TexasArchitect

JANUARY/FEBRUARY 2005

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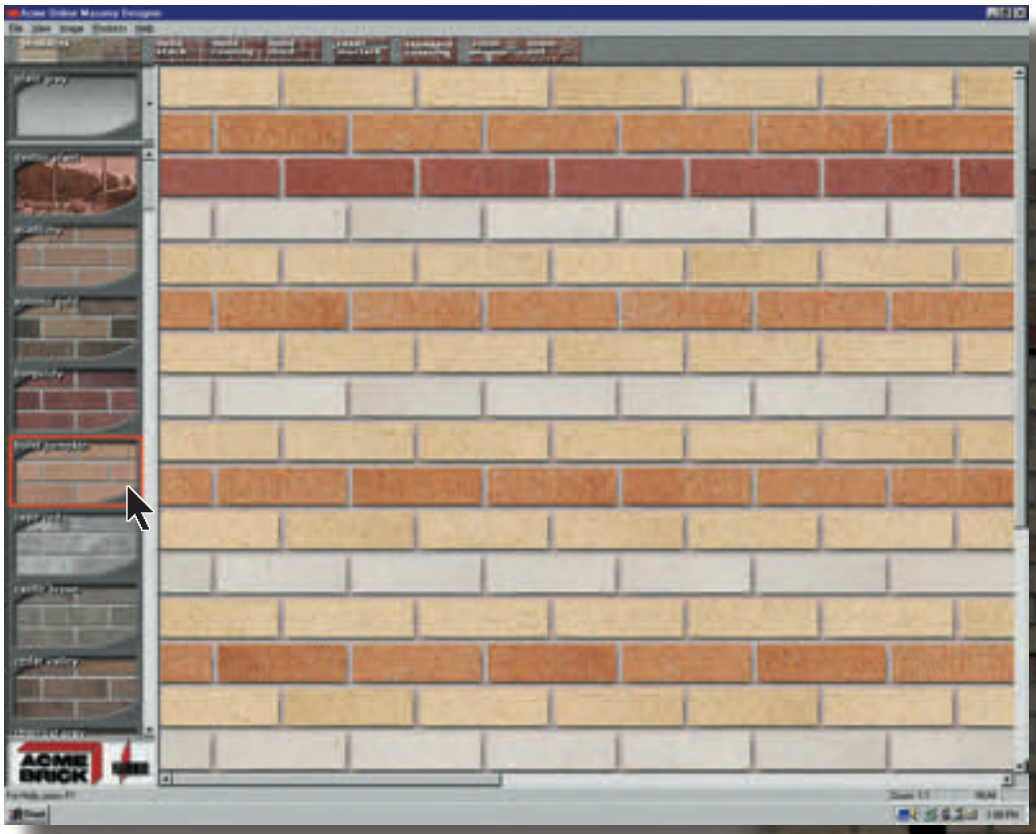

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Fort Worth Convention Center Expansion
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design architect HOK, Dallas
general contractor Walker General Contractors, Fort Worth
masonry contractor ROC, Dallas

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MAKING THE GRADE

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JANUARY/FEBRUARY 2005

ON THE COVER
Robert A.M. Stern Architects' Northrup Hall is the latest addition to the campus of Trinity University. In its lobby stands Rolando Briseño's *The Learning Tree*. At right is *World Writing Systems* by Kate Ritson.

DEPARTMENTS

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Through a Child's Eyes

Designing schools for students remains the architect's most critical objective

PHOTO COURTESY UPCHURCH ARCHITECTS

Christ Lutheran Day School, Brenham

IN this edition that spotlights architecture for education the wisdom of the late William W. Caudill, FAIA, is appropriate. Caudill, that indefatigable innovator, wrote a column in 1978 published in these pages titled "That Precious Tomato" in which he recounted a conversation with Richard Neutra, to whom Caudill had posed the question: How would he go about designing a school? "I would design it just as I would a tomato cannery," Neutra unhesitatingly replied. "My approach to designing a tomato cannery is first to passionately study the precious tomato—how it is grown, picked, brought in from the fields, cleaned, cooked, canned, packaged, and shipped. Most certainly I would want to study the process of preserving and reinforcing its God-given qualities and nature's endowment. The same would hold true in the design of a school. First I would study the tender, living, growing young humans—the most sensitive, precious goods on the planet. Then I would become intimately acquainted with the educative process to make sure we are readying and preparing them for shipment into our communities of tomorrow."

Recalling years later Neutra's astonishing profundity, Caudill stated: "That hit home. And hard. My obsession with self-contained classrooms, cross ventilation, team teaching, integrated subject matter, curriculum, building systems, age-level classroom grouping, schools within a school, sun controls, pods, and open plans seemed incidental. They were. They still are. These concepts—like fashion in men's shirts and ties, like ribbon windows and punched hole windows—come and go. But Mr. Neutra's tomato notion has never lost its truth—the student is the real client and is more important than educational or architectural concepts."

Substitute the concepts popular then with the buzzwords of today—the nebulous "sustainability" quickly comes to mind—and we still arrive at the truth of Neutra's tomato notion. However, after viewing many of the schools built recently in Texas, one might wonder if anybody factored the student into the equation. A closer look at a few of them begs the question: Who are today's schools designed for? The school board? The design awards jury? Fellow practitioners?

"My biggest concern with our profession is that we design for ourselves," says James Kirkpatrick, AIA, of Denton, who has the fortunate viewpoint of a second-time-around father. He already had reared a trio of daughters into young adulthood when, seven years ago, Cole came along. Now a third-grader at Jennings Elementary School, Cole is teaching her dad how to see again through a child's eyes. "You forget after 15 or 20 years," Kirkpatrick says. "It's human nature. The farther we get from things the more we forget about those things. But having a young one gets you back into their mindset to understand how they see the world." He wonders sometimes about the "factory approach" in school design. "Often you can't tell if it's a middle school or an elementary school," he says. "Our client, of course, is the school board but the child is the user." While governmental mandates determine much of school design and security is a top priority, Kirkpatrick says, architects must grasp every opportunity to create educational spaces that will engender interest in the children for their environments, not just their classrooms but in their world. "We're influencing an entire generation by designing the spaces we're putting them into."

In Brenham a new private pre-school (for ages six weeks to four years) designed by the local firm Upchurch Architects will certainly interest the infants and toddlers. Not quite complete, the Christ Lutheran Day School already has the adults speaking admiringly about its playful design and cheerful facades. Firm principal Thomas Hayne Upchurch, AIA, points to the 8 x 8-foot windows in each classroom as a critical feature. "It was real important to me to have windows as focal points, and exaggerating the size of the windows so what's going on outdoors becomes an extension of each classroom," he says. In other words, the large windows are intended to help the children understand their environment, whether inside or outside. "On the inside they have an idea of where they are, and on the outside they have the opportunity to connect as they approach the building." But it's not the windows that attract the most attention. It's the fanciful exterior, the bright palette that may best be described as childlike. "The kids are kind of giddy and the adults are kind of thankful," Upchurch says, adding that nothing else in Brenham comes close to the school's vivid exterior. "It was not intended to be an architectural statement. It was about color for the children. It was about the kids and about them identifying with the school and seeing colors they don't see on any on other schools or on any other buildings."

STEPHEN SHARPE

TA Welcomes New Staff

Texas Architect has added to its masthead three individuals who each brings enthusiasm and skill to the magazine's staff.

Rachel Wyatt joins *TA* as associate editor, a position responsible for the graphic design. Rachel graduated last May from the UT Austin with a master's in visual communication. She takes over duties from Adam Fortner, who is now associate art director of Los Angeles-based *Western Interiors and Design*.

Linda Van Trinh became *TA*'s associate publisher in September. A graduate of St. Edward's University in Austin with a bachelor's in communication, she manages the business operations. Linda takes over for Judey Dozeto, who now works with the public affairs office of Austin's mass transit authority Capital Metro.

Tammie Peschka is *TA*'s new circulation manager. She adds those tasks to her work as TSA's receptionist/administrative assistant. Tammie brings a wealth of expertise in marketing and sales.

November/December's Paperwork feature failed to identify the design firm for "Dallas Animal Shelter." The firm is workarchitecture in Dallas. The project is being published again in this edition's Paperwork feature on p. 17.

Also in the last *TA*, in "Religious Architecture Along the Rio Grande" on p. 18, the background information on author Stephen Fox omitted his work as a lecturer at the University of Houston's Gerald D. Hines College of Architecture.

In addition, renderings on p. 25 should have been credited to the Buffalo Bayou Partnership. The two images, illustrating improvements planned for downtown Houston, were part of a sidebar titled "Focus on Quality of Life" that was packaged with the issue's cover story, "Envisioning a Livable City."

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	ISSUE	EDITORIAL FOCUS
Ads Close: Nov. 19, 2004 Ad Materials Due: Dec. 1, 2004	JANUARY/FEBRUARY	EDUCATION
	Portfolio: Schools (featuring 2004 Texas Association of School Boards Design Awards winners)	
	Insight: Masonry and Concrete (bonus space for ads in this section)	
	Bonus Distribution: TASA/TEA Mid-Winter Conference, Jan. 30-Feb. 2 (Austin); National Association of Home Builders Trade Show, Jan. 13-16 (Orlando); Texas Association of School Business Officials Trade Show, March 2-4 (Austin)	
Ads Close: Jan. 28, 2005 Ad Materials Due: Feb. 3, 2005	MARCH/APRIL	ARCHITECTURE AS SYMBOL
	Portfolio: Libraries	
	Insight: Historic Preservation (bonus space for ads in this section)	
	Bonus Distribution: Texas Library Association, April 5-8 (Austin); Texas Historical Commission Annual Preservation Conference, April 14-16 (Austin)	
Ads Close: Feb. 25, 2005 Ad Materials Due: March 3, 2005	TSA HANDBOOK	DIRECTORY OF TEXAS ARCHITECTS AND GUIDE TO TSA
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Ads Close: March 25, 2005 Ad Materials Due: March 31, 2005	MAY/JUNE	RESIDENTIAL
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	Bonus Distribution: AIA Convention and Trade Show, May 12-14 (Las Vegas); Texas City Management Association Annual Conference June 10-13 (Galveston)	
Ads Close: May 27, 2005 Ad Materials Due: June 2, 2005	JULY/AUGUST	TRANSPORTATION
	Portfolio: Office Buildings	
	Insight: High-Efficiency Glass (bonus space for ads in this section)	
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Ads Close: Sept. 23, 2005 Ad Materials Due: Sept. 29, 2005	NOVEMBER/DECEMBER	ART IN ARCHITECTURE
	Portfolio: Sustainability	
	Insight: Flooring (bonus space for ads in this section)	
	Bonus Distribution: U.S. Green Building Council National Trade Show, Date TBA (Location TBA)	

Trinity Uptown Gains Federal Funding; Will Double Fort Worth's Urban Area

FORT WORTH An ambitious urban renewal plan is moving rapidly from vision to reality with the recent approval of $110 million in federal funds to reclaim approximately 800 acres on the north side of downtown Fort Worth. The Trinity Uptown project, estimated to cost $360 million, is expected to double the size of the downtown while enhancing development options for tracts previously used as industrial sites and others located within the Trinity River floodplain.

Urban design consultant Bing Thom Architects, based in Vancouver, British Columbia, was selected by the Tarrant Regional Water District because of the firm's previous experience with waterfront developments in the Pacific Northwest. Gideon Toal of Fort Worth will serve as the planning and economic development consultant, with CDM of Fort Worth providing engineering services for the project.

"The Trinity confluence is the catalyst that gave birth to Fort Worth. It is unusual for any city to have an opportunity to recast its identity in such a dramatic way," Thom said recently. "Fort Worth has one of the most compact city centers in North America. The combination of Trinity River, the rail lines, and interstate freeways form a cordon around the city's core. With Fort Worth's increasing inner-city residential demand, an opportunity is now provided for exploring the potential and development of the Trinity riverfront."

Since its conception, Trinity Uptown has evolved into a comprehensive urban plan touted by city officials as a catalyst for the redevelopment of Fort Worth's near-northside designed to attract 10,000 new households.

The project gained additional momentum in November when U.S. Rep. Kay Granger announced that Congress had authorized the U.S. Army Corps of Engineers to spend $110 million toward flood-control measures necessary for the project's success. The federal funds will allow the construction of a bypass channel to reroute a fork of the river through the largely underdeveloped industrial land lying north of downtown and south of the Stockyards National Historical District. The bypass channel, along with a new hydraulic dam and control gates, will ensure that floodwaters are controlled by the Corps and the Tarrant Regional Water District (TRWD). The need for the existing levee system is thus eliminated, therefore removing a significant barrier to riverfront development. A continuous urban waterfront will be created by raising the water level in a three-mile stretch of the river, allowing the public to access all parts of the riverfront from both banks.

Thom noted that the design for Trinity Uptown will generate "an extended waterfront, recreational lake, residential, commercial, and cultural uses on the newly rehabilitated delta that will be free of flood prevention levees and dykes." Recent renderings of the plan for Trinity Uptown shows an island of new development arranged in a grid pattern, interlaced with several canals and encircled by the Trinity River. The residential development is to be designed with walkable neighborhoods anchored by schools and parks. A light rail line will connect the area with downtown, along water ferries. Taller buildings will be clustered on "peninsula points" to preserve views of downtown and provide a dramatic entry. An iconic bridge design placed at the north end of the development will serve as an axial focal point in counterpoint to the Tarrant County Courthouse.

The federal promise of $110 million ensures that construction can begin within two years, although Congress will formally appropriate the funds over a period of years. Completion of the lake and bypass channel is projected to take up to eight years. The $360 million project will eventually require approximately $180 million from the federal government, another $90 million to be generated through a tax increment financing district, and $90 million to come from the City of Fort Worth, Tarrant County, and TRWD. Commenting on the "remarkable partnership," James R. Toal of Gideon Toal said, "I think that's a distinguishing characteristic of Trinity Uptown. A lot of cities fall short because of a lack of all those players."

"Trinity" continued on page 58

PHOTO BY COLIN GOLDIE

Viewed from the southwest, the model illustrates the proposed Trinity Uptown development with its bypass channel and canals creating new waterfront property. Bing Thom Architects of Vancouver, British Columbia, in collaboration with Fort Worth-based Gideon Toal, conceived the 800-acre urban design.

New Bell Tower to Return 'Old Red' to Its Former Stature

DALLAS A historic landmark missing from downtown for 85 years will once again take its place on the distinctive Dallas skyline. With a $3.5 million grant from the Texas Historical Commission, the former Dallas County Courthouse will rise 90 feet higher when a new bell tower is added to the top of "Old Red." The bell tower will replace one removed in 1919 for fear that it was structurally unsound.

Construction of the new bell tower is the final part of a three-phase renovation of the 1893 courthouse that began in 2001. The entire project is expected to be completed by early 2006 with the installation of a 4,500-pound replica of the original bell and a reproduction of the four-faced mechanical clock. With a height equal to a 20-story building, the renovated Old Red will almost look as it did when the courthouse designed by H.H. Richardson was originally built. But because the Pecos red sandstone used in the original tower is no longer available, the replacement structure will be built of red stone from Utah and the trim will be a granite quarried in New England rather than Arkansas blue granite.

"If you're a passenger in a car on I-35, it is really going to change the appearance of downtown," Don Savage, an assistant county administrator overseeing the project, told *the Dallas Morning News*. "It's a magnificent addition to the skyline."

James Pratt, FAIA, is the project's chief architect and his work on returning Old Red to its former glory spans three decades. He recently described the original structure, of which only a stub remains, this way: "The tower was built of bricks – brick on brick bonded – just like the Romans built, not at all like we build today. When you climb up the 60 feet from the attic floor to the top of the present stub, it's like being in San Geminiano, in a Roman or medieval tower."

The engineering will avoid the structural problems that led to the dismantling of the original tower 85 years ago. "To start, we will have to take down 30 feet of the existing stub, and rebuild it," Pratt said. "We will replace it with a tall, reinforced concrete box using higher than usual strength concrete and reinstall a stone jacket on the outside and a brick jacket on the inside."

In the spring, before the bell tower is erected, the renovated building will open as the Old Red Museum of Dallas County History & Culture.

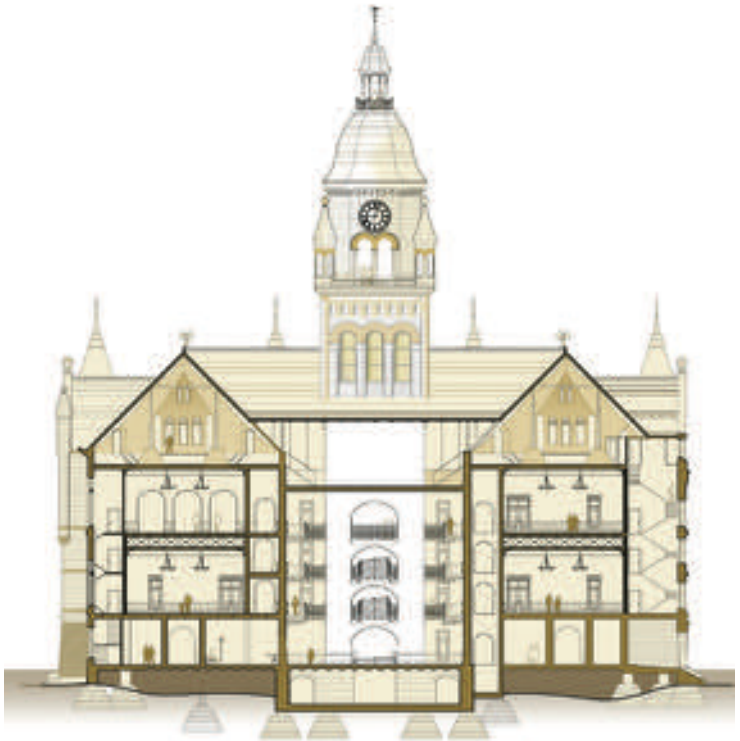
The original four-faced clock was an E Howard III, a durable mechanical clock cast in bronze that had to be wound every eight days. Pratt said the original most likely will be replaced with an E Howard II mechanism but updated with an electrical rewind system. Removed in 1919 when prevailing winds threatened the tower's stability, the clock was sold and its 4,500-pound bell – too large to be lowered safely – was cut into scrap.

According to Pratt's design, above the clock will be a 20-foot-high, ogee-shaped, eight-sided cupola, which will rise above the octagonal drum holding the clock. A 21-foot-high lantern will be placed on top of the cupola and a 14-foot-tall finial with a lightening arrestor will finish out the design. When completed the tower will be 210 feet tall.

"When it gets rebuilt, the tower is going to amaze people with its presence and prominence," stated Dwayne Jones, executive director of Preservation Dallas to the *Morning News*. "It's going to be among the strongest elements on the skyline."

LINDA V. TRINH

Linda V. Trinh is associate publisher of *Texas Architect*.



(above) A rendering of 'Old Red' with the addition of the bell tower. (below) The original bell tower atop the Dallas County Courthouse building was removed in 1919 for fear that it was not structurally sound.

AIA El Paso Presents Design Awards

EL PASO AIA El Paso honored three projects by local architectural firms and awarded its Lifetime Achievement Award during the chapter's 2004 Design Awards Banquet held Oct. 29. Attendees numbered 112 for the evening's celebration.

The Honor Award went to the Rubin Center for the Visual Arts at the University of Texas at El Paso designed by Wright & Dalbin Architects. The rehabilitated 1927 classroom building is now 14,700 sq. ft. on three floors and includes 5,500 sq. ft. of exhibition space in three galleries, a 135-seat instructional auditorium, and administrative offices. The design maintains UTEP's signature Bhutanese architectural style while providing a modern facility equipped for educational and exhibition purposes.

The Merit Award was presented to the Wellness Center for the City of El Paso's Housing Authority designed by ASA Architects. The firm worked with David Rawlings, the city's facilities and projects manager, to locate the center at the site of a former U.S. Post Office loading dock. Rawlings' ideas were incorporated by ASA to create a playful environment that promotes health-conscious activities among municipal employees.

The evening's third honor was the Mayor's Award for City Projects presented to the El Paso International Airport Consolidated Security Screening Checkpoint by Moore Nordell Kroeger Architects. One of the first passenger screening areas designed with the assistance of the Department of Homeland Security and the Transportation Security Administration, the project included 32,000 sq. ft. of additions and 10,000 sq. ft. of renovations.

The chapter's Lifetime Achievement Award for Service to the Chapter went to Duffy Stanley, FAIA, an active member since 1957.

The design awards jury was composed of three architects from Lake/Flato Architects in San Antonio—Greg Papay, AIA, Andrew Herdeg, AIA, and Robert Harris, AIA. Papay was the keynote speaker during the awards banquet.

PHOTO COURTESY MOORE NORDELL KROEGER

Security Screening Checkpoint

PHOTO COURTESY WRIGHT & DALBIN

Rubin Center for the Visual Arts

PHOTO COURTESY ASA ARCHITECTS

Wellness Center

PHOTO COURTESY TEXAS A&M UNIVERSITY

TAMU Bonfire Memorial Dedicated

COLLEGE STATION About 50,000 people attended the Texas A&M University campus on Nov. 18 for the dedication of the school's Bonfire Memorial, dedicated to the memory of 12 students killed in the 1999 collapse of a gigantic log-pile assembled for an annual football pep rally. The memorial's design by Overland Partners of San Antonio also acknowledges the 27 students injured in the Bonfire tragedy.

Three main elements comprise Overland Partner's design: the Tradition Plaza, a transitional space for contemplation after entering the memorial's grounds; the History Walk, the path leading to the centerpoint of the memorial's circular form; and the Spirit Ring (185-foot in diameter) with 12 gates.

Amber Waves of Acme Brick

Styles have changed throughout Fort Worth's architectural history, but the texture, richness, and intricate patterns of Acme Brick remain a pleasing constant of lasting designs. Architects for the Convention Center expansion added to the city's architectural legacy with undulating, contrasting bands of Acme Brick that add a welcome human scale. Today, more than ever, selecting Acme means coming home to beauty and trusted quality.

"We worked with the City of Fort Worth to avoid a 'box with docks' and to extend the rich existing fabric of this very walkable city. We created a pedestrian scale with brick banding and intricate detailing, drawing on historical scale, colors, and rhythms."
— Kirk Millican, AIA, HOK, Dallas

Fort Worth Convention Center Expansion
Architect: Carter & Burgess, Fort Worth
Design Architect: HOK, Dallas
Walker General Contractors, Fort Worth
Masonry Contractor: ROC, Dallas
Photographer: Ray Don Tilley, Bastrop

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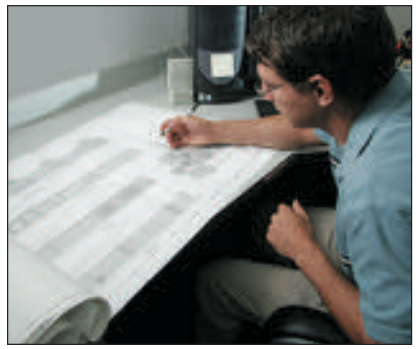


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Denton Central Fire Station

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AA Global Priority Shipping Center at DFW Airport

PHOTO BY PAUL HESTER

AUI Office Building

COURTESY HAHNFELD HOFFER STANFORD

Blue Bonnet Elementary

AIA Fort Worth Awards Four Projects

FORT WORTH Four Design Awards for built projects topped the bill during AIA Forth Worth's annual awards celebration held Oct. 13 at the Community Arts Center, the former Fort Worth Museum of Modern Art designed by O'Neil Ford & Associates.

The three Merit Awards were presented to:

• Denton Central Fire Station by James R. Kirkpatrick Architect in Denton. The project involved remodeling the historic building and making an extensive addition.

• AA Global Priority Shipping Center at DFW Airport by VLK Architects.

• AUI Office Building in Forth Worth by Gideon Toal.

Representatives of AUI Contractors, Tim Beaty Builders, and Thos. S. Byrne, Inc. presented the awards.

Hahnfeld Hoffer Stanford's Blue Bonnet Elementary received the newly inaugurated Mayor's Award presented by Charter Builders, Ltd.

In addition to the awards presented to built projects, two University of Texas at Arlington students claimed three Student Honor Awards. The recipients were Jennifer Campbell, for "Vitra Museum Display," and William Alfredo Villalobos for "Living in Suburbia" and "No Man's Land."

Comprising the jury were Ron A. Krueck, FAIA, of Krueck & Sexton in Chicago; Frank Welch, FAIA, of Frank Welch & Associates in Dallas; and Elizabeth Danze, AIA, of Danze & Blood Architects in Austin.

MoMA's Taniguchi Designs for Houston

HOUSTON Best known in the U.S. for his new Museum of Modern Art in New York City, Japanese architect Yoshio Taniguchi will next design a 30,000-sq. ft. museum complex for Asia Society Texas. Asia House, to be located in Houston's Museum District, will be Taniguchi's first free-standing building to be constructed outside his native Japan. While the MoMA project involved the expansion of an existing structure in a dense urban setting, the new Asia House will sit on a one-acre site surrounded by the combination of a residences, cultural institutions, and commercial high and low-rise structures. Groundbreaking for the $30 million project is expected to take place this year. The building will feature two galleries, an auditorium for performing arts programs, an interactive education center, spaces for lectures and social events, a café and teaching kitchen, a resource library, a bookstore and gift shop, and administrative offices for the Asia Society Texas and other non-profits with similar missions, as well as gardens and outdoor festival spaces. One of the two galleries will be dedicated for the exhibition of selected works from the Asia Society's renowned permanent collection, the Mr. and Mrs. John D. Rockefeller 3rd Collection of Asian Art. The second will feature special exhibitions of works by international, national, and regional artists. "Mr. Taniguchi's building seamlessly blends the essence of modern Asian design with a perfect grasp of the tradition of modern architecture in America," said Edward R. Allen II, chairman of Asia House's board of directors.

RDA Focuses on Brazil

Brazil's modern architecture is explored in four Wednesday evening lectures at the The Museum of Fine Arts in Houston. The lectures are prefaced with a documentary on Lucio Costa, the first architect in Brazil to argue in favor of modern architecture. For more information call (713) 348- 4876. JAN. 12 through FEB. 9

Ant Farm Celebrated

The Art Museum of the University of Houston celebrates Doug Michels and Chip Lord, who formed Ant Farm in 1968 in San Francisco as an alternative to the architectural styles and designs of their day. More information is available by calling (713) 743-9530 or visiting *www.blaffergallery.org*. JAN. 15 through MARCH 5

Levy Speaks on Modernism

Max Levy will speak on the topic of "Forever Young: Modernism and Weathering" at a free panel discussion. For information on this panel discussion and others, call (214) 764-2406 or visit *www.dallasarchitectureforum.org*. JAN. 18

DAF Features Nobel and Phifer

Philip Nobel, architect, critic, and author of the forthcoming book "Sixteen Acres: The outrageous Struggle for the Future of Ground Zero" will lecture at Horchow Auditorium of the Dallas Museum of Art. Lecturing the following month will be architect Thomas Phifer. Some of his works include the Rachofsky House in Dallas and the Museum of Contemporary Art in Barcelona, Spain. For information on admission call (214) 764-2406 or visit *www.dallasarchitectureforum.org*. JAN. 27 and FEB. 17

Rowlett Lectures at TAMU

HKS, Inc. is the focus of the 25th Annual Rowlett Distinguished Lecture Series to be held at Texas A&M University. HKS representatives will present a lecture titled, "HKS: People making an impact in Architecture." For further details call (979) 847-9357 or visit *http://rowlett.tamu.edu*. FEB. 4

Summer HABS Jobs

The Historic American Building Survey (along with HAER/HALS) seeks applications from students and professionals for summer employment documenting historic structures and sites of architectural, landscape, and technological significance throughout the country. Applications and details are available online at *www.cr.nps.gov/habshaer/joco/summerjobs.htm*. Applications must be postmarked by FEB. 14.

721 Congress

A six-story, multi-use development located along Congress Avenue in Austin, 721 Congress will include 28,000 square feet of residential loft space on four floors and a roof-top garden. Black + Vernooy Architects of Austin has designed the project to take full advantage of its location just four blocks of the State Capitol grounds. The site is the former location of the Avenue Hotel, opened in 1860 and well known as a watering hole for politicians. The ground-level lease spaces will benefit from Austin's "Great Streets" program (developed by the firm's Sinclair Black, FAIA) that calls for a 17-foot-wide sidewalk with newly planted tress, lighting, and paving. A grand balcony on the second level will wrap the building on Eighth Street and Congress Avenue.

Math and Science Lab Addition

A circular, two-story addition to the Early Childhood Development Center at Texas A&M University's Corpus Christi campus will provide training laboratories for students of the College of Education to learn to teach math and science lessons. The Math and Science Lab is designed by Wiginton Hooker Jeffry Architects of Austin in collaboration with the Durrant Group. Construction on the addition's first phase began late last year, with completion slated for November. Fundraising for the project's second phase is underway. The first phase's 10,600 square feet will be equally divided between the two levels. The ground floor will include a wet lab (adjoining an outdoor area where experiments can be conducted using resources from the nearby Gulf of Mexico), discovery lab, and support area. The second floor will house a math lab, exhibit space, administrative offices, and storage areas. The lab also includes a 9,500-square-foot outdoor learning space on the northwest side.

Dallas Animal Shelter

Construction began in November on the 63,000-square-foot Dallas Animal Shelter designed by the local firm of workarchitecture in association with Animal Arts in Boulder, Colorado. The project for the City of Dallas has involved the work of more than 18 consultants from across the country. The design combines the complexities of adoption display areas, lost and found holding areas, administrative services, an education center, and a veterinary clinic, along with a mechanical system capable of providing 100 percent fresh air at extremely high circulation rates to all the animal areas. An on-site water treatment system – called a "Living Machine" – will supply recycled water for kennel washdown. Upstairs, the Dog Adoption Gallery opens entirely to the densely vegetated hillside with a north-facing glass wall and features 30 home-like settings for displaying adoptable dogs. The project is scheduled for completion this spring.

PHOTO BY JOSH MCKIBBEN

The jurors are seated on the left side of the table. From left to right are Emily Summers, Neil Denari, and Joe Kosinski. They discussed contemporary architectural delineation with Jacob Tindal-Beck, Edward Denari, Muriel Denari, Karen Bullis, and Tom Trenolone.

Personal Styles

A few questions for three accomplished designers

EACH year AIA Dallas invites three design professionals to judge the entries in the Ken Robert's Memorial Delineation Competition. The jury is chaired by a nationally renowned architect regarded for design skill, but more importantly regarding the competition, for contributing to the visual communication of architecture. The second member of the jury is nationally renowned artist/media expert and the third being a Dallas architecture patron/supporter. The 2004 competition was held in November. Selected for the jury were Los Angeles-based architect (and Texas native) Neil M. Denari, principal of NMDA; filmmaker Joseph Kosinski of New York, principal of K+D Lab; and Emily Summers, president of Emily Summers Design Associates in Dallas.

Having the jurors assembled in Dallas offered an opportunity to ask a few questions.

Q: Who or what has been the greatest influence on your work?

Denari: [Experimental musician] Brian Eno said, "Computers don't have enough Africa in them." You could substitute *funk* or *soul* for Africa here and clearly get the message. The search with computers for me is – since I agree with almost everything Eno says! – for more Africa. One thing is for sure: whether the soul is in you, the computer, or both, it's there, and you'll find it eventually.

Summers: Working with Antoine Predock on the Rose House on Turtle Creek has been one of the greatest influences for my work. He has the ability of translating the essence of his mental image on a quick and immediate drawing that is just enough to convey the idea.

Q: Is style a bad thing?

Denari: You either have it or you don't. This fashion axiom presents style as an innate rather than learned human characteristic, almost like a personality trait. In many visual professions, at least those dominated by a heavy commercial force – car design, fashion, culinary arts, film, etc. – stylists exist to produce a flair, to capture the *je ne sais quoi* of the moment. In architectural culture, stylists are not employed, but styles are, and like an atomic element, style is one of the things that make up our world. It is neither good nor bad since it is a persistent phenomenon. To simply adopt a style to reflect an identity or to practice with an array of styles is perhaps different than the work it takes to invent styles themselves. One thinks here, for instance, of the sensibility it takes to use stripes and polka dots in the same ensemble – a form of sampling I suppose – rather than the cardinal sin of mixing the two. In any culture, every artifact finds itself classified, whether as a sign-form or as an element of a particular style.

Kosinski: It is very important to make sure that you separate style from trend. I think that is the greatest misconception that most people have these days. Style is something that you express through your work, a constant that is present in the progression of your craft. Trend is merely an application of the latest fashion. It is not really anchored by anything, where style is more personal. It says something about how the author practices design.

Q: What is the most significant under-utilization of traditional drawing and sketching in modern practice?

Summers: The often immediate leap from the "napkin" sketch – pregnant with possibility and ambiguity – to the usually stale precision of the computer drawings seems to reveal the lack of a thoughtful and organic procession from design conception to the built work.

Q: At what point should digital media be introduced in today's academic curriculum, and is it necessary to learn to draw by hand to understand the basic principles of illustration and delineation?

Kosinski: For me sketching as a thought process will never be replaced, but I do not believe that you need to learn to draw by hand to learn the basic principals associated with illustration and modeling. To answer the first part of the question: digital media skills should be developed as a foundation element from the beginning of a design education.

Denari: A mastery of software, at least in a technical sense, should be developed in the first two years of any architecture education. What could be taught by hand can be taught through the software. For every future student coming into a program, their world will be formed more and more by a direct connection to computers. For me, the enterprise is all about designing and not about drawing. Sensibilities developed with software can be just as acute, just as personal, and just as physiological as when hand-drawing is taught as a fundamental means to represent ideas.

More information about the annual Ken Robert's Memorial Delineation Competition is available online at www.dallasaia.org.

Open Window

Running counter to trendy styling, the work of alterstudio demonstrates simplicity, ingenuousness, and authenticity

by LAWRENCE SPECK, FAIA

PHOTO AND RENDERING COURTESY ALTERSTUDIO

(above) Exterior deck of the Paisano Residence; (below) west elevation of the Texas Hillel.

IN an era when many emerging design practices seem inclined toward whiz-bang imagery and hype-dominated rhetoric, it is refreshing to view the maturing work of alterstudio which seems to be oriented in exactly the opposite direction. Unfettered by any urge toward gratuitous shape-making or trendy styling, alterstudio's work is rooted in longstanding verities of architecture—rich, generous space-making; careful, modulated daylighting; thoughtful choice of materials; and meticulous attention to detail. It is meant to be experienced, inhabited, and lived in first and foremost.

The artifacts on display in this exhibition strongly reinforce this emphasis on unpretentiousness and real experience of evocative places. They are straightforward, beautifully crafted basswood models; legible, unaffected plan and section drawings; and candid, matter-of-fact photographs. Rather than being distracted by split anonometrics or didactic analitiques, the viewer is focused on representations that open a window on the real experience of "being there" in the architecture. As a kind of modest antidote to the commodification of architecture—where the emphasis is on image, high style, and "stars"—the exhibited work is less concerned with windshield appeal than with a direct corporeal experience of architectural space and form.

In this way, the studio's work reflects longstanding interests of Kevin Alter who has studied and written about the late-twentieth century work of architects like Alvaro Siza and Peter Zumptor. The alterstudio work pays homage to the simplicity, ingenuousness, and authenticity so palpable in these architects' buildings. The focus in all of this work is on principle, not on "spin." The goal is to deal with reality, not inconstant perception.

Three remarkable strengths, in particular, pervade the alterstudio work—response to particular *situations*, richness of building *section*, and *sensory delight*.

While some architectural practices are notably constrained in remodel projects, on constricted sites, or where budget and functional requirements are demanding, alterstudio seems to thrive in these instances. They use the *situation* in which they find themselves to provoke fresh, inventive approaches. While the *situation* of the Hardouin House, for example, kept it low, light, and modest, the *situation* at Wildcat Hollow demands and receives quirky, exuberant shapes and forms in response to context and views. The compelling character of alterstudio's work feels natural and almost inevitable in its context. The *situation* in which each project resides becomes a partner with the architecture, reinforcing it and making it stronger and more palpable.

The attention lavished on building *section* drawings in the exhibit is both striking and telling. Beautifully sculpted spaces and forms are delineated with precision and exactness and are often animated by scale figures in active pose. This is indicative of the prominent role *section* plays in the actual experience of these projects. Seemingly incapable of accepting a dumb flat ceiling, alterstudio mines the tops of their spaces fully to bring in glorious light, to create drama and dynamism, and to make their often necessarily small spaces seem much larger and more generous.

By far, the most striking quality of the alterstudio work is the manner in which it thoroughly engages the *sensory* perceptions of its occupants. There is a powerfully ambiguous presence in the work of both austerity and hedonism. A single tiny project, Hidden Cove Residence, is representative of the kind of vigor and gratification that is present in so much of the work. It provokes an enjoyment of light, color, texture, sound, coolness, warmth, and wetness that brings a kind of simple *sensory delight* that is all too rare in contemporary everyday life. This tiny room demonstrates the power of architecture when it truly engages the full range of human senses.

Throughout the alterstudio work this heightening of everyday human experience seems to be at the core of the design. Elegant and understated, the work speaks volumes without ever raising its voice.

Lawrence Speck, FAIA, is principal of Lawrence Speck Studio at Page Southerland Page in Austin.

Originally presented at the University of Texas at Austin's School of Architecture, the alterstudio exhibit opens at UT Arlington from Jan. 18 to Feb. 15. Kevin Alter is scheduled to speak Jan. 26. For more information access the events calendar at www.uta.edu/architecture/.

Linoleum

Sheet Vinyl

VCT

Stone

Less is More; More is Loss

by VINCENT B. CANIZARO

PROJECT Northrup Hall, Trinity University
CLIENT Trinity University
ARCHITECT Robert A.M. Stern Architects
CONTRACTOR Bartlett Cocke L.P.
CONSULTANTS Kell-Muñoz Architects (local); Walter P. Moore & Associates (structural and civil); Silber & Associates (MEP); Shen Milsom & Wilke Inc(acoustics, audio visual and telecommunications); Rialto Studio (landscape); Ann Kale Associates (lighting); Construction Specifications Inc (specification); Dermacon (curtainwall and waterproofing); Cochrane & Associates (code); Lerch, Bates & Associates (elevator)
DESIGN TEAM Robert A.M. Stern, FAIA, lead designer; Alexander P. Lamis, AIA, project partner; Adam Anuszkiewicz, project architect; Mike Soriano, project manager, construction; Diane Scott Burkin, AIA, project manager, design; Enid DeGracia, project manager, design; Kell Muñoz Architects, local architect
PHOTOGRAPHER Peter Aaron/Esto Photographics Inc

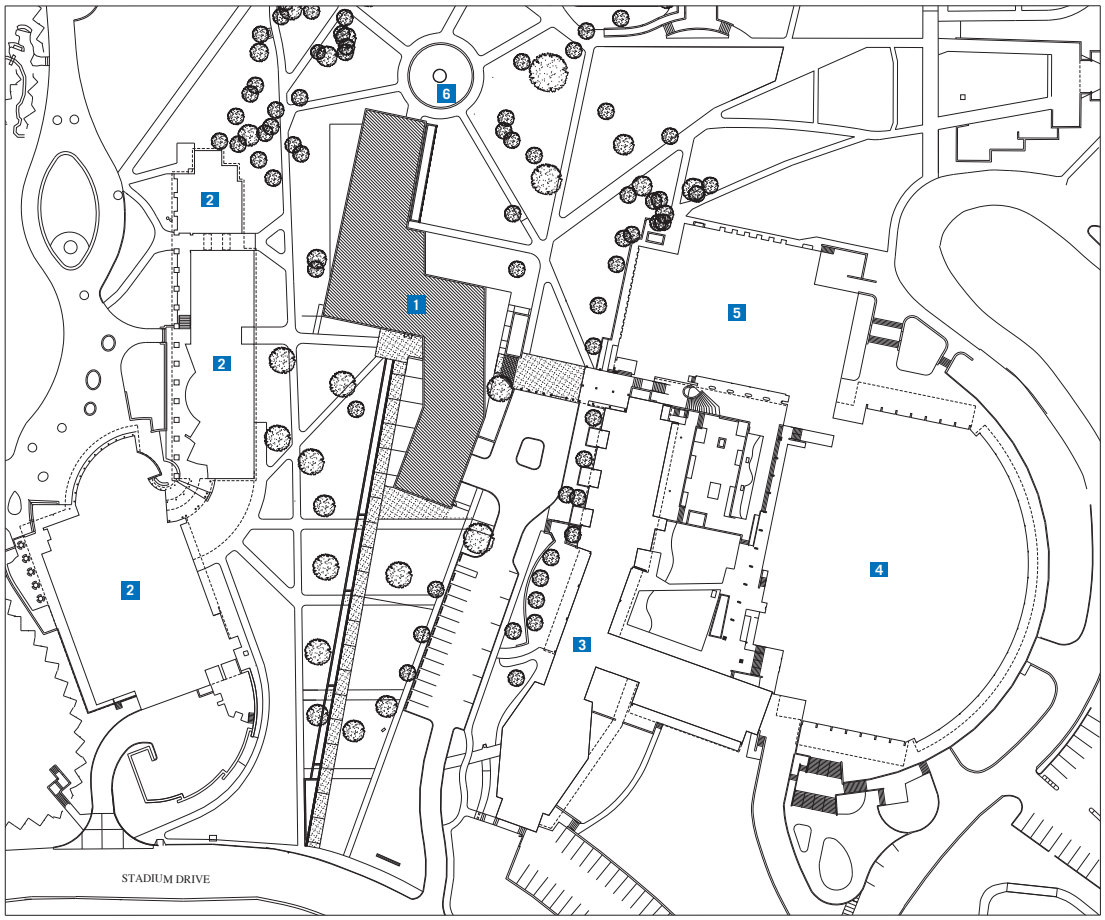
IN July of 2002 Trinity University committed to a new vision of its campus architecture. That was the day demolition began on Trinity's first building, Northrup Hall, designed by O'Neil Ford, to make way for its replacement, a four-story brick and limestone clad structure designed by Robert A.M. Stern Architects. Opened last autumn, the new Northrup Hall houses classrooms, administrative offices, and the departments of English and modern languages. Despite several shortcomings, the new structure is a welcome addition to the Trinity campus, albeit one that cost the school a significant piece of its history—a two-story "background" building of 1950s-era modernist design that helped imbue the upstart college with an air of progressiveness. That loss was the price paid for a new building that works best when viewed as a response, albeit superficial, to its context rather than judged as a independent work of architecture.

Cleverly configured to allow a much larger building – at 99,355 sq. ft., it offers almost one-third more space than its predecessor – on a slightly smaller footprint, the new Northrup Hall is organized into two narrow wings joined by a glass-enclosed lobby. Each wing thoughtfully aligns parallel to adjacent buildings and the whole is pulled respectfully away from landmarks that anchor the campus, the Margarite B. Parker Chapel and the iconic Murchison Memorial Tower. Northrup Hall's four-story height breaks with the surrounding structures in a way that does not feel overly oppressive on the intimately scaled 117-acre campus. One advantage to building tall is the efficient use of land. Another is the opportunity to design public areas with inspiring vistas, which in this case means views toward San Antonio's downtown. Unfortunately, the architect missed that opportunity to address the skyline view in a public way, choosing instead to dedicate those upper-level spaces either to hallways or administrative offices.

At the nexus of the two wings is the multistory transparent lobby intended by the architect to serve as a passageway for students trekking across campus. The idea was to create a welcoming lobby space for those in transit, as well as to open the campus visually and physically in a way that the old Northrup did not. As built, however, that idea is unfulfilled. Passage through the lobby requires negotiating around its staircase and/or squeezing through narrow openings—obstacles that hamper Stern's stated desire to draw students "through the building, and into the heart of campus." (Students may choose instead to circumvent the entire building, which is not a bad option considering Trinity's well-shaded footpaths and sensuous landscaping.) The lobby's striking feature is a steel-framed "grand" staircase that is tectonically expressive but not as expertly crafted. The staircase, along with its glass enclosure, appears to float and extends vertically for all four floors. Adorning the lobby's interior are two large artworks (*Learning Tree* by Rolando Briseño, a 25-foot bronze grill-like sculpture set in front of a cascading water fountain; and *World Writing Systems* by Kate Ritson, a series of limestone slabs depicting "all the known alphabets of the world from ancient to present time"), however both seem shoe-horned into their respective positions although the remaining space is ample and well lit.

Another shortfall is the architect's response to Trinity's desire for a new "front door" to greet visitors and inspire prospective students. Stern's solution is a three-story portico that offers a prominent welcoming gesture for the entire campus. However, viewed within context of the individual building, such a campus-scale gesture has resulted in a shading device that fails to actually shade or shelter people from the elements. Here image trumps practically in same way demonstrated by Northrup Hall's sunshades which add texture and detail to its exterior without providing much protection from the sun. In his remarks at the Sept. 16 dedication, Stern referred to the sunshades

(opposite page) More gestural than practical, Northrup Hall's three-story portico extends a big welcome but provides little shelter. (top) Red "Bridgeport" brick corresponds with a signature feature of Trinity's campus. (above) The entrance makes the most of the site's resident live oaks.



SITE PLAN
1 NEW NORTHRUP HALL
2 COATES CENTER
3 RUTH TAYLOR ART CENTER
4 LAURIE AUDITORIUM
5 STIEREN THEATER
6 EUGENIA MILLER FOUNTAIN

RESOURCES MASONRY UNITS: Acme; **LIMESTONE:** San Jacinto; **CAST STONE:** W.N. Russell & Co.; **UNIT PAVERS:** Alamo Stone; **POROUS PAVING:** Wausau; **STONE:** Alamo Tile Co.; **ENTRANCES AND STOREFRONTS:** Vistawall; **GLASS:** PPG **RAILINGS AND HANDRAILS:** Julius Blum; **WATERPROOFING AND DAMPPROOFING:** W. R. Grace; **ROOF PAVERS AND BALLAST MATERIALS** : Wausau; **TRAFFIC COATING:** American Hydrotech; **PREASSEMBLED METAL DOOR AND FRAME UNITS:** Openings of Pontiac; **SPECIALTY DOORS:** Cornell Iron Works; **SPECIAL CEILING SURFACES:** Eurospan; **ACOUSTICAL WALL TREATMENTS:** Wall Technology; **PAINTS:** ICI Dulux; **HIGH PERFORMANCE COATINGS:** Tnemec; **LAMINATES:** Wilsonart;**ACOUSTICAL CEILINGS:** Armstrong; **SIGNAGE AND GRAPHICS:** F.A. McComas; **TERRAZZO:** Venice Art Terrazzo

(opposite page, clockwise from top left) Rising above most of Trinity's other structures, Northrup Hall's top floor offers a balcony view of the Murchison Memorial Tower and a downtown vista from an administrative office. Metal sunshades add some detail and texture to the brick facade.

as "energy-responsive features" and as an example of the environmentalism that is a part of Ford's legacy. But with those words he did a great disservice to the meaning of both concepts. While we don't know how Ford would have grasped architectural sustainability as we understand it today, Stern's "energy-responsive features" pale in comparison to the simple climate-responsive strategies of cross-ventilation and deeply shaded south facades that Ford employed in the 1950s.

As innovative as Ford's Northrup Hall was, the old building interrupted pedestrian traffic across the Trinity campus and Stern was charged with solving that circulation problem. His solution included relocating the Eugenia Miller Fountain to the west side of Northrup Hall. Previously it languished in a drop-off circle of asphalt at the main campus entrance, so its new siting is a welcome change. In its new location the fountain has become the centerpiece of the campus' new central greenspace and it enlivens the surrounding landscape.

In his remarks at Northrup Hall's dedication, Stern described his desire to employ "similar materials [to those found at Trinity] but in new ways." The example most visually apparent is the use of Trinity's signature red "Bridgeport" brick. The choice of king-size brick, laid in stack rather than running bond, reinforces its status as mere cladding or as a kind of exterior wallpaper. Typically, stack bond is used as a decorative feature and limited to small areas, so Stern's decision to apply stack bond here on large areas suggests that, unlike Ford, his sensibility about materials is one of imagery not integrity. Additional cladding, in this case limestone used at the building's base, establishes a baseline that contrasts sharply with the slope of the campus site. This is a welcome gesture and refers to one of the most subtle and powerful features operating between the architecture and landscape at Trinity—contrast. From the beginning of Trinity's campus planning by Ford and William Wurster, it was understood that the simple planar lines of Ford's practical and regional modernist buildings would enhance the site's highly irregular topography, and his buildings would in turn be enhanced through their contrast with the campus landscape. That contrast is a key, but often overlooked, factor to one's experience at Trinity.

"Less" continued on page 58

Turning Point

by MICHAEL BUTLER, AIA

GROWTH, it seems, is inevitable in Texas, and the prairieland north of Dallas is currently experiencing more than its fair share. As happened to its neighbor Frisco over the past decade, the rapidly expanding suburban sprawl has recently overtaken the tiny community of Little Elm near Lake Lewisville.

In adapting to this accelerated period of growth, Little Elm Independent School District's leaders sought out an architectural firm experienced with helping communities struggling with similar challenges. They chose SHW Group to guide them through their next phase of expansion, which included planning and design for Hackberry Elementary School. The architects' skill in weaving together a community during a week-long, on-site design exercise solidified ideas and direction for the image of the new campus. The result of such direct involvement of parents, faculty, staff, administrators, and school board members led to a strong sense of ownership among the school district's leaders and engendered trust in the firm's designers. This trust would serve both parties well as ideas on paper developed into reality.

As is the usually the case, the architects investigated the site's surroundings for clues to the project's context. They found metal agricultural buildings, mobile homes, and neighborhoods of small, undistinguished wood-frame/wood-sided homes, all set on a flat and sparsely vegetated landscape—not much information to work with for a client wanting a school designed for a community just beginning to realize its potential. In contrast to the existing context, a more progressive image for the building began to develop through the firm's initial meetings with the client. The parties agreed on the need to place the strongest visual elements at the school's entry, although some initially questioned the architects' design for an assembly of angular concrete walls and glazed curtain wall.

"They were apprehensive about the possible brutality of such raw material forms," said Konrad Judd, AIA, the project's architect. "They have come to appreciate the soft nature of the finish." The entry's composition, he added, emphasizes the contrast between the materials and conveys feelings of strength and stability along with openness and transparency.

It's through this portal that the public enters the building whree the administrative reception area is located. The entry gives the staff control over who enters and projects the sense of security to all visitors to the campus. The hands-on, direct connection with parents and students entering the building encourages positive contact between the staff and parents. The library, as well as the cafetorium, can be opened to the public after regular school hours while closing off the remainder

(opposite page) At night, the entry's glowing glass curtain wall becomes a beacon to the community. (this page, from left) The dining room's interior curtain wall brings natural light through the space to illuminate an adjacent corridor. The exterior's materials coalesce outside the cafetorium.

PROJECT Hackberry Elementary, Frisco
CLIENT Little Elm Independent School District
ARCHITECT SHW Group LLP
CONTRACTOR DalMac Companies
CONSULTANTS Grubbs Ramsey (landscape); Estes McClure & Associates, Inc. (mechanical, plumbing & electrical); Glenn Engineering (civil); H.G. Rice & Company, Inc (kitchen)
DESIGN TEAM Terry Hoyle, AIA, managing partner; Konrad Judd, AIA, designer; Jonathan Aldis, AIA, project manager; Jim Wallace, design assistant; Marty Sims, assistant project manager; Barb von der Heydt, AIA, programmer
PHOTOGRAPHER Mark Trew

(top left and right) The hard edges of the building envelope give way inside to colorful interior finishes and playful forms animated by abundant natural light. (above) Clerestories set high along the wide corridors help create optimal conditions for additional learning areas.

of the building with security barriers. Thus, the front part of the building doubles as a community meeting space.

The educational elements of the plan are organized around the library, gymnasium, and music and art functions. The classroom wings radiate outward as spokes from these program areas. The school district's leaders and the architect felt the central location would achieve a better coordination of these activities into the everyday schedules of the students.

The classrooms are separated into grade specific groupings. Kindergarten and first grade are together. Shared support functions are grouped together in a central core and widened corridor spaces connect the K-1 spoke. Natural light flows into this area minimizing the need for artificial lighting during the day and keeping the hallways bright and cheerful. The site organization wisely locates a drop-off/pick-up area specifically for young children that is separate from the drop-off/pick-up area for the older grades.

The spokes housing the second, third, and fourth grade students include a wide central corridor that offers several benefits. As in the K-1 spoke, overhead clerestories brighten the hallways naturally. Small groups of students can gather in this area for shared activities. Teachers are able to group their computers allotted for each classroom into this common area and share with the other teachers. Each spoke includes a restroom grouping near an easily accessed door leading to the outside play/educational areas. Once students enter their classroom area they can stay focused on their studies in that area until it's time to take advantage of the additional education programs in the building's core.

Overall the design and function of the campus is successful. The architect captured the desires and goals of the community. The more progressive stance the building takes in the community should be a continuing source of pride. The positive appearance will help the school district to invite new families to a progressive, growing district, to retain good faculty, and to attract quality staff in the future.

Michael Butler, AIA, is a principal of Fitzpatrick Butler Architects in Tyler.

SITE PLAN
1 ADMINISTRATION
2 DINING
3 STAGE
4 MUSIC
5 ART
6 GYM
7 LIBRARY
8 CLASSROOMS
9 KINDER/1ST GRADE

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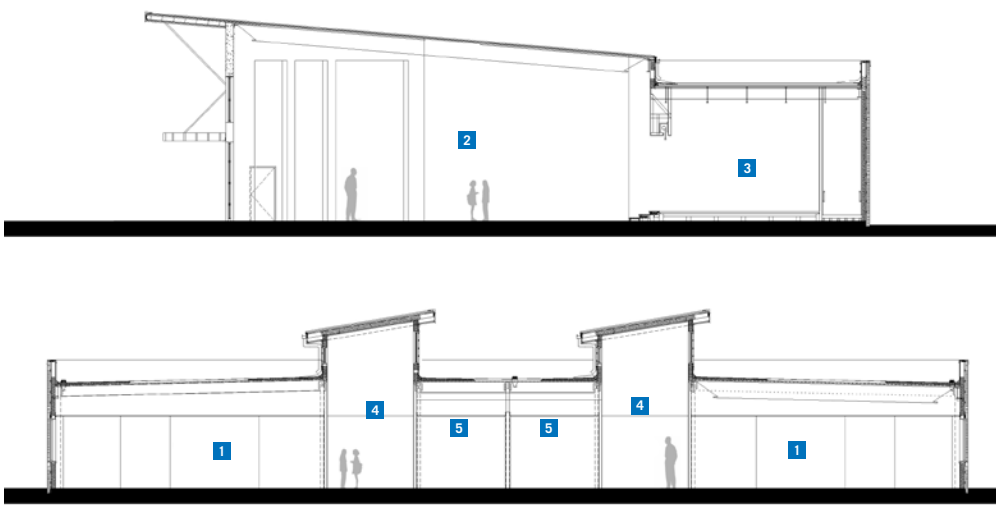


SECTION
1 CLASSROOM
2 DINING
3 STAGE
4 HALL
5 LITERACY

RESOURCES **MASONRY VENEER ASSEMBLIES:** Acme Brick; **WATERPROOFING AND DAMPPROOFING:** Firestone Building Products; **LAMINATES:** Formica; **INSULATION:** Knauf; **METAL ROOFING, FASCIA AND SOFFIT:** Petersen Aluminum; **METAL DOORS AND FRAMES:** Curries; **PREASSEMBLED METAL DOOR AND FRAME UNITS:** VT Industries; **SPECIALTY DOORS:** Overhead Door Co; **ENTRANCES & STOREFRONTS:** United States Aluminum; **METAL WINDOWS:** All Seasons Commercial; **GLAZED CURTAINWALL:** United States Aluminum; **TILE:** Daltile; **ACOUSTICAL CEILINGS:** Wall Technology; **ATHLETIC SURFACING:** National Coatings; **ACOUSTICAL WALL TREATMENTS:** Guilford of Maine; **PAINTS:** Sherwin Williams

1 + 1 = 3

by LAWRENCE CONNOLLY, AIA

PROJECT Austin Waldorf School Performing Arts Center and Athletic Building, Austin

CLIENT Austin Waldorf School

ARCHITECT Stanley Architects

CONTRACTOR Workman Commercial

CONSULTANTS Structures–Jerry Garcia, P.E. (structural); Boner & Associates (acoustical); Urban Design Group (civil); KMAX (MEP); ADA Assistance (TAS consultant); Stephenson & Associates (cost estimating)

DESIGN TEAM Lars Stanley, AIA, design principal; Duffy Stanley, FAIA, design principal; Grace Riggan, project architect; Kelly Mahan; and Darren Copeland

PHOTOGRAPHER Hester + Hardaway

WITH a strong emphasis on the arts and physical movement, the Waldorf School of Austin has struggled through most of its 25-year history to make do without a performing arts center. The recent completion of new facilities, planned as part of a campus expansion study finalized in 1999, corrected that deficiency despite a severely limited budget that necessitated the use of a metal building system. Designed by Stanley Architects of Austin, the interior spaces are unexpectedly inspiring and appropriately respond to the requirements of a pedagogy that stresses the importance of children's learning environments.

Founded in Germany shortly after World War I, Waldorf Education seeks to instill self-confidence in young children through body movement, theater, visual arts, and an appreciation of craft. Unlike more traditional education systems, the arts are not viewed as electives. For example, Waldorf students must learn to play a musical instrument and perform on stage many times during their high school career.

Because of the high value placed on individual performance, the space requirements for the PAC differed from auditoriums at most schools where students in the performing arts comprise a minority. Waldorf needed a stage to accommodate an orchestra of 45 and a chorus of 60 to perform before an audience of 300—a remarkably low viewer-to-performer ratio that called for an unusually large stage. The building's program included other primary spaces, including two large music rooms with resilient wood flooring so they could also function as movement studios.

The Athletic Building's program was more conventional—a regulation-size basketball court designed to be reconfigured into two regulation volleyball courts or two smaller basketball courts, locker rooms, and restrooms.

With a seemingly impossible budget of $3 million, the school's building committee needed a couple of specific-use structures that would be conducive to Steiner's alternative pedagogy. In addi-

tion, the buildings had to comply with strict land-use regulations governing the site located over the environmentally sensitive Edwards Aquifer.

"Our selection as the architects for the new facilities was based in part on our combining architecture with craft, melding office and metal studio," said Lars Stanley, AIA, who besides being an architect known for his sustainable design is an accomplished metalwork artisan. "Consequently, a focus of the design was to express the school's educational philosophy in the buildings and site, including the creation of opportunities for the community to create details, architectural elements, and artistic expressions throughout the facilities, within a very limited budget."

In order for the project to meet its budget, the contract was negotiated and the contractor selected before schematics were complete. The timing of the contractor selection allowed the architect an early assessment of how the design was meeting budget demands, and quickly led to a decision to use metal building systems. That decision created two of Stanley Architects' biggest challenges: to disguise the "metal building look" and to scale down the unwieldy box-like massing of the two large buildings.

Another significant decision reached very early in the design process succeeded in reducing the scale of the buildings and reducing the cost of the project. An imaginative interpretation of the building code allowed the two buildings to share restrooms if they were linked by covered walkways. Thus, the two-building project spawned a third to function as restroom facilities for the other two.

The PAC and the Athletic Building are sited with their 40-foot-tall gable ends at right angles to each other to form a two-sided courtyard that opens to the southeast's prevailing breezes and morning sun. The utilitarian restrooms building is located in the northwest corner, facing both buildings at an angle and linked by a curvilinear covered walkway. The outline of that walkway is continued to form the PAC's covered entry and concave lobby as well as the Athletic Building's south-facing entry and porch. The curved covered areas' perimeter is a gnomic spiral based on musical proportions.

(opposite page and above) To help disguise the "metal building look" the architect integrated color and a variety of forms to scale down the bulky mass of the structures.

RUDOLF STEINER AND WALDORF EDUCATION

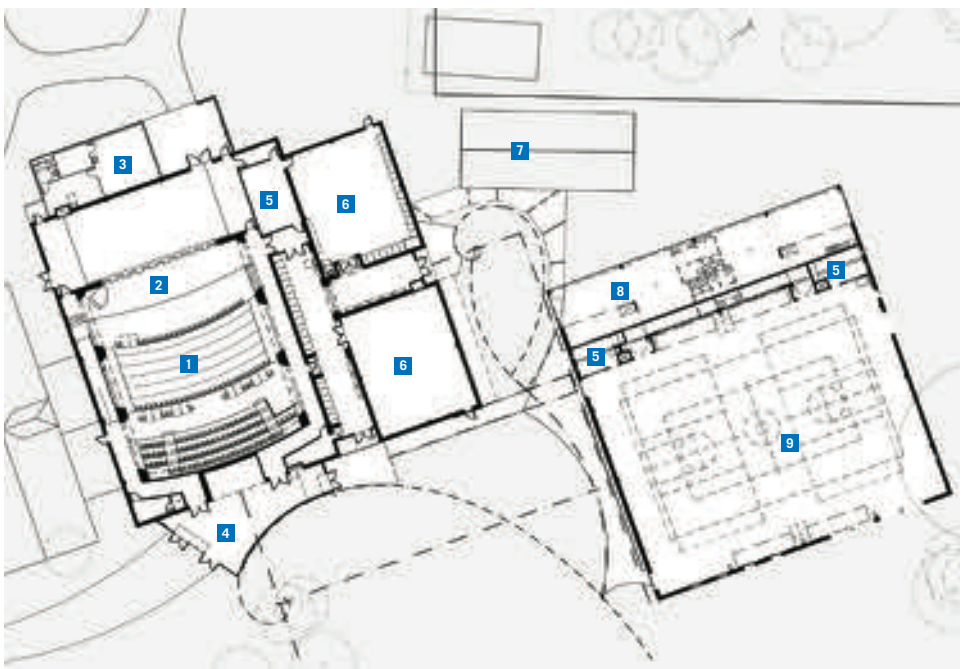
Waldorf Education grew from the ideas of Rudolf Steiner (1861-1925), a philosopher and educator who founded his first school in 1919 for the children of employees at the Waldorf Astoria Tobacco Company in the German city of Stuttgart. Steiner established a curriculum that addressed subjects on three levels: the intellect (as in academic), the heart (as in the artistic and emotional aspects of the subject), and the hands (practical application). The attempt is made to integrate art into all aspects of the curriculum, including the teaching of science.

Author of some 30 books and a prolific lecturer, Steiner called his spiritual philosophy "anthroposophy," which he defined as "the consciousness of one's humanity." Today's Waldorf pedagogy is still rooted in Steiner's belief that a child's education must involve the individual's body, soul, and spirit. Waldorf teachers at all grade levels and in all disciplines receive specialized training in the philosophy and methods of Steiner's approach. In lower grade levels, the teachers employ artistic means (such as rhythm, movement, color, form, recitation, and music), not primarily as an outlet for self-expression, but as a way for children to understand and relate to the world around them. Additionally, first-graders are taught to distinguish between the built world and nature – for example, the difference between "curved line" and "straight line" – and that fundamental distinction continues to be observed throughout their schooling and becomes an indelible influence on their manner of perception. Upper grade level instruction cultivates an understanding of the world through scientific experimentation, observation, and reflection. The ultimate goal of Waldorf Education, according to its proponents, is to enable students as fully as possible to choose their individual path through life as adults.

An estimated 135 Waldorf schools currently operate in the U.S., with the worldwide total said to be more than 700.

Although not an architect by training, Steiner designed two buildings in his lifetime. Both were built in Switzerland near Basel and were called the Goetheanum, serving as architectural expressions of German poet Johann Wolfgang von Goethe's artistic, philosophical, and scientific work. The first Goetheanum, built of wood and completed in 1919, burned. He designed a replacement that was built of concrete in 1928. Described by Steiner as anthropomorphic architecture, the two non-orthogonal structures defy stylistic categorization.

LAWRENCE CONNOLLY, AIA



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SITE PLAN
1 AUDITORIUM
2 STAGE
3 BACKSTAGE SUPPORT
4 LOBBY
5 OFFICE
6 MUSIC ROOM
7 RESTROOMS
8 FUTURE LOCKER ROOMS
9 GYMNASIUM

Landscape features planned for the future will reinforce these geometries on the ground plane.

The architects responded to the challenge of reducing the scale of the PAC and Athletic Building by lowering the eaves of their respective support spaces. At the PAC this meant the music rooms and storage/hallway component, the stone-clad lobby, and the covered entry. Similarly, the scale of the Athletic Building was reduced by its covered entry, porch, and the yet-to-be-built locker rooms. Other features that help disguise the metal buildings include the exterior trim and metal panels that express mathematical proportions based on the golden section (a seminal topic of study in Waldorf's curriculum).

Applied glazing (a technique called Lazure painting) on the PAC's interior gypboard walls bestows a monolithic feel to the surfaces because of its three-dimensional appearance. Rectilinear, splayed gothic arches provide a processional Old World feel and rhythm to the storage/hallway, and those arches are repeated on a larger scale in the three bays of the auditorium and at its proscenium. Stained non-orthogonal oak trim contrasts dramatically with the Lazure painting and reinforces the neo-gothic arch *parti*.

"The buildings are a pleasure to work in," says Robert Brockett, the school's music director, who adds that visitors often marvel at how much value the school received for its $100-per-square-foot budget. "It is possible to have an inspiring facility without an inspiring cost," he says, crediting the design team for paying attention to the client's desires. "The architects did a good job of hearing what we wanted."

Lawrence Connolly, AIA, is principal of Connolly Architects in Austin and is a contributing editor of *Texas Architect*.

(clockwise from below) Stone walls and heavy timber columns at the entry respond to the site's rugged terrain. Square, custom stained glass oculi above the arches in the auditorium imbue the space with a reverential glow. The curved canopy minimizes the boxiness of the metal buildings. Splayed gothic arches above the windows lend an Old World feel to the lobby.

RESOURCES FLEXIBLE PAVEMENT COATING AND MICROSURFACING: Kinetics Noise Control - Floating Floor; RECREATIONAL FACILITY AND PLAYGROUND EQUIPMENT: American Atlethic Sports Construction Group; ATHLETIC AND RECREATIONAL SURFACING: Action Flooring Systems; PREASSEMBLED METAL DOOR AND FRAME UNITS: Pioneer Industries; SPECIALTY DOORS: The Cookson Co; ACCESS DOORS AND PANELS: Monarch Exit Devices; ATHLETIC WOOD FLOORING: Action Flooring System; THEATRE SEATING: Irwin Seating Co; CARPET: Patchcraft Commercial Carpets; SOUND-CONDITIONED ROOMS: Kinetics Noise Control; PRE-ENGINEERED BUILDINGS: Butler Buildings; CHOPPED STONE: Leander Cut Stone; ARCHITECTURAL WOODWORK: AAA Mill Inc (Hogan Hardwood); LAMINATES: Wilson Art; WATERPROOFING AND DAMPPROOFING: Butler Buildings; ROOF AND WALL PANELS: Butler Manufacturing

Smart and Lean Machine

by MARK LAM, AIA

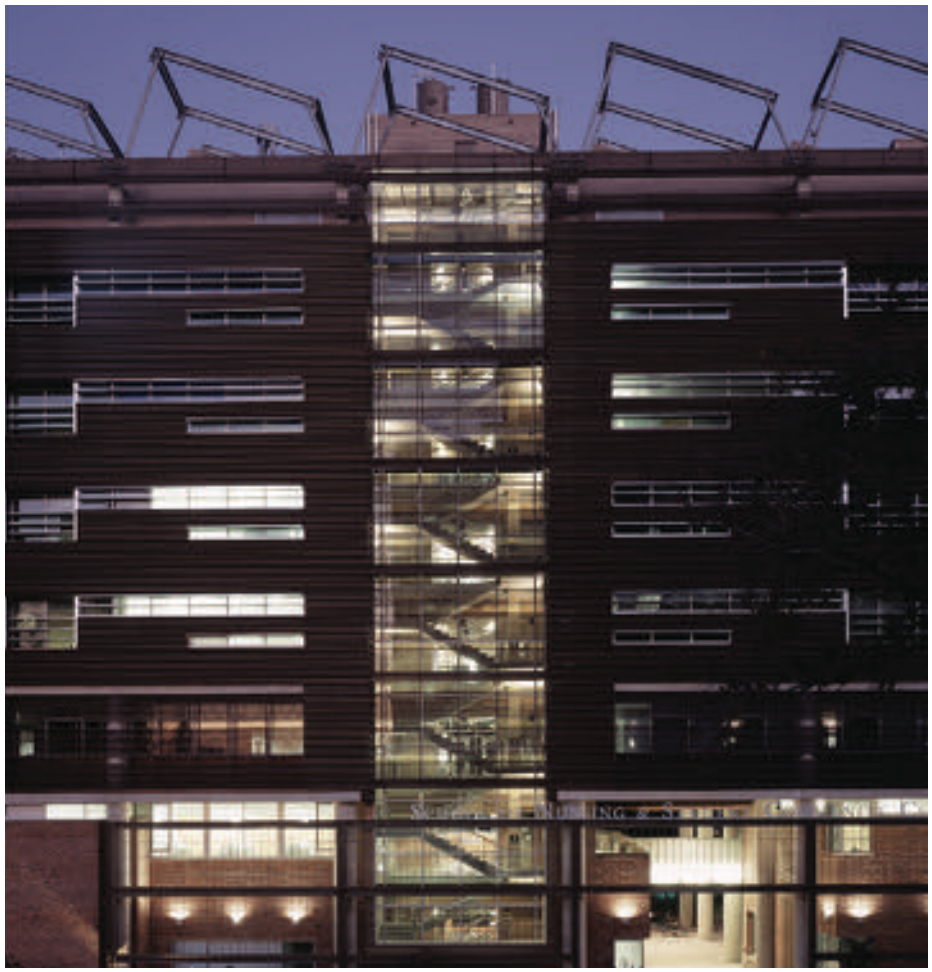
PROJECT School of Nursing and Student Community Center at The University of Texas Health Science Center, Houston
CLIENT The University of Texas Health Science Center
ARCHITECT BNIM Architects with Lake/Flato Architects
CONTRACTOR Jacobs Vaughn, Inc.
CONSULTANTS Jaster Quintanilla & Associates (structural); Carter Burgess, Inc (MEP); Clanton Associates (lighting); BNIM Architects (interior design); Supersymmetry (energy); Epsilon Engineering (civil); Coleman & Associates (landscape); Apex Busby (cost consultant); Rolf Jensen & Associates (code); Philo & Wilke Architects (lab consultant); Pelton Marsh Kinsella (AV and acoustics); Worrell Design Group (food service); Center for Maximum Potential Building Systems, Rocky Mountain Institute, and Elements (sustainable strategies)
DESIGN TEAM (BNIM) Steve McDowell, FAIA, project designer; Kimberly Hickson, AIA, project manager; Chris Koon, AIA, project architect; and David Immenschuh: (Lake/Flato) David Lake, FAIA, project designer; Greg Papay, AIA, project architect
PHOTOGRAPHER Hester + Hardaway

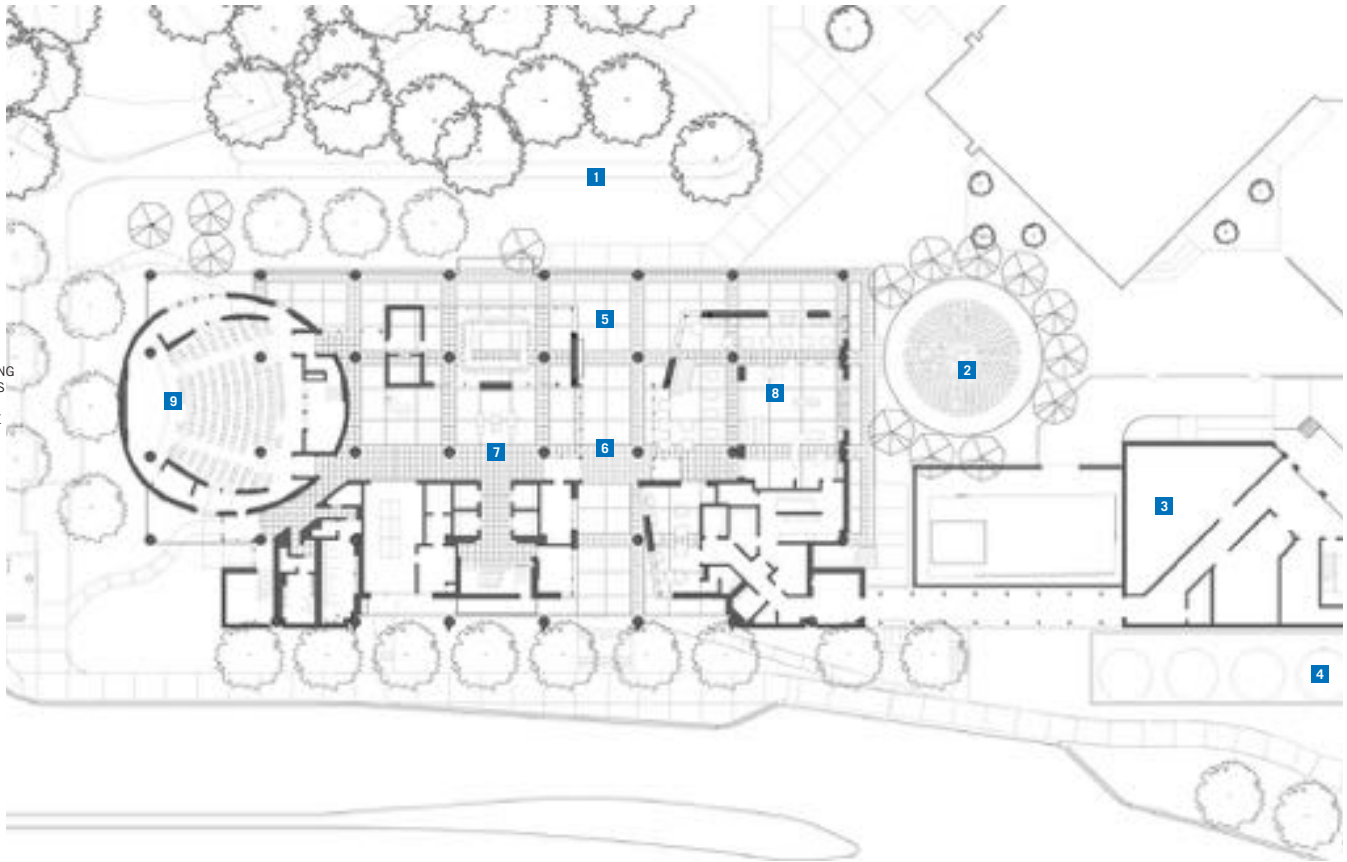
FOUR decades after the heyday of the hippie, the aesthetics of 1960s counterculture are emerging in the unlikeliest of places, including university campuses where today's additions to the built environment often reflect our society's "what you see is what you get" sensibilities. The new architecture is decidedly more relaxed and less contrived in comparison to earlier eras. After all, today's corporate CEO, college dean, and facilities director just may have been yesteryear's radical environmentalist, commune dweller, or free-spirit iconoclast. So maybe it should not come as a surprise that they might challenge prior notions of appropriateness by demanding projects designed with natural materials, exposed systems, and unambiguous expressions of function.

The recently completed University of Texas Health Science Center School of Nursing and Student Community Center firmly claims its place among the non-descript structures that comprise Houston's Texas Medical Center. With its fabric sunscreens and saw-toothed roof combining to form a curiously detailed silhouette, the new eight-story structure creates a conspicuously visual tension with the neighboring huddle of status quo.

Mandated by the owner to be a flagship of sustainable design, criteria called for the project to: achieve a LEED Gold or Platinum rating and that half of its materials be of recycled content; reflect in its design the professional values of the user group; operate with less than 70 percent of the energy used by the adjacent School of Public Health; and not exceed by more than five percent the design and construction budget of a similar University of Texas System project. As if these limitations were not enough, the project was complicated by a compact site located within a 100-year flood plane that required its long axis to be set on a north-south orientation, the least desirable in Houston's hot and humid climate.

(opposite page) Each facade responds to its solar orientation, therefore the western facade features minimal glazing. Steel structures visible on the roof will be outfitted with photovoltaic array. (this page, clockwise from top left) Windows on the eastern facade are shaded with vertical canvas sails above the tree line, while windows below the tree line offer unobstructed views toward adjacent Grant Fay Park. Generous glazing brings sunlight deep into the building's core. The central stair connects the "vertical campus," reinforcing the school's sense of community. Light diffused through frosted glass panels at the top of a vertical atrium penetrates to the sixth floor.





FIRST FLOOR PLAN
1 FAY PARK
2 LABYRINTH
3 SERVICE BUILDING
4 WATER CISTERNS
5 BREEZEWAY
6 MAIN ENTRANCE
7 MAIN LOBBY
8 CAFÉ
9 AUDITORIUM

With most of the criteria met (the application for Gold status – LEED's second-most demanding – is being processed), expectations were high, especially among the 17 firms (architects, engineers, and various specialists) that collaborated with the owner on the project.

Rising above the trees in Grant Fay Park near the Texas Medical Center's southern boundary, the 194,000-sq. ft. School of Nursing is organized from bottom up with the most public spaces (student lounge, bookstore, auditorium, cafe, student center, etc.) located on the lower two floors for easy access. Its third and fourth floors contain laboratories, patient rooms, classrooms, and other learning environments, while private offices and research facilities comprise the upper four floors. But the organization of spaces is not so straightforward. Traditional edges are blurred by the layering of exterior and interior surfaces and the deliberate extension of those materials, a design strategy that allowed the architects to visually and physically connect parts of the building and to increase interaction among the occupants. Another benefit of this strategy is the creation of interstitial spaces, the most obvious being the building's main entry—a shaded breezeway that slices through the center of the ground floor and forms a gateway to the park.

The plan is a simple rectangular floor plate with an off-set central core. The primary area for occupancy is the eastern two-thirds of each floor. The western third is primarily a service zone reserved for conference rooms, some offices, labs, stairs, and other support areas. This organization placed the most commonly used public spaces in the cooler, more desirable eastern side of the building near the park, while using the massing of the core to shield it from the western sun. The design of each elevation maximizes daylight and minimizes associated heat gain through the use of operable windows, light wells, recycled aluminum shading devices, and canvas sails.

Material selections for the exterior balance the desire for tactile surfaces at lower levels (recycled brick, a regional "sugar loaf" sandstone, and reclaimed sinker cypress) and the need for a more durable skin (recycled aluminum cladding) to resist environmental forces at the upper levels. The canvas sails further soften the hard surfaces. Also, the building's concrete frame contains 50 percent fly ash, which reduced construction costs and eliminated 1,808 tons of carbon dioxide that otherwise would have been released into the atmosphere from the manufacturing process.

The mechanical system also contributes significantly to the building's energy efficiency by delivering conditioned air from a raised floor instead of the ceiling, thus cooling primarily the occupant zone rather than the space overhead. Air is moved in large quantities but at low speeds to reduce noise levels and friction, thereby decreasing internal heat gain. Oper-

(clockwise from top) Another view of the eastern facade displays the variety of materials that comprise the exterior. The main auditorium provides the university with much needed distance-learning capabilities. Exterior stairs promote a healthy lifestyle by encouraging student use.

RESOURCES CONCRETE MATERIALS: TXI Houston; LIMESTONE: New Mexico Travertine; STONE: San Jacinto Materials; ENTRANCES AND STOREFRONTS: Vistawall; GLASS: Viracon; GLAZED CURTAINWALL: Vistawall; UNIT SKYLIGHTS: Supersky; FENCES, GATES AND HARDWARE: Myrex Industries; ARCHITECTURAL WOODWORK: Laynecorp Architectural Millwork; WATERPROOFING AND DAMPPROOFING: Henry Blueskin; VAPOR RETARDERS: Henry Blueskin; ROOF AND WALL PANELS: ProClad (Wade Architectural Systems, dist.); MEMBRANE ROOFING: Carlisle Syntec; ROOF PAVERS AND BALLAST: American Hydrotech/Terra Pavers; METAL DOORS AND FRAMES: CECO; WOOD FLOORING: Kaswell & Co.; SPECIAL WALL SURFACES: Agrifiber Panels; DEMOUNTABLE PARTITIONS: KI

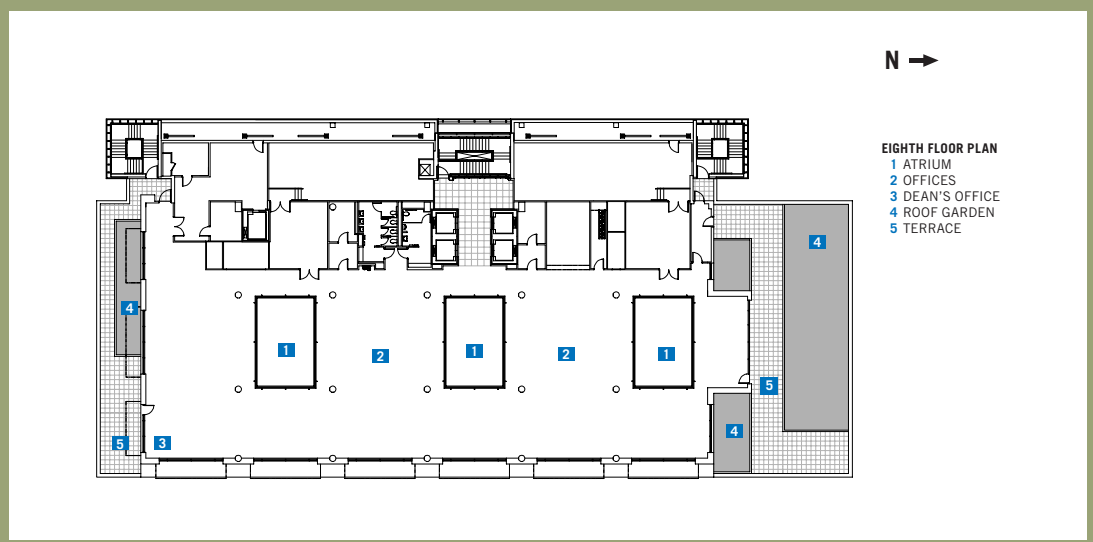
As seen from the north, the roof's saw-tooth design orients the atrium skylights toward the south to maximum year-round intake of natural light. The building's eighth floor features three offices, a conference room, and two landscaped terraces located along the northern and southern edges.

able grilles set in the floor allow individual occupants to manage air flow as desired. In addition, demountable office partitions and the sub-floor air conditioning system provide long-term flexibility by allowing reconfiguration of the office areas as needed. So far, operating costs have averaged less than 60 percent of that for the adjacent School of Public Health.

Rainwater storage tanks are expected to capture more than 826,000 gallons of water annually, more than satisfying the 42,000 gallons of gray water needed each month for flushing toilets and landscape irrigation. The system reduces demand for potable water by a half million gallons per year and simultaneously benefits the surrounding flood zone by limiting the amount of runoff. Waterless urinals, low-flow lavatories, and other reduction strategies are expected to reduce the building's overall water consumption by 60 percent.

An environmentally smart and lean machine, the University of Texas Health Science Center School of Nursing and Student Community Center offers many examples of good planning, design, and collaboration between enlightened owners and motivated architects. Its design alone causes it to stand out in the vast blandness of the Texas Medical Center, where the combination of fabric sunscreens, saw-toothed roof, cypress bottom, and curved front end suggests the image of an ocean liner at dock by the park. The symbol is appropriate for its use, because like a modern-day Noah's Ark this project serves a profession known for nurturing service and care for others.

Mark Lam, PhD, AIA, is a vice president with SHW Group in Houston.



The Fifth Facade

As uniquely designed as each of the building's facades, the roof of the School of Nursing combines a variety of materials and technologies – including landscape plantings, hardscape paving, skylights, and waterproof membrane – that supports the project's sustainability objectives. Seen in section at top, the roofline's saw-tooth silhouette stands above the eighth floor where offices open to garden terraces. Also visible are steel structures installed on the office roofs for the future addition of photovoltaic (PV) arrays. "The entire roof for the project was seen as an opportunity to employ as many sustainable strategies as possible," says Lake/Flato's Matthew D. Burton, adding that all precipitation that falls on the roof is harvested for use in toilets and landscape irrigation. As explained by BNIM Architects' Chris Koon, AIA, "When designing the roof, we considered it the fifth facade, and explored it's design potential as we did on the four traditional facades. For instance, where we minimized the amount of glazing on the west facade to limit the heat gain of the intense afternoon sun, on the roof we maximized southern exposure. This maximized the potential to collect energy in the PV panels, as well as collect daylight in the three vertical atriums, and resulted in the saw-toothed section. The nurses benefit from the consistent light diffused by the frosted glass panels of the fifth facade, as they benefit from the different types of light entering the traditional facades."

STEPHEN SHARPE

PHOTO BY HESTER + HARDAWAY

Designed with courtly appeal

The tradition of heroic civic architecture lives on in Burnished Masonry Units from Featherlite. The versatile material blends the monumental scale and rich surface texture of historical courthouses with crisp modern edges. Architects combined fourteen courtrooms and diverse offices behind facades that capture genteel Southern charm and reverence for judicial and government operations. You can trust Featherlite to uphold beauty and character as well as durable performance.

"The selection of this quiet bedroom community to house the new parish facility brought site and planning challenges not uncommon to the revitalization of small-town public spaces. The driving concept for the design was to maintain the civic presence of the judicial system, while incorporating the building's mix of uses."

— PGAL, Houston

St. Tammany Parish Justice Center
Covington, La.

Architect:
PGAL, Houston

General Contractor:
Brice Building Co., New Orleans, La.

Masonry Contractor:
Rush Masonry, New Orleans, La.

Photographer: Ray Don Tilley, Bastrop, Tx.

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Designing for a Memorable School Experience

By John Haskew, AIA

MOST everyone has fond memories of their school days. We may often reflect on the teachers who influenced our lives or classmates who became life-long friends, but rarely do we recall the physical environments of those schools and how they affected our educational experience. While we may not remember, one thing is fairly certain: the schools being built today must meet the demands of a more complex educational system. In the best cases, new schools engage students with exciting environments that inspire them to learn and achieve.

Each year the Texas Association of School Administrators/Texas Association of School Boards (TASA/TASB) invites architecture firms to present their best work in Texas school design. This year's competition was judged by a diverse jury consisting of two school board members, two school district superintendents and two architects (Randall Fromberg, AIA, of Austin, and myself). Seventy-four projects (56 new construction and 18 additions/renovations) were submitted for consideration to receive recognition in five categories: design, educational appropriateness, innovation, process of planning, and value.

In addition to the individual categories, the annual competition bestows the Caudill Award to recognize the single project accumulating the most points from all categories. This year's award went to Tomball High School, the first renovation/addition project to be selected as the recipient. Featured on the following pages are that project and three others recognized in the Design category (where criteria included architectural solutions and aesthetics; flexibility, adaptability, and/or expandability; creative use of materials; space relationships; and site development).

As always, the challenge for the jurors was to gather sufficient information about each project without having the opportunity to visit and experience the projects in person. That said, the group was impressed by the superb design quality of the submittals and noted with appreciation those projects that effectively responded to the challenging economic environment faced by numerous Texas school districts.

Indeed, school design has changed significantly over the years. Working closely with school administrators and other involved parties, the architectural profession has expertly responded to today's educational demands by designing physical environments that enhance learning opportunities and support the work of educators. Thanks in part to the creative school designs emerging across the state, today's students undoubtedly will have many fond memories of their school days.

John M. Haskew, AIA, is a vice president of FKP Architects, Inc. in Houston.

Tomball High School

PROJECT Tomball High School, Tomball
CLIENT Tomball Independent School District
ARCHITECT PBK
CONTRACTOR Tellepsen Builders
CONSULTANTS R.H. George & Associates (MEP); Conti Jumper Gardner & Associates (structural); PBK Enginerring Division (civil); Mary Goldsby (landscape); Millunzi & Associates (food service); Paradigm Consultants (geotech)
PHOTOGRAPHER Jud Haggard

Tomball High School increased its total student capacity by 800 with recent additions and renovations completed August 1, 2003. Architect PBK successfully achieved the $27.6 million project's goal of enhancing circulation, maximizing educational spaces, and integrating the additions in order to reflect the school district's history and traditions. A new two-story classroom addition encircles the front of 516,628 sq.ft. building, while other new classrooms, science labs, administration quarters, and a special education suite provide a refreshed look to the campus. Other additions include a main entry and entry plaza, expansion of the fine arts wing, expansion of the commons area, and a new full-service kitchen facility. Also, a gymnasium and an activity classroom were added to supply students with a multipurpose physical education facility.

AMANDA ABLACK

RESOURCES CONCRETE PAVEMENT: Campbell Concrete; **MASONRY UNITS:** Southwest Concrete Products; **CAST STONE:** Stonecastle Industrial; **WATERPROOFING AND DAMPPROOFING:** Berridge Manufacturing Co.; **BUILDING INSULATION:** Guardian Fiberglass Inc.; **WOOD AND PLASTIC DOORS AND FRAMES:** VT Industries; **ENTRANCES AND STOREFRONTS:** Vistawall; **METAL DOORS AND FRAMES:** Ceco; **GYPSUM BOARD AND FRAMING ACCESSORIES:** American Gypsum; **ACOUSTICAL CEILINGS:** Celotex; **SKYLIGHTS:** Major Industries; **GLAZED CURTAINWALL:** Vistawall; **MANUFACTURED CASE WORK:** LSI Corporation of America; **GLASS:** PGG Industries; **TILE:** American Olean; **ATHLETIC SURFACING:** Sports Court; **PAINTS:** Sherwin-Williams; **PROTECTIVE COVERS:** Avadeck; **ACOUSTICAL TREATMENTS:** Wall Technology, Inc.; **SIGNAGE AND GRAPHICS:** South Texas Graphics; **WIRE MESH PARTITIONS:** Standard wire & steel works; **FOOD SERVICE AND EQUIPMENT:** KEFCO; **BLINDS SHUTTERS AND SHADES:** Draper; **GRANDSTANDS AND BLEACHERS:** Hussell; **ROOF AND WALL PANELS:** MBCI; **LAMINATES:** Wilson Art

FLOOR PLAN

1 AG BARN
2 DRAMA
3 ROTC
4 NEW ADDITION
5 FOOD SERVICE
6 COMMONS
7 COURTYARD
8 GYM
9 LIBRARY
10 MUSIC/ FINE ARTS
11 AUDITORIUM
12 ENTRY LOBBY
13 ATHLETICS
14 CENTRAL PLANT
15 BASEBALL FIELD
16 FOOTBALL STADIUM
17 FIELD HOUSE
18 PRACTICE FIELD

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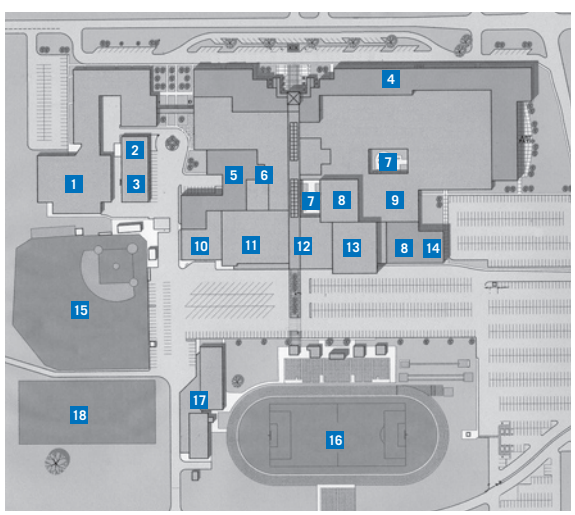


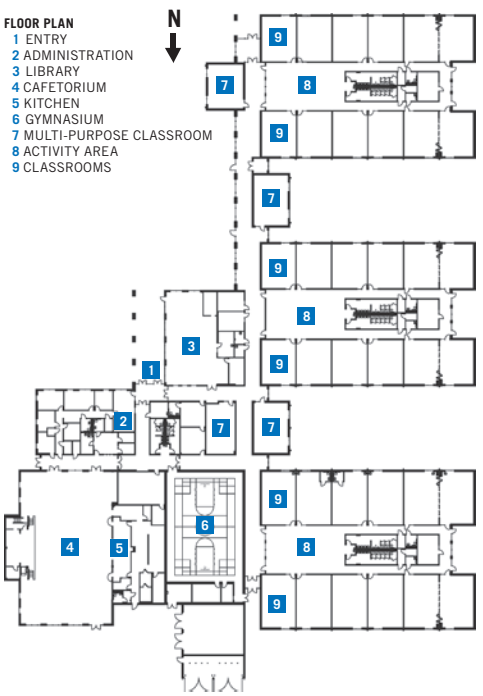
Jessie Marie Riddle Elementary

PROJECT Jessie Marie Riddle Elementary School, Plano
CLIENT Frisco Independent School District
ARCHITECT Corgan Associates, Inc.
CONTRACTOR Cadence McShane Corporation
CONSULTANTS L.A. Fuess Partners; RLK Engineers; SMR Landscaping; Don Penn Engieers; H.G. Rice & Company; Amtech Roofing Consultants, Inc.
PHOTOGRAPHER Charles D. Smith, AIA

Jessie Marie Riddle Elementary School houses a capacity of 700 students from kindergarten through fifth grade. Frisco ISD's 74,000 sq.ft. school is based on a prototypical elementary design that has evolved to meet changing school district needs. Classrooms are grouped in three pods by grade levels. Each pod opens to a large activity area where the entire grade level can come together for group activities. The school is organized around a central corridor and features large windows. The gymnasium and cafeteria are located in front of the school to prevent high noise levels from distracting students and teachers in the classrooms. These areas also are equipped with after-hour access for community activities. The district will save 30 percent in energy costs per year through use of geothermal HVAC technology, a method of heating and cooling that takes advantage of the earth's constant ground temperature. Jessie Marie Riddle Elementary is the second school in the district to include the technology. Construction was completed in June 2003 at a cost of $8.4 million.

COURTNEY MAHAFFEY

RESOURCES **RECREATIONAL FACILITY AND PLAYGROUND EQUIPMENT:** Hunter Knepshield; **CAST STONE:** Advanced Cast Stone; **METAL DECKING:** Vulcraft; **LAMINATES:** Formica; **BUILDING INSULATION:** Johns Manville; **ROOF AND DECK INSULATION:** Eagle Supply, Inc.; **EXTERIOR INSULATIONAND FINISH SYSTEMS:** TEIFS; **VAPOR RETARDERS:** TYVEK; **ROOF AND WALL PANELS:** Berridge; **FIRE PROOFING:** W.R. Grace; **ENTRANCES AND STORE FRONTS:** Vistawall; **GYPSUM BOARD FRAMING AND ACCESSORIES:** USG; **TILE:** Daltile, Vector Concepts; **ACOUSTICAL CEILINGS:** Celotex; **LETTERS AND PLAQUES:** Gemini; **OPERABLE PARTITIONS:** Hufcor; **STAGE CURTAINS:** National Stage Equipment Company; **TOILET COMPARTMENTS:** Metpar Corporation; **METAL LOCKERS:** List Industries; **ACOUSTICAL WALL TREATMENTS:** Quiet Technology Systems; **PAINTS:** Sherwin-Williams; **CARPET:** Collins & Aikman; **UCT:** Armstrong; **MANUFACTURED CASEWORK:** TMI; **BLINDS, SHUTTERS AND SHADES:** Bali



Morton Ranch Junior High School

PROJECT Morton Ranch Junior High School, Katy
CLIENT Katy Independent School District
ARCHITECT PBK
CONTRACTOR Pepper-Lawson
CONSULTANTS R.H. George & Associates (MEP); Jones/Borne/Inc. (structural); Arcadis Civil Engineers, Inc. (civil); Mary Goldsby & Associates (landscape); Frank Clements Associates (food service)
PHOTOGRAPHER Jud Haggard

Completed May 1, 2003, Morton Ranch Junior High School was recognized by TASB/TASA last year in the categories of excellence in value, design, educational appropriateness, innovation, and process of planning. The design emphasizes security, safety, and functionality, while providing flexibility for future growth. Architect PBK condensed the design phase and released earthwork and MEP packages separately in order to meet the 24-month completion schedule. The main entry of the building splits the 170,000 sq.ft. plan into two major zones. Located north of the main entry are the commons area, kitchen, fine arts, gymnasia, lockers, and service yard. South of the main entry are the library, classrooms, large group instruction room, and science labs. The courtyard is directly in front of the main entrance and viewable from the commons, library, instruction room, and lobby. This $16 million school allows after-hours public usage of the gymnasia, computer labs, commons area, instruction room and library.

AMANDA ABLACK

RESOURCES CONCRETE PAVEMENT: Hanson; **CONCRETE FOUNDATIONA AND SLAB:** Hanson; **INTEGRAL CONCRETE COLOR ADDITIVE:** LM Scolfield Company; **CONCRETE MASONRY UNITS:** Southwest Concrete Products; **HANDRAILS AND GUARDRAILS:** Hoffa; **STRUCTURAL STEEL:** Bludau Fabrication; **BRICK:** Acme; **JOIST:** Vulcraft; **HOLLOW METAL DOORS AND FRAMES:** Ceco; **PLASTER CEMENT:** TXI; **GLAZED TILE PAVERS:** Dal-Tile; **CERAMIC TILE:** Dal-Tile; **QUARRY TILE:** Dal-Tile; **ACOUSTICAL WALL PANELS:** Decoustics; **PAINTS:** Sherwin-Williams; **CARPET:** C&A; **DAMPPROFFING:** Henry Company; **SKYLIGHTS:** Kalwall;**GYPSUM BOARD:** USG; **GYMNASIUM WOOD FLOOR:** Action Floor Systems, LLC; **METAL LOCKERS:** Republic Storage System Company; **MARKER AND CHALK BOARDS:** Polyvision; **STAGE CURTAINS:** Barhort Theatrical Services; **WALK-IN COOLERS:** Thermo-Kool; **ELEVATOR:** ThyssenKrupp

FLOOR PLAN
1 CLASSROOMS
2 SPECIAL EDUCATION
3 COUNSELING
4 MAIN ENTRY
5 ADMINISTRATION
6 ATHLETICS
7 SCIENCE
8 LIBRARY
9 COURTYARD
10 COMMONS
11 KITCHEN
12 BAND/ FINE ARTS
13 GYM

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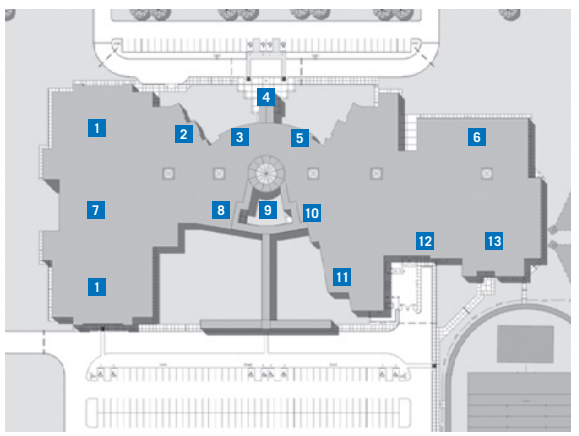

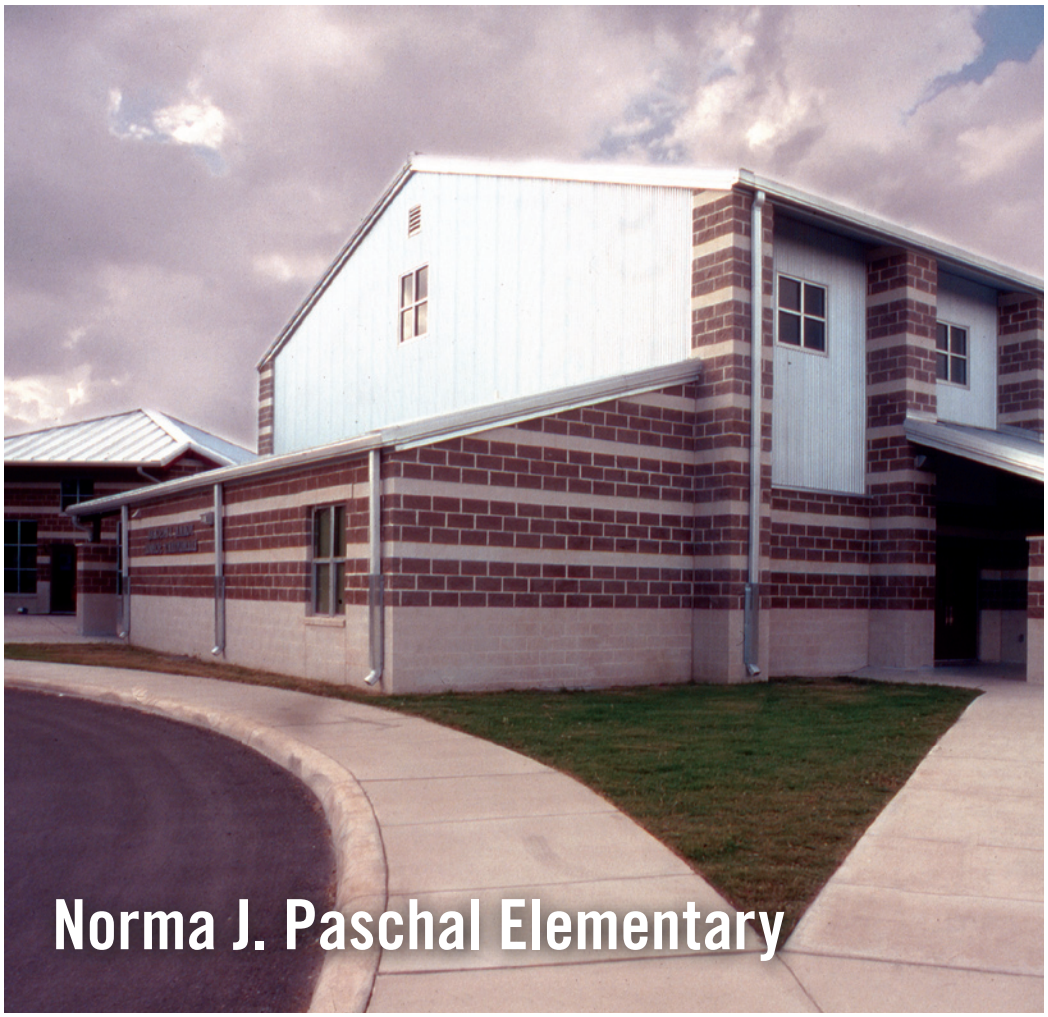

Norma J. Paschal Elementary

PROJECT Norma J. Paschal Elementary School, Schertz
CLIENT Schertz-Cibolo-Universal City Independent School District
ARCHITECT O'Neill Conrad Oppelt Architects, Inc.
CONTRACTOR Kencon Constructors, Ltd.
CONSULTANTS HMG & Associates (MEP); Danysh & Associates (structural); Ford Engineering (civil); James Cooper (landscape)
PHOTOGRAPHER Bob Weekly

Norma J. Paschal Elementary School in Schertz opened in August 2003 to over 550 students, kindergarten through fourth grade. The mass of the 63,000 sq.ft. building is scaled down through the use of masonry patterns, pilasters, and roof lines. Long-lasting materials including concrete masonry units and galvanized steel minimize outside maintenance. Painted concrete masonry units and gypsum wallboard provide cost-effective walls inside the school. The interior is brightly decorated to encourage an active learning and teaching environment. An outdoor courtyard allows natural light and ventilation to enter classrooms. Each classroom operates on daylight sources for one-third of its required lighting. The site development minimizes congestion by separating vehicle traffice for parents, staff and student buses. The campus, shaded by native oak, cedar, and mountain laurel, is designed to accommodate an 11-classroom extension to expand the current capacity of 500 students to 750 without affecting the core facilities.

COURTNEY MAHAFFEY

RESOURCES MASONRY UNITS: Featherlite Concrete Products; METAL DECKING: Vulcraft; RAILINGS AND HANDRAILS: Rast I.W.; ARCHITECTURAL WOODWORK: Koehler Company; LAMINATES: Wilson Art; WATERPROOFING AND DAMPPROOFING: Polyguard, Hydrocide; WATER REPELLANTS: ProSoCo; BUILDING INSULATION: CertainTeed, Dow; MEMBRANE ROOFING: Garland Company; METAL DOORS AND FRAMES: Pearland Ind.; WOOD AND PLASTIC DOORS AND FRAMES: Haley; ENTRANCES AND STOREFRONTS: YKK AP America; METAL WINDOWS: Don Young Company; GLASS: Oldcastle Glass; GYPSUM BOARD FRAMING AND ACCESSORIES: American Gypsum; TILE: American Olean; ACOUSTICAL CEILINGS: Armstrong; PAINTS: PGG Ind.; LETTERS AND PLAQUES: Metalic Art; SIGNAGE AND GRAPHICS: American Signage; FOOD SERVICE AND EQUIPMENT: Hobart, Hatco, Vulcan, Manitowoc; WALK-IN COOLERS AND FREEZERS: American Panel; MANUFACTURED CASEWORK: Koehler Company; BLINDS, SHUTTERS AND SHADES: Bali; PRE-ENGINEERED BUILDINGS: Ceco; METAL BUILDING SYSTEMS: Ceco

FLOOR PLAN
1 ADMINISRATION
2 INSTRUCTIONAL ROOMS
3 SUPPORT ROOMS
4 PHYSICAL EDUCATION
5 MEDIA SERVICES
6 FOOD SERVICE
7 MECHANICAL
8 COURTYARD
8 PLAYAREA

N

Structural Advantages of Bearing-Wall Masonry

by RICHARD E. KLINGNER

Summary
In Texas and other parts of the U.S., masonry is often used as an architectural element or building envelope only. Its structural potential is largely ignored. In this article, the structural advantages of bearing-wall masonry are reviewed; designers are encouraged to be aware of them; and contractors are encouraged to recognize their importance.

Introduction
In Texas and other parts of the U.S., masonry is often used only for its good looks and its ability to keep out weather. While masonry certainly has these important qualities, architects and engineers who use masonry should remember its structural function as well. In this article, the structural functions of masonry are reviewed; examples of good structural performance are given; and the education of new and experienced engineers regarding structural masonry is reviewed. Finally, what this means for contractors is spelled out.

COURTESY TEXAS MASONRY COUNCIL

The biggest potential advantage of masonry bearing-wall buildings is their efficiency. The masonry works simultaneously as architectural element, building envelope, and structure.

How Masonry Bearing-Wall Buildings Work Structurally
To be successful, all buildings with masonry on them must perform in the following areas:

- they must be aesthetically appealing;
- they must work as envelopes;
- they must work structurally; and
- they must be cost-competitive.

Contractors, designers and owners often take most of these for granted. The aesthetic appeal of a good masonry job speaks for itself; the water-penetration resistance of well-designed, detailed and constructed masonry wall is exemplified by many masonry buildings; and the cost-competitiveness of masonry is demonstrated every time a mason contractor gets a job. The structural performance of masonry, however, is not always appreciated by designers, is sometimes not understood by contractors, and is rarely recognized by owners.

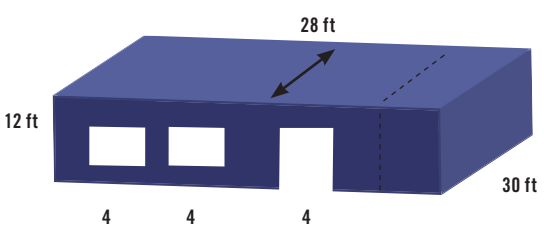

Figure 1 Schematic of masonry strip center

All buildings must resist gravity loads (from their own weight and the weight of their occupants), and also lateral loads from wind, soil pressure or earthquake. As an example of this, let's consider a simple strip center, shown schematically in Figure 1. The numbers indicate typical dimensions in feet. The double-headed arrow on the roof indicates that the roof system on this building rests on the front and back walls. From a structural viewpoint, those walls are bearing walls, because they support the weight of a roof or floor in addition to their own weight. Because they run in the long direction of the building, they are also referred to as longitudinal walls. The walls running in the other direction separate one retail space from another. In this case, because they do not support the weight of the roof, they are non-bearing walls. In this building, they are also referred to as transverse walls.

In the real world, the roof system for this building would probably be open-web joists supporting corrugated-metal decking. The open web joists would sit on steel bearing plates on top of the bearing walls. Clearly, the longitudinal bearing walls resist the gravity loads on the building.

But what about lateral loads? The way that a bearing-wall building resists lateral load is shown schematically in Figure 2. Lateral loads perpendicular to the plane of the paper are resisted by the longitudinal wall as vertical strips. Those strips transfer their load to the ground at their bottom ends, and to the roof diaphragm at the top. The roof diaphragm then transfers the loads to the walls oriented parallel to the direction of the lateral load (in this case, the transverse walls). Those walls act as shear walls to resist the lateral load.

In the real world, the longitudinal walls would have to be strong enough to act as vertically oriented beams; the roof diaphragm would have to be

braced to be able to transfer load in its own plane to the shear walls; and the transverse walls would also be of masonry, and would act as shear walls.

While many buildings are constructed with a steel or concrete frame to carry the loads, this explanation is intended to show that such frames are unnecessary structurally. Masonry bearing-wall buildings are perfectly capable of resisting gravity and lateral loads.

Potential Advantage of Masonry Bearing-Wall Buildings

The biggest potential advantage of masonry bearing-wall buildings is their efficiency. The masonry works simultaneously as architectural element, building envelope, and structure. There is no need for a separate steel or concrete structure, and the structural capacity of the masonry is used rather than being ignored.

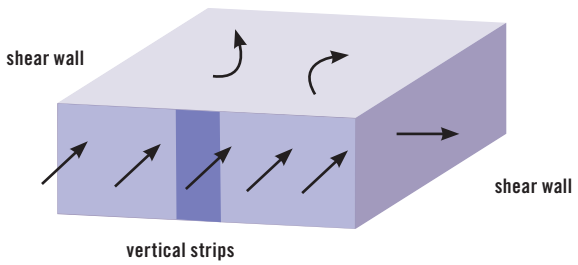

Figure 2 Structural behavior of a bearing-wall building under lateral loads

Examples of Good Performance of Masonry Bearing-Wall Buildings

Masonry bearing-wall buildings that are properly designed and constructed generally behave quite well, even under extreme loadings. This good performance has been documented. The Masonry Society (TMS), a technical organization dedicated to enhancing the knowledge of masonry, includes as its members designers, researchers, contractors and code officials. Its "Investigating Disasters" program has documented the performance of masonry in unusual loads. As an example of this, consider the school gymnasium shown in Figure 3 (see page 54). The picture was taken after the 1989 Loma Prieta Earthquake in the San Francisco Bay Area. The building is bearing-wall masonry. It resisted lateral earthquake forces of at least half its own weight in that earthquake, suffered only minor damage, and in fact was used by nearby residents as an emergency shelter after the earthquake.

How Designers Are Taught about Bearing-Wall Masonry

In past, many designers in the US were not taught about bearing-wall masonry. This is changing. Thanks in part to programs like the "University Professors Masonry Workshops" (organized nationally by TMS and the masonry industry) and the "Texas Masonry Professors' Roundtable" (organized statewide by the Southwestern Brick Institute), young profes-

sors are being given the tools necessary to introduce masonry into the college curricula of engineers and architects. In modern masonry design courses, at The University of Texas at Austin and elsewhere, students are taught how to specify and design masonry so that it behaves well as architectural element, envelope, structure, and cost-competitive material.

This knowledge is also available to practicing architects and engineers. In the United States, all building codes are being updated to refer to a single set of design provisions for masonry. Those provisions, developed by the Masonry Standards Joint Committee, are referred to as the "MSJC Code," or sometimes (because of the MSJC's designation within the American Concrete Institute, one of its sponsors) as the "ACI 530 Code." Regardless of its designation, the MSJC Code will be the basis for masonry design provisions in the US, from now into the foreseeable future.

COURTESY RICHARD E. KLINGER

Figure 3 School gymnasium (bearing-wall masonry) in earthquake zone

TMS and the other sponsoring societies of the MSJC have developed a variety of tools intended to help practicing designers refresh their design skills in structural masonry. TMS, individually and with ACI, regularly schedules seminars around the US on how to use the MSJC Code for structural design. This fall, an updated version of the TMS "Masonry Designers' Guide" will be available, and it and its associated seminar series will offer even more comprehensive building design examples to practicing architects and engineers.

Role of the MSJC Code and Specification

The MSJC Code is now easier than ever to use. It includes strength design as well as allowable-stress design, so that designers who are familiar with strength design of concrete can apply quite similar principles to masonry. It also includes prestressed masonry, glass block and veneer, and a chapter on empirical design.

The MSJC Code is linked to the MSJC Specification, which gives minimum requirements for materials and execution, and a minimum level of quality assurance for different types of masonry structures. Whenever the MSJC Code is used for design, the MSJC Specification is also used, and its requirements form part of the job specifications that the mason contractor must follow.

The Role of the Mason Contractor

The mason contractor plays a vital role in the successful performance of masonry as structure. By understanding how his masonry behaves structurally, the mason contractor can understand the designer's intent more clearly, can help ensure that the building behaves as the designer intends, and can even help the designer recognize and correct oversights in the design.

For example, in bearing-wall masonry, since the walls must act as vertically spanning strips, transferring lateral load to the ground and to the roof diaphragm, those strips must be capable of acting as vertically oriented beams. If they are unreinforced, their bed joints must be capable of resisting the stresses on them. If they are reinforced, they must have continuous vertical reinforcement, properly spliced and completely surrounded by grout placed in vertical cells. Similarly, horizontal masonry elements like bond beams must have properly placed, spliced and grouted reinforcement.

When mason contractors understand the vital role of their work in ensuring that a masonry building behaves structurally as intended, they can communicate this understanding to their workers. When the masons on the wall and the laborers at the mixer understand the importance of what they are doing, the result will be good building performance, satisfied owners and designers, and increased use of masonry. When those individuals do not understand the importance of what they are doing, and their work suffers, the results will be bad building performance, dissatisfied owners and designers, and decreased use of masonry. The choice is up to each one of us.

More information is available online at:
www.masonrystandards.org
www.masonrysociety.org

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"Less" continued from page 24

So while little of Stern's new building expands on the work of Ford as demonstrated here in terms of materiality, structural innovation, or attention to craft, it succeeds best by how it occupies its site within the campus as a whole. While brick used as wallpaper is disappointing, that brick is an important element in respecting the Trinity context. Other, more bold and spatially interesting proposals probably would have disruptive and looked out of place. Stern's goal of "pushing Modernism toward contextualism" may be the reason he and his firm have had as much success here as is apparent. Nevertheless, Ford's work here at Trinity and his legacy of regional modernism deserve more. The context-sensitive modernism Stern seeks has plenty of precedent in the work of Ford, Wurster, Pietro Belluschi, and Alvar Aalto among others. All demonstrated a palpable sensitivity to site, materials, and function that Stern only hints at here but does not achieve.

Perhaps the best way to evaluate the Northrup Hall project is in light of Ford's work in preservation, specifically that at La Villita just a few miles south of the Trinity campus. Ford had a deep respect for that which came before, as long as the architecture was an honest expression of its time and place. Writing in 1939 about his plans for La Villita, Ford said there would be no "adoption of an arbitrary style or imitation of imported forms" and "at no time do we expect to affect picturesqueness or 'sweetness' at the expense of good sense or structural honesty." The old Northrup Hall certainly fit that description, but the same cannot be said for Stern's new building. While some aspects of the new Northrup Hall merge well with Trinity's campus fabric, the building exhibits the picturesqueness that Ford sought to avoid at La Villita and at Trinity. With those earlier campus buildings, through sensitivity, creativity, and economy, Ford and his associates demonstrated that less can result in more. With this new project Trinity has clearly achieved more but only through irredeemable loss.

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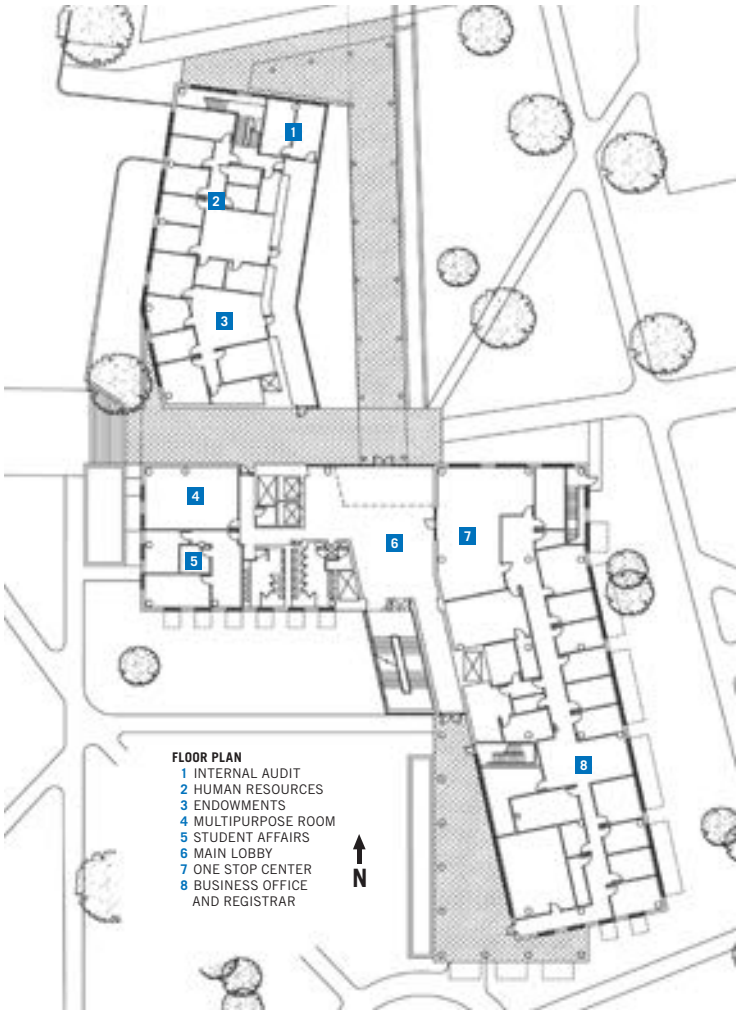

Built to Last

Much to the dismay of the demolition crew, but fully within the expectations of anyone familiar with the work of O'Neil Ford, the old Northrup Hall proved almost impervious to destruction. Amidst their grumbling, members of the crew expressed their newfound respect for the building they had wrongly assumed would be pushed over with a backhoe. They were glad to talk about the building and its architect. As they talked, I sensed that they began to understand this diminutive two-story brick, concrete, and glass structure as historic, innovative, and perhaps too solidly built. Clearly, they recognized the work of an architect who understood construction.

Ford's Northrup Hall was the first full-sized building erected by the innovative Youtz-Slick Lift Slab technology in which concrete floors and roofs were poured at ground level, one atop the other, and jacked up steel columns to their appropriate heights. Ford and his associates employed the same process with many buildings on Trinity's campus.

Of course, the demolition crew's revelations took place behind barricades and long after Trinity officials had doomed the 1952 building they considered "worn out." Over a half-century the university had expanded around Northrup Hall, placing it in an unfortunate position on campus that obstructed pedestrian circulation. A poor interior renovation further contributed to its long-term functionality. Its fate was sealed in the late 1990s when Trinity's administration called for a competition for the design of a much larger replacement.

VINCENT CANIZARO

COURTESY TRINITY UNIVERSITY

The original Northrup Hall was demolished in 2002.

"Trinity" continued from page 9

Early conceptual planning for the downtown portion of the Trinity River already has borne fruit with the recent relocation of two national corporate headquarters along the downtown riverfront. (See *TA* 9/10 2004.) The plan inspired officials of both companies – Pier 1 Imports and RadioShack – to build their headquarters even before the design of the Trinity Uptown project was finalized. Opened late last year, Pier 1 Imports Headquarters is a new glass-crowned landmark overlooking the river west of downtown, while the transparent horizontal volumes of the nearly completed RadioShack Riverfront Corporate Campus complex add a glowing nighttime presence to the southern bank of the river just north of downtown. Duda/Paine Architects of Durham, N.C. designed the $90 million, 21-story Pier 1 Imports project in association with architect of record Kendall/Heaton Associates of Houston. HKS Inc. of Dallas is the architect of the $200 million RadioShack project scheduled for completion this year.

Fort Worth developer Tom Struhs was among the first to see the potential for new housing north of downtown along the Trinity and Samuels Avenue. He and partner Elizabeth Falconer are proceeding with plans for Trinity Bluffs, a $300 million mixed-use development that will include 1,500 housing units. In addition, Ken Schaumburg, AIA, has proposed a $48 million, 23-story, 49-unit condominium tower overlooking the Trinity River.

Of all the development proposals, the most dramatic so far has been a new $135 million campus for Tarrant County College designed by Bing Thom in collaboration with Gideon Toal. As indicated in his often quoted remark – "I love impossible projects. It was what I was born to do." – Thom is noted for his deft handling of both intimate and grand public spaces, and the sensitive incorporation of his sites' natural features. All of those factors are certain to come into play in both the TCC campus and Trinity Uptown. A recent conceptual model of the TCC project shows offset clusters of elongated rectangular volumes sited on opposite river banks, linked by a building spanning the Trinity. An initial concept for one of the buildings treats it as a "periscope" that focuses views on the river. The campus design also will incorporate the historic TXU power plant with its immense round-arched windows and tall stacks, although its future adapted function is yet to be determined. Detailed design work begins early this year.

The genesis for this flowering of downtown planning was the 2003 Trinity River Vision master plan that focused on 88 miles along the Trinity River and its major tributaries in greater Fort Worth. This document evolved out of numerous public meetings and a design charrette that investigated strategies for developing the riverfront's recreational potential as well as restoring and conserving its natural features. However, a centerpiece of the master plan was its study of the central city segment of the Trinity. This included the initial concept for a downtown lake that has since evolved into the Trinity Uptown plan. The Trinity River Vision document was prepared for the TRWD by Gideon Toal, in association with Streams and Valleys and the U.S. Army Corps of Engineers and in coordination with the City of Fort Worth and other local governments.

Favorable response among locals toward the bold TCC campus design underscores the citizenry's interest in reinvigorating the nearly moribund architectural vocabulary of downtown Fort Worth. (Even New Urbanist planner Andres Duany decried its architectural "monoculture" during a recent appearance in Fort Worth, bemoaning the dominance of a single design hand caught in a pseudo-historic time warp.) As is apparently being proven with the acceptance of the designs for TCC and Trinity Uptown, minds adept at contemporary expression just may satisfy a long-standing need to begin a new chapter for downtown Forth Worth.

BARBARA KOERBLE

Renderings of the Trinity Uptown project will be exhibited at the Community Arts Center in Fort Worth (1300 Gendy St. at Lancaster Avenue) through March 31. The comprehensive urban plan examines transportation, land use, economic development strategies, and other issues, as well as proposes urban design guidelines for the area.

Barbara Koerble, AICP, is a municipal planner and freelance writer living in Fort Worth.

(left) View of the TXU Power Plant and the Urban Lake; (right) view from the middle floodgate towards the Tarrant County Courthouse.

RENDERINGS BY KEVIN WILSON

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TRENDS OF THE TRADE

USAF and NCMA Co-Sponsor Blast Research

The National Concrete Masonry Association (NCMA), along with several other concrete industry representatives, collaborated with top United States Air Force (USAF) research officials this past August in Panama City, Florida, to review and strategize blast-resistance technologies offered through conventional off-the-shelf cementitious wall systems.

Planned in response to heightened concern over potential acts of terrorism, the research will be designed to investigate the performance of construction materials subjected to such extreme loads. As part of this comprehensive research project several concrete-based wall assemblies, including insulating concrete forms, pre-stressed concrete, cast-in-place concrete, and concrete masonry will be subjected to actual blast pressures to evaluate their strength and durability and qualify their blast-resistant characteristics for application in future military projects.

Under the arrangements discussed with the USAF, industry would provide the material and labor to construct the various cementitious wall panels to be tested and the USAF would provide the instrumentation and analysis for the testing.

The research should provide a springboard for establishing design criteria for secure, blast-resistant concrete masonry structures. This research is expected to provide the military the justification for continuing their long tradition of constructing masonry buildings and housing. The testing is scheduled for completion this spring.

For more information visit *www.ncma.org*.

CSI and McGraw-Hill Release Project Resource Manual

The Construction Specifications Institute (CSI) and McGraw-Hill Construction recently announced the release of *The Project Resource Manual-CSI Manual of Practice*. The manual is an expanded, new edition of the U.S. commercial construction industry's guide for developing building specifications and using construction documents to aid on-time and within-budget project delivery and efficient facility management.

Using CSI's standardized methods, formats, and guidelines, the PRM documentation facilitates design, construction, and facility management by fostering communication among project participants.

Specific documents include: specifications (the detailed written instructions to the contractor); drawings (formerly called blueprints); reference notes on drawings; data on building materials to be installed; cost data; and project scheduling.

The manual, written by CSI and published by McGraw-Hill Construction, also aids the commercial construction and facility management process by explaining the roles and responsibilities of everyone involved, including owners, architects, specifiers, engineers, contractors, construction managers, construction product representatives, building owners, facility managers, regulatory authorities, lawyers, and financial institutions.

The various types of construction delivery methods are described, including design-bid-build, design-negotiate-build, construction management, design-build, and owner-build.

For more information log on to *www.csinet.org/projectresourcemanual* or call (800) 689-2900.

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TRENDS OF THE TRADE

Manufactured Concrete Products Expo Taking Shape

The third annual Manufactured Concrete Products Exposition (MCPX) will take place Feb. 11-13 at the Indianapolis Convention Center in Indianapolis, Indiana. MCPX enables manufacturers and suppliers to concentrate their sales efforts on one all-encompassing event, while creating greater visibility for the entire industry and its products.

The event also includes education and training opportunities offered through the four sponsoring associations: the National Concrete Masonry Association (NCMA), the National Precast Concrete Association (NPCA), the Interlocking Concrete Pavement Institute (ICPI), and the American Concrete Pipe Association (ACPA).

Educational programs specific to each segment of the industry (as well as general management and marketing programs) are conducted before, during, and after the trade show. NCMA and ICPI will conduct their conventions and ACPA will conduct its Short Course Production School prior to the show (Feb. 9-11). NPCA will hold its annual convention in conjunction with the show from Feb. 10-15.

For more information, vist *www.mcpx.org*.

IMI's Instructor Certification Program: Quality Craft Training

The International Masonry Institute's (IMI) Instructor Certification Program (ICP) is a curriculum that reaches several hundred participants each year and covers all the crafts represented by the International Union of Bricklayers and Allied Craftworkers (BAC).

The ICP program consists of three types of courses: professional courses concentrating on instructional skills and knowledge; courses focusing on technical skills, including new technology, practices and standards, and materials and equipment; and seminars and special workshops on key topics, such as new materials and techniques being introduced into the industry.

IMI's Supervisory Certification Program is offered in a train-the-trainer format to allow rapid disbursement throughout the BAC network of locals. The two-tier program for current and potential supervisory personnel of BAC signatory contractors is delivered locally. The first level for forepersons covers topics such as productivity, personnel management, and professional relationships. The second level for superintendents cover advanced project management, industry history, and technical issues.

The outdoor technical courses give instructors at all levels practical, hands-on experience for teaching students subjects like stone veneer or scaffolding safety.

ICP graduation requires a minimum of 200 hours of course work in both required and elective courses. Instructors must demonstrate mastery of course content and present to the Certification Committee a portfolio of materials and techniques, training plans, schedules, supplies, and tools. The IMI-appointed Certification Committee includes certified instructors and academic professionals.

Even after graduation, additional courses are offered that cover a variety of different topics. Some post-certified courses include ACI certification, cross-craft training in all BAC crafts, building codes and standards (for both structural design and exterior veneer), computers, education evaluation instruments, hazard communication, labor relations, communication, motivation, planning, legal issues, and multiculturalism.

For more information visit *www.imiweb.org*.

PHOTO BY HEIDI WERNER

Studio Culture

Improving the educational environment will benefit the profession and the public at large

FOR the last century or so, architecture students have followed an accepted course of study to prepare them for professional practice. At its center is the design studio, which even today is based on the Beaux Arts model of mid-nineteenth century France. Whether by design or by accident, the studio became the place where architecture separated itself from other disciplines intent on splitting an evermore complex world into technical specialties. In contrast, pedagogical thought in architecture has emphasized an interweaving of all disciplines. Surely, as the thinking goes, our society would benefit through the development of the generalist.

The current state of the design studio was the subject of examination in 2002 by the American Institute of Architecture Students, brought about in part by the death of student who fell asleep at the wheel after many long hours in the studio. The AIAS selected a task force of students, academicians, and leaders of the architectural profession to consider ways to improve the studio culture prevalent in schools across the nation. By identifying five essential values – optimism, respect, collaboration, engagement, and innovation – the task force made it clear that change was necessary to make the studio a more humane environment.

Practitioners have, for at least the last half century, chastised most architecture schools for not adequately preparing students for practice, but nowhere in its findings did the task force place blame on those commonly perceived bugaboos: that modernism, or any other particular style, should be enforced; or that graduates don't know how a building goes together; or that pushing electrons around on a screen somehow thwarts excellence in the built environment. Instead, these themes recur and resound in the AIAS report: that students must be guided to understand the world around them; to manage a time-intensive profession in an era where time is the most precious commodity; to be leaders; and to maintain a positive, sustainable life.

Two hundred years ago, the body of knowledge (the *entire* body of knowledge) could be acquired in 20 years. One hundred years ago, the same would take a lifetime. Now undeniably, there is no vessel large enough. Perhaps the greatest gifts an institution can offer its students are a healthy curiosity and a technique for teaching themselves. Being a generalist has taken on a new meaning. Managing the complexities of the world is hardly exclusive to architects – there is plenty of head-scratching to go around – but our profession is unique. We soar not only through form, but vision.

Our schools will increase their value by making the studio an environment where the five values flourish. Students and faculty alike must share the common goal of making the studio a more efficacious and humane place. And practice must accept the enormous charge assumed by the academy and its students. The elevation of our profession will be enormous, but hardly so important as the benefits to the public at large.

JEFF POTTER, AIA

Jeff Potter, AIA, practices architecture in Longview.

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