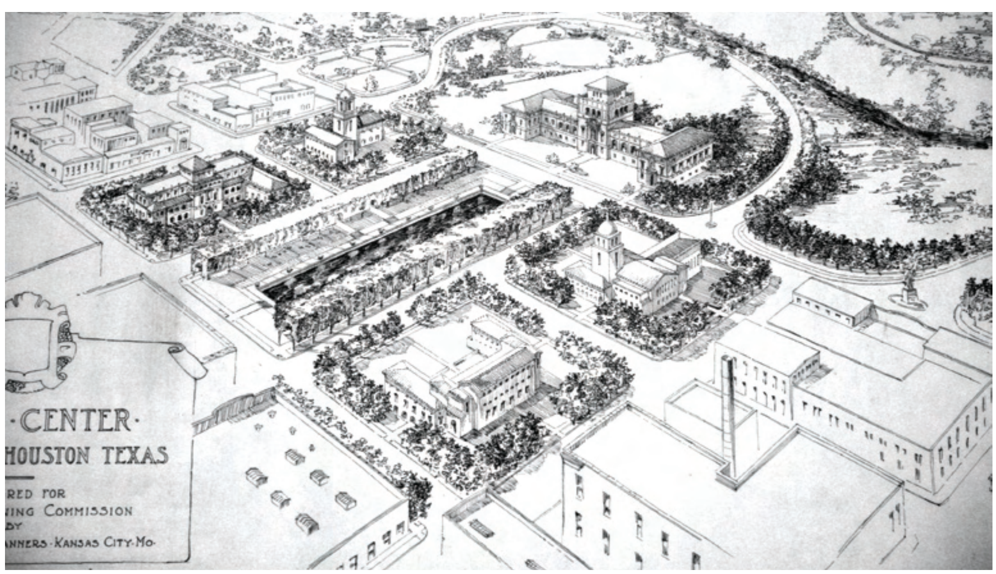
The library has had previous renovations, first in 1958 by Louis Glover that infilled arched loggias with windows, removed lobby arcades, and installed suspended ceilings to cover ductwork. A renovation by S.I. Morris Associates in 1979 reversed many of these intrusions and restored original floors, woodwork, and plaster details. The new Central Library, designed by Morris and completed in 1975, on the block to the west took over the general library operations that year and the Ideson was then dedicated to the city's archives as the library system's Metropolitan Research Center. Gensler's new restoration will return the facades and all the public spaces to their 1926 appearance. In addition, the project will bring the building up to code, especially for handicapped accessibility.

Although the Texas Historical Commission has approved the project, the decision to reconstruct the never-built south wing technically runs counter to the U.S. Secretary of the Interior's Standards for Restoration. Known as the "Ten Commandments" of preservation, those federal standards state that "designs that were never executed historically will not be constructed."

The construction cost, estimated at $25 million, will be funded by private donations and an $8 million city contribution. Seeded with an initial contribution of $2 million by Phoebe and Bobby Tudor, the non-profit Julia Ideson Library Preservation Partners was formed to raise funds. Construction is expected to start this summer, with the library's rededication planned for late 2010.

GERALD MOORHEAD, FAIA

The writer is a *Texas Architect* contributing editor.



(top left) The expansion will be at the back of the building. (above) Hare and Hare proposed this plan for the Houston Civic Center, with the Julia Ideson Building shown at far left.

(TOP) COURTESY GENSLER; (BOTTOM) COURTESY HOUSTON METROPOLITAN RESEARCH CENTER, HOUSTON PUBLIC LIBRARY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New Architectural Program in El Paso Targets Hispanics for Bachelor Degrees

EL PASO The way that architecture professor and discipline coordinator Ken Gorski describes it, El Paso Community College is a campus with its heart residing on both sides of Texas' border with Mexico. This description, more allegorically than geographically accurate, pegs the character of a campus that is 85 percent Hispanic and located in a city largely defined by its close proximity to Juarez, Mexico.

"El Paso is a bicultural city," Gorski says. "It is a wonderful blend of the two cultures, and the bicultural aspect of our campus is important to our students."

Which is why a new partnership between EPCC and Texas Tech University's College of Architecture could provide an important new conduit for tapping Hispanic talent and, eventually, helping diversify architectural design to reflect the broadening influence of what is swiftly becoming Texas' predominant demographic population.

The College of Architecture at El Paso allows architecture students who have earned their associate's degree through EPCC to take upper-level Texas Tech courses at the college's Valle Verde campus. The program provides the first Bachelor of Science degree to El Paso students who can't afford to relocate hundreds of miles away to finish a baccalaureate.

With 16 students enrolled, the program officially began with the Fall 2007 semester. Students take a total 131 credit hours – 66 through EPCC and an additional 65 through Texas Tech in El Paso – an amount comparable to what they would take on the Lubbock campus.

Since bachelor's degrees are pre-professional, students still must attend a school outside the El Paso area to receive a master's degree—a necessary step in qualifying for licensure.

The partnership was developed at the request of the architectural community in El Paso, which saw a need for a degree program in the region. El Paso and Juarez have a combined population of more than two million, yet the closest baccalaureate or graduate architectural programs were hundreds of miles away.

Nicholas Markovich, director of the College of Architecture at El Paso, said all but one of the 16 students enrolled in the fall semester were Hispanic. Some of them hailed from Mexico and all of them were bilingual, he said, adding, "They are students who would not be able to or have the opportunity to leave the area."

The students also represent the possibility that the U.S. architectural profession might someday become a more accurate reflection of the nation's demographic composition. According to current population projections by the Texas State Data Center and Office of the State Demographer, Hispanics are expected to comprise as much as 60 percent of Texas' population by 2040. Similar gains are forecast by the U.S. Census Bureau, with projections from 2004 that show Hispanics comprising nearly a quarter of the nation's population by 2050.

Yet statistics do not reflect that growth within the architectural profession in Texas or the U.S. In fact, both the American Institute of Architects and the Texas Board of Architectural Examiners show only single-digit percentages in Hispanic ethnicity brackets.

Students viewed building models during an open house held at the new architectural program in El Paso.

COURTESY TEXAS TECH UNIVERSITY

The AIA study – a diversity audit conducted in 2005 – found that roughly two percent of its architect members were Hispanic. The TBAE, as of last November, reported that roughly three percent of its registrant base (which includes interior designers and landscape architects) claimed Hispanic ethnicity during registration or renewal.

Those statistics are not definitive for the profession. The AIA, for example, maintained race/ethnicity information on 75 percent of its architect members when its study was conducted. The TBAE included caveats with its numbers, such as the fact that 26.6 percent of registrants didn't respond in the voluntary self report, and that it includes records of people who are deceased or have had their license revoked.

However, Carolina Weitzman, president and CEO of Houston-based Natex Architects and former president of the Houston Hispanic Architects and Engineers, said those statistics seem to fit with what she has encountered in the profession.

"I can name the Hispanic architects I know with one hand, two at the most," she said, adding that only a few active HHAE members who are architects, with the balance being engineers.

And a 2006 statistical report by the National Architectural Accrediting Board estimates that 218 of 2,184 bachelor degrees awarded in the U.S. went to students of Hispanic origin, while 101 of 1,674 degrees were awarded to Hispanics at the master's level.

Michael Monti, executive director of the Association of Collegiate Schools of Architecture, said he has seen partnerships spring up between universities and community colleges in Hispanic-dense states such as Florida as a way to foster enrollment.

In Texas, schools such as the University of Texas at San Antonio serve a significant number of Hispanic students. UTSA is deemed a Hispanic-serving institution, and approximately 52 percent of its College of Architecture's 1,082 total graduate and undergraduate students this fall were Hispanic.

"The fact that Texas has programs such as the one at UTSA is significant and it speaks well for the (Texas Higher Education) Coordinating Board," says Andrew Vernooy, AIA, dean of Texas Tech's College of Architecture. "However, I think it's important that we not think the job is done. We have to continue to diversify our programs."

The El Paso partnership has proven popular already. Both EPCC and Texas Tech have seen enrollment boosts that officials attribute to the new program. The percentage of Hispanic architecture students enrolled at Texas Tech has leapt by seven points over the past four years, from 13 percent in fall 2003 to 20 percent this fall. Vernooy credits the college's presence in El Paso in part for the increase.

EPCC's Gorski said his community college tripled its number of architectural course sections available in Fall 2007 to accommodate student growth, which exceeded his expectations.

CORY CHANDLER

The writer works with Texas Tech's media relations office.

RENDERING BY PATRICK LOPEZ, COURTESY BNIM ARCHITECTS

Houston Firm's Low-Cost Home Design Pledged to Help Ravaged New Orleans

NEW ORLEANS Announced to fanfare surrounding actor Brad Pitt's personal involvement with bringing affordable housing to this beleaguered city's poorest residents, the Make It Right program unveiled designs in December for houses by some of the world's cutting-edge architects. A total of 13 international, national, and regional firms were invited to create home designs for the Crescent City's Lower Ninth Ward, one of the neighborhoods hardest hit by flooding in the wake of Hurricane Katrina in September 2005.

The Houston office of BNIM Architects is among the firms selected by Make It Right, an initiative that aims to raise private funds to build 150 affordable and sustainable homes. BNIM's architects and the Make it Right team worked closely with community leaders and residents to develop a prototype design for a 940-square-foot, two-bedroom dwelling. The concept originates from shotgun-style homes common to New Orleans, but includes measures to improve on the traditional building type by incorporating outdoor spaces protected by ample porches. The intent is to foster interaction between neighbors and enrich neighborhoods through active participation in day-to-day community activities.

Other firms selected by Make It Right include Morphosis, KieranTimberlake Associates, Adjaye Associates, Billes Architecture, Constructs, Eskew + Dumez + Ripple, MVRDV, Pugh + Scarpa Architecture, Shigeru Ban Architects, and Trahan Architects. Architects were asked to design a 1,000-square-foot house that could be constructed for about $150,000. The houses are required to be elevated five to eight feet above ground.

According to BNIM, its building will be easy to construct and energy-efficient using appropriate solar orientation to minimize heat gain while allowing ample natural light into interior spaces. Materials will include structural insulated panels. A rainwater cistern and a portable solar energy pack will be included, items meant for residents to feel safe in the event of future flooding. In addition, the roof structure is designed for future installation of south-facing photovoltaic panels.

BNIM organized the design effort out of the firm's Houston office, with Filo Castore, AIA, as design manager, Bob Berkebile, FAIA, as principal in charge, and James Anderson Jr. as project designer. Austin-based Architectural Engineers Collaborative, as well as John Porretto with SBS Home Builders in South Carolina, were both instrumental to the project's development. Final design documents to begin construction on the home will be executed by John C. Williams Architects of New Orleans.

Team members made several trips to New Orleans throughout the design process to work directly with Make It Right's organizers, as well as constituents of the Lower Ninth Ward community. During these meetings, residents helped the design team identify functional and aesthetic aspects of the prototype design. A panel of 50 local citizens reviewed final designs and voiced their preferences for the future rebuilding of their neighborhood.

Construction of the homes is expected to begin early this year, with the first projects being completed as early as May. Brad Pitt's star power has helped draw attention to the program. He and Hollywood producer Steve Bing have each committed $5 million in matching funds toward the effort.

BNIM Architects' rebuilding efforts began immediately after the Hurricane Katrina, when the firm volunteered its help through the U.S. Green Building Council to develop sustainable rebuilding guidelines for New Orleans. Parallel efforts included an advisory role for the Global Green/Brad Pitt sponsored design competition for sustainable rebuilding in the Lower Ninth Ward, sponsorship and a sustainable consulting role for the UrbanBuild house designed and constructed in the Upper Treme neighborhood by students at the Tulane University School of Architecture, and participation in the development of a Sustainable Restoration Plan for the Lower Ninth Ward.

BNIM Architects is currently working with John C. Williams Architects to develop a master plan for reuse of the Holy Cross School site, located in the Holy Cross District of Lower Ninth Ward. In addition, BNIM Architects is currently working with a private developer on an $85 million redevelopment of approximately five city blocks along New Orleans' riverfront.

STEPHEN SHARPE

The writer is the editor of *Texas Architect.*

A Half-Century of Best Works by Hines On View at Architecture Center Houston

HOUSTON Starting with a project for a small office and warehouse in 1957, Gerald D. Hines began developing real estate in Houston with a keen eye for adding value to his projects with architectural excellence. A half-century later, having developed hundreds of buildings around the world, Hines has remained committed to raising the standards of commercial design by engaging the best practitioners.

To commemorate the 50th anniversary of Hines, the Houston Architecture Foundation and AIA Houston are sponsoring an exhibition of his company's projects. Titled *Hines/50 Years/50 Selected Works*, the exhibit opened in Dec. 12 at the Architecture Center Houston. More than 400 people joined Mr. and Mrs. Hines for the opening reception. The crowd included students from the University of Houston's Gerald D. Hines College of Architecture. Hines greeted friends and associates and signed his new book, *Hines: A Legacy of Quality in the Built Environment*. City Councilman Peter Brown, AIA, presented a proclamation from Houston Mayor Bill White declaring Dec. 12, 2007, as Gerald D. Hines Day.

The 50 projects, selected from hundreds Hines has developed, were chosen for architectural merit, chronological consistence, and geographical diversity. They range from his first project, the Fischer and Porter Building (1957), to the spectacular Meudon Campus completed this year on the former site of Renault car factories along the Seine just outside Paris. The exhibition includes at least one photograph of each project, historic promotional brochures, maps and drawings, and models of several Houston buildings (One Shell Plaza, Pennzoil Place, RepublicBank Center, First International Plaza, and Texas Commerce Tower).

One of the most striking realizations is that Hines was the developer for so many well-known buildings, particularly in Houston, where today's skyline was in effect created by Hines. There are 14 Houston projects in the exhibit, with an equal number from outside the United States. The exhibition documents the incremental growth of the company from Houston's Richmond Corridor in the 1950s and 1960s to the city at large in the 1970s and to other large U.S. cities beginning in the early 1980s. Hines' first projects outside the U.S. were in Mexico; Del Bosque (1997) and Torre Del Angel (2000), both in Mexico City, are representative of these projects. In the last decade of the twentieth century, Hines began to build in Europe, including DZ Bank (1999) in Berlin; Diagonal Mar Centre (2001) in Barcelona; and the EDF Tower (2001) at La Défense in Paris. By 2002, Hines was working in Asia with projects such as Embassy House (2002) in Beijing.

Hines' Pennzoil Place, designed by Johnson/ Burgee, was completed in 1975. Gerald D. Hines now develops commercial projects around the globe.

These buildings and many more are reproduced in glossy, large-scale photographs specifically for the exhibition. The architecture is never of a kind, making it difficult to see any pattern in the Hines work. Many are, of course, skyscrapers, but some, such as the flamboyant Diagonal Mar (2001) in Barcelona, designed by Robert A. M. Stern, make an important urban statement with a lively street-level facade. Interesting geometries abound in buildings such as Pennzoil Place (1979), Norwest Center Minneapolis (1987), St Luke's Tower (1991), and the sexy EDF Tower (2001). Building materials also vary from project to project, though the recent buildings are more about glass and metal, such as the sleek stainless steel and glass skin of EDF (Pei Cobb Freed), than the earlier chromatic stone facades such as that of Houston's RepublicBank (Johnson/Burgee).

The most fascinating element of these selected works is the variety of architects represented. On a similar urban site with a similar building program, these projects never look alike. Johnson/Burgee, who worked most often with Hines in the early years, is represented here with 11 projects. Many other firms – including Cesar Pelli & Associates, Robert A. M. Stern, Skidmore, Owings & Merrill, Kohn Pederson Fox, HOK, Pei Cobb Freed, Kevin Roche John Dinkeloo and Associates, Frank O. Gehry, Gensler, and Picard Chilton – have notable buildings on display. Houston architects beginning with Neuhaus & Taylor and Wilson, Morris Crain & Anderson (now Morris Architects), and Kendall/Heaton Associates also have worked often and successfully with Hines.

Hines repeatedly has proven over the course of 50 years that good design and quality construction make economic sense. But Hines' legacy will not be measured in terms of financial success but in the powerful and profound international architecture that the company has commissioned, developed, and constructed. This exhibition brings together for the first time a large number of Hines projects in a coherent and visually impressive way that gives substance to this claim.

A mini-catalog is available as an informative companion to *Hines/50 Years/50 Selected Works*. The catalog and promotional materials were designed by HILL and photographic panels were produced by Aker Zvonkovic Photography. The exhibition and opening were coordinated by Nicole Laurent, director of Architecture Center Houston (ArCH) with Clint Willour as curator of the works on display.

Hines/50 Years/50 Selected Works *will be on display through Feb. 28 at ArCH, 315 Capitol in downtown Houston. The organizers intend for the exhibit to travel to other cities in 2008 and 2009.*

BARRIE SCARDINO

The writer is executive director of AIA Houston.

PHOTOS COURTESY HINES

AIA San Antonio Announces Awards

SAN ANTONIO From the 58 projects entered in the 2007 AIA San Antonio Design Awards, jurors selected two for Honor Awards, three for Merit Awards, and five for Citation Awards. In addition, the jury recognized two of the award-winning projects for sustainable design. During ceremonies held Oct. 24 at the recently renovated Pearl Stable, two other awards were announced—the Mayor's Choice Award honoring a publicly funded architectural project and the chapter's 25-Year Design Award for a project that has stood the test of time. The awards presentation marked the end of AIA San Antonio's annual "Architecture Month," a series of events designed to increase public awareness of the importance of architecture in everyday life.

Serving on the Design Awards jury were Dan Shipley, FAIA, principal of Shipley Architects in Dallas; Tom Kundig, FAIA, principal of Olson Sundberg Kundig Allen Architects in Seattle; and Jane Kolleeny, senior editor of Architectural Record magazine.

Honor Awards, the highest category in the chapter's annual program, were presented to South Texas Guest House by John Grable Architect and Friends Meetinghouse by Lake/Flato Architects

The master plan for the South Texas Guest House's five-acre site was carefully developed to create a sanctuary for the family to celebrate the site's elevation changes. Located in a suburban development, the land is a habitat for native flora and fauna. At 1,200 square feet, the guesthouse represents a creative use of space, with an open ground floor plan and sleeping lofts upstairs that maximize the square footage.

The Friends Meetinghouse in San Antonio was designed to achieve a quiet, contemplative setting for meditative worship, which required a sense of detachment from its urban context. The design was inspired by the functional and simple spaces of early Quaker meetinghouses. Built to a human scale with simple materials, this project is well suited to the land and expresses the essence of Quaker spirituality.

Merit Awards were presented to the following projects: Chinati Foundation's Wesley Gallery by Ford Powell & Carson; Collector's Loft by Poteet Architects; and Cibolo Nature Center/Lende Learning Center by Lake/Flato Architects.

Citation Awards went to the following projects: So Flo Office Studios by OCO Architects/Alamo Architects; McCollum High School by Marmon Mok; Marfa 10 x 10 by Candid Rogers Architect; Cynthia Woods Mitchell Center for the Arts by Lake/Flato Architects; and Chinati Foundation's Gallery for Temporary Exhibits by Ford Powell & Carson.

South Texas Guest House and So Flo Office Studios also received commendations from the jury for sustainable design.

The 2007 Mayor's Choice Award recognized Fire Station No. 49/Maury Maverick Jr. Branch Library by Alamo Architects. The public project was selected by Mayor Phil Hardberger, who described the work as "inviting" and "lighthearted." He also commended the firm for harmonizing the two components of the project, each with distinct functions, and for the architect's "clear understanding of the limitations of using too much glass on the western face." Designed for the City of San Antonio, the project was built for $4.5 million and was completed in February 2006.

The chapter's third annual 25-Year Award recognized the Trinity University campus, one of the city's best-known and admired landmarks that is distinguished for its campus master planning, harmonious use of materials, and pioneering lift-slab technology. In 1948, O'Neil Ford joined Bartlett Cocke and Harvey P. Smith to design the new campus at an abandoned stone quarry, on a site overlooking downtown. Ford and Cocke's collaboration lasted until 1981 and produced 46 buildings. The hilly site, a former stone quarry, did not lend itself to a traditional mall plan. The designers instead grouped buildings in close proximity in a village arrangement, adorned by simple landscape elements amid the live oaks. Today the campus is a thriving and beautiful academic environment that also serves as an important gathering place for special events, ranging from concerts by top stars of every musical genre to lectures by internationally acclaimed speakers.

South Texas Guest House

Friends Meetinghouse

Fire Station No. 49/Maury Maverick Jr. Branch Library

Trinity University

AIA Fort Worth Awards 5 Projects

FORT WORTH The local chapter of the AIA recognized four projects in the General Design category and one project in the Mayor's Award category in ceremonies that took place at the Modern Art Museum of Fort Worth. The members of the 2007 jury were Julie Eizenberg, AIA, of Koning Eizenberg Architecture in Los Angeles; Errol Barron, FAIA, of Errol Barron/Michael Toups in New Orleans; and Kevin Alter, Assoc. AIA, of Alterstudio Architects in Austin.

The jurors presented Merit Awards to four projects: Kunkel Clinic in Fort Worth by Hahnfeld Hoffer Stanford Architects; Ed and Rae Schollmaier Science and Technology Center in Fort Worth by Gideon Toal; the Bowles Life Center in Grand Prairie by Magee Architects; and James and Dorothy Doss Heritage and Culture Center of Parker County in Weatherford also by Hahnfeld Hoffer Stanford Architects.

The two buildings of the Kunkel Clinic make up a 3,470-square-foot office that is connected by a shared corridor—a void defining a boundary between patient and support services. An open waiting room looks out onto the garden through a large window that is a void carved from the corner of the waiting room. Two buildings of similar geometry but different scale and materials are used to create tension by the attraction of their dissimilarity. Harmony is achieved through the rhythm of solid versus void and the shared connection of a common void defining the form and highlighting on the surrounding space.

Ed and Rae Schollmaier Science and Technology Center located on Texas Wesleyan's historic campus quadrangle features three computer labs, three instructional classrooms, a seminar room, and faculty offices. A student lounge with exposed steel beams and wood decking provides a comfortable place to study, with views of the quadrangle through floor-to-ceiling glass. Each learning area is contained in a uniformly-sized block that stands out from the rest of the building creating repetition and rhythm; these masses also put a clear emphasis on education, highlighting the importance of classroom spaces above all others. The brick, wood and steel combination echoes the materials used elsewhere on campus, while creating fresh patterns for this new building. Subtle brick color differences and designs give added interest to the clean planes created by the repetition in space blocking.

Situated within Bowles Park between an elementary school and a city pool, which will soon include a splash park, the Bowles Life Center is a multipurpose 40,000-square-foot library/recreation center designed to improve the quality of life for the area's citizens. Because the site slopes dramatically to an existing pond, the main building functions and entrance are located at street level while the gymnasium is one level below grade. All of the major spaces are organized along a linear circulation space with a continuous clerestory window to the northeast that provides an abundance of natural light. Both the large meeting room/banquet area, which opens out onto a large terrace and the gymnasium, face northeast through large glass curtain walls. By orienting the building this way, the major spaces, including the gym and meeting rooms, are able to take advantage of the natural views of the park across the pond.

Just as the history of Parker County, the James and Dorothy Doss Heritage and Culture Center design is tied to the land. Perched on seven wooded acres, its construction disturbed less than 20 percent of over 700 native trees. This site is emblematic of how the Cross Timbers region appeared in the 1850s when settlers began to arrive and Native Americans traveled freely across the countryside. The history of Parker County has been shaped by repeated struggles with nature to capture dreams of a better life. This struggle is felt in the harsh interaction of steel and native stone throughout the museum. The site is an integral part of the museum. It is preserved on the exterior, and featured on the interior. "Glazed balconies" at the end of each gallery provide visitors with captivating views of nature.

Jurors for the Mayor's Award, recognizing design excellence in publicly funded projects, were Mayor Pro Tem Kathleen Hicks and Council Member Carter Burdette. The award was presented to Marilyn Janice Miller Elementary School by Hahnfeld Hoffer Stanford Architects.

The elementary school is laid out in a pinwheel configuration to take advantage of a challenging site. The intersection of the classroom wings culminate in a central glass-enclosed commons area. The geometry of this intersection extends toward the exterior creating entrances from each side. The administrative area is located adjacent to the commons, arranged to control access to the building.

IVONNE LEVIN, AIA

Levin chairs the chapter's Excellence in Architecture Committee.

Kunkel Clinic

Schollmaier Science and Technology Center

Bowles Life Center

Doss Heritage and Culture Center

Marilyn Janice Miller Elementary School

AIA Dallas Celebrates Design Excellence

DALLAS The Dallas chapter of the American Institute of Architects announced the 2007 design award winners during its annual Design Awards Announcement and Celebration Party in the AT&T Victory Plaza on Sept. 19, 2007.

This year's jury for the built entries featured Joe Valerio, FAIA, of Valerio Dewalt Train in Chicago; Jon Pickard, AIA, of Chilton Pickard, in New Haven, Conn.; and John Senhauser, FAIA, of John Senhauser Architects in Cincinnati. Jurors for unbuilt entries were Frank Clementi, AIA, of Rios Clementi Hale Studios in Los Angeles; Diogo Burnay of CVDB Design in Lisbon, Portugal; and Johanna Grawunder of Johanna Grawunder Studios in San Francisco and Milan, Italy.

From a record number of 162 projects submitted by Dallas-based architectural firms, 14 awards and six commendations were presented in three categories—unbuilt, built (small), and built (large). New to the awards this year was also a Best of Show to recognize overall excellence regardless of category. Also new this year were awards for Urban Edge Excellence in Sustainable Design and Community Design. In addition, one project received the jurors' commendation.

Review of the design submittals took place over two days, with the winners being selected and announced live during ceremonies at the AT&T Victory Plaza. Each of the submittals was displayed across the large video board at the end of the plaza during the first hour of the evening, with the winners being displayed as the awards were being presented. This year's event captured the excitement of the live announcements.

Awards were presented in the following categories to:

Unbuilt
- Honor – San Augustine Park Pavilion in Dallas by Laguarda.Low Architects
- Merit – Madrid Exhibition Center in Madrid, Spain by Laguarda.Low Architects
- Citation – Bezalel Academy of Arts and Design in Jerusalem, Israel by Corgan Associates

Built/Large (more than 50,000 sf)
- Honor – W Hotel in Dallas by HKS
- Merit – Hector Garcia Middle School in Dallas by Perkins + Will
- Citation – George L. Allen Sr. Courts Building in Dallas by Rees Associates

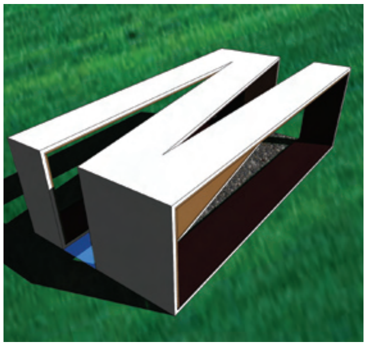
Built/Small (less than 50,000 sf)
- Honor – Noka Chocolate in Dallas by BOKA Powell/Shimoda Design Group
- Merit – Elements in Dallas by Buchanan Architecture
- Citation – Oak Court in Dallas by Buchanan Architecture

Best of Show
- House at Wind Point in Hunt County by Max Levy, Architect

Urban Edge Excellence in Sustainable Design
- Unbuilt – Woodlawn in Dallas by Good Fulton & Farrell Architects
- Built – Urban Reserve Master Plan in Dallas by dsgn associates

Community Design Award
- Unbuilt – Texas Stadium Redevelopment in Irving by HOK
- Built – Imperial Illumination in Dallas by building.community.workshop

The jurors also presented special commendations to the following projects:
- Unbuilt – Washington Hospital ER One in Washington, DC by HKS/Pickard Chilton
- Unbuilt – Cotai Strip Parcel 3 in Macao, China by RTKL
- Unbuilt – Robbins Elementary School in Trenton, New Jersey by Laguarda.Low Architects
- Built – Hillside House in Dallas by Frank Welch and Associates
- Built – CORE in Dallas by Corgan Associates
- Built – Watermark Community Church Phase II in Dallas by Omniplan


San Augustine Park Pavilion

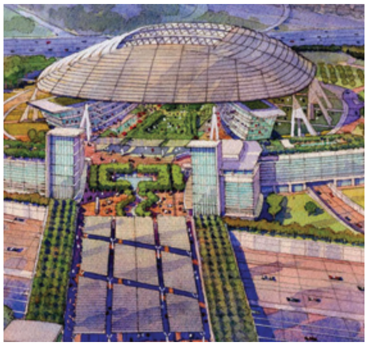

W Hotel

Noka Chocolate

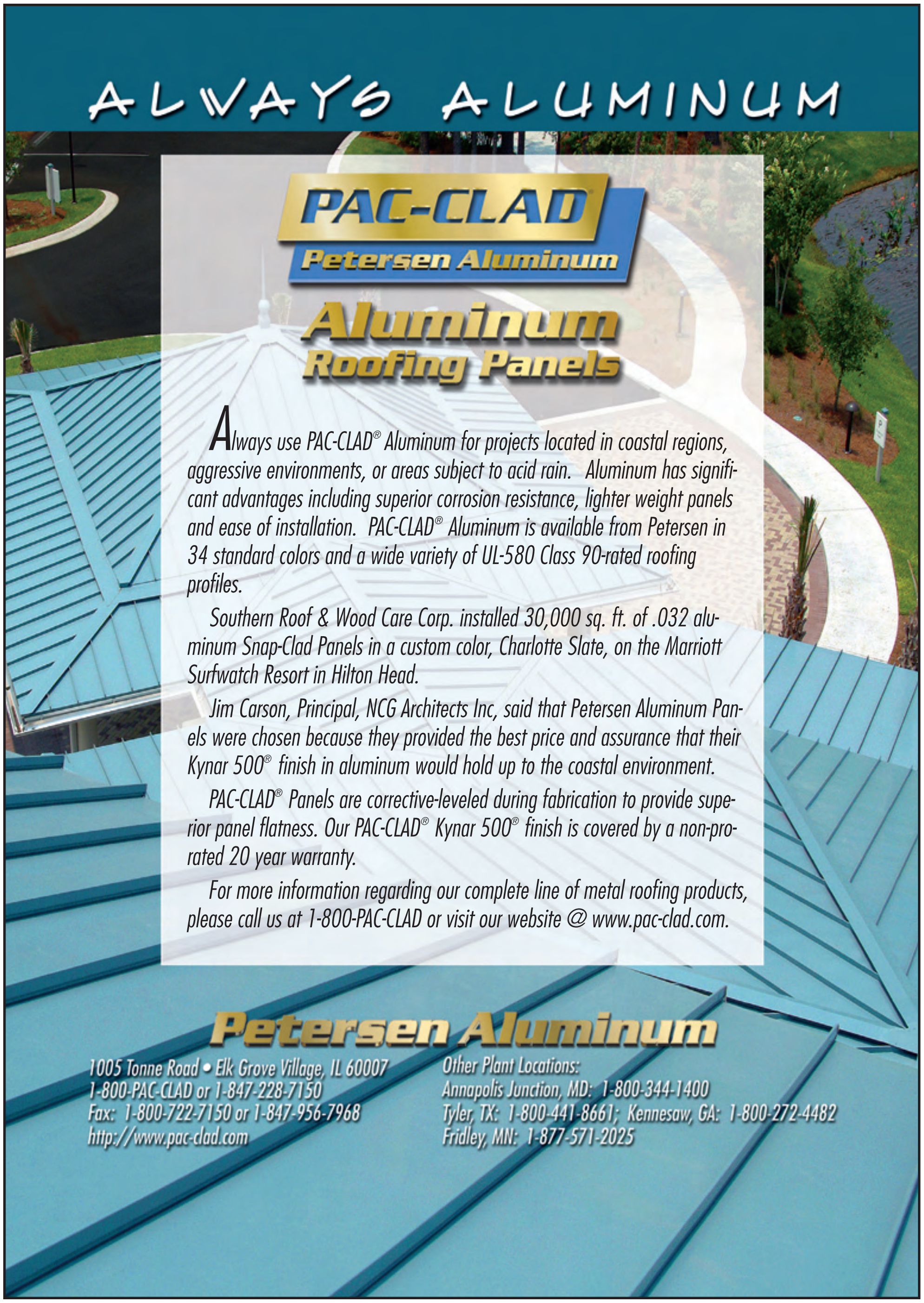

House at Wind Point

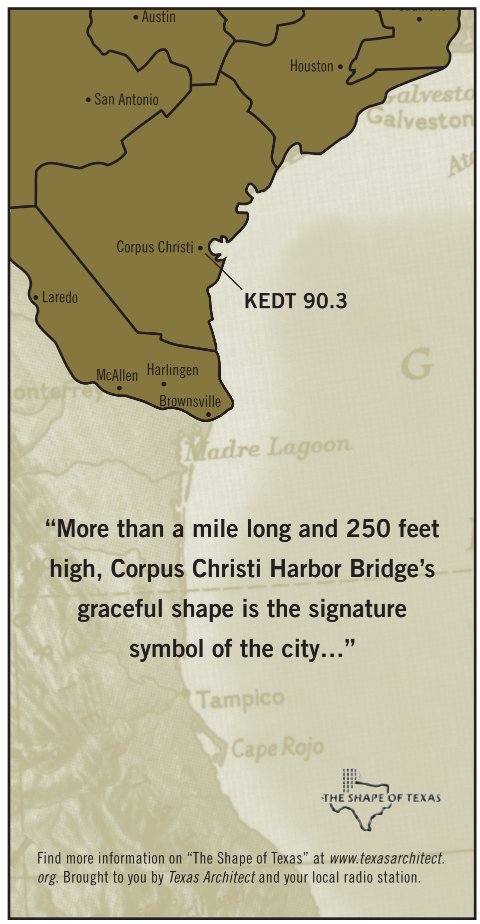

Woodlawn


Urban Reserve Master Plan


Texas Stadium Redevelopment


Imperial Illumination



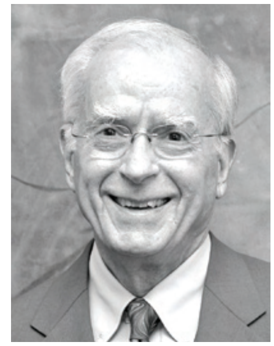


AIA Honors McKittrick with Kemper Award

WASHINGTON, DC Thomas McKittrick, FAIA, of Houston is the 2008 recipient of the Edward C. Kemper Award for his contributions to the profession through service to the American Institute of Architects. In 1991, he was honored with TSA's Llewellyn W. Pitts Award (now called the Lifetime Achievement Medal), the Society's highest recognition for an architect member.

Among his many accomplishments, McKittrick served as TSA President in 1984 and represented TSA as a regional director on the AIA Board of Directors. In addition, he has served as AIA vice president, vice president and regent of the American Architectural Foundation, and as a member of the National Architectural Accrediting Board.

McKittrick is currently an emeritus professor at Texas A&M University's College of Architecture. He spent 28 years at his own architectural practice before deciding to teach fulltime after helping teach a professional practice course in 1989 at Rice University, where he had earned a Bachelor of Science in Architecture in 1957. Later in 1989, McKittrick was named the first Mid-Career Fellow for the architecture department at Texas A&M. Two years later, at age 57, he completed the degree with a 4.0 grade point average and began his academic career as a tenured associate professor and coordinator of the A&M's Master of Architecture program. He later was appointed interim head of the architecture department. In that capacity, McKittrick expanded the faculty and launched preparations for the 2002 National Architectural Accrediting Board review. He also served as an advocate, motivator and mentor to faculty members. He has since participated in six NAAB accreditation visits at other universities. In 1998, McKittrick chaired Texas A&M's Strategic Planning Theme Committee on "A Challenging and Rewarding Work Life for Faculty" and the following year he served on the University Core Curriculum Committee. He also participated in the 2003 Validation Conference, where he collected AIA member opinions leading to proposed changes in student performance criteria and other conditions of accreditation.



McKittrick

Four other Texas architects have received the Kemper Award—David C. Baer (1957), Philip D. Creer (1960), Charles F. Harper (2001), and James D. Tittle (2006).

AIA LRGV Presents 3 Awards

MCALLEN The Lower Rio Grande Valley chapter of the AIA honored local architectural projects during its 2007 Holiday and Design Awards Celebration held in McAllen.

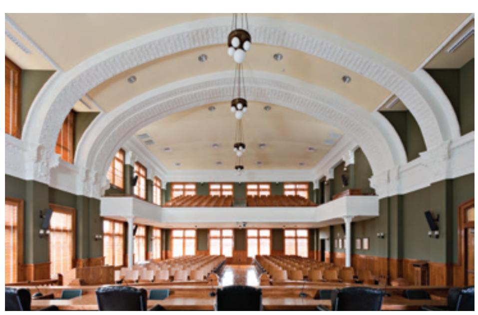
The chapter's Design Awards jury convened in October 2007 to review entries and selected three projects as finalists. The panel of jurors included Mark T. Wellen, AIA, of Rhotenberry Wellen Architects in Midland; Mark Gunderson, AIA, of W. Mark Gunderson, Architect in Fort Worth; and Al York, AIA, of McKinney Architects in Austin.

An Honor Award was presented to the Cameron County Courthouse by Roberto Ruiz, AIA. In addition, two projects were selected for Merit Awards—Los Encinos Police Community Network Center in McAllen by Negrete and Kolar Architects and 600+ GYM·SPA in Edinburg by Ashley Humphries & Sanchez.

The Cameron County Courthouse, known as the Dancy Building, was originally designed by Atlee B. Ayers in 1912. Its restoration was undertaken in two phases. The first phase, begun in 1998, focused on the building's exterior. In 2001, with the beginning of the second phase, the architect turned to the building's interior. The interior restoration of the Dancy Building is on par with the best. The exceptional photography [by Chris Cooper] really conveys the sense of the spaces that have been remarkably restored. This is truly an excellent project."

Los Encinos Police Community Network Center, located adjacent to a municipal park, operates both as a police station and a community hall. The jury noted, "The openness of this project to the community was the single most influential factor in its designation as a Merit Award recipient. The design also exhibited some very nice detailing in the roof structure. In this time of hyper-sensitized 'homeland' security, this open police structure in a park contiguous with a residential neighborhood is very refreshing."

The design for the 600+ GymSpa creates a relaxing atmosphere with its combination of interior concrete floors, painted steel structure, and abundance of natural light. The jury noted, "Quality of light in the interiors was exceptional along with well executed interiors. The simple palette of materials was straightforward, honest, and handsome. The skylight detail centered over the column was a very nice detail. The exterior had some really nice moments, especially, the entrance."



Cameron County Courthouse (Dancy Building)

600+ GymSpa

Los Encinos Police Community Network Center

$99K House Competition

Rice Design Alliance and AIA Houston invite entries into the $99K House Competition. The competition calls for designs of affordable homes that incorporate sustainable materials and technologies. For more information visit, *www.the99khouse.com*. Deadline for entries is JAN. 14

AArC Members Exhibit in *Value Added*

The Austin Center for Architecture hosts *Value Added: The Synergy of Local Design*, featuring the work of 27 members of Architectural Artisans Collaborative. Projects will be presented to a panel of designers, including representatives from the architectural firms Mirò Rivera and Andersson Wise. The exhibit will be open Monday through Friday 8 a.m. to 5 p.m. For more information, visit *www.austinartisan.org.* Opens JAN. 14

30°N 60°S

The Rice Design Alliance lecture series presents Jorge Francisco Liernur, chair of the Center of Studies on Contemporary Architecture at Torcuato Di Tella University in Buenos Aires, who will discuss current Latin American architecture. For more information, call (713) 348-4876. JAN. 16

AIAS Career Fair

Texas A&M University hosts the AIAS Career Fair at the Langford Architecture Center on the A&M campus in College Station. Fifty-five firms from nine states will participate in the event. For more information, contact Amy Kircher, the career fair coordinator, at *TAMU.AIASCareerFair@gmail.com*. JAN. 31-FEB. 1

Heritage Documentation Programs

The Heritage Documentation Programs, a division of the National Park Service, is offering several 12 week-long internship positions for the summer of 2008 to students or recent graduates of architecture or history programs. Applicants must be U.S. citizens. Application forms can be found at *http://www.nps.gov/history/hdp/jobs/maritime.htm*. For more information, call (202) 354-2135 or e-mail *HDP_Summer_Program_Admin@nps.gov*. Applications due FEB. 1

2008 Preservation Summit

Preservation Texas hosts a two-day summit on issues related to the preservation of historic buildings and the development of strategic solutions. Interested individuals and organizations are invited to attend the event. For more information, call (512) 472-0102 or e-mail *info@preservationtexas.org*. FEB. 6-8

Interloop's E-X-I-T Enters MoMA

NEW YORK On Nov. 7, 2007, the Museum of Modern Art in New York inducted into its permanent collection Interloop Architecture's E-X-I-T sign custom designed for the Nasher Sculpture Center in Dallas. Fabricated with acrylic letters and illuminated by LED, the Houston firm's creation joins other works in the MoMA Architecture and Design collection such as Vignelli's New York subway signage and the Flight Departure Panel from Solari di Udine.

E-X-I-T was produced as signage for the Nasher Sculpture Center in 2002 by Interloop principals Mark Wamble and Dawn Finley who worked with engineers, fabricators, Underwriter Laboratory technicians, and the graphic design firm 2x4.

According to the designers, E-X-I-T's induction marks a departure in MoMA's collecting policy, and provides an early precedent in the acquisition of architectural signage. The designers presented the sign as a gift to the museum.

E-X-I-T offers maximum visibility while minimizing exposure of its electronic and structural components. The majority of electronics are detached from the lamp itself so that the acrylic letters and minimal stainless steel brackets are the main visible elements. By using a low-voltage light-emitting diode (LED) configuration and light-gauge wiring, the power source can be installed up to 20 feet away. Detached letters are given a thickness by milling acrylic to produce a lens with a structural shape. The designers laminated custom circuit boards and stainless steel backing plates to the translucent lenses to create a stable diaphragm, eliminating the need for large enclosures or heavy brackets.

Trinity River Corridor Approved (Again)

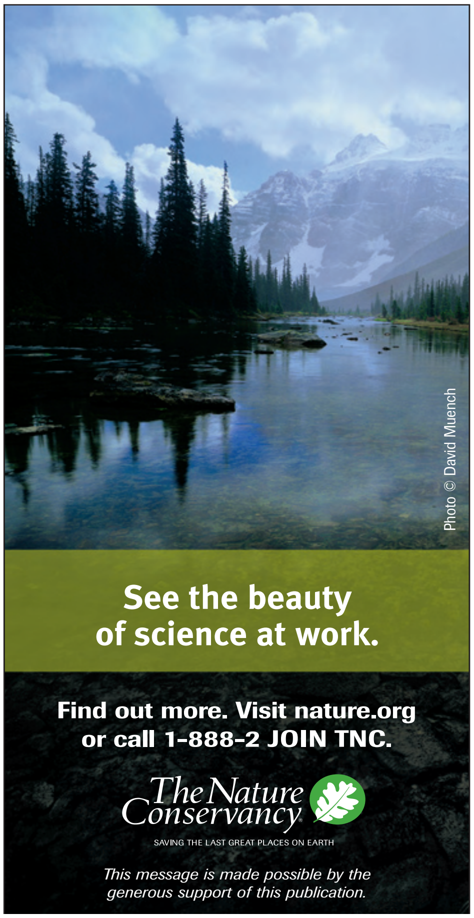
DALLAS On Nov. 6, Dallas voters endorsed development of the Trinity River Corridor in general, and local government's specific vision in particular. This was the second time in 10 years the electorate had been called to the polls on the issue. The first occurred in 1998 when the voters approved a $246 million bond issue for development of the corridor. The second election was a referendum challenging specific aspects of how the plan had developed since 1998.

The Trinity River issue always has involved three elements – flood control, recreation (lakes and parks) and transportation – with rancor arising from various parties on how large each element should loom in any particular solution. In the mid-90s, Mayor Steve Bartlett convened a 400-person task force specifically to resolve this issue. From that, a consensus vision began to emerge in outline form serving as the basis for the 1998 bond election.

Consensus always involves compromise. In the case of the Trinity, that meant that as detailed planning proceeded, so did the tug of war between the core constituencies. The Corps of Engineers approached it as a flood channel project, the environmentalist a park project, and certain business interests a road project. Over the next few years, the plan became increasingly flood channel-centric. In 2003, AIA Dallas boldly stepped forward to voice concern and subsequently developed a Trinity River policy statement, then helped initiate a process to restore equilibrium among the competing needs. This ultimately culminated in the current blueprint for the project, known as the Balanced Vision Plan, that questioned whether the city's plans had become too road-centric and diminished the recreational components—hence the referendum and the fierce debate that ensued throughout the city. Admirably, the leadership of AIA Dallas again publicly endorsed the plan and on Nov. 6 the majority ultimately agreed. Today, portions of the plan are already under construction, with the parks and lakes scheduled to be completed by 2009 and the road to open by 2014.

DUNCAN T. FULTON, FAIA

Fulton is a founding principal of Good Fulton Farrell in Dallas.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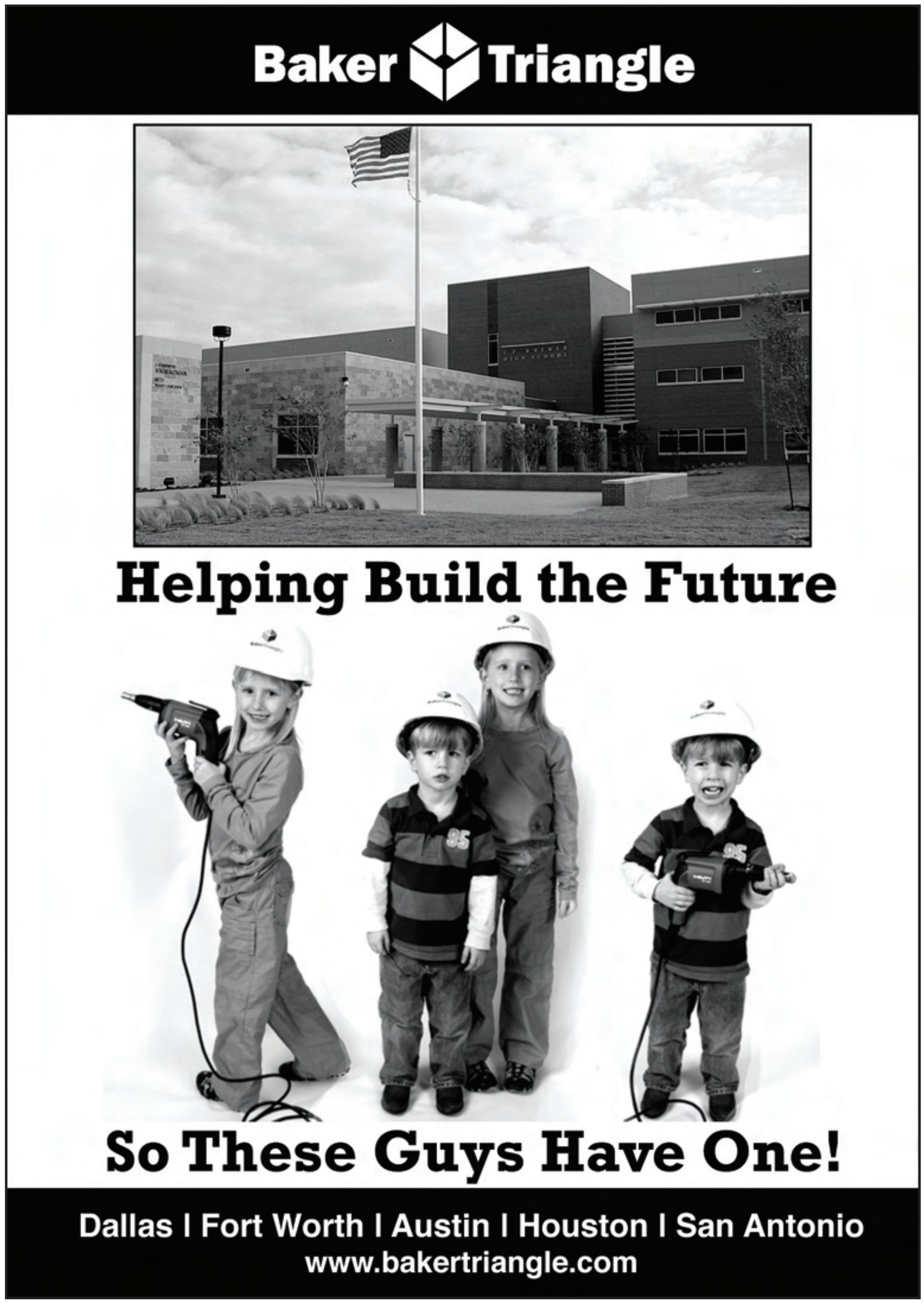
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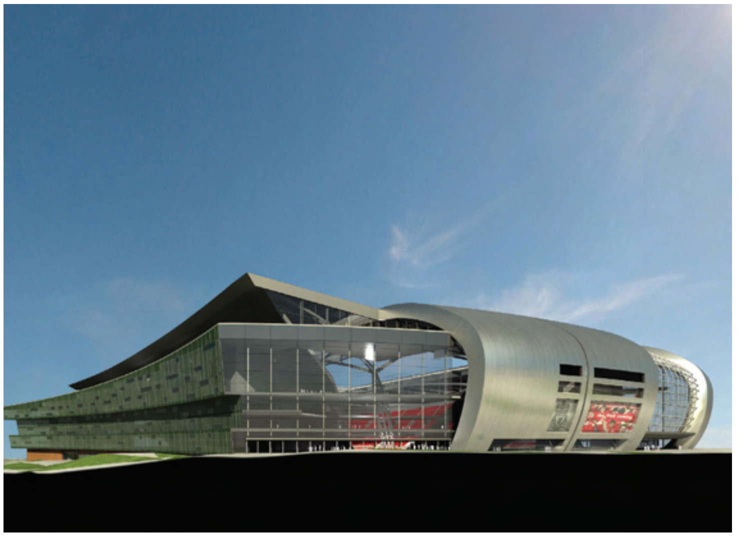
Jubilee Community Center

Planned in conjunction with a community resource center, the Jubilee Community Center is designed by brownarchitects of Dallas in collaboration with the Detroit Collaborative Design Center, a nonprofit that helped organize meetings with nearby residents. As a result, the design of the two-building facility responds to the needs of a blighted neighborhood in eastern Dallas located about a half-mile from Fair Park. The community center will feature a covered basketball court that opens to Jubilee Park (shown in the background at left), with doors leading into a 2,500-square-foot, double-height gathering space. Located on the other side of the park, the resource center will comprise 4,500 square feet of offices for police and other city staff. Both buildings are being designed to achieve LEED certification. Construction is set to begin in April. The design team includes Brent Brown, AIA; Dan Finnell, Assoc. AIA, and Emily Delong, Assoc. AIA. The project is funded by a $6 million gift from legendary oilman T. Boone Pickens.

Anfield Stadium

When the Liverpool Football Club decided to expand its Anfield Stadium in Stanley Park, the British soccer club hired Dallas-based architect HKS to design the 60,000-seat sports arena. The project's principal designer Bryan Trubey, AIA, says the design was determined by the most popularly seated stand in the stadium, referred to as the Kop, that is located directly behind the home goal and seats Liverpool's most dedicated fans. A massive roof, supported by a proscenium arch and slender columns, will be built above the Kop to protect its addition of 20,000 seats. Other key aspects of the design include ecological sustainability and the maximization of social benefit. The stadium will contain a community sports center, university teaching and research accommodation, and facilities such as toilets, changing rooms, and a cafeteria. Visitors also will be able to access a variety of other forms of entertainment such as shops, a museum, the Kop bar, a sky-terrace, and a restaurant, all from the main entrance of the stadium.



Coral Helix

Ana Monacco's concept sketch titled *Coral Helix*, winner of the 2007 American Society of Architectural Illustrators (ASAI) Hugh Ferriss Memorial Prize, presents an interior view of the proposed ocean environment of Harry's Island. The project was conceived by Eighth Wonder, a resort developer headquartered in Las Vegas, and will be developed in Sentosa, Singapore. The project is envisioned to be the world's largest living coral exhibit. Monacco, a designer with Morris Architects, used a combination of digital rendering and hand-drawing techniques to produce the image. At a time when the use of 3D-modeling technology is becoming the standard for project delivery and design, Monacco's distinctive style and use of light and shade creates a realistic sense of depth that effectively communicates the experience of being inside the space. *Coral Helix* was featured in the ASAI's "Architecture in Perspective," an international exhibition at The Art Institute of Pittsburgh. Monacco's award-winning rendering is posted at *www.asai.org/CurrentExhibitions*.

Creole Influence Along the Border

Craftsmen from New Orleans left their mark in Brownsville and Matamoros

By STEPHEN FOX

THE LOWER RÍO GRANDE VALLEY chapter of the American Institute of Architects kicked off its fifteenth annual conference on Sept. 27 with a day-long tour of nineteenth-century architecture in the border cities of Brownsville and Matamoros, Tamaulipas. Called "A Tale of Two Cities," the tour was led by Gregory Free, principal of an Austin design firm specializing in historical restoration. Free received a 2005 James Marston Fitch Foundation Mid-Career Grant to study the architecture of the Gulf of Mexico coast (an investigation he has extended to include the islands of the Caribbean). The twin cities of Matamoros and Brownsville are a focus of his research because, from the 1820s through the 1860s, building professionals were drawn to Matamoros (and to Brownsville after its founding in 1848) from New Orleans.

Casa García Schreck, its patio shown here, in Matamoros was built in the 1860s.

COURTESY WAYNE BELL, FAIA

Free led participants on a walking tour of the *zona centro* of Matamoros, assisted by Adrián Garza Dragustinovis, a local volunteer at the city's Casamata Historical Museum. Standing in front of the Cathedral of Nuestra Señora del Refugio, Free explained how it had originally been built between 1814 and 1833 under the direction of Mateo Passement, a brick mason from New Orleans. After suffering severe damage in the hurricane of 1844, the church was reconstructed in the 1850s by Bártolo Passement, who immigrated to Matamoros from New Orleans in 1832. Free's research has shown that Bártolo, a free man of color, was the nephew of Mateo. Bártolo Passement's father was French, from Haïti; his mother, who was of African descent, was from Cuba. Bártolo Passement was part of the diaspora of Creole artisans who left New Orleans in the 1830s and 1840s as the Louisiana legislature increasingly restricted the freedoms of people of color. These immigrants were welcomed in Matamoros, Tampico, and other Mexican port cities where they encountered none of the prejudice and indignities to which they were subject in the United States. (One of Bártolo Passement's grandsons became mayor of Matamoros in the 1890s.)

The tour group had the opportunity to visit one of a pair of houses built in the 1830s that preserve their simple, graceful wrought iron balconies and their expansive rear patios. Free pointed out a house, now badly effaced, and held up drawings he has prepared to show how it could be restored to its original neoclassical condition. Participants walked through the patio and *zaguán* (what in New Orleans would be called a *porte-cochère*) of the Casa García Schreck, an 1860s-era house that has been handsomely restored.

In Brownsville, the group had the opportunity to visit Galería 409, a pair of narrow, brick commercial buildings constructed about 1853 and restored in 2006 by Betty and Mark Clark, transplants from the Smithsonian Institution in Washington, D.C. Free also led the group through the Stillman House Museum, a center-passage, side-gabled brick house built in 1851 in what is now downtown Brownsville. Free is presently consulting with the museum's owner, the Brownsville Historical Association, on the reinterpretation of the house's interior to better reflect its history. Free described the house as a cultural composite. It has the galerie-and-cabinet plan of a Creole house combined with an Anglo-American center hall and a full-length front veranda. Its brick construction details are redolent of contemporary Matamoros houses.

Free's lively tour put the nineteenth-century architecture of the twin cities in a regional cultural context that is neither exclusively Mexican nor American but a mixture that also includes French and African components. Free expounded on this broader context at one of the sessions of the chapter's "Innovation Through Inspiration" conference. Other presentations included: Port Isabel architect Manuel Hinojosa, AIA, on the architecture of south Texas and northeastern Mexico in a Mexican historical context; San Antonio architect Steven Land Tillotson, AIA, on mapping cultural landscapes; and Eric Ellman on the revival of the binational Los Caminos del Río heritage corridor initiative.

Throughout the three-day conference, AIA LRGV Executive Director Carmen Pérez García and Rolando L. García, AIA, the chapter's conference committee chair, integrated concepts of local architectural culture into its various events. Their successful interweaving of the conference theme gave design professionals, both those from the Lower Río Grande Valley and those from other parts of the state, opportunities to better understand how architecture in their hometowns can encapsulate the wider world.

A TA contributing editor, Stephen Fox is a Fellow of the Anchorage Foundation of Texas.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Innovation Catalyst

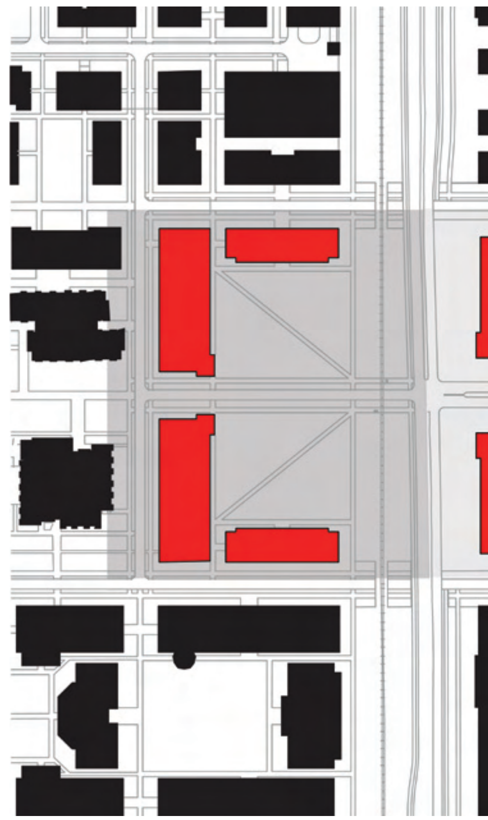
by STEPHEN SHARPE

IN OCTOBER 2000, the Texas Higher Education Coordinating Board adopted a report that outlined steps for the state to foster scientific and engineering research in its public universities, steps that the Texas Legislature deemed critical for strengthening the state's economic base in the coming years. That report, "Closing the Gaps by 2015," identified the need for generating more research funding from federal and private sources, attracting innovative faculty to lead research teams, and expanding collaboration between businesses and universities in the pursuit of breakthroughs in the multi-faceted fields of science and engineering.

As a direct result of "Closing the Gaps," several research facilities opened last year on campuses across the state. Featured on the following pages are recently completed projects representing a new breed of research laboratory. The watchword is "interdisciplinary," which corresponds with today's pedagogic ideal of bringing together disparate branches of knowledge under the same roof and creating opportunities for interaction. The expected result is the spontaneous exchange of ideas that holds great potential for discoveries unforeseen within the narrow scope of a solitary field of study. UT Dallas' Natural Science and Engineering Research Building, shown below and profiled on page 32, exemplifies this new interdisciplinary lab, which in this case is designed as a series of highly flexible spaces supporting research in the areas of physics, biology, chemistry, electrical engineering, and neuroscience, with much of the activity being conducted at the nano-level scale.

A&M's Vanguard

by Lawrence Connolly, AIA

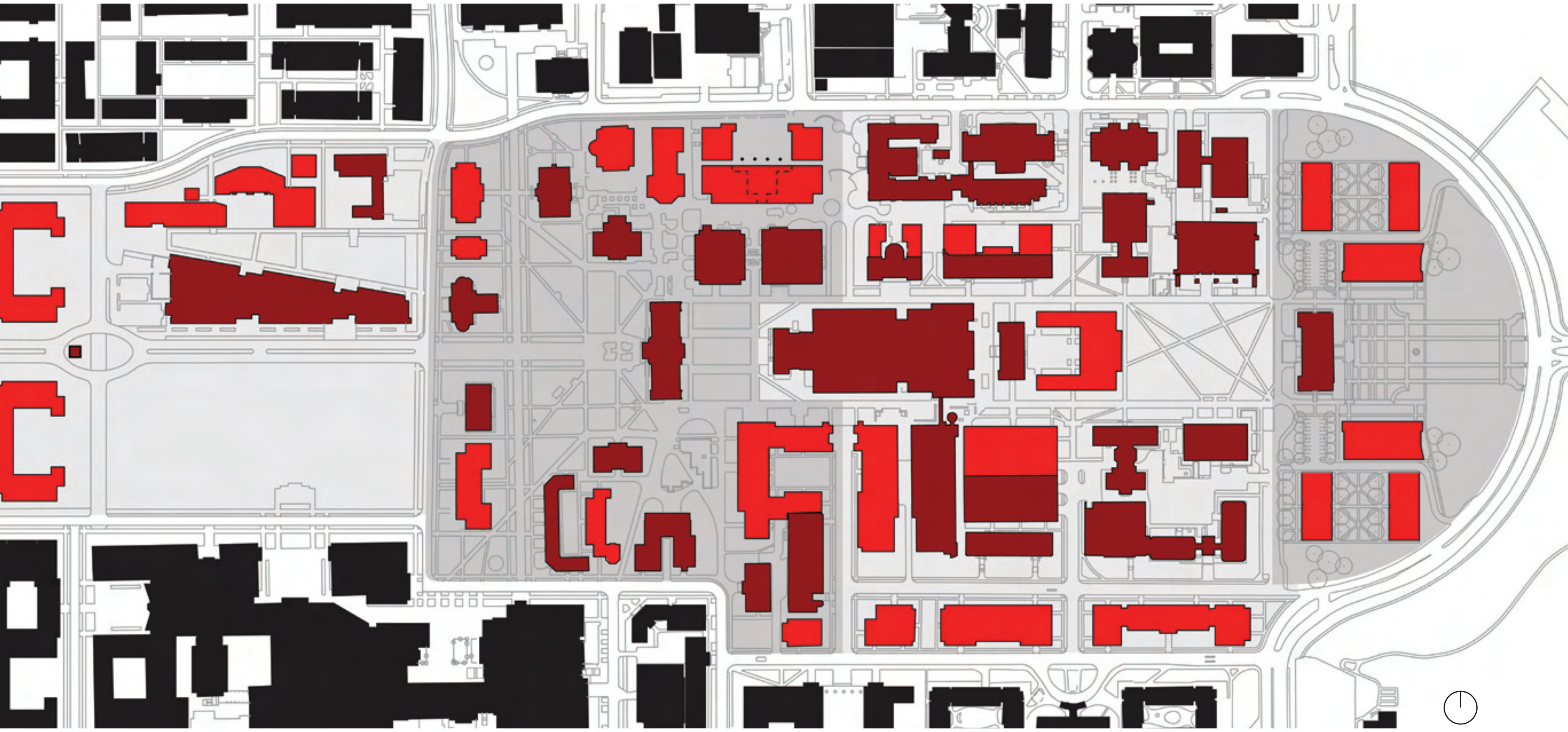


TEXAS A&M UNIVERSITY is in the midst of the largest building program in the school's history. Two dozen projects on the 130-year-old College Station campus – new buildings, enhanced infrastructure, and major renovations, including a $120 million makeover of Memorial Student Center – are scheduled to be completed within the next five years. This extraordinary $800 million effort is the result of former A&M President Dr. Robert Gates' initiative that spawned growth strategies originally outlined in the 2004 campus master plan by Barnes Gromatzky Kosarek Architects in collaboration with Michael Dennis & Associates.

Among the first wave of projects are two $100 million science-related facilities, both designed by Perkins+Will's Houston office—the Interdisciplinary Life Science Building (detail of east end shown above), scheduled to be finished this November, and the Emerging Technologies & Economic Development Building, currently in design with an expected 2011 completion date. The ILSB and the ETED are both located in the campus' historic core (shown in plan above with maroon indicating buildings already existing or under construction and red indicating sites for future improvements; ILSB is the wedge-shaped footprint).

The ISLB's 230,000 square feet qualifies it as the largest building project on campus since A&M's founding in 1876. Gates' ambition for the new facility is to enable faculty to obtain major research funding from federal and private foundation sources, as well as to attract new faculty. The mission of the ILSB will be to integrate multiple academic disciplines in the search for solutions to problems under the general umbrella of complex biological systems.

Applying the campus master plan's directive to increase the density, the ISLB on Old Main Drive borders the hallowed Simpson Drill Field. Rather than making the brand-new, state-



(LEFT) COURTESY PERKINS+WILL; (RIGHT) COURTESY TEXAS A&M UNIVERSITY

of-the-art educational and research facility a prominent campus centerpiece, Perkins+Will's design creates an unobtrusive building that honors its landmark neighbors, the drill field to the south and the historic YMCA building to the east. The ISLB's wedge shape points to the YMCA and its eastern facade is stair-stepped to reflect its older neighbor's scale and street proportions.

Borrowing key neoclassical features from the historic campus buildings, including their consistent low-rise profile, the three-story ISLB uses tiered massing, rabbeted corners, and multiple entry niches to disguise its enormous volume. Exterior stairs connecting the terraces and ground-level covered walkways provide a human scale to make the largest building on campus less daunting and more accessible.

While the ILSB is on the west edge of the historic core and in the middle of campus, its younger sibling, the ETED will be located beyond the current eastern edge of campus and north of the Williams Administration Building. This site represents a departure from its originally planned location flanking both sides of the administration building. According to Charles A. Sippial Sr., A&M's vice president for facilities, the reason for the departure from the plan is because of the latest desire for a less symmetrical campus. As such, the ETED will serve as an east entrance to the campus' engineering enclave.

Although initial conceptual sketches are not available, according to P+W principal Edwin Cordes, AIA, the ETED will retain some of the stylistic features of the ILSB and like its three-year-older sibling is targeted for a LEED Gold certification.

A&M's new science buildings are among the vanguard of this latest generation of higher-education facilities being developed on campuses across the U.S.

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

A Beauty with Brains

by NESTOR INFANZÓN, FAIA

THE NEW NATURAL SCIENCE AND ENGINEERING RESEARCH LABORATORY at the University of Texas at Dallas creates an innovative scientific environment while simultaneously possessing an astonishing architectural presence. The design and construction of the four-story, 192,000-square-foot research facility responds to UT Dallas' strategic plan to establish a top-flight research institution that will serve as a catalyst for interdisciplinary research. University officials expect to fill the facility with high-level faculty and scientists from such disparate fields as electrical engineering, materials science and engineering, chemistry, biology, and behavioral and brain sciences.

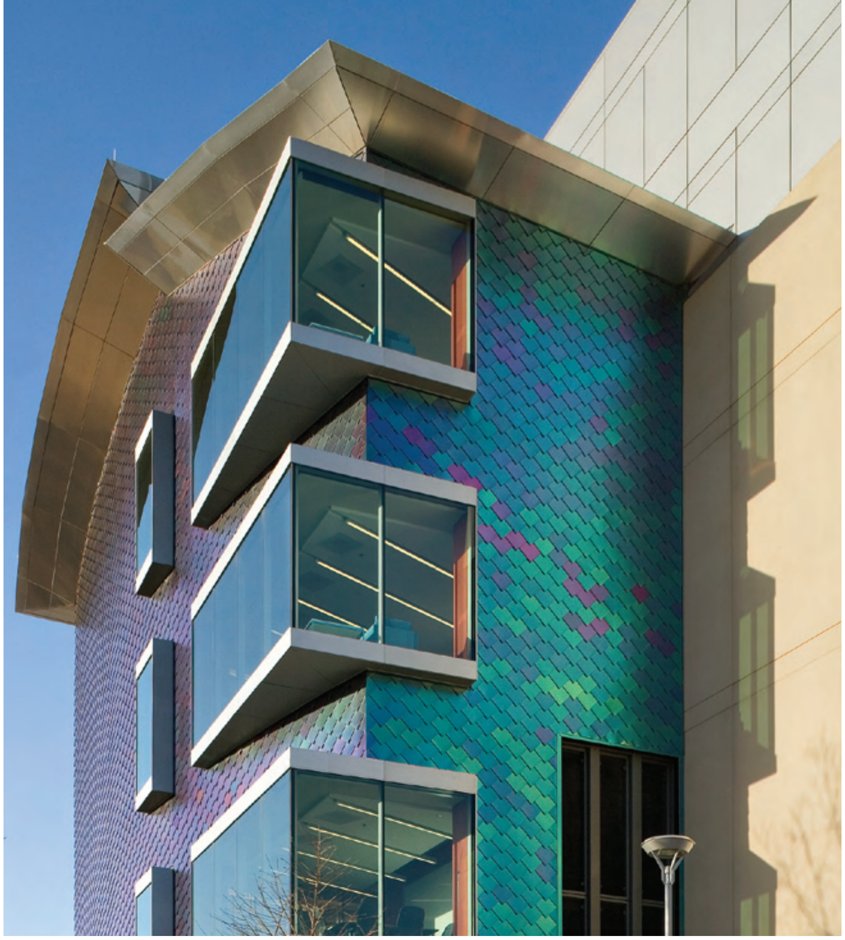
Sited along the northern perimeter of the campus in the Dallas suburb of Richardson, the Natural Science and Engineering Research Laboratory is also seen as the focal point for a new entrance to the campus, which the university plans to expand to accommodate a near doubling of its student population from the current 14,000 to approximately 25,000 in the next 20 years.

Since its inception in 1961 as the Graduate Research Center of the Southwest (an outgrowth of technology giant Texas Instruments), UT Dallas' architectural image has evolved from a mid-century modern style where buildings were conceived as solid and block-like in character. The $85 million NSERL building demonstrates a major aesthetic shift away from such relatively anonymous architecture. The new facility is definitely distinctive, with its articulated, curved, four-story-tall curtain wall and shimmering skin of anodized stainless steel panels. Covering 15 percent of the exterior, the 25,000 iridescent shingles complement the limestone that comprises most of the building envelope. Also noteworthy is the building's carefully crafted window pattern set within solid walls.

On the building's east side, the glass curtain wall allows a substantial amount of daylight to penetrate deep into the laboratories and connect occupants to the outdoors. A framework of glulam wooden structure provides texture and visual warmth to the interiors spaces, with a series of very delicate joints and anchoring brackets adding to the overall creative flair. Even the exterior stair's perforated metal cladding (with an anodized finish similar to the "fish scales") creates a understated transition between the heavily articulated walls of the back facades and the building's prominent corner.

The interior parti is simple, consisting of a series of laboratory spaces arranged linearly and placed directly adjacent to areas configured for each research team to work together as a unified group. According to Dr. Bruce E. Gnade, the university's vice president for research, the research

PROJECT University of Texas at Dallas Natural Science and Engineering Research Laboratory
CLIENT University of Texas at Dallas
ARCHITECT OF RECORD Page Southerland Page, LLP
DESIGN TEAM Mattia Flabiano, AIA; W. Dee Maxey, AIA; Britt C. Feik, AIA; Doss Mabe, FAIA; Stuart Bauer, AIA; Ted Hyman, AIA
CONTRACTOR Balfour Beatty Construction
CONSULTANTS Page Southerland Page (MEP); Zimmer Gunsul Frasca Partnership (design architect); GPR Planners Collaborative (laboratory planner); Datum Gojer Engineers (civil and structural); Camille La Foy (landscape); DataCom Design Group (data, telco & acoustical); Project Cost Resources (cost estimating); Schirmer Engineering (life safety); Engineered Air Balance (test and balance); Siemens Building Technologies (mechanical controls)
PHOTOGRAPHER Robert Canfield



environments were designed to be highly flexible rather than customized for any specific discipline. "We started with the idea of creating a universal lab space where the space fits the work and not the individual," he explains. As a result of such open-ended design criteria, Gnade says, the building "allows us to fit the researcher and his project within multiple multidiscipline teams where each research team can benefit from each other's distinctive research." Glass walls separate the lab spaces from the public spaces, which allows for both light and visual connection between the team work environment and their office spaces. The development of the laboratory configurations eventually led to the idea of an L-shaped facility, explains Dee Maxey, AIA, of architect-of-record Page Southerland Page. When the facility meets its projected capacity, the building can be mirrored to create a U-shaped facility with a courtyard at its center.

The goal of sharing ideas among the building's occupants is reinforced by numerous walls equipped with retractable wood panels that hide marker-boards and public spaces that are open and well lit to encourage casual gatherings. Public areas are accessible to everyone, but laboratories are restricted.

As with any innovative facility, lessons were learned. For instance, Gnade says, "We were trying to come up with a fewest labs configurations to fit a different type of researcher [which] may not have been the most economical way to build a building." And, he adds, "Since the beginning, we were [so] focused on the researchers and their team that we sort of overlooked the general support staff. We assumed they could fit within the same open environments that we created for the researchers, but now we know that they brought their own culture and are seeking an amenity that doesn't exist in this facility—private work offices."

Still, the university succeeded in obtaining a building that will further its quest to build a world-class research institution. Among its highlights is the Nanoelectronics Materials Laboratory located on the fourth floor. Work done in the lab includes research into materials for integrated circuits used in computers, cell phones, and other technologies, as well as research into low-cost organic materials. The lab contains a large vacuum system, built at a cost of more than $3 million, that allows researchers to deposit thin film materials one anatomic layer at a time. Other special equipment in the building includes high-resolution electron microscopes that require low vibration and low electromagnetic fields, and Class 10,000 cleanroom facilities.

(preceding spread, left and right) The exterior's iridescent metal panels also add delight to the stairwell. Curving along the east-side elevation, the architects composed the four-story glass curtain wall with vision glass, fritted vision glass, and fritted translucent glass to mitigate heat gain while bringing light deep into the interior spaces. (this page, left to right) Communal areas include a two-story café on the third floor at the building's south end. Exterior details convey the sense that scientific discovery is actively being pursued inside the new facility.

FIRST FLOOR PLAN
1. SEMINAR
2. INTERACTION
3. OFFICE
4. CONFERENCE
5. LABORATORY
6. LABORATORY SUPPORT
7. CLEAN ROOM
8. LOBBY

THIRD FLOOR PLAN
1. SEMINAR
2. INTERACTION
3. OFFICE
4. CONFERENCE
5. LABORATORY
6. LABORATORY SUPPORT

Construction of the state-of-the-art Natural Science and Engineering Research Laboratory was made possible by a complex economic development agreement code named "Project Emmitt." Under the agreement (announced in June 2003 by Texas Instruments, the State of Texas, and the University of Texas System), TI agreed to build a new chip fabrication plant in Richardson – despite strong inducements from locations in other parts of the world – if the state and local private sector would ensure that UT Dallas received an infusion of up to $300 million to expand and improve its Erik Jonsson School of Engineering and Computer Science.

During dedication ceremonies on June 5, 2007, UT Dallas President Dr. David E. Daniel expressed the high hopes for the university's future. "NSERL promises to transform the UT Dallas community's approach to science and perhaps its level of self-regard as to appearance, too. We didn't set out to build a 'glamour' location, but, like a jewel, the building sparkles," he said. "Its striking design has put NSERL on the map in the state of Texas, and our new building will house the best and brightest researchers the country has to offer. Today is a very special day for our campus."

A Texas Architect contributing editor, Nestor Infanzón, FAIA, practices with HOK in Dallas.

(top left and right) The carefully crafted window pattern further underscores the building's refined design. With an anodized finish similar to the metal panels, the exterior stair's perforated metal cladding creates a understated transition between the heavily articulated walls of the back facades and the building's prominent corner.

RESOURCES **PRECAST ARCHITECTURAL CONCRETE:** Arkansas Precast; **STONE:** Texas Quarries; **ARCHITECTURAL WOODWORK:** Facility Construction Services; **WALL PANELS:** Alucobond; **METAL ROOFING:** Architectural Building Components; **METAL SHINGLES:** Rimex Metals; **GLAZED CURTAINWALL AND STRUCTURAL GLASS:** Trainor Glass; **TERRAZZO:** American Terrazzo; **METAL CEILINGS:** Lasco

Good Neighbor

by MARYALICE TORRES-MACDONALD

LOCATED WITHIN THE SCIENCE COMPLEX OF THE TEXAS TECH UNIVERSITY CAMPUS, the new Experimental Sciences Building has become home to a state-of-the-art research facility designed by CO Architects of Los Angeles to reflect the continuity of the university's design guidelines while displaying subtle moments of contemporary expression.

Completed in 2005 at a construction cost of $28.5 million, the building comprises 50,851 square feet of laboratory space on three floors (with support systems in the basement and a mechanical penthouse level) providing central, shared facilities along with faculty research laboratories and offices. The building serves a multidisciplinary research approach by bringing together teams of faculty researchers and their students. Dean Smith, PhD, Texas Tech's vice president for research, notes, "Our goal is to foster a more in-depth creative process. The open-bay laboratory spaces create the opportunity for researchers to interact. In many ways the building, in and of itself, is an experiment—to determine the creative outcomes resulting from the design's emphasis on the interaction of researchers."

The idea of experimentation is also evident as the design team has taken on the challenge of creating a building of individual significance within the criteria defined by the university's comprehensive design guidelines. Established in 1997 in consultation with HOK, the guidelines create "a framework for influencing new construction, upgrading existing facilities, and enhancing the open spaces," and are seen by the university as a tool for design teams to be used in conjunction with the campus master plan. As with most campus design guidelines, the ultimate goal is to establish a high quality of architectural and site design that expresses an established vocabulary reflective of the university's architectural character (in this case, Spanish Renaissance). The initial phase of establishing these guidelines required a careful inventory and analysis of the existing campus architecture. Through this process separate districts were defined and respective guidelines were developed for each. As this building is located within the campus' historic district, the requirements include the specified use of hipped roofs with the "Ludowici" straight-barrel, Mission-style clay-tile, arcades, limestone entry, and the primary use of "Texas Tech" face brick, along with the massing requirements of a "base," a"building," and a "top."

While a palette of materials helps establish a consistent character throughout the campus, the designers of the Experimental Sciences Building took the opportunity to expand the vocabulary

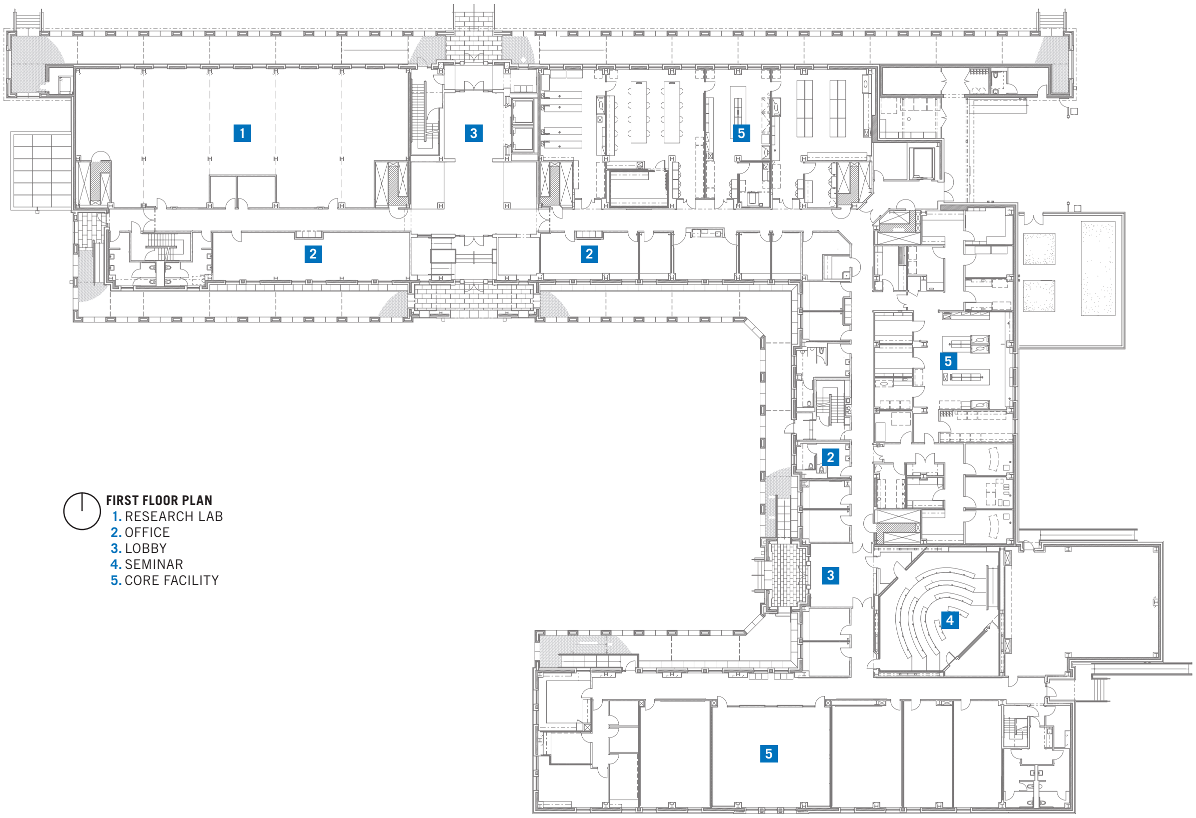
PROJECT Texas Tech University Experimental Sciences Building
CLIENT Texas Tech University
ARCHITECT CO Architects
DESIGN TEAM Scott Kelsey, AIA; Jorge de la Cal, AIA; Anthony Moretti, AIA; Jay Hughey, AIA; Michael Gould, AIA; David Lin
CONTRACTOR Lee Lewis Construction
CONSULTANTS Adling Associates Architects (associate architect); Research Facilities Design (laboratory planner); John A. Martin & Associates (structural); Fanning, Fanning & Associates (MEP); Parkhill Smith and Cooper (civil); The Office of James Burnett (landscape); Vantage Technology Consulting Group (communications/technology)
PHOTOGRAPHER Robert Canfield Photography

with sheet copper as an exterior cladding and soffit on the third floor. The rolled format copper was stamped and formed locally, as opposed to the typical use of prefabricated copper sheets. But the building's greater expression of individual character is reflected through the organization and design of the interior building functions.

The building is entered through one of two main entrances, located on either the north or south elevations, each faced with cut stone as required by the design guidelines, but designed with simple, hard edges expressing a more modern form. The first floor houses the core facilities of imaging, bio-informatics, high-performance computing, and genomics, as well as faculty offices and a seminar room. On the second and third floors, two large, open laboratories are designed to house as many as five separate research groups, yet each can accommodate a range of needs based on collaborative efforts for both standard and non-standard laboratory uses. These two floors also include faculty offices, meeting spaces and break rooms. Laboratories include periphery built-in desks for students, postdoctoral research associates, and technical personnel, along with smaller support rooms suitable for specific research needs. The fourth-floor penthouse contains the extensive mechanical systems necessary to provide 100-percent fresh air with supplemental mechanical services located in the basement. In addition, the basement provides laboratory space for plant growth and animal containment research with future shell space developed for high-level laboratory research needs. The animal research facility – designated as Biosafety Level 3 for work with infectious agents that may cause serious or potentially lethal diseases – is equipped with automated environmental and lighting systems, while advanced safety and security systems are integrated throughout the building. The laboratory wings are located along the perimeter of the building's L-shaped plan, with faculty offices, break rooms, and toilet facilities organized along the interior courtyard space. Approximately one-third of the building is constructed as a shell; future finish-out will be determined by research progress and needs.

The building expresses itself as an interdisciplinary facility that nurtures research synergy through collaboration. Both inside and outside the building, the designers created open environments to encourage casual interaction among its occupants. For example, the first-floor lobby encompasses two opposing wings with seating areas while corridors feature recessed bench seating to encourage impromptu discussions while keeping passageways clear. The third floor provides a

(preceding spread, left and right) To encourage impromptu collaboration the architects integrated an open study area, with computer data ports and recessed task lighting, within the second-floor lobby. While campus design guidelines mandate a Spanish Renaissance style, the designers introduced a modernist entry at the south-side courtyard that references the building's historical elements. (this spread, left to right) Balconies also nurture interdisciplinary collaboration. *Square Spiral Arch* by sculptor Jesús Morales acts as a gateway into the science complex. Arcades connect interior spaces with the outdoor Discovery Mall.



FIRST FLOOR PLAN
1. RESEARCH LAB
2. OFFICE
3. LOBBY
4. SEMINAR
5. CORE FACILITY

THIRD FLOOR PLAN
1. RESEARCH LAB
2. OFFICE
3. LOBBY
4. SEMINAR
5. LAB SUPPORT

large, open lobby space flanked by an open study area with computer data ports and recessed task lighting. Also, balconies are integrated throughout the building design and serve as a connection to the campus context.

For the university, it was critical that this building relate to the other buildings within the science complex as a means for reinforcing the pedestrian circulation and axial corridors established through the campus master plan. The southwest side of the grounds, known as Discovery Mall, reinforces this idea with the recent installation of *Square Spiral Arch* by noted artist Jesús Morales. This three-foot-thick sculpture of red granite, standing 24 feet high and 27 feet wide, serves as a gateway through the science complex. The adjacent courtyard integrates concentric circles reflective of Lubbock's agricultural character, and arcades establish a connection between interior and exterior spaces, while also providing protection from the intense West Texas sun.

CO Architects never intended the building to be seen as a singular work of architecture. Instead, the design process required that it be a "good neighbor" to its surrounding context. Scale and massing were critical. The challenge was to mass the building in a way that felt natural, while responding to its functional criteria. The requirement to design according to a specified architectural vocabulary brought about several additional challenges to the design team. For example, the clay tile roofs established defined sectional area limits which would affect the width of the laboratory spaces, yet the team was able to organize the spaces to maximize flexibility within the work environment through open laboratories. Locating the mass of mechanical systems into the fourth-floor penthouse level allowed for a reduction in the overall scale of the building and helped to define the requirement for a "base," a "building," and a "top." When addressing the issue of the required arcades, the design team emphasized the need for these elements to remain structural as an expression of their commitment to remain true to the historical character of the arcade.

As a testament to creative compromise and innovation, the building strikes a balance as it responds to the campus' architectural character, while also expressing an individual contemporary response to its interior functional needs. After all, being a good neighbor is essential.

MaryAlice Torres-MacDonald is an associate professor at Texas Tech University's College of Architecture.

The north facade of the Experimental Sciences Building relates to the other buildings within the science complex by reinforcing the pedestrian circulation and axial corridors established through the campus master plan.

RESOURCES **UNIT PAVERS:** Kansas Brick & Tile; **PRECAST ARCHITECTURAL CONCRETE:** Advanced Cast Stone; **CMU MASONRY:** Acme; **STONE PAVING:** Indiana Limestone; **LIMESTONE:** TexaStone Quarries; **ROOF TILES:** Gladding McBean; **ROOF AND WALL PANELS:** Johns Manville; **METAL ROOFING:** Snap Clad Panels; **FIBERGLASS DOORS AND FRAMES:** Chem Pruf; **ENTRANCES AND STOREFRONTS:** EFCO Corp.

Quiet Standout

by J. BRANTLEY HIGHTOWER, ASSOC. AIA

THE STUDY OF CAMPUS ARCHITECTURE IN TEXAS is truly a lesson in cultural diversity. Just by sampling schools in the University of Texas System, one would observe everything from a Beaux-Arts rendering of Spanish Mediterranean motifs on the Austin campus to a playful reinterpretation of Bhutanese monasteries in El Paso.

While the architectural style of the University of Texas at Arlington may not be as distinct as that of its sister campuses, UTA poses similar challenges to architects attempting to insert new facilities into a defined existing fabric. When choosing an architect for its new 124,000-square-foot chemistry and physics lab building, UTA officials recognized the need to employ an architectural team with experience in lab design, but more significantly they also understood that the new building must engage the campus in a meaningful way. To achieve these separate goals, the university's leadership chose to work with a larger firm offering a diverse portfolio of resources.

Perkins+Will's multi-office corporate structure allows it to take advantage of the expertise of personnel located throughout the country. For the lab building at UTA, personnel from its Atlanta office were brought in to head up the programming and planning of the laboratories. The Chicago office coordinated the overall design while the Dallas office—located closest to the construction site—handled overall project management, including the production of the construction documents and construction administration. While this way of dividing up work among multiple offices is complex, Perkins+Will has developed an effective system for successful interoffice collaborations, as evinced with this very complicated facility.

Prior to Perkins+Will's involvement, the UTA project's program had already been determined. However, because of the rapidly evolving nature of lab design the client asked Perkins+Will to revisit the process. One result of this reprogramming was the decision to more thoroughly integrate the chemistry and physics departments. Whereas preliminary diagrams located the two departments on opposite sides of an enclosed atrium, the two programs were ultimately mixed together. Informal meeting areas also were distributed throughout the facility to encourage cross-departmental exchanges of ideas.

Another idea that was embraced during reprogramming was the integration of a planetarium into the building's design. While somewhat hidden in a nondescript science building on campus, UTA's existing planetarium had historically enticed students outside of the department to take

PROJECT UT Arlington Chemistry & Physics Building
CLIENT The University of Texas System
ARCHITECT Perkins+Will
DESIGN TEAM Richard Miller, AIA; Jerry Johnson, AIA; Gary McNay, AIA; Geoffrey Brooksher, AIA; Sean K. Garman; Carol Cumbie
CONTRACTOR Manhattan Construction
CONSULTANTS CCRD Partners (mechanical, plumbing); Infrastructure Associates (electrical); Walter P Moore and Campbell Associates (structural); Pacheco Koch Consulting Engineers (civil); Atelier Design Associates (accessibility); Wrightson, Johnson, Haddon & Williams (acoustical and vibration); Atkins, Hanscomb, Faithful & Gould, Busby & Associates (cost estimating); Shen Milsom & Wilke (information technology); Linda Tycher & Associates (landscape); Evans & Sutherland (planetarium); Rowan Williams Davies & Irwin (wind/ventilation); Vita-Tech Engineering (electromagnetic frequency interference)
PHOTOGRAPHER James Steinkamp

physics classes. It also served as an effective community outreach tool by bringing in grade-school students (as well as adults) onto campus for various presentations and programs. UTA officials saw the more prominent location of the new Chemistry & Physics Building as an opportunity to provide more a highly visible venue for such programs.

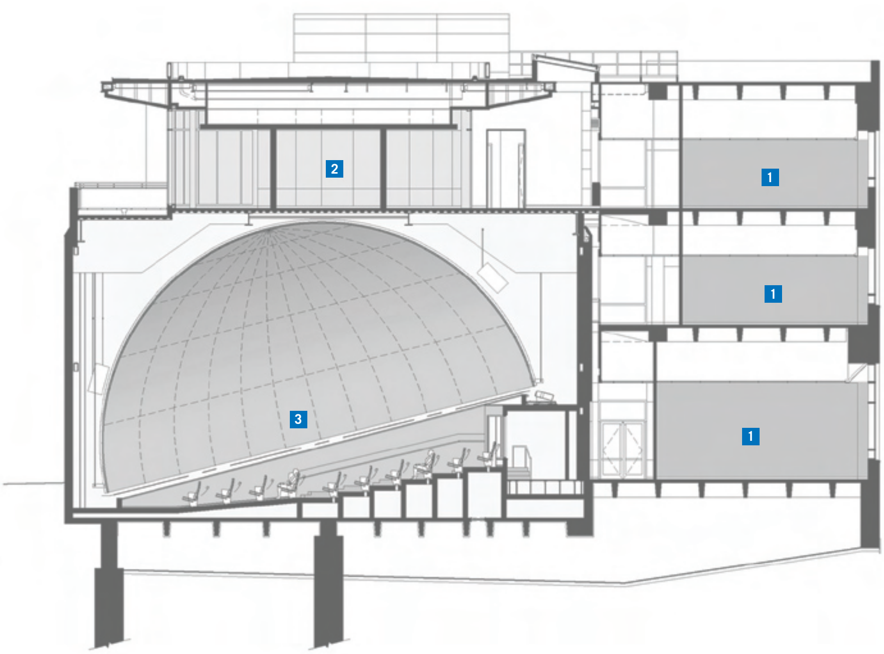
The massing of the project was in many ways fixed by the constraints of the site. Because of the site's location between UTA's main library and student union, the new building had the potential to act as a barrier to pedestrians traveling between those two facilities. With this in mind, the designers saw a unique opportunity to put "science on display." By re-imagining the enclosed atrium of the building as a public pass-through space, they ensured cross-campus traffic would not be interrupted.In addition, by filling the space with both digital and physical displays and by prominently locating the planetarium within the atrium, the department could essentially "advertise" the study of science to thousands of students each day.

The basic diagram of the building can be understood as a glass atrium to the west with three lab modules arrayed to the east. Set within the atrium is a limestone cylinder that houses the 165-seat planetarium at its base and a conference room on its upper level. Expressing the planetarium's idiosyncratic geometry resulted in two positive effects with impact that extends beyond the new building—first by providing a conspicuous form to what otherwise might have been an anonymous building, and second by aligning the cylinder with an existing roadway to create a formal axis that helps weave the project into the larger fabric of the campus.

While the aesthetic consistency of the campus is admirable – due largely to the ubiquitous "UTA blend" orange brick that creates a coherent background texture – the overall sense of place is not particularly memorable and rarely is an iconic element introduced to establish a sense of hierarchy. As a result, the most compelling aspect of the Chemistry & Physics Building's design may be the manner in which the planetarium program is rendered to create a campus landmark.

Of course, the danger in introducing a standout building to a campus lacking such icons is creating a form that draws too much attention to itself. A building making "too much noise" is always more disruptive than one not making enough. The design team resolved this dilemma by creating a relatively quiet building that frames an iconic element whose formal qualities are explained both by the program contained within as well as its placement on campus.

(preceding spread, left and right) Set above the planetarium's cylindrical volume, a glass-walled conference room offers views inside and outside the building. The curved form introduces an iconic element to a campus lacking conspicuous landmarks. The university closed a connecting street that previously ran parallel to the building's southern façade, creating a pedestrian plaza in front of the building. (this spread, left and right) The balcony outside the third-floor conference room attracts visitors from all over campus. The conference room presents a comfortable aerie for meetings.



FIRST FLOOR PLAN
1. TEACHING LAB
2. COMPUTER LAB
3. LAB SUPPORT
4. PLANETARIUM
5. MEETING ROOM
6. COLLABORATION/SUPPORT
7. FACULTY OFFICES
8. SERVICE AREA

BUILDING SECTION
1. TEACHING LABS
2. MEETING ROOM
3. PLANETARUIM

The building's facade incorporates the standard UTA brick while at the same time subtly weaving into the composition an expanded palette of materials, including limestone, granite, and metal panels. Also, the designers have introduced glazed curtainwall to a campus that previously consisted mainly of masonry walls with relatively small punched openings.

One of the larger curtainwall expanses defines the three-story glass atrium that frames the planetarium. Internally, the planetarium is more like an immersive projection environment than merely a space to look at projected stars. Consisting of six digital projectors, the system is capable of full-dome video playback as well as more traditional planetarium presentations. In addition, the space is furnished with adjustable chairs that allow the space to be used as a standard—albeit more dramatic—lecture hall.

Generous internal glazing along a wide corridor leading off the atrium allows visitors to observe activities within the freshman teaching labs on the ground floor. Upper-level teaching and research labs occupy the second floor, with the third floor reserved for offices and research facilities for graduate students and professors. An outdoor public terrace occupies the roof of the planetarium and serves as a gathering space for members of the entire UTA community. While research labs comprise more than half of the building's area—which requires requisite security precautions—considerable effort went into providing amenities for the larger campus public.

Perkins+Will's new Chemistry & Physics Building raises the bar of design sophistication on the UTA campus. In addition to the design of the specific building itself, the thoughtful manner in which it is integrated into the campus to create an architecture that acts as both a landmark and as a natural extension of the context provides an example that future projects throughout the diverse UT system should follow.

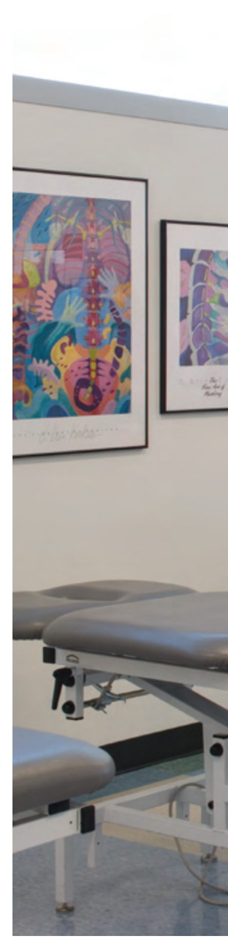
J. Brantley Hightower, Assoc. AIA, works with Lake/Flato Architects in San Antonio.

(left and right) The planetarium's six digital projectors combine to produce full-dome imagery. The building's north entry exhibits the standard UTA brand brick along with other materials less common on campus, including metal panels.

RESOURCES **UNIT PAVERS**: Pavestone; **CONCRETE MATERIALS**: TXI; **BRICK**: Acme ; **CMU MASONRY**: Featherlite; **LIMESTONE**: Indiana Limestone Co.; **GRANITE**: Cold Spring Granite; **ENTRANCES AND STOREFRONTS, UNIT SKYLIGHTS, GLAZED CURTAIN WALL**: YKK International; **GLASS**: Oldcastle; **DECORATIVE GLAZING**: Joel Berman Glass Studio; **PRECAST TERRAZZO**: Mapei; **EPOXY RESIN TERRAZZO**: American Terrazzo; **ACOUSTIC WOOD PANELS**: Armstrong; **INTERIOR STONE**: Indiana Limestone Co.; **VCT**: Azrock; **DEMOUNTABLE PARTITIONS**: Modernfold; **EXTERIOR SUN CONTROL DEVICES**: Haley-Greer; **MEMBRANE ROOFING**: Johns Manville; **COMPOSITE METAL PANELS**: Alpoic

Careful Intervention

by TOM DIEHL



ARCHITECTS AT KIRKSEY FACED TWO MAJOR CHALLENGES with the design of a nearly quarter million-square-foot building for Texas Woman's University at the Texas Medical Center in Houston. First, the site comprised two 65-foot-wide perpendicular slivers of land at a prominent intersection in the burgeoning medical complex. Second, feasibility studies (conducted in a compressed timeframe) intended intended to confirm the validity of a land exchange ultimately represented a normative site analysis—one generating the organizational armature for subsequent decisions.

With roots tracing back to 1901 in Denton and 1963 at the Medical Center, Texas Woman's University is not a newcomer to the area. Having spent 45 years at its previous location, facility upgrades were necessary to match the technological and professional standards of the twenty-first century. TWU Chancellor Ann Stuart envisioned a facility current with the multi-disciplinary approach used in today's health care, energized for today's student expectations and presenting a professional demeanor attractive to alumni and donor organizations.

In addition, the chancellor required that the campus facilitate the interweaving of two related, yet distinct programs. Given new pedagogical directions and the costs associated with the construction of medical facilities, it was imperative that the College of Nursing and the College of Health Sciences share laboratories, computer rooms, and training stations. Beyond the useful economizing of expensive lab space, a second aim was to allow students and faculty of the two colleges, physically separated from each other in the previous facility, to benefit academically and socially from the interaction such closer proximities would engender.

There was, however, a pre-existing condition requiring remediation prior to resolving the chancellor's design criteria. One of the largest institutions in the Medical Center, Methodist Hospital, required land adjacent to their existing facilities in order to expand. A prime candidate for this expansion was the property upon which Texas Woman's University building was located. Through a series of complex negotiations, a win-win solution emerged—a land swap that allowed Texas Woman's University to locate elsewhere in the Medical Center and Methodist Hospital to consolidate its operations.

This exchange was fortuitous on a number of levels. The newly acquired land was not just any parcel in the Medical Center, but was at the corner of Holcombe and Fannin, a symbolic entry point for those approaching the Medical Center from the south. While providing Texas Woman's University with greater visual presence in the Medical Center, the land deal required TWU to share the site with

PROJECT Texas Woman's University Institute of Health Sciences

CLIENT Texas Woman's University

ARCHITECT Kirksey

DESIGN TEAM Wes Good, AIA; Peter Dreghorn; Jason Tramonte; Juliè Gauthier, IIDA; Nicola Springer, AIA; No Do; Xavier Martinez

CONTRACTOR Vaughn Construction

CONSULTANTS Bennett Design Group (interiors); E&C Engineers (MEP); Facility Programming & Consulting(facility programming); Haynes Whaley & Associates (structural); Othon (civil); Clark Condon Associates (landscape); DataCom Design Group (technology); Broaddus and Associates (programming)

PHOTOGRAPHER Aker/Zvonkovic Photography

a new parking garage to be used jointly by the university and Methodist Hospital. That stipulation resulted in Kirksey being asked to study the feasibility of the site.

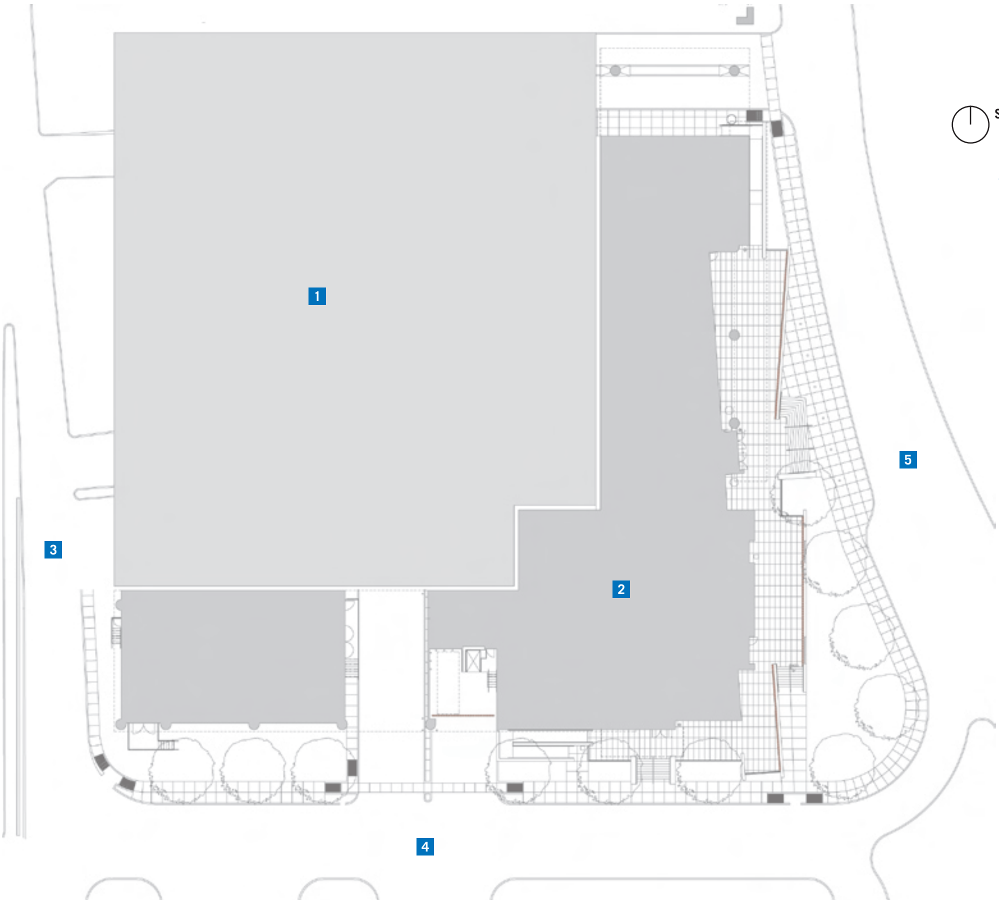
"We were asked to create a series of feasibility studies exploring the amount of land required for Texas Woman's University, permitting the remaining land to be reserved for a parking garage" said Wes Good, AIA, Kirksey's managing principal. This proved to be fortuitous for the creation of the campus, according to project designer Jason Tramonte: "Through those studies an organizational strategy emerged which responded to a number of the chancellor's requests."

The feasibility studies revealed that the building could be organized as two linear arms, one on the east side of the site facing Fannin and the other on the south side of the site facing Holcombe. This organization not only concealed the parking garage (designed by Morris Architects and built concurrently), it oriented the building to the prime edges of the site, answering programmatic questions of how to house two departments, while stimulating opportunities for interactivity.

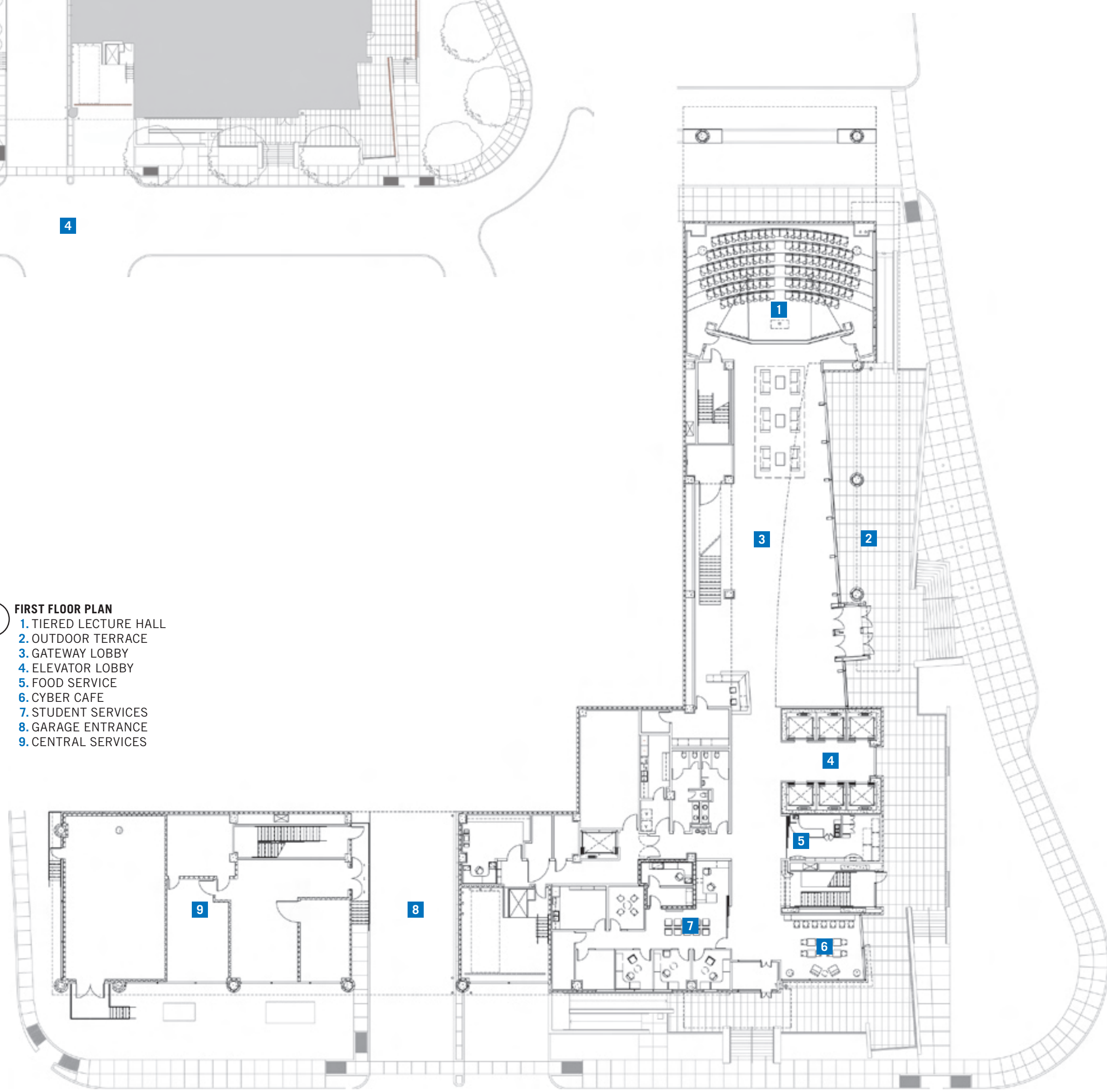
The emphasis of this emergent concept was on maximizing the corner, establishing it as the primary organizational and architectural focus for the unification of the campus. Organizationally, the strategy was to create a vertical campus "quad" comprised of communal spaces. The Quad, in turn, anchored the two wings perpendicular to the core's central location. The wings (consisting of labs, classrooms, faculty offices, and lecture halls) formed the academic backbone of the campus. Linking them, and envisioned simultaneously as campus green, common study areas, and social gathering spaces, the Quad became the heart of the campus. Consisting of a cyber café on the first floor, seminar rooms, double-height "hang out" spaces, and an open vertical circulation system, the Quad represented a social and educational condenser by day and an illuminated lantern by night.

The academically defined wings are organized to provide common facilities shared by the colleges of the university. To establish independent identities within otherwise similar conditions the circulation in the wings was envisioned as "interior" and "exterior." With more constricted views to the east along Fannin, programmatic elements were arranged along an interior passage. In the more open, south-facing wing, the corridor is along a shaded, continuous window wall with the labs abutting the parking garage and classrooms located along the north side. Light flowing in on all levels visually activates the circulation space of this south-facing wing, providing an illuminated extension of the Quad.

(preceding spread, left and right) The design of the Gateway Lobby illustrates the university leadership's preference for an energized professional environment. A stacked series of public spaces comprise a vertical campus "quad" that connects the two wings of the L-shaped building. (this page, from far left) Thin horizontal louvers shield interior spaces from the eastern and southern sun. Even the lab spaces benefit from natural light. Combining the programs for TWU's College of Nursing and College of Health Sciences allows students and faculty of the two colleges to interact academically and socially.



SITE PLAN
1. GARAGE
2. BUILDING
3. MAIN STREET
4. OLD MAIN STREET
5. FANNIN STREET



FIRST FLOOR PLAN
1. TIERED LECTURE HALL
2. OUTDOOR TERRACE
3. GATEWAY LOBBY
4. ELEVATOR LOBBY
5. FOOD SERVICE
6. CYBER CAFE
7. STUDENT SERVICES
8. GARAGE ENTRANCE
9. CENTRAL SERVICES

Approaching the Medical Center from the south, the Quad identifies the building through visually representing the programmatic importance of the communal areas. The decidedly quieter facades of the wings are masked by smaller adjacent structures and acute sightlines until one's view is filled with the presence of the Quad. Architecturally, this was enhanced through the use of a more delicate language. The Quad was expressed by Kirksey through the creation of a subtle depth achieved through layering solids and voids and by expressing planar and linear elements. Ends of internal wall planes are allowed to express themselves as thin lines running from the street level to their end near the top of the building. A glass corner at the double-height student lounges is shielded from the eastern and southern sun through the use of similarly thin, tightly stacked horizontal louvers. The resulting composition of vertical and horizontal lines coupled with the transparent glass corner not only gives Texas Woman's University an architectural signature, it delineates the entry to the Medical Center by establishing an architectural counterpoint to the standard massing typifying so much of the Medical Center.

The use of this architectural language on the exterior corner of the building is carried into the interior in the main entry and gathering area, the Gateway Lobby. Juliè Gauthier, IIDA, of Kirksey's interior design department, in advancing Chancellor Stuart's preferences for an energized professional environment, linked the design of the interior public spaces to concepts defining the expressive role of the Quad on the building's exterior. Variegated finishes on the stone tile floor, randomly composed hanging light fixtures in a double-height space, and a vibrant color palette (uncommon in the realm of medical facilities) all combine to maintain an architectural expression enlivened by similar concepts favoring judicious contrast over simple continuities.

The typical architecture of the Medical Center does not convey a sense of the miraculous events occurring each day within its various component buildings, where lives are transformed and thousands are given new hope. Indeed, interventions at the human level have proven more successful than those on an architectural scale. Yet, in the design of the new facility for Texas Woman's University, the designers at Kirksey have demonstrated how to elevate the care for the Medical Center to ensure its architectural well-being.

Tom Diehl is an architect and associate professor in the University of Houston's Gerald D. Hines College of Architecture.

(left and right) Sophisticated finishes and randomly composed hanging light fixtures enliven the double-height space of the Gateway Lobby at the building's main entry.

RESOURCES PRECAST ARCHITECTURAL CONCRETE: Hakco Precast; LIMESTONE AND GRANITE: Cangelosi; RAILINGS AND HANDRAILS: Forms and Surfaces; MEMBRANE ROOFING: Johns Manville; METAL ROOFING: Berridge; SPECIALTY DOORS: Won Door; ENTRANCES AND STOREFRONTS: United States Aluminum; GLASS: Viracon; DECORATIVE GLAZING: Craftsman Fabricated Glass; GLAZED CURTAINWALL: United States Aluminum; FLUID APPLIED FLOORING: Crossfield Products (Dex-O-Tex); ACOUSTICAL WALL TREATMENTS: Whisper Walls; EXTERIOR SUN CONTROL DEVICES: C/S Sun Controls

Bicultural Expression

by JAIME CONDIT, AIA

WHAT'S IN A PHRASE? You might ask yourself that question as you stand in front of the main elevator in the newest addition to the Education Complex on the main campus of the University of Texas Pan-American with its myriad of sayings (or *dichos*) etched into the surrounding clear glass walls. Waiting to step into this mechanical contraption that will not only take you to your destination, but beyond that, will take you on a journey through the delicate intricacies of language and culture—the culture of the Lower Rio Grande Valley, most certainly, but inwardly, the culture of the University of Texas Pan-American, and the culture of UT Pan-Am's student body with all its complex yet defining ethnic characteristics.

Welcome to the latest expression of biculturalism and bilinguilism from the minds of Kell Muñoz Architects. Centrally located on the UT Pan-Am campus in Edinburg, the newly constructed addition consists of two new facilities (Buildings C & D) located immediately to the east and adjacent to the existing and newly refurbished Buildings A & B. The $22 million (total project cost), 82,000-sq.ft. addition includes much needed classrooms, research areas, labs, and faculty offices. For a university that trains more bilingual teachers than any other institution in the U.S., the facility is a godsend; for the architects at Kell Muñoz, it was an opportunity to expand on their philosophies regarding culture and language, specifically the interaction between Mexican and Anglo traditions, customs, and social mores. These interactions form the core behind the idea of "code switching"—the sharing of cultural characteristics that often result when two societies interact; in this case, the coalescence of Spanish and English.

As UT Pan-Am's architect and owner's representative for this project, I was involved, along with the university's design committee, in a wide variety of stimulating conceptual discussions with Kell Muñoz' design team, each time internalizing more and more of the conceptual thinking that would ultimately shape this structure. It was during these conversations and through the general review of the design process that we began to understand and ultimately embrace the concepts of biculturalism, bilinguilism, and "code switching." Along with these defining ideals, very real issues such as internal lighting, pedestrian traffic patterns, and existing infrastructure played important roles in helping to establish the building footprint.

Building at UT Pan-Am poses a particular challenge to all designers because the university requires all buildings to use a standard brick color ("UT Pan-Am blend"), as well as one of only two

PROJECT University of Texas Pan American College of Education

CLIENT University of Texas System

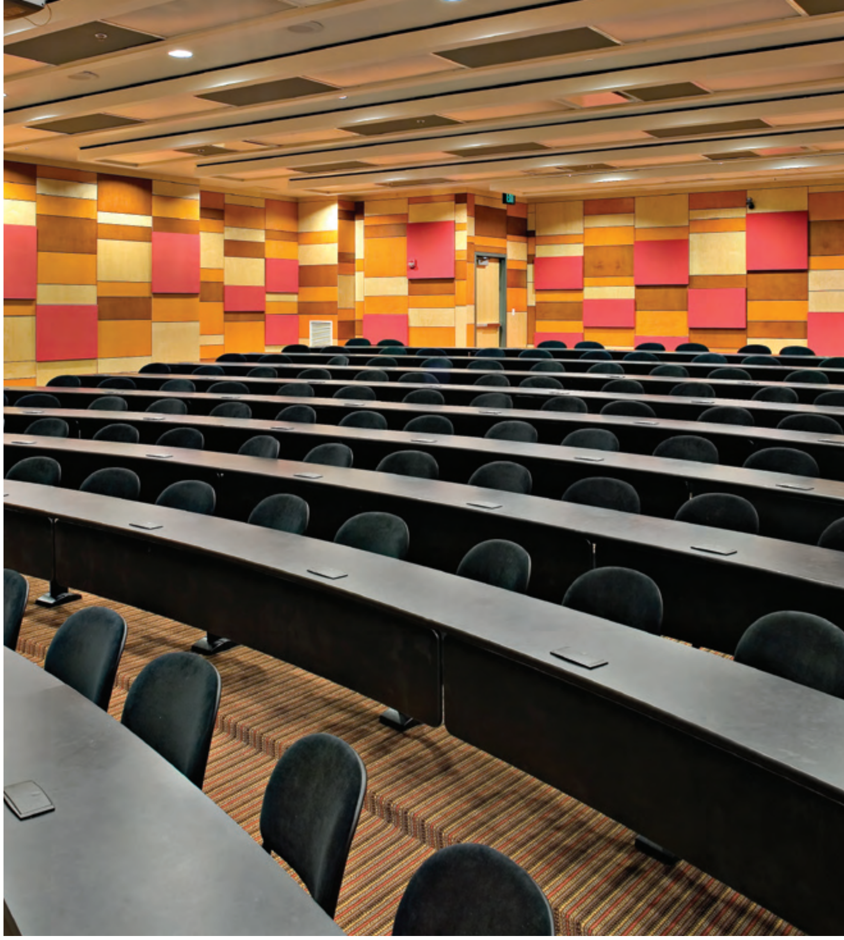
ARCHITECT Kell Muñoz Architects

DESIGN TEAM John H. Kell, FAIA; Henry R. Munoz III; James G. Sterner, AIA; Steven Land Tillotson, AIA; Claudia Carlos; Michael Cowan, AIA

CONTRACTOR Skanska USA Building

CONSULTANTS HMG & Associates (MEP); Lundy & Franke Engineering (structural); Perez Consulting Engineers (civil); Datacom Design Group (IT); BAI (AV); Halff Associates (landscape); Busby & Associates (cost estimating)

PHOTOGRAPHER Chris Cooper Photography



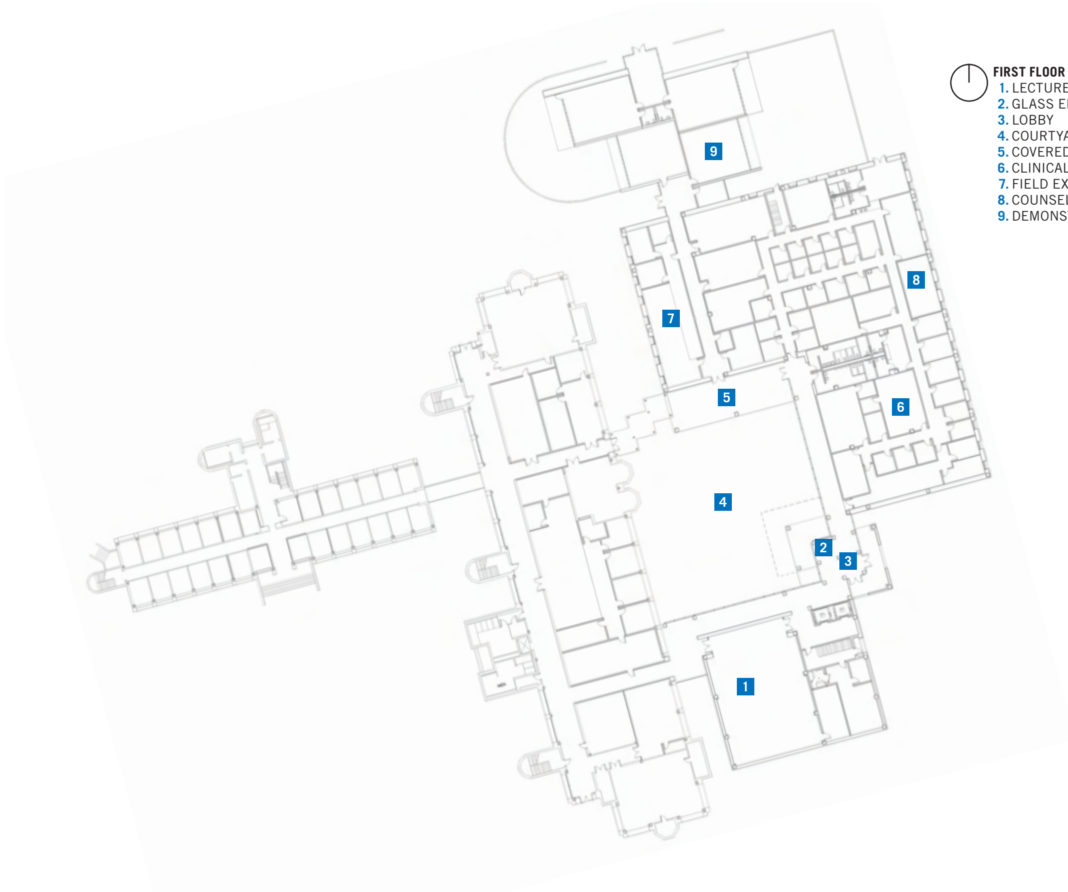
acceptable mortar colors. In addition, our campus development has been influenced by the design philosophies of architect Louis I. Kahn, and as such requires that all new facilities respect the existing campus vernacular. Kell Munoz successfully navigated through these requirements to develop an exterior design language that addresses the issue of the brick and mortar. The result is an aesthetic that fits in with the overall look of the campus while maintaining an individuality through brick patterning and the introduction of minimal quantities of Roman-style brick to highlight important details along the exterior facades of the building. The overall building composition outwardly defers to the Kahn-referenced campus architecture but employs a different design language in the interior courtyard/patio. The two contrasting design vocabularies (symbolically representing bilingualism) that modulate at the lobby. The intersecting tectonics of the lobby, metal railing/screen detail and elevator dichos are various architectural interpretations of code-switching.

One of the main features of the new building is a large, open courtyard formed by wrapping the new structure on three sides along the east facade of the existing Building B. The use of full glass walls in the new facility achieves two purposes—it gives the new addition a lightness of character that in essence opens its arms in a welcoming embrace of its visitors, as well as creates a great source for interior illumination throughout all three floors of the new building. In addition, a light chimney above the main elevator helps to bring illumination into the central part of the building, by taking full advantage of the warm and omnipresent South Texas sunshine.

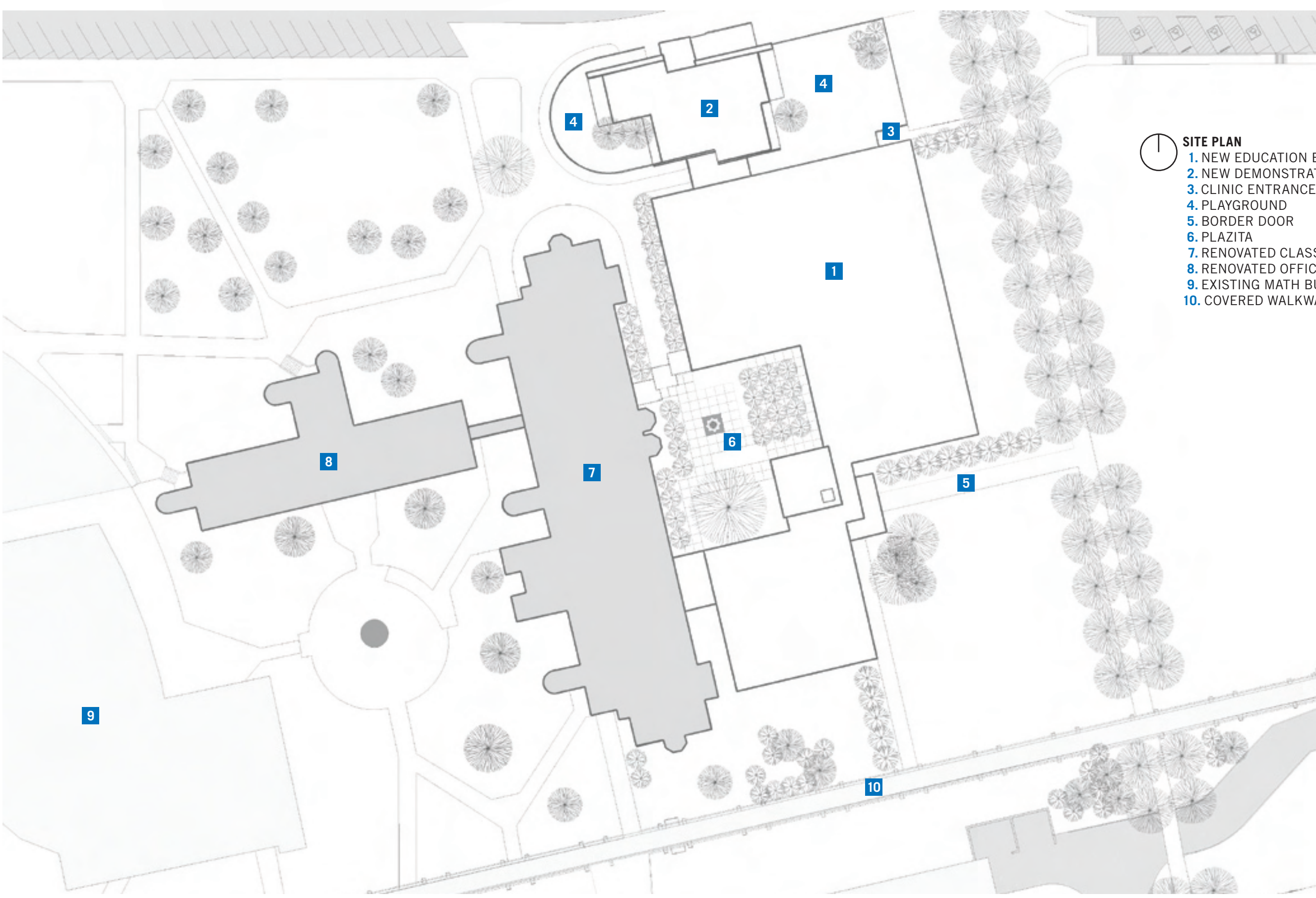
The use of color also plays a major role in the overall design of the building. Colored wall panels line the main public corridors, and while they are an understated but elegant expression of public art they also serve to further reinforce the main concepts of the design by serving as identifiers through the journey of the educational process. As such, the panels are hierarchical in their ranging from primary colors on the first floor, to secondary colors on the second floor, and to tertiary colors on the third floor.

All this and an excellent facility to boot, designed to serve the needs of its intended purpose, while advancing one of the main objectives of the university—to provide state-of-the-art facilities in support of its academic programmes. Among other things, the first floor of the new addition contains a fully equipped lecture hall, clinical psychology division, and a counseling and assessment preparation center. On the first floor of the attached Building D, located to the north of the facility's

(preceding spread, left and right) Three-story glass walls embrace the ground-floor courtyard and invest the new addition with a sense of weightlessness. Etched in clear glass, bilingual expressions motivate the students to reach for the sky. (this page, left to right) Bright colors and abundant natural light enrich the interior spaces. A glass-walled study area overhangs the open courtyard, providing a dramatic setting for student interaction and introspection. Bold colors also enhance the first-floor lecture hall.



FIRST FLOOR PLAN
1. LECTURE HALL
2. GLASS ELEVATOR
3. LOBBY
4. COURTYARD/PLAZITA
5. COVERED PORCH
6. CLINICAL PSYCHOLOGY
7. FIELD EXPERIENCE OFFICE
8. COUNSELING
9. DEMONSTRATION CLASSROOMS



SITE PLAN
1. NEW EDUCATION BUILDING
2. NEW DEMONSTRATION CLASSROOMS
3. CLINIC ENTRANCE
4. PLAYGROUND
5. BORDER DOOR
6. PLAZITA
7. RENOVATED CLASSROOM BUILDING
8. RENOVATED OFFICE BUILDING
9. EXISTING MATH BUILDING
10. COVERED WALKWAY

main body, demonstration classrooms for use in the preparation of future teachers in the field of primary education. In addition, remodeled areas in Buildings A & B contain upgraded classroom facilities, administrative suites, and faculty offices.

The second floor of the new addition features a multipurpose room with built-in versatility, as well as the Center for Distance Learning, the Educational Technology Research Center, and a number of "smart" classrooms. Remodeled areas in the existing buildings contain upgraded classrooms and faculty offices.

The third floor contains, among other things, the College of Education Administrative Suite where the dean's office is located, as well as the Borderlands Art and Research Exhibition Center, the Center for Applied Research in Education, the National Center for Excellence in Teaching, two fully functional statistics classrooms with distance learning capabilities, and the doctoral program. In addition, the third floor features a favorite "hang out" for students. Strategically located in the central core of the facility overhanging and overlooking the open courtyard, a glass-walled study area provides a dramatic setting for student interaction and introspection, and provides a key architectural exclamation point inviting its users to always stay grounded but reach for the sky.

So, what's in a phrase? That simple question belies the complexity of its thousand possible answers. However, if you ask me what is in this phrase, I would tell you that there is a million high concept ideals but only one simple truth: *Lo mejor no se vende ni se compra, se nace del corazón.*

Jaime C. Condit, AIA, is the architect for UT Pan-Am.

(left and right) The influence of Louis I. Kahn is apparent throughout the UT Pan-Am campus and the university's design guidelines require that new facilities respect the existing campus vernacular.

RESOURCES **MASONRY UNITS:** Acme; **CAST STONE:** Advanced Cast Stone; **CMU MASONRY:** Southwest Concrete Products; **CEMENT:** Alamo Cement; **METAL FABRICATIONS:** Eagle Fabricators; **METAL ROOFING:** Berridge; **UNIT SKYLIGHTS:** Fiore Skylights Manufacturing; **GLASS AND STRUCTURAL GLASS:** Viracon; **ALUMINUM DOORS AND FRAMES:** RACO; **GLASS DISPLAY:** Blumcraft of Pittsburg; **METAL CEILINGS:** Chicago Metallic; **ACOUSTICAL TREATMENTS:** Specified Components; **ACOUSTICAL WALL TREATMENTS:** Wall Technology; **CEILINGS:** Decoustics

Looking Back/Moving Forward

Architect/juror comments on this year's Exhibit of School Architecture

By DON GREER, AIA

It was fascinating for me, as a native Texan who found myself transplanted to Maine several years ago, to see the architectural ingenuity committed to students' snow boots and coats by a local architect in the 1860s. While living in Portland, Maine, I had the good fortune to work on the second-oldest public high school still operating in the United States. As I visually inventoried my way through the 1863 core building, I ended up at one of the original classrooms. Here was a room, still a working classroom very close to its original condition, offering a glimpse of architecturally advanced and educationally sound design for students in the Civil War era. The basics had been handled well – high ceilings for proper ventilation, windows providing even, natural light, cleverly designed sliding chalkboards for instruction – and the fundamental material palette of wood floors and plastered walls had worn gracefully but each component continued to serve its intended purpose.

What caught my eye were the upward-acting panels that screened a wardrobe along one of the walls. When a panel was lifted window sash-style, there was plenty of room for all the winter wear necessary for life in that snowy climate. Beneath the hanging rod was a metal trough that ran the entire length and sloped to a drain. The students would hang their jackets and place their snow boots on the pan and, with the added effect of a well-directed heating element, the boots and clothes would dry and the water melting off was channeled to the drain. Though a modest detail, I thought this feature an illustration of what good design can be—sensitivity of a user's needs resolved through a careful play of ingenuity and resources. A warm coat and dry boots make the trek back into the snow a whole lot more tolerable.

The 1860s structure stood alone until a major addition in 1919 enveloped the old high school with state-of-the-art educational advancements. Times had changed during that 60-year interval: in addition to more academic classrooms, the "new" facility included rooms for industrial arts, printing, electricity, woodworking, and mechanical drawing, as well as home economics, physical education programs, and the "crown jewel"—a tiered lecture hall. Fast forward to the 1990s when I worked on the additions and renovations and you have a timeline of about 150 years of school design history to walk through, study, and reflect upon.

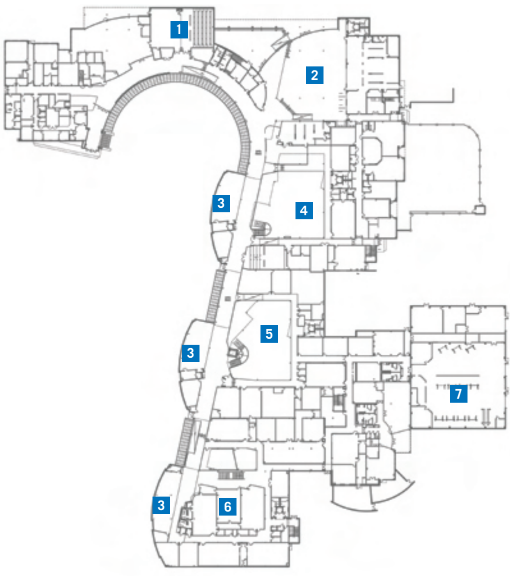
We have a similar opportunity for educational design study here in Texas. The Texas Association of School Administrators/Texas Association of School Boards (TASA/TASB) Exhibit of School Architecture, Texas's annual recognition of excellence in school design, has been a benchmark platform for review and evaluation of our profession's best educational efforts since 1961. With such a long history of work, the program serves to faithfully record, in year-by-year submittals, the various progressions, refinements, and sometime diversions of our design community. In addition to marking quality, the program inevitably tracks quantity. This year, there were a record 92 entries, up from a previous 72, and it presented a

continued on p.64

Carl Wunsche Sr. High School

PROJECT Carl Wunsche Sr. High School
CLIENT Spring Independent School District
ARCHITECT SHW Group
DESIGN TEAM Gary Blanton, AIA; Stuart Campbell, AIA; J. Matt Brown, AIA; Frank Kelly, FAIA; Bill Wadley, AIA
CONTRACTOR Dyad Constructors
CONSULTANTS DBR Engineering Consultants (MEP); Brooks & Sparks (civil); Wong & Associates (landscape); PSS Partnership (structural); Millunzi And Associates (food services); Paradigm Consultants (geotechnical); Price Consulting (roofing)
PHOTOGRAPHER Richard Payne, FAIA

RESOURCES **CONCRETE MATERIALS:** Southwest Concrete Products; **MASONRY UNITS:** Southwest Concrete Products; **STONE:** Alamo Stone Company; **MASONRY VENEER ASSEMBLIES:** Acme Brick Company; **METAL FRAMING:** Dietrich Metal Framing; **ROOF AND WALL PANELS:** Alcon (alucobond); **FASCIA AND SOFFIT PANELS:** Berridge; **METAL DOORS AND FRAMES:** Ceco Door Products; **WOOD AND PLASTIC DOORS AND FRAMES:** VT Industries; **ENTRANCES AND STOREFRONTS:** Vistawall; **WOOD WINDOWS:** Pella Windows; **GLASS:** Oldcastle Glass; **GLAZED CURTAINWALL:** Vistawall; **METAL CEILINGS:** Chicago Metallic; **INDOOR ATHLETIC SURFACING:** Duroflex; **OPERABLE PARTITIONS:** Modernfold



GROUND FLOOR PLAN
1 LARGE GROUP INSTRUCTION
2 DINING
3 TEACHER WORK AREA
4 BUSINESS TOWER
5 TECHNICAL TOWER
6 MEDICAL TOWER
7 AUTO SHOP

Carl Wunsche Sr. High School is a career academy located in the Spring Independent School District of Houston. SHW Group oriented the 273,178-square-foot school around three academic towers that each focuses on a specialized area of study. Courses are organized into the Professional Tower, the Technology Tower, and the Medical Tower. Each tower is surrounded by a variety of resources, including core curriculum spaces, large group instruction, media centers, interactive planning areas, and administration and ancillary spaces. An elevated corridor referred to as the "Learning Street," connects the three towers and encourages students to interact with one another. Sustainable building technologies also have been incorporated into the school's design and include tinted, low-E, insulated glazing skylights and interior glass partitions. The large windows allow sunlight to illuminate the hallways. The use of natural, unfinished materials, such as galvanized metal stairs and railings, eliminates the need for paint and creates a durable, low-maintenance interior. Carl Wunsche Sr. High School was recognized in the 2007 Exhibit of School Architecture with the Caudill Award for excellence in five out of five categories—design, educational appropriateness, innovation, process of planning, and value.

MEGAN BRALEY

continued from p.62

challenge for all the jurors to carefully review the submittals. The volume may be a result of a variety of elements, such as expanding or shifting populations or better successes in school funding, but the number of submittals will likely continue to grow. Traditionally accomplished in one day, we are at a point where a two-day judging effort by the group is probably warranted to foster more discussions focused on the best projects.

The panel of judges typically includes two architects, who join a small group of educators and school administrators to assess the quality of each year's entries. The 2007 panel included Barry Sikes, AIA, of BLGY, and myself, along with Mard A. Herrick, PhD, superintendent of Dripping Springs ISD and Robert Schneider, a board member of Austin ISD. Reviewing 92 entries in one day made for a fast-paced event. As architects, Barry and I would liked to have heard more from the administration side about what caught their attention among all the projects. Architects don't always have the benefit of direct feedback on a showcased design effort, so hearing what works and what doesn't from our clients' perspective is always enlightening.

With the TASA/TASB Exhibit of School Architecture coming up on its fiftieth anniversary, the program begs a special exhibition to review the history and evolution of school design in Texas. Where else can you view the best practices of a building type as it evolves over the course of 50 years? It would serve us well to look back and assess what qualities and elements have proven timeless, and which projects highlight a passing fashion or outmoded idea. Many of these schools have or will represent the single largest building investment a group of citizens will make in their community. School facilities typically remain in service for very long periods of time and have to adapt to cultural iterations that weren't even on the radar at the time of design. Portland High School in Maine was conceived well before the Machine Age yet it is still in service as we find our way through the Information Age. One of the reasons it has persevered is because it has adapted to new demands. For example, the original design intentionally separated programs for boys and girls with a brick wall literally partitioning the two. The removal of this wall, all the way down to the basement, was one of its early adaptations—no doubt a heartfelt, student-inspired change.

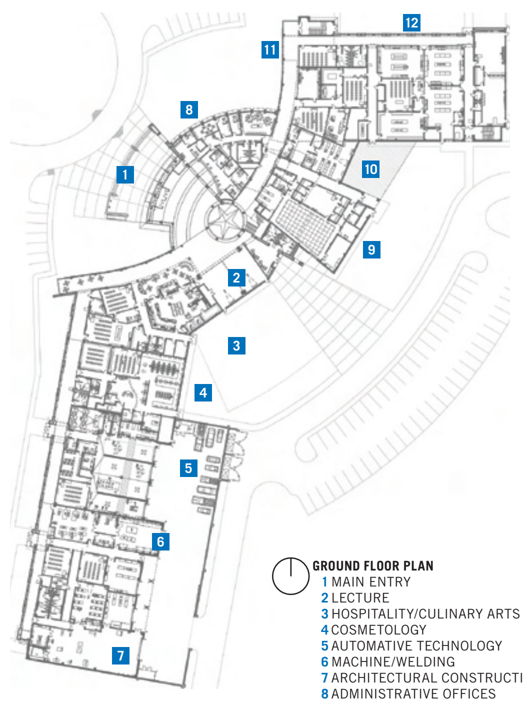
Schools deserve our best efforts in trying to refine and shape the best path to design excellence. Even if these schools can't represent everything we as a community and designer would ultimately like to do, they at least present a snapshot of what we have done with the resources and energy that were available at the time. The opportunity to review those snapshots, over a 50-year span, would undoubtedly provide a valuable mirror to see where we have been and where we will likely head as a society.

Don Greer, AIA, is a vice president of Wiginton Hooker Jeffry PC Architects in Austin.

LaGrone Advanced Technology Complex

PROJECT Troy & Sarah LaGrone Advanced Technology Complex
CLIENT Denton Independent School District
ARCHITECT PBK Architects
DESIGN TEAM Fred B. Montes, AIA; Richard Chi; Christian Herr, AIA; David Mogray
CONTRACTOR Charter Builders
CONSULTANTS RLK Engineering (civil); Isbell Engineering (structural); Reed, Wells, Benson & Co. (MEP); Round Tree Landscaping (landscape); Ackerman Barnes Consulting (kitchen)
PHOTOGRAPHER Jud Haggard

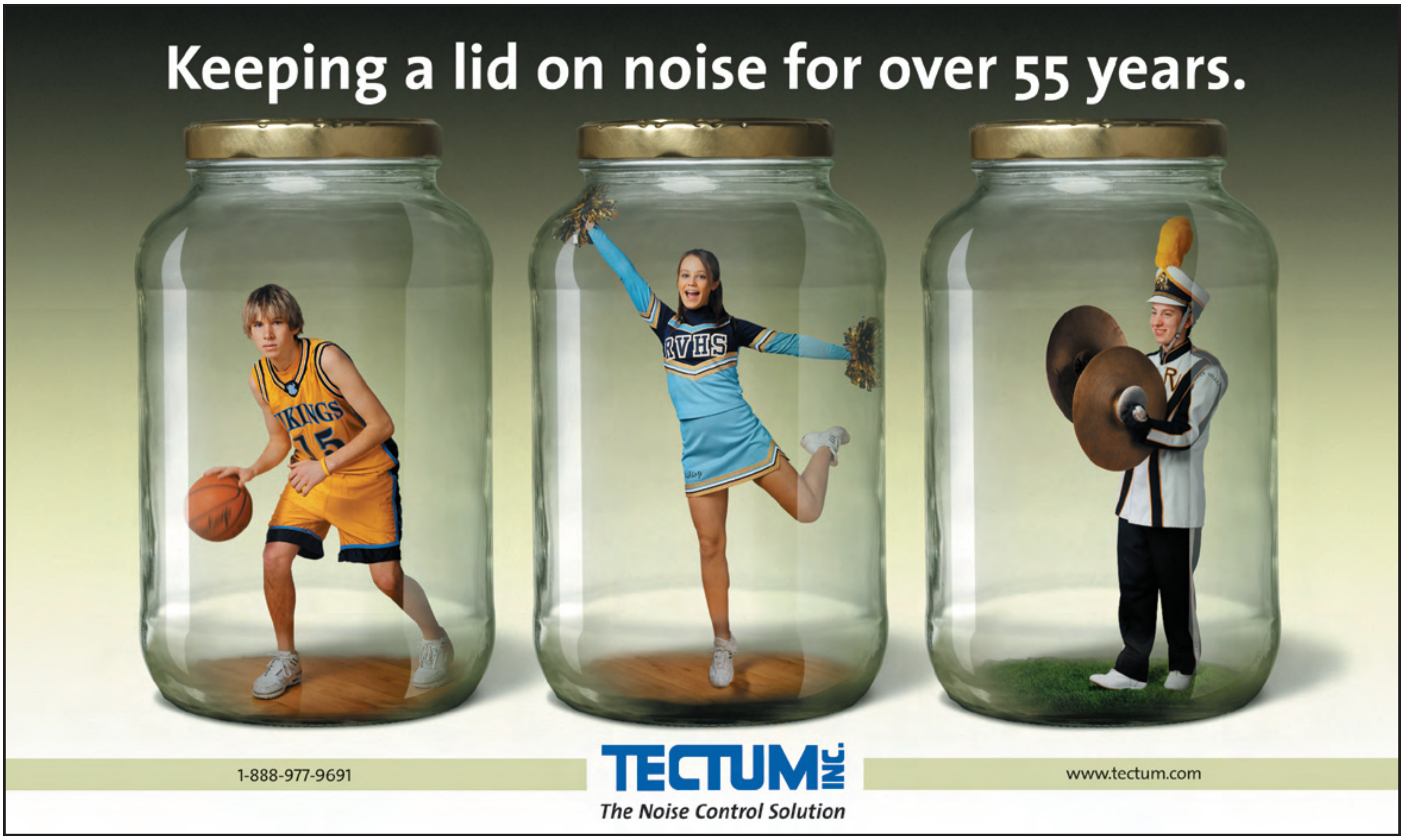
RESOURCES **MASONRY UNITS:** Acme; **CAST STONE:** United Cast Stone; **ARCHITECTURAL METAL WORKS:** Armetco Systems; **RAILINGS AND HANDRAILS:** York Metals; **FASCIA AND SOFFIT PANELS:** Bake/Triangler; **METAL DOORS AND FRAMES:** Piper Weatherford; **WOOD AND PLASTIC DOORS AND FRAMES:** Piper Weatherford; **TERRAZZO:** American Terrazzo; **BUILDING INSULATION AND ACOUSTICAL CEILINGS:** Baker/Triangle



GROUND FLOOR PLAN
1 MAIN ENTRY
2 LECTURE
3 HOSPITALITY/CULINARY ARTS
4 COSMETOLOGY
5 AUTOMATIVE TECHNOLOGY
6 MACHINE/WELDING
7 ARCHITECTURAL CONSTRUCTION
8 ADMINISTRATIVE OFFICES
9 MEDIA TECHNOLOGY
10 COUNSELING/TESTING
11 CRIMINAL JUSTICE
12 PRE-ENGINEERING

The 120,792-square-foot LaGrone Advanced Technology Complex, located in the Denton Independent School District, includes 16 academies that provide students with trade-specific technical skills. PBK Architects of Dallas has uniquely designed each academy to reflect a specific professional working environment that facilitates increased learning through experience. Although designing a sustainable facility was the main challenge PBK faced, they have successfully designed an environmentally responsible building that incorporates green-building technologies such as an all-brick exterior skin, anodized aluminum curtainwall systems, ceramic tile floors, and low volatile organic compound paints. PBK's architects focused their design around the use of long-lasting, low-maintenance materials, as well as the preservation of the natural features of the site. LaGrone Advanced Technology Complex was recognized in the 2007 Exhibit of School Architecture for excellence in five out of five categories—design, educational appropriateness, innovation, process of planning, and value.

MEGAN BRALEY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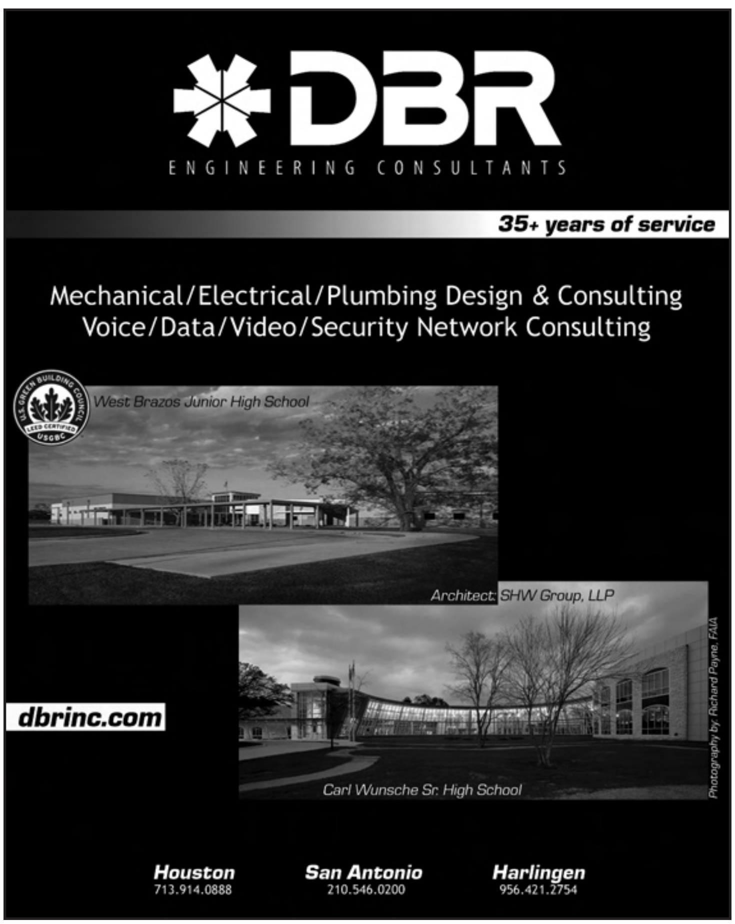
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West Brazos Junior High School
Architect: SHW Group, LLP
Carl Wunsche Sr. High School
Photography by: Richard Payne, FAIA
dbrinc.com
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San Antonio 210.546.0200
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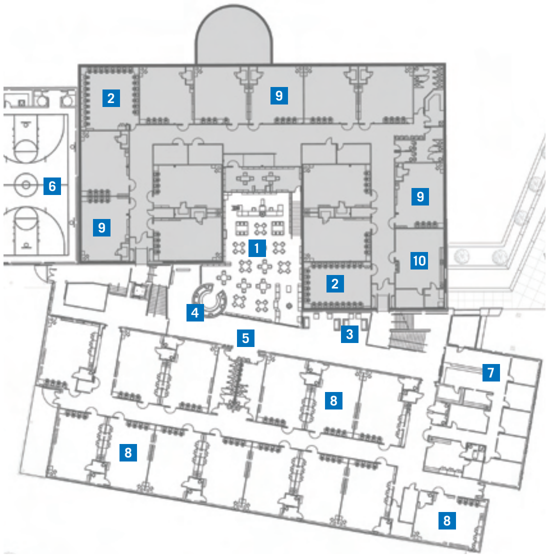
Sky Harbour Elementary

PROJECT Sky Harbour Elementary School
CLIENT Southwest Independent School District
ARCHITECT Pfluger Associates Architects
DESIGN TEAM Michelle Dudley, AIA; Kent Niemann, AIA
CONTRACTOR Joeris General Contractors
CONSULTANTS Persyn Engineering (structural); HMG & Associates (MEP); Civil Engineering Consultants (civil); C.F. Zavala Group (landscape)
PHOTOGRAPHERS Clem Spalding; Michelle Dudley, AIA

RESOURCES **CONCRETE PAVEMENT, ATHLETIC AND RECREATIONAL SURFACING, CONCRETE MATERIALS:** Vulcan Materials; **RECREATIONAL FACILITY AND PLAYGROUND EQUIPMENT:** Spalding; **MASONRY UNITS:** Acme; **LIMESTONE:** Chemical Lime New Braunfels; **CAST STONE:** Pyramid Stone; **UNIT MASONRY WALL ASSEMBLIES:** Hohmann & Barnard; **METAL DECKING:** Vulcraft; **ACHITECTURAL METAL WORK:** Trans-Tex Fabricating; **ROOF AND WALL PANELS, METAL ROOFING:** Bethlehem Steel–Galvalume; **MEMBRANE ROOFING:** U.S. Ply; **ENTRANCES AND STOREFRONTS:** Kawneer; **UNIT SKYLIGHTS:** American Skylights; **GLASS:** AFGD Glass; **GLAZED CURTAINWALL:** Kawneer; **ACOUSTICAL CEILINGS:** BPB America (Baker/Triangle); **ACOUSTICAL TREATMENTS:** Tectum (Baker/Triangle); **EIFS:** Certain Teed (Baker/Triangle)



GROUND FLOOR PLAN
1 LIBRARY
2 COMPUTER LAB
3 READING ALCOVE
4 LIGHTHOUSE
5 ATRIUM
6 PLAY GYM
7 NEW ADMINISTRATIVE SUITE
8 PRE-K THRU 1ST CLASSROOMS
9 2ND THRU 5TH CLASSROOMS
10 SPECIAL EDUCATION

PRE-EXISTING BUILDING

The 98,620-square-foot Sky Harbour Elementary School, located in the Southwest Independent School District of San Antonio, has been transformed from a solid concrete, windowless building into a series of welcoming, light-filled spaces. Pfluger Associates of San Antonio created a two-story classroom addition with a new administrative area. The firm also developed an atrium space to seamlessly connect the newly designed 47,016 square feet of space to the existing 52,604-square-foot building. Pfluger Associates incorporated the already established dolphin mascot and color scheme into the new school's identity system. Architectural features reference marine symbology through the use of round, porthole-like air diffusers, wave-inspired tile patterns, and a lighthouse reading nook. Sky Harbour Elementary School was recognized in the 2007 Exhibit of School Architecture for excellence in five out of five categories—design, educational appropriateness, innovation, process of planning, and value.

MEGAN BRALEY

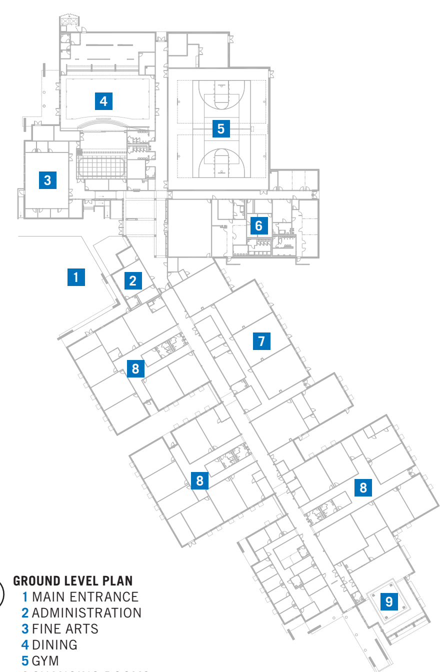
West Brazos Junior High

PROJECT West Brazos Junior High School
CLIENT Columbia-Brazoria Independent School District
ARCHITECT SHW Group
DESIGN TEAM Gary Blanton, AIA; Jennifer S. Henrikson, AIA; Frank Kelly, FAIA
CONTRACTOR Tellepsen Builders
CONSULTANTS DBR Engineering Consultants (MEP); Brooks & Sparks (civil); SHW Group (structural); Millunzi and Associates (food service)
PHOTOGRAPHER Richard Payne, FAIA

RESOURCES **CONCRETE PAVEMENT:** Alamo Concrete Products; **MASONRY UNITS:** Southwest Concrete Products; **UNIT MASONRY WALL ASSEMBLIES:** Southwest Concrete Products; **MEMBRANE ROOFING:** Flex FB45 Elvaloy Roof System; **ACOUSTICAL CEILINGS:** Celotex; **INDOOR ATHLETIC SURFACING:** Mondo Sport Flooring

West Brazos Junior High School, located in the Columbia-Brazoria Independent School District of Brazoria, is the first LEED certified public school in Texas. SHW Group designed the 91,500-square-foot building to fit into its natural surroundings. Over 190 trees on the site were preserved, since only three acres of the 53-acre site were disturbed during construction. Durable, low-maintenance materials including concrete masonry, stucco, and metal panels were chosen for the building's exterior. Beiges, browns, and rusts were integrated into the color scheme to complement the soft colors of the exterior materials. Sustainability technologies include clerestory windows in the circulation spine and low-E glazing, along with inexpensive shading devices that double as light shelves on classroom windows and allow natural light to penetrate deep into core spaces. Signage has been incorporated into the school's interior to promote discussion of environmental awareness among students. West Brazos Junior High School was recognized in the 2007 Exhibit of School Architecture for excellence in five out of five categories—design, educational appropriateness, innovation, process of planning, and value.

MEGAN BRALEY



GROUND LEVEL PLAN
1 MAIN ENTRANCE
2 ADMINISTRATION
3 FINE ARTS
4 DINING
5 GYM
6 CHANGING ROOMS
7 SCIENCE LABS
8 CLASSROOMS
9 LIBRARY

SUSTAINABLE DESIGN WITH BRICK

Durable brick cladding meets multiple sustainable design objectives

PHOTO BY MARK TREW; COURTESY HDR

The McKinney Green building designed by HDR features regional, light-colored exterior brick to help reflect the heat of the sun. The project received a LEED Core & Shell Platinum Certification—the highest available through the USGBC rating system.

This article was adapted from "Sustainability & Green Building Design with Brick Masonry," an article that originally appeared in the October 2007 edition of Brick in Architecture *published by the Brick Industry Association.*

MANY OF THE OBJECTIVES OF SUSTAINABLE DESIGN do not impact building material selection, but instead focus on building systems such as plumbing, lighting, air conditioning, etc. However, the versatility and durability of brick facilitate the use of brick masonry as part of many elements of sustainable design.

Environmentally Responsive Site Planning

Environmentally responsive site planning includes consideration of site selection, site disturbance, storm water management, and the effect of the building on its surroundings. The use of brick masonry is an appropriate choice for achieving several elements of environmentally responsive site planning.

Reuse Existing Brick Buildings

The first step in site planning is selection of the building site. Reuse or renovation of an existing building can result in significant reductions in environmental impacts compared to new construction. Because of the aesthetic appeal and durability of brickwork, buildings using brick are

often chosen for reuse. In many cases, load-bearing brick buildings are reused in their entirety. Historic load-bearing brick masonry buildings benefit from the thermal mass inherent in brick to provide thermal comfort to occupants. In other cases, the brick façade is retained while a new structure is constructed. By utilizing brick masonry in new construction in a responsible manner, future reuse is facilitated.

Permeable Pavers and Pavements Reduce Storm Water Runoff

By managing storm water runoff, increasing on-site filtration, and eliminating contaminants, the disruption and pollution of natural water flows is limited. Permeable pavers and flexible brick pavements can be used as part of a strategy to reduce the quantity and improve the quality of runoff through on-site treatment. Pavements that utilize clay pavers over an aggregate setting bed and base can reduce storm water runoff by about 10 percent. Such systems should use permeable aggregate between and under pavers to promote drainage.

Light-Colored Pavers Reduce Heat Island Effect

Building projects have an effect on their surroundings, particularly in urban areas. The use of lightcolored materials can help reduce the heat island effect. Heat islands occur when dark surfaces retain heat for a prolonged period, particularly in urban areas. To demonstrate appreciable reduction in heat, surfaces with a Solar Reflectance Index (SRI) of at least 29 are generally accepted as demonstrating appreciable heat reduction. Light-colored pavers that qualify typically are light tan, buff, or cream in color and can be used on vegetated roofs to provide access paths or on non-roof pavements as part of a strategy to reduce this effect.

When locating new construction, it is desirable to select sites near existing infrastructure. Utilizing brick masonry in urban development can help meet requirements for fire resistance and separation, overcome limitations on construction site accessibility, and accommodate irregularly shaped lots.

On any site it is desirable to maximize the amount of open space, either by limiting the building footprint or by minimizing the extent of site disturbance adjacent to the building. Because brick masonry construction does not require large staging areas or large equipment for placement, the amount of site disturbed can be kept to a minimum. In addition, brick paving in an open space can provide a pedestrian-friendly surface.

Energy Efficient Building Shell, Thermal Comfort, Energy Analysis

An energy-efficient building envelope is a key component in sustainable building design. Incorporation of brick masonry's thermal mass provides numerous energy benefits, including the reduction of peak heating and cooling loads, moderation of indoor temperature swings (improved thermal comfort), and potential reduction in the size of the HVAC system. The benefits of thermal mass have been demonstrated when brick is used as a veneer, and are even more pronounced when brick masonry is also exposed on the interior of the building.

In order to thoroughly account for the thermal mass benefits of masonry, energy analysis using simulation software is necessary. BLAST or Energy Plus are the most suited for analysis of buildings with masonry.

Rain-screen walls are another example of a high-performance brick wall. Rainscreen walls can provide superior thermal performance through the reduction of air movement through the building envelope. In addition,

moisture penetration is one of the most common causes of problems in buildings. Rain-screen walls minimize rain infiltration by applying principles of pressure equalization. A brick masonry pressure-equalized rain-screen wall utilizes intentional openings in the brick masonry and compartmentation to equalize the pressure in the cavity behind the exterior brick and thus minimize rain penetration.

Renewable Energy

Incorporation of renewable energy sources into a building design can significantly reduce reliance on fossil fuels used by the building during operation. Passive solar energy is a free resource, and brick masonry can be utilized as part of several passive solar design strategies.

Safety and Security

Brick masonry promotes occupant health and safety through fire-resistant construction and resistance to impacts and wind-borne debris. In addition, the durability of brick masonry gives long-lasting results.

Environmentally Preferable Materials, Products and Durability

Consideration of the environmental impact of building materials and products is an important element in a sustainable design, though it is only one of several criteria to be considered for product selection. Materials should be evaluated over their entire life cycle, from raw material extraction to end of useful life. This life cycle assessment (LCA) of a building material or product must include accurate evaluation of product service life.

Brick masonry has a service life of over 100 years. Environmental effects associated with brick are distributed over this long lifespan. Other products used with brick may have considerably shorter lifespans.

Building construction can generate significant waste. Because of the small, modular nature of brick, on-site construction waste can be almost completely avoided through careful design and detailing. In addition, scrap brick is easily crushed and recycled for new uses, thus avoiding the landfill. Packaging from brick is minimal and easily recycled.

Use of salvaged materials avoids the environmental impacts associated with new products. Salvaged brick, especially sand-set pavers, can

Conservative Concrete

Durable, energy efficient and recyclable – a quick evaluation of concrete applications and it's easy to determine that this versatile building material is sustainable. Just how major a role it will play as the green building movement continues to proliferate depends on how many are willing to take a closer look.

"It's an extremely durable product," the first and foremost sustainable attribute according to Gary Bailey, AIA, and principal/owner of Innovative Design, Inc. Bailey's firm has been focused on sustainable design since 1977. These days, he favors insulated precast concrete to assist with daylighting and to average out building temperatures due to concrete's thermal mass. "Because of the way heat transfers through concrete, it acts as a storage element, storing warm air in winter and cool air in the summer."

Since concrete does not provide a food source for mold or mildew, Bailey also counts indoor air quality as another component of concrete structures in sustainable design. "Look at health issues in this country, with regards to allergies and asthma—buildings are a big part of that problem. Concrete mitigates those issues."

Echoing the sentiment regarding the versatility is Lionel Lemay, vice president of technical resources for the National Ready-Mixed Concrete Association. "For instance, look at pervious concrete," says Lemay. Beyond its primary benefit of stormwater management, he points out that pervious concrete allows for more planting of trees, absorbs noise, potentially decreases the urban heat island effect, and, it can be recycled.

In fact, concrete was the most recycled material in North America by weight in 2005, according to a survey by the Construction Materials Recycling Association (CMRA).

Survey results indicate that recycling companies recovered as much as 140 millions tons of concrete in 2005. Equally impressive, recycling plants were able to recycle 99 percent of what they took in.

"We want the green building community to realize all of the solutions concrete can provide," said David Shepherd, AIA, and director of sustainable development for the Portland Cement Association.

PHOTO BY THOMAS McCONNELL, COURTESY LZT ARCHITECTS

The Austin Research Center for the Homeless (ARCH) designed by LZT Architects uses a site-poured, stacked concrete frame. To meet the standards of LEED Silver Certification, designers mixed a high volume of flyash into the concrete.

While Shepherd considers concrete's durability, energy performance and recyclability to be its strongest green attributes, he stresses the importance of the application. "It's how the concrete is used that has the far greatest impact on environmental performance," notes Shepherd.

With proper application, concrete can provide sustainable solutions for a host of green issues, including: reducing undesirable sound transmission, increased energy performance, urban heat-island reduction, locally available materials sourcing, improving indoor air quality,lighting efficiency, stormwater management and thermal mass. Visit *www.ConcreteThinker.com* for a further explanation of these solutions.

The Portland Cement Association represents cement companies in the United States and Canada. It conducts market development, engineering, research, education, and public affairs programs. More information on PCA programs is available at *www.cement.org*.

be reused when care is taken to determine material performance characteristics.

Many environmentally preferred product listings focus on materials that incorporate recycled content. By utilizing recycled materials, the assumption is that the environmental impact is lowered. Recycled materials can come from either post-consumer or post-industrial (pre-consumer) sources. Brick masonry can contain many recycled products such as sawdust and manganese. Mortar and grout can include recycled materials, such as flyash, and most steel reinforcement used in reinforced brick masonry has a high recycled content.

By selecting materials from regional sources, environmental impacts associated with the transport of materials can be reduced. Most brick is manufactured with nearly 100 percent of the materials obtained from within a few miles of the manufacturing plant. Plus, nearly every major urban area in the United States is within 500 miles of at least one brick plant.

Efficient Use of Materials

Brick walls are able to perform many functions that often require multiple components in other wall systems. By designing walls that serve multiple functions, materials are used efficiently. This translates into reduced environmental impacts. A single brick wythe can:

- serve as a load-bearing structural element;
- provide an interior or exterior finish without the need for paints or coatings;
- provide acoustic comfort with a sound transmission class (STC) rating of 45 of greater;
- regulate indoor temperatures as a result of thermal mass;
- provide fire resistance (a nominal 4-inch brick wall has a one-hour fire rating);
- provide impact resistance from wind-borne debris or projectiles;
- improve indoor air quality by eliminating the need for paint and coatings (no VOCs);
- provide an inorganic wall that is not a food source for mold;
- serve as a heat-storing element in a passive solar design; and
- potentially last a thousand years.

In addition, other innovations in brick masonry design can further decrease the raw materials used. The use of pre-stressed brick walls capitalizes on the inherent compressive strength of brickwork resulting in typically thinner, taller walls.

Brick manufactured to a smaller thickness uses less material. Brick that meet ASTM C1088,

specification for thin brick veneer units made from clay or shale, have a maximum thickness of 1 ¾ inch. When adhered to a load-bearing wall substrate, these units can provide a brick finish with minimal thickness.

Anchored masonry veneer can be a minimum of 2 5/8 inch thick, according to the Building Code Requirements for Masonry Structures, which is referenced by the International Building Code. Such brick is available from most brick manufacturers, but are usually used in residential applications.

Brick units meeting the requirements of ASTM C 652, specification for hollow brick, utilize less raw material while performing the same function. These units can be used in reinforced or pre-stressed brick masonry walls.

Life Cycle Cost Analysis

Life cycle cost analysis projects the total cost of a building over time. Total life cycle costs include the cost of initial design and construction as well as operating and maintenance costs.

With a long life cycle of more than 100 years and minimal maintenance, brickwork fares well compared to other cladding materials. Software is available to assess life cycle costs through the Whole Building Design Guide (*www.wbdg.org*) and the U.S. Department of Energy *(www.eren.gov/buildings/tools_directory)*.

Acoustic Comfort

Acoustic comfort is a key element in a superior indoor environment. Brick masonry walls provide superior resistance to sound penetration with a sound transmission class (STC) of 45 or greater.

Superior Indoor Air Quality

Because brick masonry can be used on the interior of a building, serving as structure and finish material without the need for paints or coatings, brick can contribute to improved indoor air by avoiding volatile organic compounds (VOCs). The appearance of brick will last a lifetime without costly paints or other maintenance. Mold is another area of concern for indoor air quality. Brick is not a food source for mold. It does not promote mold growth, even if wetted, and is easily cleaned if needed.

High-Performance Brick Wall

Designing a brick wall section for maximum impact on the overall sustainable design often involves incorporating a few minor adjustments to a traditional brick wall assembly.

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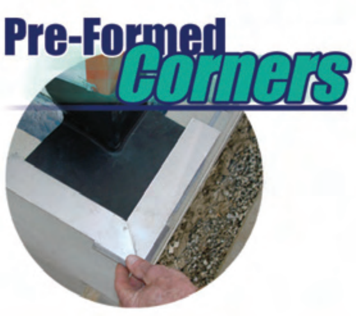

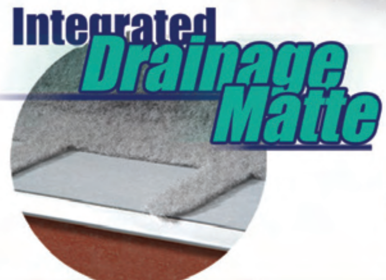

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Consideration should be given to the thermal performance elements of the wall as well as the use of air and vapor barriers. As discussed earlier, air and vapor barriers can limit moisture and air movement through the building envelope. The need for and location of air and vapor barriers depends on climate and building envelope materials. However, vapor barriers, when needed, should generally be located on the warm side of the primary insulation. High-performance brick and block wall with spray-on foam insulation that also acts as an air barrier is one example. The insulation seals completely around wall ties to form a continuous air barrier. A vapor barrier, if needed, would be placed on the warm side of the insulation, on the interior in cold climates, or outside of the insulation in warm climates. Another example is a wall system in which the insulation, air barrier, and vapor barrier are distinct elements. In this case the vapor barrier is located on the warm side of the insulation on the interior of the wall system while the vapor-permeable air barrier is a continuous membrane in the wall cavity.

Recommended details for an exterior brick veneer wall include the following:

- minimum 2-inch air space to reduce possibility of water bridging cavity;
- horizontal expansion joint below shelf angle to allow expansion of brickwork;
- durable anchors, ties, flashing materials, and metal drip edges to match the design life of the building;
- pre-formed end dam and corner flashing pieces to promote drainage;
- termination bar securing flashing in cavity to minimize penetration of the building shell and thermal envelope;
- sealant and fiber insulation at top of concrete masonry infill wall to minimize air leakage;
- continuous air and/or vapor barrier as required by climate with attention to sealing around ties and other penetrations;
- continuous insulation layer to prevent thermal bridging;
- vents through brick veneer below shelf angles and at weeps to maximize ventilation of cavity and equalize air pressure of cavity; and
- jamb flashing systems to minimize air and moisture infiltration.

SUSTAINABILITY IN MANUFACTURING

Brick has been used as a building material for thousands of years. The manufacture of brick has evolved over time from handmade, sun-dried adobe brick to manufactured units made entirely by machine. Advances in recent years have reduced the environmental impact of brick manufacturing while improving production efficiencies.

Raw Material Use

Brick is made primarily from clays and shales. These abundant natural resources used in brick-making are mined in open pits typically located within two miles of the mine. Plants use material from the same pit extracted through multiple soil layers for a minimum of 50 years, thus minimizing their impact to the surface area. Conveyors are typically used to transport the clay from the mine to the plant. Brick manufacturing plants, in turn, are located throughout the country, putting them within a short distance of most urban areas.

Storm water runoff from clay pits is controlled by regulations from the Mining Safety and Health Act. Manufacturers use techniques such as settling ponds, filtration through marshes and wetlands, and catch basins. Dust is controlled by spraying organic, biodegradable oils or water.

Once the clay is mined, it is ground to suitable particle size, mixed with water and then formed into brick. Nonhazardous waste products are sometimes incorporated into the mixture. For example, petroleumcontaminated soil or sludge can be used. Recycled waste from other industries, such as bottom-ash and fly-ash from coal-fired generators, and other ceramic material waste can be used. Reclaimed industrial metallic oxides can be used as colorants in brick. Because fired brick are inert, brick can safely encapsulate many materials.

Nearly all of the material mined for brick production is used, resulting in near zero waste of raw materials. Processed clay and shale removed in the forming process before firing are returned to the production stream. Brick not meeting standards after firing are culled from the process and ground to be used in manufacturing brick or crushed to be used as landscaping material or structural fill.

The Brick Industry Association's (BIA) September 2007 edition of *Technical Notes on Brick Construction* provides guidance on brickwork to design and construction professions. The information provided above is based on the available data and the combined experience of BIA engineering staff and members. For further recommendations on the sustainability of brick and brickwork, visit *www.gobrick.com*.


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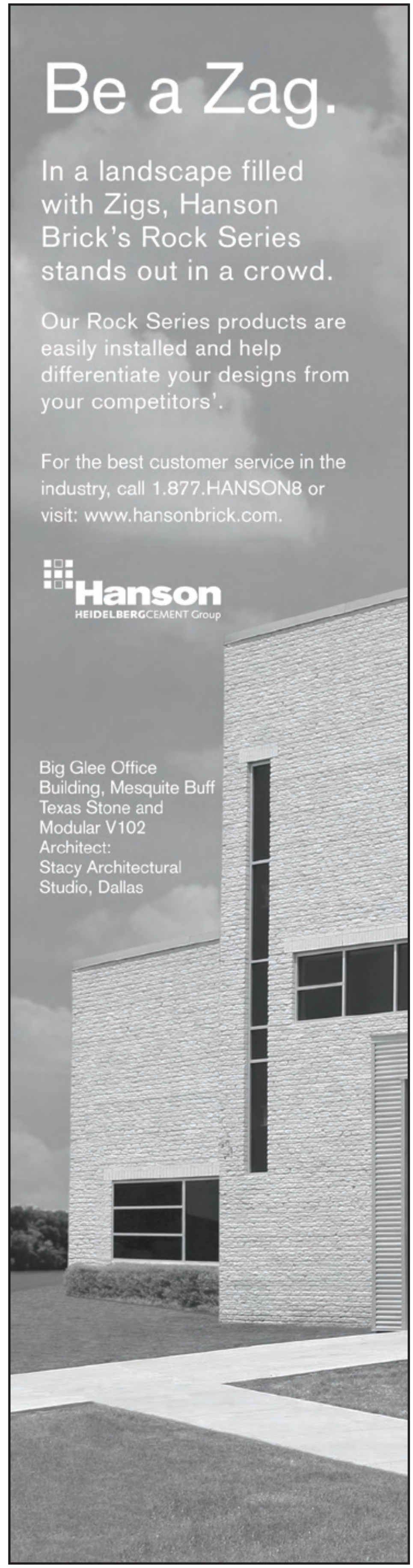
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LEED Achieved with Brick

The Leadership in Energy and Environmental Design Rating System (LEED-NC) developed by the U.S. Green Building Council offers the following LEED credits that incorpoate the use of brick masonry.

Sustainable Sites

This category in LEED-NC covers the selection and development of a project. Four credits potentially relate to brick masonry:

Credit 2: Development Density & Community Connectivity (1 point) The intent of this credit is to encourage development of urban areas and to protect greenfields and natural habitats. By developing an urban, infill-type lot, 1 point can be earned. Brick masonry lends itself well to designs that can take advantage of small, irregularly-shaped lots. In addition, utilizing noncombustible masonry on the exterior means that buildings can be closer together.

Credit 5.2: Maximize Open Space (1 point) Minimizing disturbance of site and maximizing open space are the intent of this credit. By utilizing brick, large staging areas during construction can be avoided. Brick pavers may be used on paths in open areas.

Credit 6: Storm Water Design (2 points) This credit has two parts and is intended to limit the disruption and pollution of natural water flows by managing storm water runoff, increasing on-site filtration, and eliminating contaminants. Credit 6.1 awards 1 point for reducing the quantity of runoff. Credit 6.2 awards 1 point for improving the quality of runoff through on-site treatment. By utilizing permeable brick pavements as part of a strategy to manage storm water, both credits can be earned.

Credit 7: Heat Island Effect (2 points) The intent of this credit is to reduce heat islands by providing shade and/or light-colored materials. Up to 2 points can be earned: 1 for roof surfaces and 1 for non-roof surfaces. Light-colored brick pavers can be used on vegetated roofs to provide access paths or on non-roof pavements as part of a strategy to earn these points. Light colored pavers must have a Solar Reflectance Index (SRI) of at least 29 to meet this criterion.

Energy and Atmosphere

This credit category covers a number of different topics related to energy use and the atmosphere. Only one relates directly to brick masonry.

Credit 1: Optimize Energy Performance (up to 10 points) The goal of this credit is to achieve increasing levels of energy performance above ASHRAE Standard 90.1-2004. Incorporation of brick's thermal mass provides numerous energy benefits, including the reduction of peak heating and cooling loads, moderation of indoor temperature swings, and potential reduction in the size of the HVAC system. The benefits are even more pronounced when brick masonry is exposed on the interior of the building. In addition, brick masonry can be utilized as part of a passive solar design to further reduce the fossil fuels used by the building during operation. In order to thoroughly account for the thermal mass benefits of masonry, energy analysis using simulation software is necessary. Energy Plus or BLAST are the most suited to analysis of buildings with masonry.

Materials and Resources

This category contains most of the credits related to brick masonry.

Credit 1: Building Reuse (3 points) The intent of this credit is to preserve existing building stock and conserve resources. Up to 3 points can be earned. One point is earned if at least 75 percent of the existing building structure is maintained. A second point is earned if the total preserved is 95 percent. Another point can be earned by reusing at least 50 percent (by area) of the existing nonstructural elements. Brick masonry buildings, walls, and floors are ideal candidates for reuse because of their durability.

Credit 2: Construction Waste Management (2 points) This credit is intended to reduce construction waste in landfills and to encourage recycling of construction waste. Up to 2 points can be earned, depending upon the amount of construction waste that is diverted from the landfill.

Credit 3: Materials Reuse (2 points) The intent of this credit is to encourage the use of salvaged materials in new construction. Up to 2 points can be earned, depending upon the value of salvaged materials used. Salvaged brick and pavers, especially in sand-set applications, can be used to meet this requirement.

Credit 4: Recycled Content (2 points) This credit is intended to encourage the use of materials that have recycled content. Emphasis is placed in LEED-NC on postconsumer recycled content, but post-industrial wastes also are included. It is important to recognize that in order to earn 1 point in this credit, the value of the recycled content of all materials used on the project must be at least 10 percent of the total value of all materials used. Thus, no one material alone can earn this credit. A number of materials containing some amount of recycled content must be used. Brick can play a part in achieving this goal.

Credit 5: Regional Materials (2 points) One point can be earned in this credit if at least 10 percent (by cost) of building materials are extracted and manufactured within 500 miles of the project site. A second point is earned if the percentage is 20 percent by cost. Only the percentage of the material by weight that is within the 500-mile radius is counted.

Innovation and Design

This category is intended to award up to 4 points for sustainable strategies that greatly exceed the requirements of existing LEED credits or for those areas not currently covered by LEED. There are several areas not addressed by LEED that can contribute to a sustainable design utilizing masonry. It is important to note that within the LEED Rating System, Innovation & Design credits are awarded for a systematic application of a sustainable strategy to the entire building. Focusing on a single aspect of a building is not sufficient.

Indoor Environmental Quality: Used on the interior of a building, brick serves as structure and finish material without the need for paints or coatings, eliminating VOCs. Brick also resists mold growth.

Durability: Consideration of the life cycle of a building and its component materials is at the heart of sustainable design. Utilizing life cycle assessment in building product choices is recognized by LEED as a sustainable design strategy. It is important to consider a building's full life expectancy when conducting life cycle evaluations, and to recognize the limitations of life cycle assessment when making product choices.

Acoustic Comfort: Brick masonry walls provide excellent resistance to sound penetration with a sound transmission class (STC) of 45 or greater. LEED has recognized acoustic design as a sustainable design strategy through the credit interpretation process. Other green building rating systems include credits for acoustic design.

Occupant Health and Safety: Brick masonry promotes occupant health and safety through fire-resistant construction and resistance to impacts and windborne debris.

Handsome Composition

by BART SHAW, AIA

IN 1849, AT THE CONFLUENCE OF THE CLEAR AND WEST FORKS OF THE TRINITY RIVER, a fort was erected to protect pioneers settling in an area occupied by Native Americans. There were eight villages that developed around Fort Worth, seven were occupied by Native Americans, and one inhabited by white immigrants. White Settlement became a center of trade, a place of social interaction and mingling of societies, that still retains a strong sense of community.

The insatiable push of suburban growth has breached the boundaries of the close community populated by many second- or third-generation residents. The high school, which originally opened in 1952 with 750 students, has been converted into a middle school. A new high school campus with a capacity for 2,400 students is being developed west of town.

The C.F. Brewer High School campus was planned in three phases. The 600-student freshman center and 1,200-seat auditorium were completed in the fall of 2006. One year later, the sophomore, junior and senior wings, fine arts wing, library, and athletic facilities were added. The final phase of construction is underway with a 7,500-seat stadium that will be finished in June.

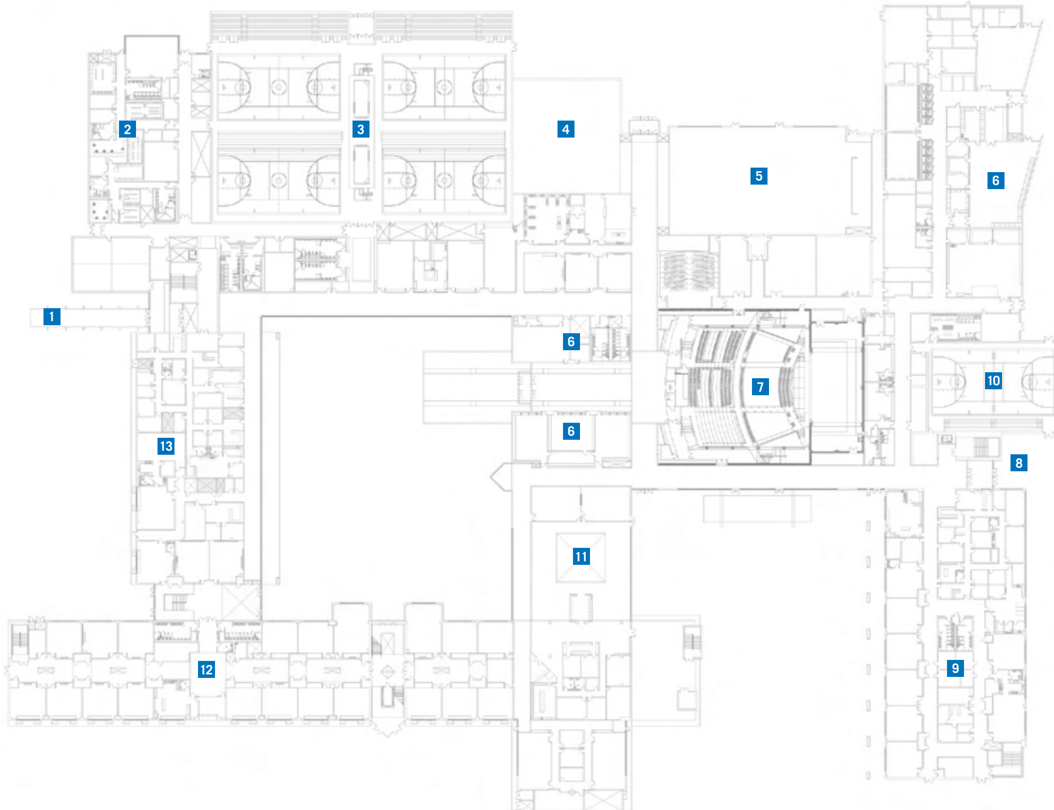
Situated just beyond the crest of development, the new campus sits on the edge of flood plains that fall away to the north and contain Lake Worth. It sits alone. The refinement within its bounds contrasts starkly with the surrounding natural environment, though this robust landscape is undoubtedly marked for future development.

The building volumes embody their programmatic functions and are thoughtfully arranged within the master plan. The functional elements enclose courts and align along circulation paths. The site is defined by a primary axis that runs north and south. A thoroughfare realizes this line connecting the main entry of the high school to the stadium at the far end of the site. Initiated by the two student entries, a minor axis runs east and west. It offsets where it crosses the primary axis at the auditorium near the center of campus.

The formality of the architecture is striking. Rectilinear forms dominate the complex with imposing presence. The water feature seems to enhance the scale of the three-story classroom wings as you approach. The foreboding demeanor of the school is a bit unsettling, but consistent with the district's desire for the corporate feel of a collegiate setting. A full palette of concrete and masonry materials expresses the themes and interludes of the facilities design.

The exterior is handsomely composed. Three shades of brick contrast with exposed concrete

PROJECT C.F. Brewer High School
CLIENT White Settlement Independent School District
ARCHITECT Corgan Associates, Inc.
DESIGN TEAM Steve Hulsey, AIA; Eric Horstman, AIA; Greg Vessels; Bryan Leavitt; Shelly Nichols; Erin K. Cooper
CONTRACTOR Lincoln Builders
CONSULTANTS The Staubach Company (program manager); Pate Engineers (civil); SMR Landscape Architecture (landscape); LA Fuess Partners (structural); Romine, Romine, and Burgess (mechanical, electrical, plumbing); Amtech Roofing Consultants (roofing); HG Rice & Co. (food service); Stravis (technology); Wrightson, Johnson Haddon and Willams (theater rigging/lighting/sound)
PHOTOGRAPHER Charles Davis Smith, AIA



FIRST FLOOR PLAN
1. MAIN ENTRY
2. ATHLETIC LOCKER ROOMS
3. COMPETITION GYMS
4. KITCHEN
5. CAFETERIA
6. FINE ARTS
7. AUDITORIUM
8. FRESHMAN CENTER ENTRY
9. FRESHMAN CENTER
10. FRESHMAN GYM
11. LIBRARY
12. CLASSROOMS
13. ADMINISTRATION

structure and aluminum sun controls. Leuters limestone walls anchor the entries, and mark the axes as they puncture the skin of the building. The concrete columns were cast in fiberglass forms, finished with a slurry mixture, leaving a homogenous matte finish. Occurring outside and inside, the columns provide an honest contrast to the brick facades and the ceramic tile that lines the corridors. The concrete has not been relegated to hide within the walls. It steps out to support the fixed bleachers in the gym. Concrete benches cantilever through the exterior wall, providing seats along the edge of the athletic facility plaza.

The circulation path is clear, a welcome interlude between campus elements. The halls are characterized by light. Pouring in from adjacent courtyards, stairways, or from skylights cutting through floors, it further enlivens the bustling corridors.

The band and choir rooms have an expressive form. Viewed from the north, the two cascading forms look like giant megaphones that might explode with tremendous volume. Inside, they are funnels that collect the soft northern light that illuminates the spaces.

At its heart, the campus guards a central court. Defined by the offset east-west axes, it creates tension, an inviting void for the surrounding campus. The interaction of the courtyard, art lobby, and auditorium compose the most successful spaces on campus.

Art classes flank the lobby and open up to the courtyard where locations for student sculpture have been reserved. A canopy extends into the courtyard as an invitation to enter.

The lobby serves as a gallery of student art. It begins at the courtyard doors and terminates at the auditorium where the warmth of wood panels compose a dynamic form. A wood clad soffit protrudes from the wall held back from the adjacent concrete columns belying its support. It slopes toward the center, creased along its axis. Its lights hang below voids that seem to be created by their departure.

The formality of the campus reflects a community with a strong sense of propriety and need to establish itself among its neighbors. It is a handsome facility with some striking components. One hopes it would evoke a moment of reflection before an oncoming wave of anonymous development that is rapidly approaching.

Bart Shaw, AIA, practices with Hahnfeld Hoffer Stanford in Fort Worth where he designs a wide range of religious, commercial, and educational projects.

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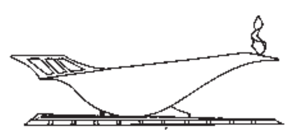

Report Released on Sustainable Landscape Design

A report released will help usher sustainable landscape design into mainstream use. Featuring over 200 recommendations for designing and building sustainable landscapes, the report is part of the Sustainable Sites Initiative, a partnership between the American Society of Landscape Architects, the Lady Bird Johnson Wildflower Center at the University of Texas at Austin and the U.S. Botanic Garden to create voluntary guidelines and a rating system for sustainable landscape design. The report is available at *www.sustainablesites.org*. Released in November and representing findings by 32 experts in fields ranging from design and construction to soils, hydrology, and public health, the Preliminary Report on Standards and Guidelines examines the positive environmental impact sustainable landscapes offer. For example, appropriate vegetation can help control erosion, filter out pollutants, provide habitat for wildlife and pollinators, and infuse oxygen into the air. The preliminary report, the first of three for the Sustainable Sites Initiative, also details practices that degrade landscapes and should be avoided, as well as techniques for designing landscapes that benefit the environment. A primary purpose of releasing this preliminary work is to solicit feedback, comments, and additional information via the Sustainable Sites Initiative's Web site. Comments are due by Jan. 11.

PHOTOS BY DAVID WATKINS, FAIA

Studies Abroad

While touring Japan, colleagues from WHR Architects expanded their horizons

By NANCY EGAN

LAST SPRING, 21 designers from WHR Architects embarked on a nine-day tour of Japan. The firm's principals intended the experience to be more than just a trip to look at buildings. They wanted to create a shared frame of reference, encourage collaboration, and broaden design consciousness among their staff.

"We took this step because we wanted our architects, interior designers and planners to be able to spend time together, away from the interruptions of the office, experiencing world-class architecture and focusing their conversations on a wide range of design topics," says David Watkins, FAIA, the firm's chairman and founding principal. "We also hoped to establish a common bond among those in our firm we consider part of our next generation of leadership."

WHR selected Japan because of its rich combination of historic and contemporary projects. The itinerary ranged from Tokyo's Ginza district (top left) to the sixteenth-century Osaka Castle (top right), as well as the offices of leading architectural practices, among them Tadao Ando Architects and Nikken Sekkei Architects.

Seeking to break down internal barriers, the firm intentionally included shareholders, mid-level practitioners, and promising young interns. A few observations follow:

The trip was not solely concerned with touring. It was about the human element of design and an interactive, collaborative design process. I was instantly connected to my peers through discussions and continuous design dialogue.

—Michael Poscovsky, architectural intern

The word that most clearly defined Japan for me is "co-existence." We saw tremendous sensitivity to nature in designing built environments. They co-exist and blend into one another.

—Bhargav Goswami, AIA, principal

Imagine my luck to spend some time in a hospital designed by the very architect we traveled all this way to visit. Suffering from food poisoning I was admitted to Kaisei Hospital in Kobe, designed by Tadao Ando. The design of this building addressed each of the senses directly and, in subtle ways, made a difference in my experience. The room was full of diffused light, a cool sea breeze, and the sounds and smells of a peaceful neighborhood.

—Wulf Focke, Assoc. AIA, associate

We benefited from observing the elegance and simplicity of Japanese design. Having fewer options in space and resources, Japanese design solutions are driven by complexity and constraint—simple, elegant, and rich.

—Lia Johnson, AIA, associate

The Japanese are very passionate about the art in architecture. The attention to detail was evident in every project we visited. Everything was clearly thought out and designed to perform. The architect takes on a greater role during construction and, working with the contractor, shares more team spirit and pride in getting the best result possible. I did not hear anyone mention "value engineering." Need I say more?

—Anthony Haas, AIA, principal

Nancy Egan works with design firms as an image consultant.

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