

# TexasArchitect

JULY/AUGUST 2005

DFW International Terminal D

p. 22



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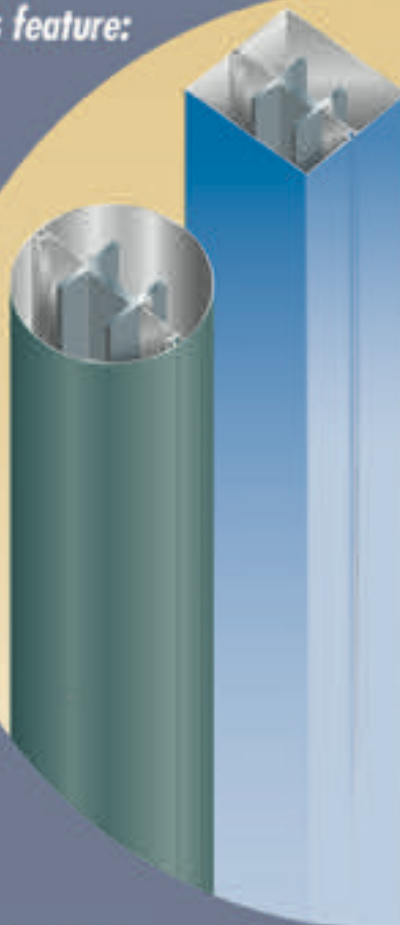
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# Transporting History

The design of a new border station pays homage to Río Grande City's architectural legacy

TRANSPORTATION projects are the focus of this edition, with the architecture represented herein accommodating several modes of travel. Working within a historical context, however, can be a completely different kind of trip.

In Río Grande City, sidled up against the U.S.-Mexican border, a new federal port of entry complex recently opened not far from the heart of the downtown historic district. The close proximity to the old quarter's brick buildings affected the approach Bob Simpson, AIA, of Boultinghouse Simpson Architects in McAllen, took to designing that project. Specifically, his client (who leases the property to the feds) asked Simpson to look to the 1886 Silverio de la Peña Drugstore and Post Office for inspiration. Located at 423 Main Street, the two-story edifice was designed and built by master mason and brickmaker Heinrich Portscheller (1840-1915). It is considered Portscheller's greatest effort, a combination residence/drugstore/post office commissioned by postmaster and druggist Silverio de la Peña. Here's how architectural historian Mario L. Sanchez describes it in the forthcoming *Buildings of Texas*:

"Grand in scale, awkward in proportions, and solid in appearance, it is the most ambitious work by Portscheller, and one that challenged his expertise in molded brick composition and detailing. Comprised of a flat-roofed, large rectangular block facing Main and López Street, the property includes a side courtyard, over-

looked by a two-story arched gallery (now in-filled), which is adeptly included in the rectangular plan, and not merely as an attachment. Portscheller enlivened entrances with half-round arches inserted with fan-shaped metal grilles, and defined windows with raised brick bands with architraves topped by projecting cornices. While the structure is enveloped by a wrap-around metal balcony, this feature is nearly lost by Portscheller's tour de force: projecting, fluted Doric columns at each corner supporting a full Doric frieze and cornice, including brick triglyphs. The letters 'S.P.' and the year '1886' are pressed into square-shaped brick units within the frieze identifying the owner in the regional tradition."

Sanchez, whose expertise has long been focused on documenting and preserving the binational architectural and cultural heritage of the Lower Río Grande region, says it's the complex interplay of Portscheller's molded brick shapes that accounts for the building's unique significance; "The building stands today as the culminating point of the Border Brick style that prevailed in the mid-to-late nineteenth century on both sides of the Río Grande between Laredo and Brownsville."

To respond with appropriate sensitivity toward such an august work became Simpson's challenge. That, along with including all the requisite security measures without creating an intimidating fortress.

"The difficult thing was in figuring how to incorporate

those elements in a one-story building," Simpson says. He points to the cornice on the new project to illustrate how the dimensions were reduced to better suit its smaller proportions. "We scaled it down a bit," he says. While the client did not ask for the labor-intensive handwork so apparent in Portscheller's masterpiece, he did direct Simpson to duplicate the two arcane symbols — three concentric circles and a six-pointed shape that resembles an asterisk — set in the brick panels of the frieze. Where Portscheller's medium was the soft, pink brick made of local clay, all of the new building's architectural details are wrought in cast concrete. The pinkish brick that clads the border station was produced in New Jersey, Simpson says, because local brick could not be manufactured within the project's timetable to meet the federal government's structural standards. As for Portscheller's fluted Doric columns of molded brick, Simpson applied cast-concrete pilasters at the corners to reference the master's emblematic placement.

There's a delicate balance between gratuitous replication and respectful homage, and fortunately, Simpson and his client knew when to pull back before they went over the edge, choosing not to incorporate the old post office's ornamental iron balcony nor its fan-shaped metal grilles. "We talked about it," he says, "but it didn't work."

STEPHEN SHARPE

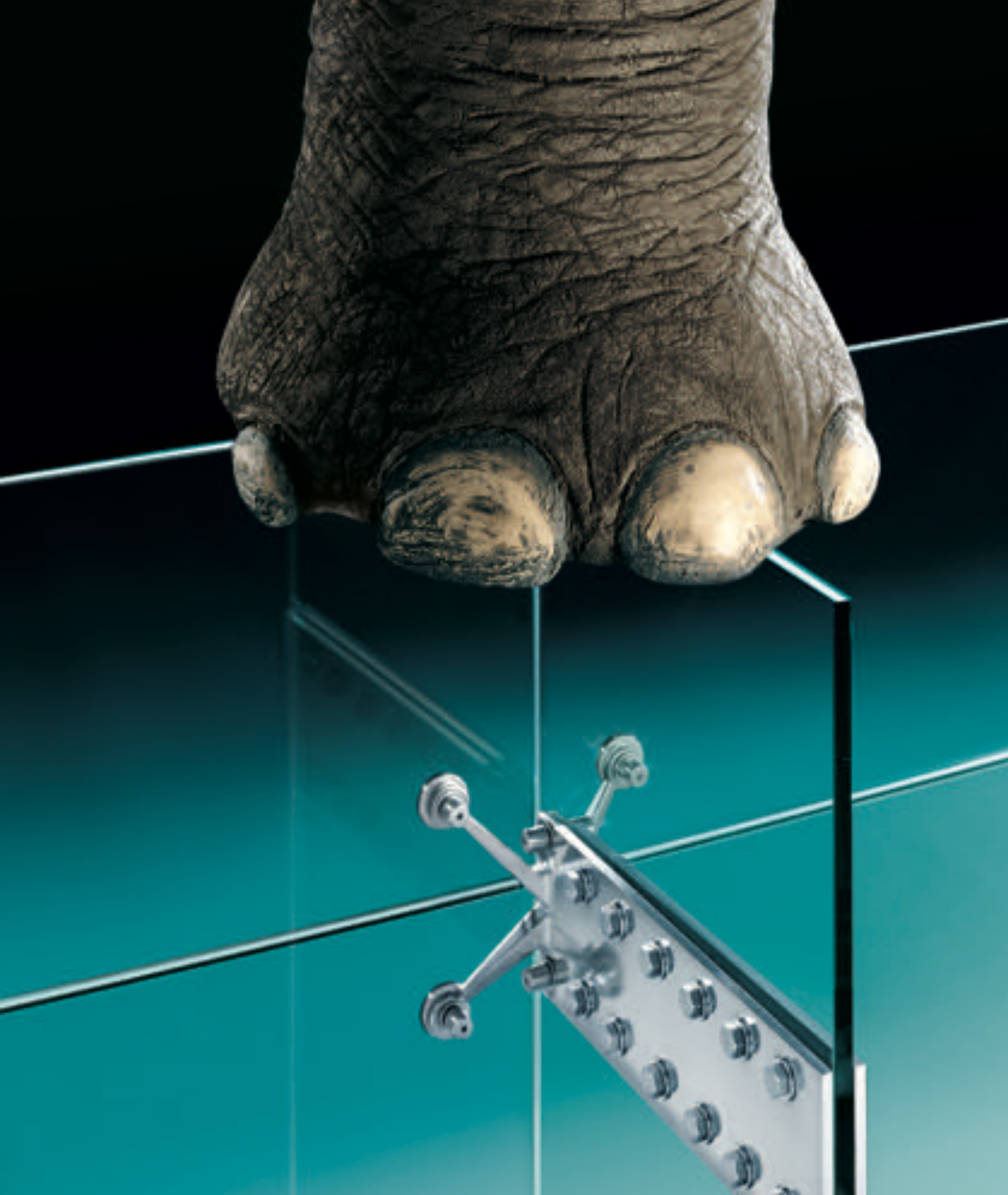


MARIO L. SANCHEZ

**Starr-Camargo Port of Entry's projecting cornice, decorative frieze, and Doric columns reflect Portscheller's 1886 Río Grande City masterpiece.**



PHOTO COURTESY BOULTINGHOUSE SIMPSON ARCHITECTS





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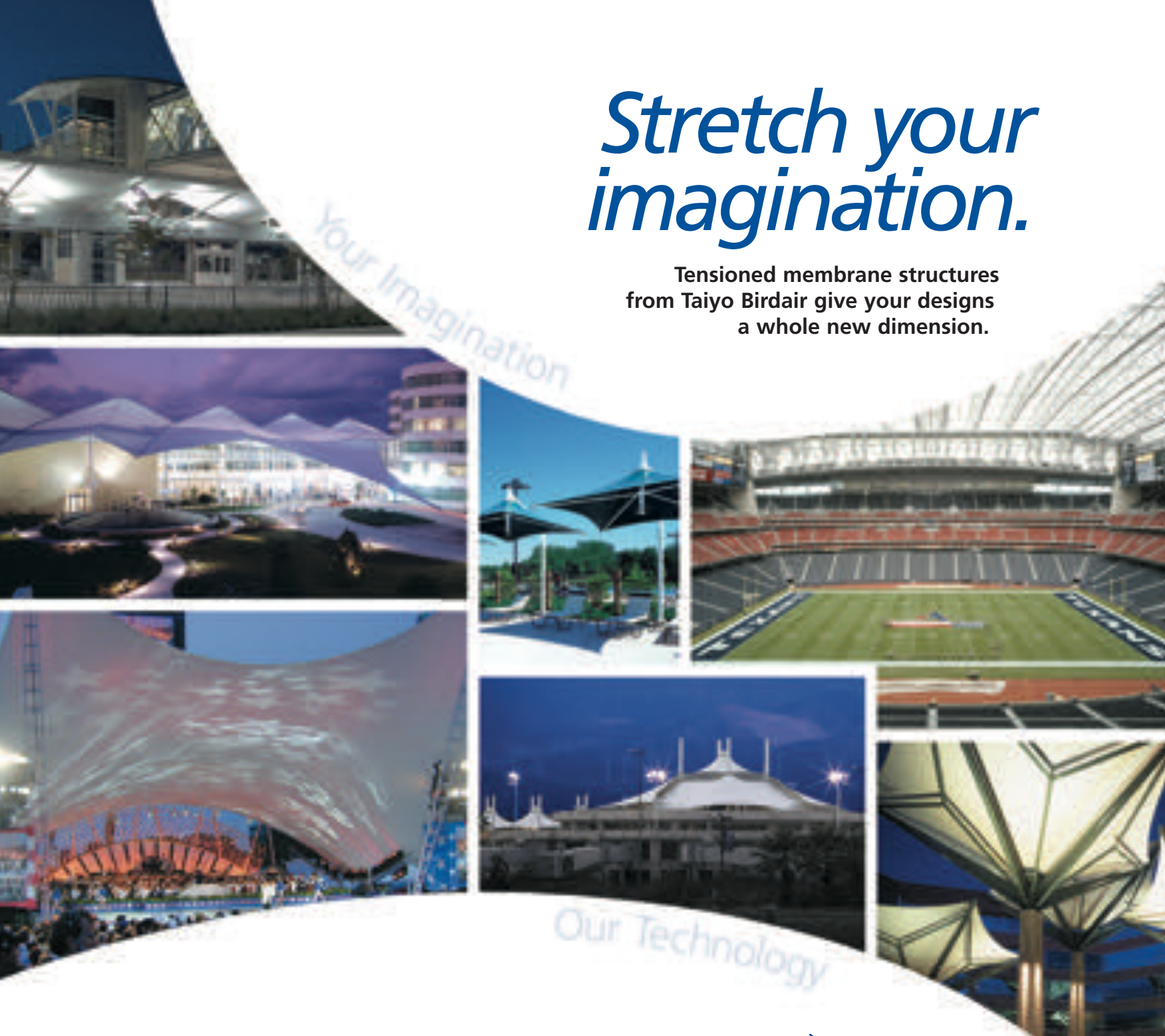
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## RoTo's Collaboration with PVAMU Builds on a Shared Commitment

**PRAIRIE VIEW** Still a few months away from completion but already grounded firmly on the grassland prairie of southeast Texas, the new School of Architecture at Prairie View A&M University portends a promising future for the university's architectural program.

A May 21 tour of the construction site sponsored by the Rice Design Alliance found the 108,000-sq. ft. building on schedule for opening in time for Fall 2005 classes. As guided by the project's design architect, Michael Rotondi, FAIA, of Los Angeles-based RoTo Architects, and the architecture school's dean, Dr. Ikhlas Sabouni, Assoc. AIA, the tour also yielded insights into the unique collaboration between an architect and an educator who are equally committed to advancing architectural education.

Estimated to finish under budget, the building is "the most forward-looking facility in the A&M system" according to Alice Macfarlane of the Texas A&M University System's Facilities Planning and Construction Department.

It's "the project of a lifetime," says Rotondi, one that provides his firm the opportunity to link equal portions of academic and professional interests. During the architect interview, RoTo Architects' dual focus on theory and practice set Rotondi's firm apart from the others under consideration. The unsolicited endorsement of RoTo by the student body and faculty proved that the fit between architect and project/client was true. That initial support has continued to flourish as the project has progressed. Moreover, the process has demonstrated Rotondi and Sabouni's shared dedication to architectural education. The reciprocal trust and respect evident

in this unique collaboration presents a model for architecture programs throughout the state. Ultimately, it is Dean Sabouni who deserves accolades for her vision and perseverance in passionately guiding the project from inception, through selection and commission, integrating the programming and design process with the school's recent curriculum, and finally through construction.

Inspired by a design exercise Rotondi offered to PVAMU architecture students shortly after the commission was awarded, the concept for the building is based on musical composition and notation. Analyses of African-American music—from tribal chants to gospel hymns, from blues and jazz to Motown, from islander reggae to rap—were synthesized into a modulated building diagram and a simplified plan—a 500-foot long, three-story stacked bar (encompassing studio and office spaces) crowned at one end by a cylindrical mass (housing an auditorium and the Texas Institute for the Preservation of



MICHAEL MORTON, AIA

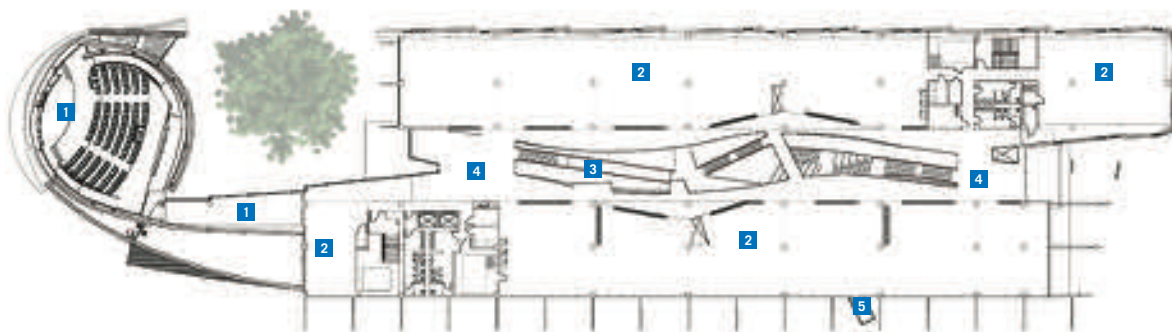
Red brick gracefully drapes Rotondi's new Prairie View A&M School of Architecture.

History and Culture). The spatial and material experience is both familiar and novel: part concrete warehouse; part Texas dog-trot, one interior and one exterior; red brick on a grass prairie, but with the illusory surprise of brick draped gracefully over an underlying frame; a Texas-sized porch on the south elevation, screening a glass wall of studios and offices; and a circulation "canyon" described by Rotondi as "the social vortex of the building."

Rotondi admits the project is largely grounded in his 25-plus years of teaching at SCI-Arc. His primary aim (and also that of the Sabouni's administration) is to provide a flexible learning environment that acts as a condenser for the public exchange of ideas. Rotondi is not in the least proprietary about this project. He gives due credit to the architect of record, HKS Architects of Dallas, and to Bartlett Cocke Contractors, and especially to the faculty and students of PVAMU's School of Architecture. Rotondi believes architecture is the "means by which community and generosity is engendered," and his philosophy of sharing is evident in his persona. The same philosophical foundation, of giving first to others, is becoming equally manifest in built form on the campus of Prairie View A&M.

LONNIE HOOGEBOOM, AIA

**THIRD FLOOR PLAN**  
1 OPEN TO BELOW  
2 STUDIO  
3 CANYON  
4 LOUNGE/PIN UP  
5 OVERLOOK



## Austin City Hall

[Due to editing errors, several sections of the following letter were erroneously transcribed when it was published in the May/June edition. The letter is being published again in its entirety.]

First, as a layman, let me express how much I enjoy your magazine. In the March/April 2005 issue, I particularly appreciated the comments of Lawrence Connolly, AIA, on the new Austin City Hall. (See “Keeping Austin Weird,” p. 24.) I had to smile at lead architect Antoine Predock’s depiction of Austin’s political process, after the exhaustive public forums, as being “terminally democratic.” Most Austinites would wear that expression as a badge of honor!

I believe that Predock’s team actually designed a dramatic and strikingly beautiful structure were it not for the frustrating and confusing south elevation. The use of native limestone, glass, and copper in the canyon-like four-story interior lobby is breathtaking and conveys the spirit of openness and accessibility that all Austinites seek in the political process. East, north, and west exterior elevations possess the drama of edgy angles and protrusions extending forth from the perimeter walls, which in no way mar the clean horizontality of the main building.

But the coherence, cohesion, and iconic presence that one would expect in a major civic structure yields to a diffraction of focus and ultimately chaos in the important south elevation, which is the front of the structure. Less would have been more and clarity might have prevailed had the architects chosen not to add the awkward solar screen descending from the roof of the east tower to the exterior mezzanine. This disruptive vertical screen interrupts cohesion by frustrating the clean horizontal bias of the structure. It has the effect of breaking the front elevation into jumbled parts and interrupting what could have been an interesting angular interface between the planes of the two towers. Finally, it conveys a flimsy quality in its awkward angular articulation with the downward sloping roof line of the east tower.

Two other distracting elements to the south elevation require mentioning. The use of galvanized steel for the cornice of the east tower only is a visual incongruity that cries out for elimination. The use of galvanized steel for this cornice was apparently dictated by the addition of a superfluous and marginally functional solar screen along the roof line of the east elevation. While this screen does not distract from the east elevation, on the south elevation its disengaging angle corrupts purity of expression along the roofline of the east tower with one more complex and disfiguring element.

The design architects of Austin’s new City Hall are to be congratulated for their bold vision. There are many beautiful aspects to this remarkable building. One might have only hoped that they would have known the tipping point where one more element of complexity gives way to confusion.

Robert Dunnam  
Austin

## ‘Us vs. Them’ Fundamentally Flawed

In his article, “Us vs. Them,” Michael G. Imber, AIA, puts forth an idea about residential architecture that is fundamentally flawed. (See May/June, p. 56.) First, “the ideological chasm between the profession and the general public” is essential to the practice of the craft of architecture. Architectural services have always been and will always be a luxury, reserved for those who appreciate and understand the value of the craft. It seems contradictory that Mr. Imber would state that architect’s “embrace” of modernism led to the isolation of architects “from the views of the general public,” when the origin of modernism (as presented by CIAM at the beginning of the twentieth century) resulted directly from the desire to design the built environment for the masses. True, the American interpretation of modernism as represented by the International Style, turned architecture into more of an artistic endeavor, objectifying the work of architects, which in turn reinforced its luxury status. By the fundamental fact that architecture is a service provided to a client, it will never be all things to all people.

Second, I fail to understand why Mr. Imber does not see how the profession focuses on “the development of the house as an archetype” precisely through the publication of innovative approaches and technology in professional journals. As architects, it is up to each of us to learn from these publications, as well as other media, and find the appropriate implementation of new thought and technologies into the work we choose to engage in, thus furthering our craft. Just because these journals are not publishing the more commonly shaped houses does not mean they are ignored. In fact, in the very same issue of *Texas Architect* are houses that may appear common at first glance, but they are published because of the evident exercise in simplicity that promotes “the development of the house as an archetype.”

Third, Mr. Imber suggests that architects “must communicate directly with the general public to demonstrate how architects can improve the average American’s lifestyle.” This is a fine idea, but

the American psyche just doesn’t work that way. The collective memory of the American people is one of self-reliance and collective individualism. A discussion of these concepts would be too long for this letter, but suffice it to say that the average American will never agree that an architect can build him a better house than he can himself—notwithstanding the inherent mistrust of a profession that hardly anybody understands. Besides, is this not why so many of us pay dues to the AIA? If the homebuilding industry labels “architects as irrelevant” then that is our own fault for not having proved them otherwise.

Lastly, Mr. Imber seems to suggest that “good design” is only done by architects. I beg to differ. There is a lot of good design to observe in our surrounding environment that is done by non-architects; and there is a lot of bad design in our surrounding environment that is done by architects. The professional journals seek to weed out the bad, present the good, and let the reader decide. I fail to see what the “us vs. them” is in Mr. Imber’s essay. He seems to have taken a very defensive position about something that seems to amount to “style”; a very elusive benchmark from which to formulate an argument. Like architecture, journals cannot

Letters continued on page 21

## CORRECTIONS

To correct errors in the May/June edition, please note:

- (p. 12) The article “AIA Houston Awards 18 Projects” in the News section omitted the names of the designers of the three projects awarded in the On the Boards category. They are [name here] for Faye S. Sarofim Research Building; [name here] for Brown Foundation Institute of Molecular Medicine for the Prevention of Human Diseases; and [name here] for The University of Texas Health Science Center at Houston.
- (p. 39) The wrong credit was given to the Cedar Hill Recreation Center in the Portfolio section. Half Associates provided both the civil engineering and landscape architecture.
- (p. 42) There were two misspellings in “Drawing the Line” in the Insight section. The proper spelling of the firm now known as HOK is Hellmuth Obata and Kassenbaum Architects. Hellmuth was misspelled in the article, as was the first name of HOK co-founder Gyo Obata, FAIA.

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## Work Begins on Legoretta's STIA Wing

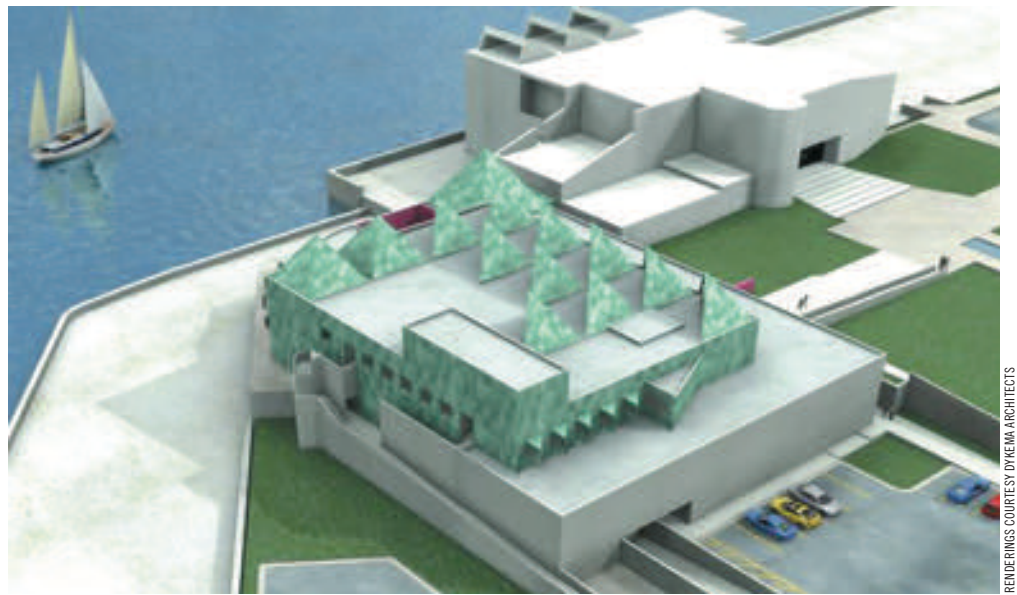
**CORPUS CHRISTI** Will it turn green or bluish grey or dark brown? No one knows for sure. However, everyone is certain that Ricardo Legoretta's expansion of the former Art Museum of South Texas will be very, very different from the late Philip Johnson's iconic and brilliantly white museum on the bay. Bill Otton, executive director of the museum now called the South Texas Institute for the Arts (STIA), says something else is almost as certain: "Some will think it was the best solution and some won't."

The expansion project, in gestation for a decade, finally broke ground last October. During that 10-year period the project has undergone a major transformation due to the unavailability of the museum's first choice for a site. That site, a two and a half-acre tract owned by the U.S. Corps of Engineers, would have allowed the new addition to stand at a considerable distance from Johnson's building. Instead, because museum officials grew impatient with waiting for the federal government to facilitate the sale of the land, the project is being built on the museum's parking lot. The change in site necessitated a redesign by Legoretta.



Pyramidal skylights will illuminate the new galleries.

Originally, Otton says, the goal was to distance the Legoretta wing from the main museum, which would have connected to the main older building through a hallway 200 feet long. The new scheme now links with Johnson's museum via a 15-foot-long hallway. Otton says Legoretta saw no problem with the new plan, and went to New York City last year to discuss the revised project with Johnson, who died earlier this year at age 98. "[Legoretta] said Johnson was very



Legoretta's STIA expansion will exert its own colorful identify next to Philip Johnson's original museum (top right).

disappointed that he was not given the project," Otton says. "However, he said Johnson felt that the solution was a good one."

In stark contrast to the complete whiteness of Johnson's tightly massed concrete building, Legoretta's concept for the expansion is covered more than 60 percent of its exterior with 2 x 3-foot, rolled-seam copper panels. Most of the copper cladding is limited to the upper floor of the two-story building. In addition, copper will sheathe 13 pyramidal forms rising from the roof. Ten of those 20-foot-tall pyramids will serve as skylights, which will be bisected vertically on the diagonal and glazed on the north side with impact-resistant glass.

John Dykema, AIA, whose firm Dykema Architects is the architect of record for the project, says the copper panels may be pre-patinated by the manufacturer. While the renderings show the copper having a marbled emerald hue, Dykema says the actual color of the panels, whether they are pre-patinated or not, will evolve over time. "We're experimenting with various amounts and types of acid to speed up the natural aging process," he says. While the acid-wash process is supposed to result in a durable finish, Otton says, "We all know it's going to change. We don't know what it's going to change to." Salt air typically yields a greenish patina on copper. "But,"

Otton says, "we're different here," adding the fact that Corpus Christi's unique coastal environment and minimal airborne pollution may turn untreated copper dark brown. He is hoping for a bluish gray. Without being specific, Dykema says the pre-patinated copper will have a "nice nautical feel to it." (Legoretta initially specified glazed blue ceramic tile for the exterior, Dykema says, but the city's periodic pounding by hurricanes led to a change of mind.)

Legoretta's copper-clad second story will set atop a broader base composed of pre-cast concrete sections. Dykema says the recipe of white cement with white aggregate used by Johnson will be replicated for the new building, and a similar bush-hammered finish is expected to result in a surface very close in look and feel to the original building. Otton says Johnson's building will be cleaned and sealed for the opening of the new wing scheduled for next spring.

When all the work is complete, Otton says the two buildings will represent "a nice dance between the two architects." The expansion will be christened the Miller Addition in honor of longtime residents of Corpus Christi Bill and Maureen Miller. Otton assures everyone that the character of the original museum building, completed in 1972, will not change except at the new connection point. Sunlight, which never before has shone directly into that corner of the existing building, will enter that lower gallery space through Legoretta-esque small, square windows punched in the 15-foot hallway.

STEPHEN SHARPE



PHOTOS COURTESY ART LEAGUE HOUSTON

## Curb à Peel Along Montrose Boulevard

HOUSTON For several weeks in May and June, an ephemeral art installation in Houston's eclectic Montrose neighborhood challenged the casual passerby. This city, often cited for the seeming architectural lawlessness that stems from an absence of zoning, also is well known for spontaneous creative inventions that occasionally spring from that same regulatory freedom. *Inversion*, a temporary house-based artwork, epitomized that spirit.

At the invitation of Debbie McNulty, executive director of Art League Houston, a pair of sculptors, Dan Havel and Dean Ruck, capitalized on plans for the imminent demolition of two deteriorated wood-framed cottages (actually Art League classrooms) to execute an urban-scale spectacle. Havel and Ruck usually work independently, but they teamed up for *Inversion*, which reprises the success of an earlier house-based project the two created in 1996 along with sculptor Kate Petley. For *O House*, the trio boarded up and then hollowed out a dilapidated bungalow in Houston's Westend to create a primitive camera obscura that projected shifting images of the surrounding trees and passing clouds onto interior curved walls of a kiva-like space.

With *Inversion*, Havel and Ruck exploited a more startling sensibility to produce a work geared toward windshield tourism. Located on busy Montrose Boulevard at Willard Street, the installation delivered not only an aston-

ishing drive-by experience but also a richly tactile encounter for those willing to step out of their automobiles and investigate. The artists reported that traffic eddies would form as passing motorists subsequently looped back to the site for a closer look.

The work blended demolition and recombination, and unfolded over three weekends of intense physical labor. The artists incrementally hollowed out the interiors of the two buildings, peeled away the exterior clapboard siding, and with the harvested boards constructed a central tapering vortex through the transverse cottage cores. Throughout the process, their



(top) For a few weeks in the spring, *Inversion* captured the attention of motorists along Houston's Montrose Avenue. (left) The vortex attracted passersby to stop and take a closer look.

work proceeded mostly unseen. The only indication that an inner transformation was taking place was the gradual removal of exterior siding. Demolition debris was deposited between the vortex and the outer walls of the houses. Finally, on a Sunday morning, when the artists broke through the outer wall facing Montrose, all was fully revealed to the public—the idea, the process, and the vortex.

The void extended nearly 100 feet, running east-west through both buildings from the sidewalk along Montrose and on to a hidden courtyard at the far end. Those not content to merely gawk actually entered the tunnel as if drawn by gravitational attraction to physically experience the space and perhaps to understand it.

Art League Houston held a public opening for *Inversion* on May 21 and the work stood for only a few weeks. The classroom bungalows were demolished in mid-June to make way for construction of a 6,000-sq. ft. building.

Some visitors expressed a hope that *Inversion* would continue as an art project permanently maintained for public display, a sentiment that confirmed the artists' success at their intention to "change a throw-away to something of value." But the lasting impact of the artists' shared vision stems to a great extent from their response to a specific location and a unique set of circumstances—its ephemerality was its essence. Its sudden appearance along Montrose Boulevard momentarily jarred observers out of the flow of the usual, feeding their imaginations with the task of interpreting *Inversion's* form, its function, and the process of its creation.

PATRICK PETERS

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Sunset Station, the site for the Host Chapter Party, is part of a multi-million dollar restoration and development program. The Station is the original 1903 Southern Pacific Depot and was one of the main stops along the famous Sunset Limited Route to California. Listed on the National Register of Historic Places, the Station was called "the building of 1,000 lights" because of the many electric lights installed during construction (see *Texas Architect*, July/August 1999 issue).



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## Revised Winspear Concept Unveiled

**DALLAS** Unveiled on May 27, the revised schematic design for the 2,200-seat Margot and Bill Winspear Opera House incorporates subtle changes that reduce the project's overall bulk without compromising its dramatic presence within the Dallas Arts District. The revised design was unveiled in May by the Dallas Center for the Performing Arts Foundation. The 198,000-sq. ft. opera house, scheduled for completion in 2009, is among five future venues that will comprise the Dallas Center for the Performing Arts.

"The Winspear Opera House will balance the need to provide a civic space that is accessible and inviting with the demands of creating an unrivaled performance venue," de Grey stated in a press release issued by the Dallas Center for the Performing Arts Foundation. "We have striven to take the drama of performance out to the audience formally and conceptually. We hope this will be the model for performance venues of the future."

De Grey's revised design for the opera house presents a leaner profile in comparison to his first-round scheme, with a lighter (and less expensive) canopy that extends horizontally 60 feet above the ground. Measuring 370 by 440 feet, the aluminum sunshade is still a large component to the concept, and one that will make the outdoor areas immediately surrounding the opera house more inviting for year-round events. The building itself, a glass-encased drum that showcases its ramps and staircases, now demonstrates a more direct relationship

with Flora Street and the neighboring buildings within the Arts District.

Similar to other Foster and Partner projects, the Winspear Opera house design emphasizes pedestrian flow and integration of public spaces. The auditorium includes design details that will improve the resonance of the human voice and allow the full sound of the orchestra to surround the audience. Through the use of retractable screens, the design permits acoustical adjustments that allow more flexibility for amplified performances.

The Winspear Opera House will be located on the north side of Flora Street in the heart of the Arts District. To date, more than \$190 million has been raised towards the total \$275 million expected to realize all the projects planned for the performing arts center. Two other high-profile venues currently in design are the Dee and Charles Wyle Theatre by Rem Koolhaas' Rotterdam-based Office for Metropolitan Architecture and the City Performance Hall by Skidmore, Owings & Merrill in Chicago and Corgan Associates in Dallas.

"The enthusiasm and generosity that has been demonstrated by families, individual contributors and corporations toward this campaign will serve to elevate Dallas' reputation as a leading international city of culture, business, and the arts," said Bill Lively, president and CEO of the Dallas Center for Performing Arts Foundation.

L I N D A V . T R I N H

**Foster and Partner's revised schematic design for the Winspear Opera House in the Dallas Arts District emphasizes pedestrian flow and integration of public spaces. The 2,200-seat venue is planned to open in 2009.**



RENDERING COURTESY THE DALLAS OPERA

## SMU's Mark Lemmon Exhibit Extended

*The Crafting Traditions: The Architecture of Mark Lemmon* exhibit has been extended until mid-July at the Meadows Museum on the SMU campus. The exhibit is part of a series that focuses on the work of Texas architects Howard Meier, George Dahl, and O'Neil Ford, as well as Lemmon. For more information call (214) 738-1138 or visit [www.meadows-museumdallas.org](http://www.meadows-museumdallas.org). JULY 10

## Brick in Architecture Call For Entries

The Brick in Architecture Awards have received nearly 400 entries, reaching the halfway point in the competition. Winners in each category will be published in a special issue of *Brick in Architecture*, and will be part of a national public relations campaign. For information on how to submit an entry, visit [www.gobrick.com/omnicontests](http://www.gobrick.com/omnicontests). Deadline is JULY 15

## RDA Plans Houston CBD Charrette

RDA Partners of the Rice Design Alliance invite interested parties to participate in a design charrette and reception. The charrette will focus on urban design within the Central Business District of Houston in hopes of finding an enduring model for the newly announced plan of a major urban park. The competition is open to architects as well as non-architects, individuals, or teams of up to five people. Call Camilo Parra at (713) 942-8346 or e-mail at [cparra@parradesigngroup.com](mailto:cparra@parradesigngroup.com). AUGUST 6 and 8

## Designs for Affordable Housing in El Paso

The HOME House Project will showcase 100 innovative house designs that follow general building criteria guidelines based on Habitat for Humanity's basic three and four bedroom house. Each design will, however, realign concepts attached to affordable housing by integrating sustainable materials as well as energy efficiency into each inspired living space. The exhibition will be held at the El Paso Museum of Art. Visit [www.elpasoartmuseum.org](http://www.elpasoartmuseum.org) for more information. Through AUGUST 14

## Baseball Stadiums on Exhibit at MFAH

Jim Dow's photographs of American League and The National League stadiums will be presented at the Fine Arts Museum of Houston in the Caroline Weiss Law Building. The exhibition focuses on the architecture of 26 stadiums—15 American League, and 11 National League—from the early 1980s. The photographs are being shown in conjunction with *Baseball as America*, a touring exhibition organized by the Baseball Hall of Fame. Visit [www.mfah.org](http://www.mfah.org) for more information. Through SEPTEMBER 12



## Crystal Bridges Museum of American Art

Alice Walton, daughter of Wal-Mart founder Sam Walton, recently announced plans to build a major museum in the Ozark Mountain town of Bentonville, Ark. — home of Wal-Mart’s first store, as well as its headquarters. The design team for the Crystal Bridges Museum of American Art includes Moshe Safdie, FAIA, and landscape architect Peter Walker. The 100,000-sf museum will be sited on 100 acres of woodlands donated by the Walton family, which traverses a stream fed by Crystal Spring. Construction of the building, expected to cost more than \$50 million, is scheduled to be completed in 2009. Two structures, which are both dams and bridges, are located across the ravine forming two large ponds. Additional structures lie in the steeply sloping terrain on each side, enclosing galleries, classrooms, a library, a lecture hall, and curatorial and administrative offices. The design aims to enhance and protect the natural beauty of the site while creating a sense of harmony with its setting.

## Outdoor Film Projection Canopy

Students of the award-winning Graduate Design/Build Studio at the University of Houston Gerald D. Hines College of Architecture are bringing the silver screen to a local middle school. Through a UH summer program, graduate students have created a design to function as an outdoor performing arts stage and film projection canopy at Alexander Hamilton Middle School, which they will construct this summer. The stage’s covered area will accommodate up to 30 students, while the lawn seating on the 400-sf structure will be practically unlimited. This is the sixteenth year that the Graduate Design/Build Studio has collaborated with public schools in Houston. “This is an opportunity for our students to gain first-hand knowledge about the interplay of design and construction, while meeting critical community needs,” associate professor Patrick Peters, director of the project, said.



## City of El Paso Branch Library

With no initial context for visual cues, local design firm IDEA used the concept of what the inside of a pile of fallen leaves looks like to aid the design of a 21,500-sf library in a new section of El Paso. The building is being planned for a site at the center of a new subdivision in the Socorro school district. The library will include stack areas for 115,000 volumes, a teen area, an adult reading area, and a computer room with 25 workstations. In plan, a simple square is eroded to take on the shape of a maple leaf found in a Boston park by IDEA’s Guillermo Barajas, AIA. The stem of the leaf cuts through the square and serves as a circulation spine as well as a separation of public spaces from private areas. Important in the design is a reading room to seat 20, located at the end of the stem. The exterior overhangs the body of the building, making it look as if it were falling from a tree onto the ground. Stained tilt-wall concrete gives the exterior the appearance of a natural element decomposing and then blooming again.



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# Victoria's Danish Dynamo

From Bay City to San Diego, émigré architect Jules Leffland left a vast Texas legacy

by GARY DUNNAM

BEGINNING in 1885 and on until the end of World War I, some of Texas' greatest architecture was realized in brick and mortar, stone, and timber. That era witnessed completion of the new State Capitol in 1888. Also, the "golden age" of Texas' courthouses began during that era after the state legislature enabled counties, for the first time, to issue bonds to build courthouses. Another important event that coincided with that time was the "City Beautiful" movement that had spread across the nation. All combined, that era of architectural awareness had a significant and widespread effect, even in the sleepy towns of the lower Gulf Coast and South Texas. The moment was just right for Danish émigré Jules Carl Leffland's arrival in Victoria.

Leffland, a third-generation architect from Copenhagen, was 32-years-old when he detrained on April 29, 1886. He came to Victoria on the advice of a friend, and soon began his architectural work there reassembling houses moved up from Indianola after the 1886 hurricane devastated that coastal community. Shortly afterward, cattleman and rancher T.M. O'Connor, presenting Leffland with his first major commission in Victoria, hired him to design the O'Connor residence, a fine two-story Italianate structure.

The young architect's talent was obvious, and his remarkable skill soon led to his services being very much in demand. Leffland's day-book/client list begins with No. 679, assigned to William Heard of Refugio. In rapid succession came entries including the modest Immaculate Conception Catholic Church and a store for John Von Dohlen, both in Goliad, and the Woodworth residence in Refugio. The residence, built circa 1898 and known as "Ballygarret," still stands, although ponderously.

By 1900 Leffland was turning out a succession of handsome structures. Victoria's City Hall (1900, in the Second Empire style) stood proudly in the center of Market Square until it was razed to make way for new city offices in the mid-1960s. Leffland's own home (1900) is a bold two and a half-story statement with curvilinear porch reaching halfway round the structure. The lap siding was scored by Leffland himself



In 1900 Leffland built this house at 302 East Convent in Victoria for his family.

to resemble masonry construction, according to his granddaughter. The Joe F. Jecker house (1904) abounds with late Victorian details—a three-bay, two-tiered porch on five-bay symmetrical west elevation; an intricate, turned-spindle frieze; and turned posts and balustrade plus jig-sawn brackets. Nazareth Academy (1904) in Victoria is perhaps Leffland's most creative and fanciful design, with elements of Dutch guildhalls blended with touches of Mission and Spanish Revival style. Elaborate gable and dormer parapets featuring curvilinear shapes also delight passersby. The Louis P. Leibold Building (1910) replaced a much older structure on Victoria's historic "drug store corner." It now serves as home to the Rosebud Fountain and Grill.

Leffland designed many other structures outside his immediate area, including the John B. Ragland Mercantile Company building (1910) in Kingsville, that now houses the King Ranch Store. Also in Kingsville is the Henrietta M. King High School (1909), believed to have been designed by Leffland. In San Diego is the Charles Hoffman Block (1909), the A.L. Muil Building (1910), and the St. Francis de Paula Catholic Church, which all bear Leffland's stamp. In addition, Refugio, Goliad, Cuero, Victoria, Edna, El Campo, Bay City, Palacios,

Blessing, Wharton, and Glen Flora boast Leffland structures.

The United States emerged from WWI greatly changed, having accepted the mantle as a world power. Americans, too, felt differently about themselves. As a result, post-war architecture soon began to reflect that new attitude, with a new generation of architects exploring new stylistic expressions. Although Leffland worked in a variety of styles, it has been suggested that his work fell out of fashion. Leffland's obituary published on October 23, 1924 in the *Victoria Advocate* stated, "He designed numerous buildings in this city and section and was generally recognized as one of the ablest architects in the state. His father, grandfather, and great-grandfather were all architects and his two sons are following that profession, one in Houston and one in this city."

In 1915, one of his sons, Kai Leffland, moved with his wife into the family homestead. Failing health had hastened Jules Leffland's retirement prior to his death at age 71. The family sold the Leffland house in 1921, three years before the elder Leffland's death.

A few years later, Lawrence Wyer O'Connor, son of T.M. O'Connor, hired Kai Leffland to design an energetic rebuild of Leffland's first Texas masterpiece. As a result, the O'Connor

residence's original seven-bay facade, with its sixteen columns supporting both first and second floor porches, disappeared as the front wall of the house was pushed forward to enlarge the interior spaces. Goodbye, Italianate. Hello, Neoclassical Revival.

A recent exhibit at the Nave Museum in Victoria paid tribute to Jules Carl Leffland and four architects who had worked with him in the years before his death. James Hull, an Englishman, was perhaps the most talented of Leffland's associates. Charles E. "Fritz" Praeger, Sam H. Dixon Jr., and Leffland's son, Kai, round out this group of architects whose work was showcased as part of the "Leffland Legacy."

Victoria Preservation has established a fund dedicated to the acquisition, conservation, and archiving of architectural drawings of these five architects, as well as of drawings of buildings designed by other architects in Victoria County. It is hoped that a repository for these documents will assist not only in making the work of these artists better known and more widely appreciated, but will also aid in the preservation of these historic structures. Their legacy is our architectural heritage.

Gary Dunnam is executive director of Victoria Preservation. He was curator for the "Leffland Legacy," an exhibit that was on display in April and May. Information on Victoria Preservation is available online at [www.preservictoria.org](http://www.preservictoria.org).



PHOTO COURTESY GARY DUNNAM

The Nazareth Academy (1904) in Victoria is among the least altered Leffland structures still extant. Built to house a Catholic girls' school, its design reveals the influence of Leffland's Northern European roots.



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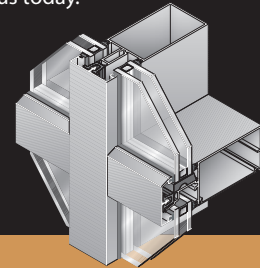
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be all things to all people. They have target audiences and stylistic expressions of the editors. There is no “us vs. them” between professional journals and “shelter magazines,” as Mr. Imber claims. Simply, these are different publications, with different audiences and different editors.

The public might perceive “architects as out of touch,” but who is to say that is a bad thing. The responsibility falls to all architects to perform our craft in the manner that we choose and in the manner that we wish to be remembered.

**Aida I. Latorre, AIA**  
**Dallas**

### Modernism vs. Fantasy Land

I read Michael Imber’s article “Us vs. Them” with dismay. First he proceeded to demonize modernism for its perceived shortcomings in the field of urban planning and completely neglected the equally inhumane, insalubrious, and depressing examples of traditional urbanism. One need only drive through the downtrodden sections of any “historic” urban area to see buildings crammed together, without proper sanitation, and on the verge of collapse, but covered with abundant ornamentation and made of traditional materials. Or, one can merely peruse the pages of Camilo Vergara’s provocative picture books *American Ruins* and *New American Ghetto* to see that the world of Jacob Riis is still alive and well in the USA.

I am curious to see how the members of the Institute of Classical Architecture are working to end this horrific way of life for the poorest of the poor. Are they asking what Palladio and Serlio would do? I am tired of those proponents of traditionalism and New Urbanism who pretend that they are not every bit as elitist as proponents of modernism. Any architectural practice is elitist at its heart. Thomas Jefferson, who is revered in certain circles for his classically inspired architectural talents, complained – just as bitterly as Tom Wolfe did in his amusing book *From the Bauhaus to Our House* – about the state of American architecture in the 1780s, more than a hundred years before modernism arrived here. Architecture was not recognized as a profession until the middle of the nineteenth century in the USA when the AIA was first founded. One supposes that prior to that time no residential buildings were designed by “architects,” as that term and job description did not then exist. Today, as in any other historic epoch, it is impossible to imagine that architects could and would design more than a tiny fraction of all buildings since the number



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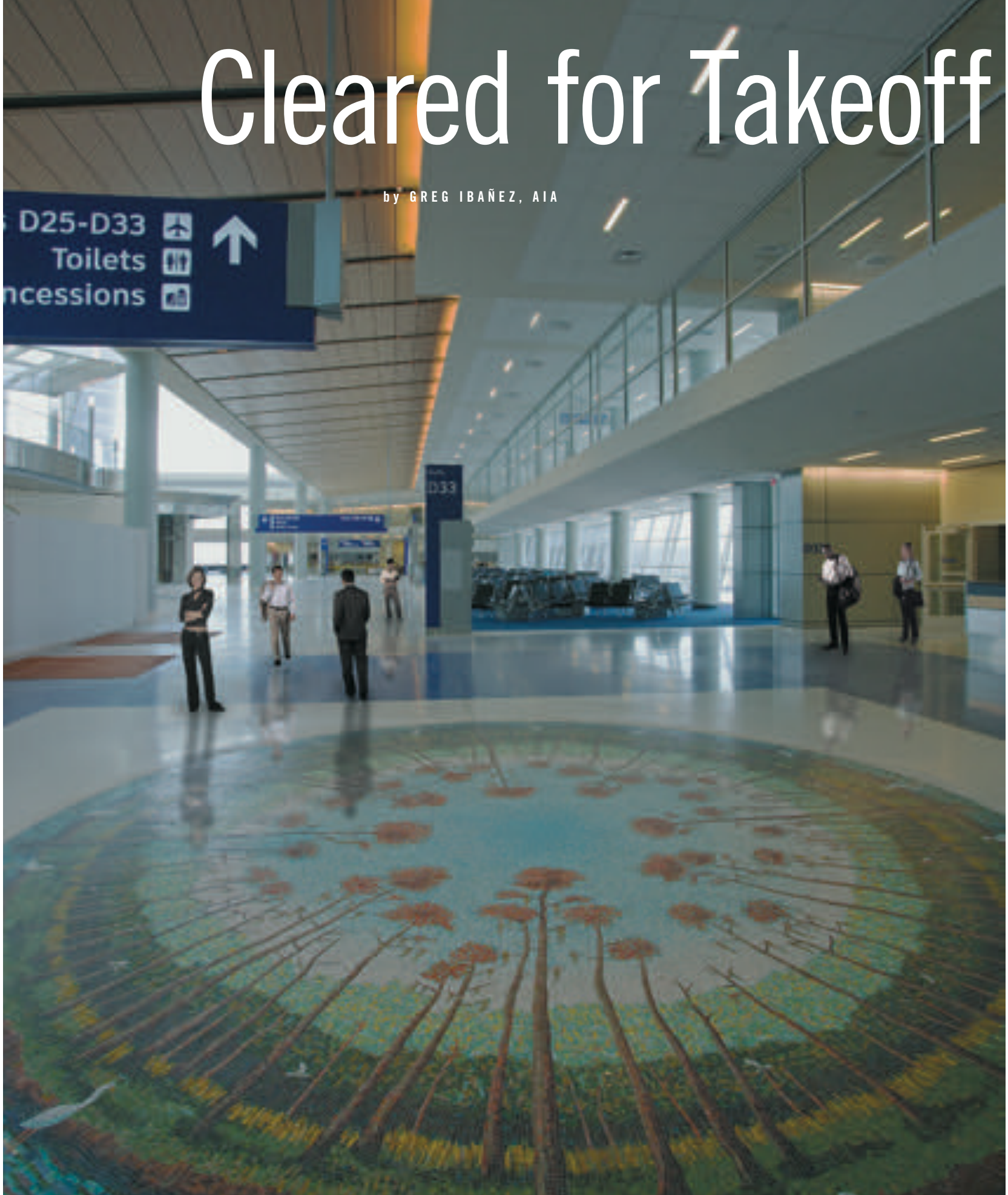
# Cleared for Takeoff

by GREG IBAÑEZ, AIA

D25-D33  
Toilets  
Concessions



D33







THE airport terminals of today are the buildings that we love to hate. And who can blame us? Gone are the days of the soaring silhouette (i.e., Eero Saarinen's TWA Terminal at JFK), which imbued air travel with a certain mystique—that of a privileged jet set served by courteous personnel eager to make one's flight, however brief, as comfortable as possible. Financially struggling airlines and ever-increasing security requirements have conspired to make our airport excursions exercises in coping with long waits and short tempers. Despite these obstacles, cities have come to view the airport arrival sequence as a seminal experience that can enhance or damage their image as a destination for business or pleasure. By that measure, DFW International Airport was in need of upgraded facilities in general and a new international terminal in particular.

Six years in the making, DFW International Terminal D has a history as tumultuous as the industry it serves. Initially, Corgan Associates (representing American Airlines) and the team of HKS and HNTB (retained by DFW Airport) were each asked to prepare individual schemes for a new terminal. After a peer review group selected Corgan's plan, DFW asked that the three firms form a collaborative team to execute the complex commission. Further complicating the project was 9/11—the catastrophe that changed everything for the air travel industry—which took place after construction was well underway and subsequently necessitated an additional \$50 million dollars in structural upgrades mandated by profound changes to the rules of airport security design.

Scheduled to open this summer, the new Terminal D conforms to the airport's original parti that has efficiently served the airport since 1974. That plan, designed by HOK, is an elegant series of horseshoe-shaped roadways and terminals arrayed along either side of a highway spine. At Terminal D, the arc remains as a two-level access road inscribed onto a very large (2.1 million square feet) rectangle. The upper level serves departures, providing direct access to ticketing and bag checking, and is flanked by a landscape of peaked fabric canopies erupting from below. These cover the arrival level where ground transportation services, such as buses and cabs, are located. These light-colored canopies should serve as a welcome mitigation of the Texas sun's intense glare as blinking time-zone

**PROJECT** DFW International Terminal D

**CLIENT** DFW International Airport

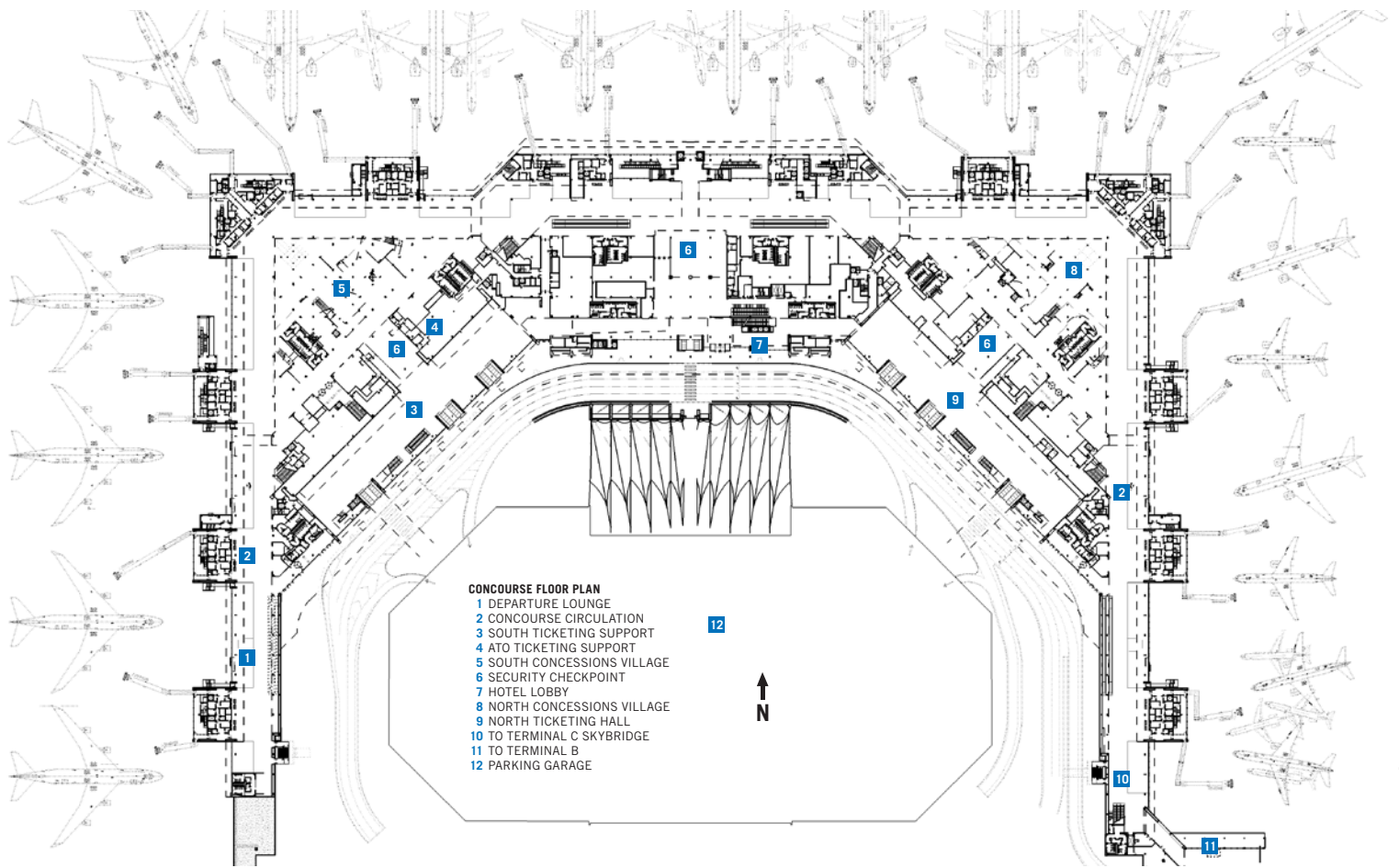
**ARCHITECT** HKS Inc. (executive architect); Corgan Associates (architect of record); HNTB (lead design architect)

**DESIGN TEAM** HKS: Wesley Wong, AIA; Rick Lee, AIA; Trey White; Erik Moorhead; Joe Gonzales; Mike Wahl; Corgan: Phil Mein, AIA; Chuck Armstrong, AIA; Ralph Bauer; Jeff Mangels, AIA; Brent Kelley, AIA; Jennifer Johnson, AIA; Ross Payton, AIA; HNTB: Vlasta Poch, AIA; Steve Reiss; Glen Reed

**CONTRACTOR** Austin Commercial

**CONSULTANTS** Cage Inc. (baggage handling); L.A. Fuess Partners (structural); Campbell and Assoc. (structural); Walter P. Moore (structural); Friberg Associates, Inc. (MEP); Carter Burgess (MEP); Garcia & Assoc. Engineering, Inc. (MEP); DFW Consulting Group (MEP); TriCADD Technologies, Dbe. (MEP); Ross and Baruzzini (communications); Basye & Assoc. (communications); CDI Communications (communicationc); Carol Naughton & Assoc. (graphic designer);

**(opposite page)** DFW International Terminal D presents a clarity of organization and lightness of form throughout. *Cypress Trees* by Arthello Beck is set in the floor between Gates 33 and 34. **(above)** Visible through the airway-side clerestory, Skylink shuttles will arrive and depart at two-minute intervals along an elevated track.



(opposite page) Following selection of the three firms in 1999, the design process was accomplished on a fast-track delivery schedule. The design was approved unanimously by DFW officials in June 2000, just nine months after the initial workshop/schematic design effort began.

travelers exit the terminal. Spanning this space is a catenary cable-supported pedestrian bridge that connects to the parking structure located inside the arc. The primary inter-terminal connection, the new Skylink “automated people mover,” dramatically slices through the terminal several stories above the concourse, with the new Hyatt Regency emerging as a vertical slab adjacent to the central arrival lobby.

Overlapping grids of gray-glass curtainwall and metal panels comprise the terminal’s facade. The roof form is a compound curve of stainless steel with linear skylights extending upward. Unfortunately, the flat glass skylights in the original design were sacrificed to the value-engineering gods and substituted with acrylic vaults that tend to visually interrupt the sweep of the reflective roofing panels. While the overall form of the structure is hard to grasp from earthbound vantage points, Chuck Armstrong, AIA, Corgan’s design principal for the project, says the terminal is perfectly legible from a plane circling high above the airport, which is quite remarkable given the structure’s bulk.

Upon entering the terminal, one finds a clarity of organization and lightness of form throughout. As with all airports there is a necessary division between secure and non-secure zones, but here the areas outside security are commodious and bright, offering ample views into the grander concourse beyond. The ticketing lobbies, located immediately inside the drop-off, are generously scaled with provisions for greatly increasing the number of counters as the airport’s traffic grows. The array of service counters face the entry and are covered by a steel canopy suspended by tension rods. Above the canopy is a large, sloped clerestory set beneath the vaulted roof with its linear skylights providing additional filtered sunshine.

After clearing security, the traveler enters the concourse. Here no vestige remains of the familiar DFW radial concourse. Instead, one finds an orthogonal axial organization of gates and concessions. Wayfinding—white graphics on blue backgrounds—is clear and properly scaled for easy legibility. In fact, other than the blue signage, there is an absence of saturated color anywhere in the architecture. Instead, the color palette is consistently muted—terrazzo floors of soft grays and blues, wall panels of white metal and brushed stainless steel, perforated metal panels of medium gray on the underside of the vault, and intermittent lowered ceilings of whitewashed wood veneer panels. Likewise, an economy of formal vocabulary and detailing enhances the spatial variety and provides a cool, quiet backdrop for passenger activities.

**PROJECT** DFW Grand Hyatt Hotel**CLIENT** DFW Airport Board**ARCHITECT** HKS Inc. with Vidaud + Associates**DESIGN TEAM** Nunzio De Santis, AIA; Eddie Abeyta, AIA; Daron Andrus;

Luis Zapiain

**CONSULTANTS** L.A. Fuess & Partners (structural); Blum Consulting Engineers (mechanical/electrical); Wilson & Associates (interior design); Elert & Assoc. (communication); Systems Design International (food service); HKS Environmental Graphics (graphics)**RESOURCES** LIMESTONE: Texas Stone and Tile; **ARCHITECTURAL WOODWORK:** Howard-McKinney Inc.; **ROOF PAVERS AND BALLAST MATERIALS:** Westile; **GLAZED CURTAINWALL:** Admiral Glass and Mirror

## Hotel Is Integral to Terminal Design

Scheduled to open this summer at the same time as International Terminal D is the DFW Grand Hyatt Hotel. The state-of-the-art hotel was integrated into the design of the new terminal, springing out from the compound curve of its stainless steel roof.

Encompassing more than 100,000 square feet, the Grand Hyatt contains a total of 298 guest rooms on eight levels. Amenities include a lobby-level restaurant, lounge, and coffee bar. The hotel's meeting space comprises 34,000 square feet of ballrooms, banquet rooms, and conference facilities.

"The integration of hotel and terminal has provided business travelers with more than a destination of arrival and a place of departure," said Nunzio De Santis, AIA, a principal with HKS. "The business traveler arriving at the terminal can conduct business in the hotel's banquet/conference space, lounge, dine in a high-end restaurant, relax at the hotel's rooftop pool and spa/fitness center, as well as be accommodated with a place to sleep for the night or between long flights. All of this can be accomplished without leaving the exact terminal building in which the air passenger arrived."

According to Eddie Abeyta, AIA, project designer and HKS vice president, the hotel's architecture responds to the terminal's streamlined look. "Sensitive to the

terminal's architectural expression," he said, "the hotel's design reinforces the notion of simplicity and purity as established by the terminal's aesthetic."

Positioned on the terminal's central axis, the hotel's vertical rise through the terminal's roof is expressed by a series of columns at the podium of the guestroom tower. The composition of the tower itself reinforces the terminal's elegance through a sophisticated layering of glass and metal facade planes.

"The simplicity and purity of an all-glass guestroom facade not only reinforced the notion of an international aesthetic, it also dramatized the guestroom experience with floor-to-ceiling glass," said Abeyta. "This not only allows the view to be much better, it provides a more spacious feel."

"The entire space was designed to provide a soothing home for weary domestic and international travelers," said Connie Jackson, an interior designer with Wilson & Associates. "We used limestone flooring, medium cherry wood, and taupe colored walls to create a contemporary, upscale space."

The DFW Grand Hyatt was designed by HKS, serving as lead architect in association with Vidaud + Associates as lead architect-of-record.

STEPHEN SHARPE



**RESOURCES** LAMINATES: Wilsonart, Pionite, Formica; **ORNAMENTAL METAL PANEL WORK:** Forms and Surfaces; **COMPOSITE METAL PANEL SYSTEM:** Reynobond; **METAL ROOFING:** Zahner Roofing; **ENTRANCES AND STOREFRONTS:** US Aluminum; **UNIT SKYLIGHTS:** CPI International; **GLASS:** Viracon; **DECORATIVE GLASS:** Pulp Studio; **GLAZED CURTAINWALL:** Kawneer; **TERRAZZO:** American Terrazzo; **TILE** Daltile; **ACOUSTIC AND METAL CEILINGS:** Armstrong; Capaul; **METAL CEILINGS:** Armstrong; Capaul; **SPECIAL CEILING SURFACES:** Simplex; **ATHLETIC SURFACING-INDOOR:** Rulon; **WALL COVERINGS:** Shaw

**Sunlight from abundant clerestories combine with a palette of muted colors for an overall calm backdrop for activities inside the new terminal.**

“We wanted the terminal to feel like a member of the world community—day-lit, neutral, and timeless,” says Corgan’s Armstrong. “We intended for the art and the concessions to reflect the local character, rather than the materials of the architecture.” Indeed, the food and retail areas are some of the most expressively detailed, with articulated stainless steel frames and balconies providing a consistent enclosure to the varied tenants. All of the forms are placed as objects within the space, with only the necessary venting grouped into a mast-like form penetrating the roof.

Looking upward through the clerestory one is struck by the sight of a Skylink car gliding silently high above the concourse floor. The stations are accessed either by elevators or via a series of very long escalators that provide a pulse-quickening ride through the vertical layers of the space.

Many of the international passengers using the terminal are only in transit, often faced with a long layover before connecting to another flight. In airport parlance, these travelers must be contained within “sterile” corridors until processed through immigration. The architects have thoughtfully placed these contained spaces within glass enclosures that hover above the main level, using the transparency to reinforce the sense of motion and activity. Plush, well-appointed transit lounges overlook the concourse, sharing in the ample daylight from above. The only public spaces without generous daylighting are the lower-level baggage carousels where cove lighting emanates from a series of tilted wood ceiling panels that float above.

Integral to the terminal design concept is the public art program placed and administered by HKS. Much of the artwork – including terrazzo and tile floor pieces, sculpture, wall installations, and a scrim of photographs mounted to a clerestory – speaks to the locale via imagery of Texas icons, symbols, or landscape.

Given its status as a major hub and international gateway for the central U.S., most travelers have no choice but to pass through DFW. Now, upon arrival at Terminal D, they are likely to see DFW in a new light—as an oasis for those passing through and a welcome greeting for those coming home. **T**

Greg Ibañez, AIA, is a vice president of Gideon Toal in Fort Worth and the firm’s director of design.



## Skylink Shuttle Speeds Up Travel Between DFW's Terminals

Another objective of DFW's five-year, \$2.7 billion capital improvement project was replacing the airport's 31-year-old inter-terminal AirTrans shuttle, the subject of many complaints due to its slow speed and the fact that it ran in only one direction. Traveling at its top speed of 17 mph, the AirTrans took 17 minutes to complete the airport's 13-mile loop.

The new \$880 million Skylink "automated people mover" system is expected to improve terminal-to-terminal travel considerably. Not only will Skylink's cars move twice as fast (35 mph) as AirTrans and in two directions, the new system's guideway runs only 4.8 miles long to connect the new International Terminal D with existing Terminals A, B, C, and E. Stations at each of the five existing terminals are incorporated between Skylink's two lanes. The guideway is elevated an average of 60 feet.

Skylink cars will operate constantly in opposite directions, with two-minute intervals between train arrivals. According to DFW officials, Skylink has the capacity to shuttle 5,000 passengers per hour per direction. For those with nothing better to do than ride the entire loop, a revolution will take approximately 18 minutes to complete. Each Skylink car will accommodate 69 passengers and their carry-on luggage (versus AirTrans' limit of 20 people plus luggage).

Each terminal has two Skylink stations located at its north and south ends on the terminal's air side and beyond the security checkpoints. The four-story, 480-foot long stations feature soaring ceilings of 76-feet and unique terrazzo floor art designed by local artists. Stations were built onto the airport's four existing terminals. But the two stations serving the new International Terminal D were integrated into the facility's design. There the Skylink trains will pass through its center to give passengers a glimpse inside the terminal. Travelers inside the terminal will be treated to the train's constant arrivals and departures.

Corgan Associates, part of the team that designed Terminal D, led the planning and design of the 10 Skylink stations (in collaboration with Johnson McKibben and Evan Evans). With eight of the stations planned to accommodate DFW's four existing terminals, the architects had more than design problems to solve. "One of the greatest design challenges was planning for a train that could be built on top of a very busy airport while the airport's operations remained active throughout the construction process," said Dee Swope, AIA, leader of Corgan's architectural team said. "We solved that dilemma by the stations' unique roof-top placement."

As with Terminal D, the shuttle stations' top-of-the-terminal placement also has entertainment value for travelers waiting for their flights. Those passengers riding Skylink will travel above the noses of arriving and departing planes, capturing a birds-eye view of active airline operations beneath them.

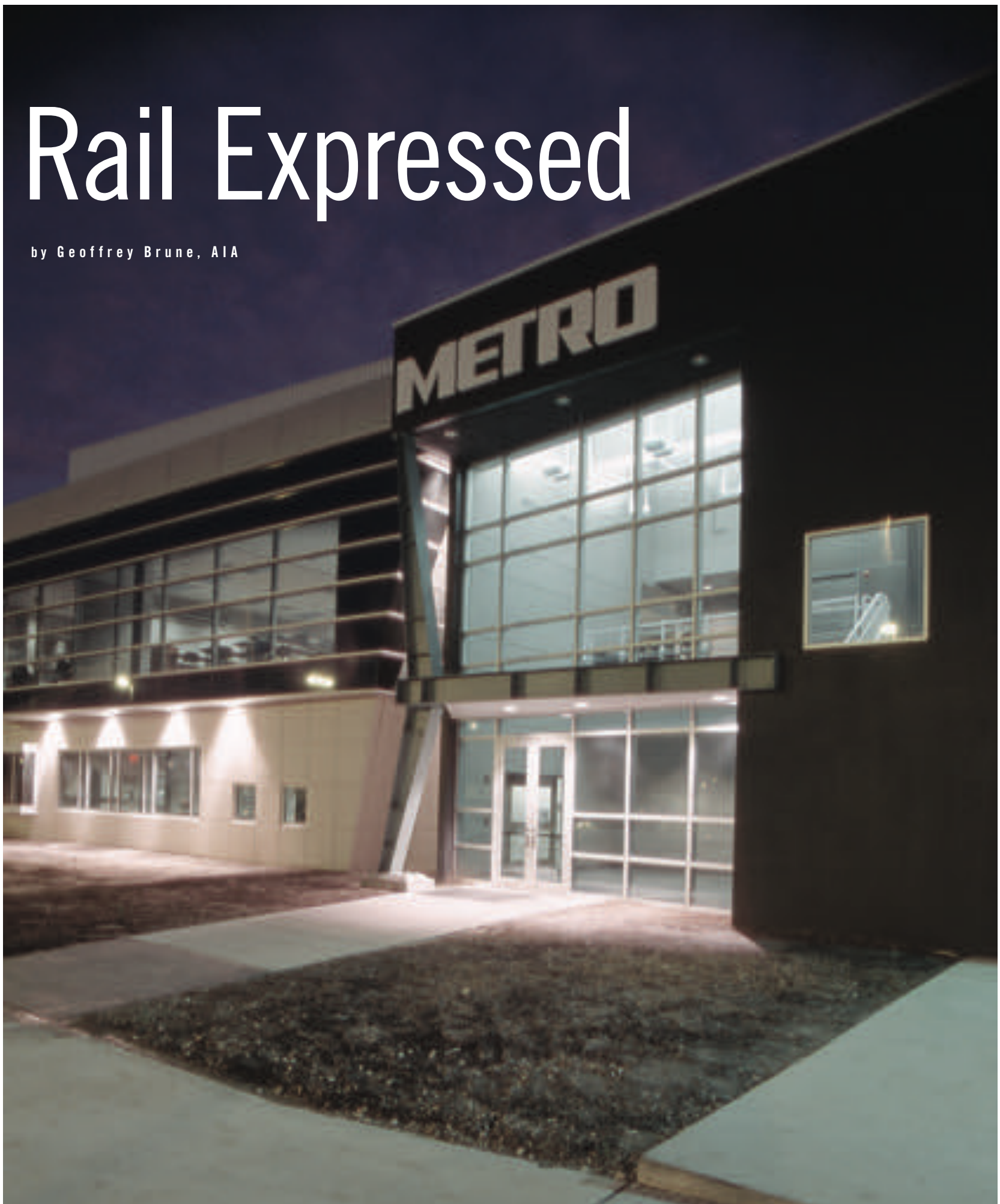
Large terrazzo artworks placed in each Skylink station were created by artists selected by the airport's art advisory committee. Shown above is Fort Worth artist Dan Blagg's "Jewel of the Day" set in the floor of Terminal B South. The installations are 180 feet by 30 feet, and reflect each artist's imaginings on air travel.

The stations are equipped with synchronized doors, escalators, stairs, elevators, passenger information systems, and closed-circuit television. Lea + Elliott was Skylink's system designer. For all parts of the Skylink system except Terminal D, Kellogg, Brown and Root was design program manager.

The guideway is constructed of concrete and structural steel, with cars moving along it suspended on rubber tires. Supporting the elevated guideway are 375 concrete columns. Infrastructure was put in place for the future Terminal F and for a future mass-transit station to serve the airport.

# Rail Expressed

by Geoffrey Brune, AIA





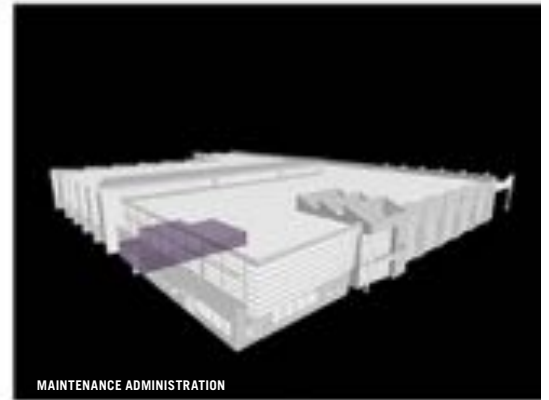
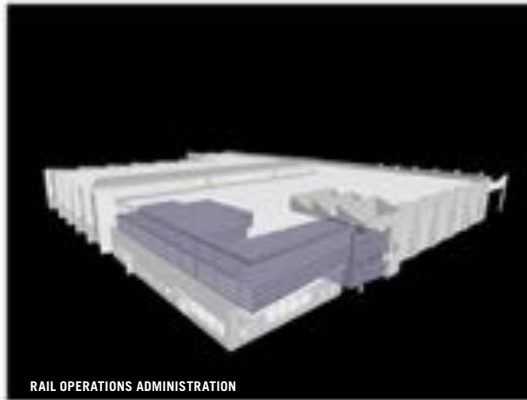
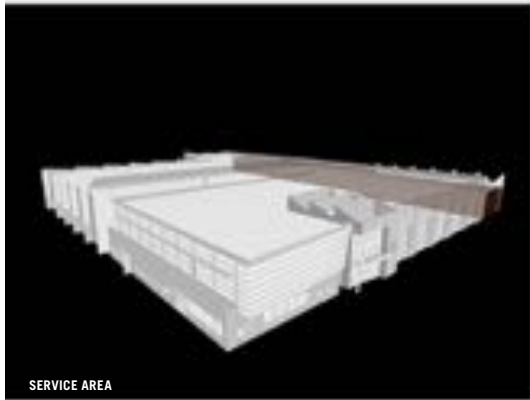
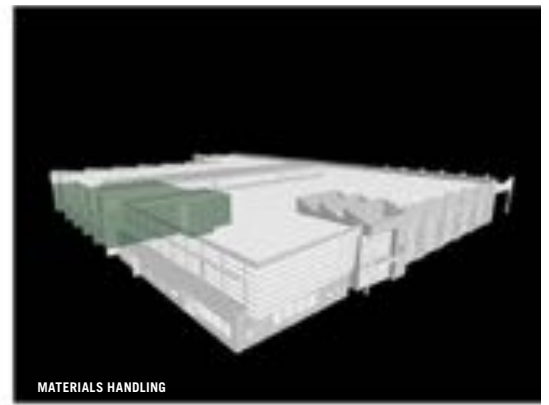
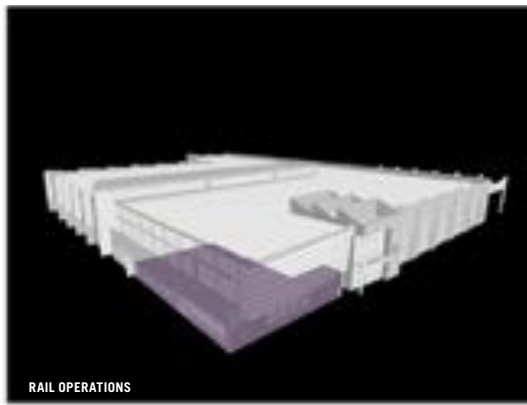
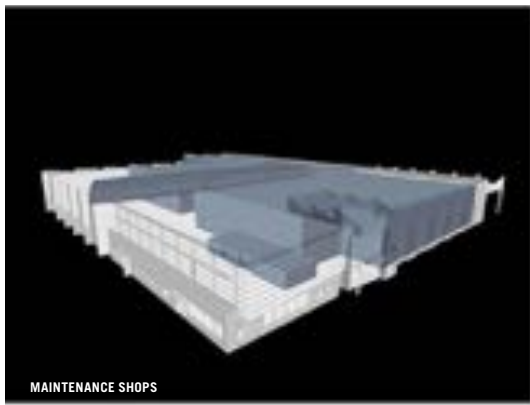
THE HOUSTON METRO Administrative /Maintenance Facility is the first building constructed for the Houston Metropolitan Transit Authority's recently implemented light-rail system. It is a big-box structure located at the southern end of METRO's first (and, so far, only) rail line. Except for views of nearby Reliant Stadium and its neighbor, the Astrodome, the METRO facility occupies a site typical of this industrial zone located just beyond Loop 610 on the periphery of Houston's inner core. Such places are often characterized by overscaled, anonymous buildings and infrastructure engineered for truck and rail transportation. Within this paradoxical context of site that melds the specific with the generic, Powers Brown Architecture of Houston created a forward-looking image that sets this building apart from the usual architecture of METRO's existing bus facilities. (METRO formed an internal but independent group to build and manage the light-rail system.)

The architect's challenge was to "de-engineer" the building. As a type, most of the facility's program was defined by the functional requirements of the various maintenance operations for the trains and by requirements for worker safety. In addition, programmatic relationships were further complicated and skewed by the rules and regulations for facility operations set by METRO, the employees' union, and outside vendors.

As a consequence, the building location on the property was dictated by the engineering for the on-site track layout. These tracks facilitate delivery of new trains from the adjacent Union Pacific rail line, as well as allowing for testing the trains prior to service, and for maintenance and storage of train cars while out of service. As a result, the building does not face the primary roadway (Fannin Street), so automobile traffic enters from the north via West Bellfort Street by an internal road, through security checkpoints, with parking located at the center of the site.

PROJECT Houston METRO Administrative/Maintenance Facility  
 CLIENT Houston METRO  
 ARCHITECT Powers Brown Architecture  
 DESIGN TEAM Jeffrey Brown, AIA; Joe Powers, AIA; Jewels Carter, AIA; Megan Ebert; Matt Flis; Justin Ruiz  
 CONTRACTOR Beers Skanska  
 CONSULTANTS Schraeder Engineering (MEP); D.Y. Davis (structural); Brown & Gay (civil); Clark Condon (landscape)  
 PHOTOGRAPHER Dror Baldinger

(opposite page) Industrial materials at the ceremonial public entrance denote the technical nature of the activities taking place inside the facility. (Above) Natural light enters the car house through a three-sided clerestory set in the roof.



(above) An approach the architects termed “interlocking juxtaposition” allowed the integration of the project’s six major components, each requiring different volumetric characteristics. (opposite page) The building’s complex exterior combines appropriate individualized architectural expression of its various internal components.

Rules and regulations (related to functional, safety, and operational demands) prescribed much of the building’s programmatic relationships and spatial characteristics. Therefore, the six major categories of space – service area, maintenance shop, six material handling, rail operations, and administration – were predetermined with respect to their relationships to each other and their individual volumetric criteria and internal design. This limited design invention to the ordering and expression of architectural and structural elements.

Rather than attempt aesthetic theming in opposition to the functional uses contained (i.e., decorate the diagram), the architects chose instead to break apart the hard-set functions from the more flexible aspects of the program, establish an appropriate architectural identity for each, and employ a method of reintegration they termed “interlocking juxtaposition.” This approach allowed the integration of the volumetric characteristics of the various spaces and itineraries of use patterns in the program to be coordinated with appropriate architectural expression, yet did not preclude a unified expression for the building.

The design for the majority of the program – service area, maintenance shop, and material handling – was driven by functional requirements where the placement of tracks inside the facility, extreme tolerances, train dynamics safety, and worker ergonomics greatly limited architectural manipulation. Adding further complexity, these program sectors had restrictions of interface, sometimes driven by union issues, isolation from public access, and functional adjacencies.

The “front of house” programs of rail operations and administration were more flexible because these areas serve all aspects of the facility. Activated by a limited but important need to accommodate public access in an otherwise functional facility, these elements were woven together, each one simultaneously performing functional requirements while taking on an important role in the exterior composition of the building. While the double-volume spaces of the repair and maintenance areas are held in an exterior skin of tilt-up concrete panels that enclose three quadrants of the rectangular plan, the administration and support functions are located in a two-story arrangement at the northeast quadrant.

The office element is expressed as a compositionally controlled aggregation of the program’s sub-components. The first-floor exterior wall is planar with punched openings responding to various departments housed within. Here two separate entrances for employees and vendors face a parking area to the east. Above is a curtainwall system with extended horizontal mullions, aluminum sunscreens, and shading devices made necessary in the summer to address the northeast orientation.





Behind this glass facade are the administrative offices. Slightly distorted to form a prow, the upper-level volume maximizes views of the surrounding tracks from the Yard Master's corner office. Slid back from the east facade, this curtainwall volume also creates a second-floor porch for observation.

The stacked ensemble is connected to the car house to the west by the main entry portal that constitutes the ceremonial public access to the facility. To the south, this two-story piece is connected to the adjacent storage area with an internal monumental stair. This entry element provides a visual suture, connecting the horizontal expression of the glass office volume to the staccato rhythm of the train portals to the car house. The storage area is lit by a series of saw-tooth flaps collecting sunlight on the northern facade rather than roof. All the elements are unified by color-coding both inside and out. However, the building systems, structure, lighting, and ventilation are not read as unifying elements, but operate in conjunction with the design strategies.

In the car house's interior space, the tilt-up concrete wall and steel roof structure is functionally efficient and painted white as are all of the facility's other interior surfaces. The train cars are floated, as sleek objects of beauty, within a cage of yellow-painted steel structure providing maintenance workers access to both undercarriage and roof top. Entry to the trains' interiors is provided by ingeniously designed draw bridges (courtesy firm principal Joe Powers, AIA) that span the space, required by the car's unique profile, between the work platform and train. Structure for the service area's canopy, visible from Fannin Street, is contextualized by the facility's industrial environment. Natural lighting enters the car house through a three-sided clearstory created with a sloped projection of the roof. The dual-direction, polycarbonate glazing provides ample light that during summer months need not be supplemented with artificial lighting. In addition, 20 air changes per hour is accomplished in the maintenance space by a mechanical system.

This is a design of "big move" architecture. Constrained by the situational program and demanding budget target, refined detailing is restricted. It succeeds because it searches for new territory in which to establish a design strategy tied to the understanding of and response to programmatic and technical challenges presented in this industrial building type. It takes advantage of these limitations to establish its own language of architecture, revealing the energy and intrinsic characteristics of the building's use and activity. In this METRO facility, Powers Brown identifies a way of designing that offers genuine architectural expression in the most banal of building types. ■

RESOURCES ARCHITECTURAL METAL WORK: Myrex; SUNSCREEN AND SUNSHADES: Intertel; ROOF AND WALL PANELS: Centria; METAL DOORS AND FRAMES: Door Pro Systems; WOOD AND PLASTIC DOOR FRAMES: Door Pro Systems; SPECIALTY DOORS: Overhead Door Corp.; ENTRANCES AND STOREFRONTS: Kawneer; UNIT SKYLIGHTS: Supersky; GLAZED CURTAINWALL: Kawneer; TILE: Daltile; ACOUSTICAL CEILINGS: Armstrong; WALL COVERINGS: MDC; PAINTS: Sherwin Williams; SIGNAGE AND GRAPHICS: ASI Sign Systems

A practicing architect, Geoffrey Brune, AIA, also teaches at the University of Houston's Gerald D. Hines College of Architecture.



# Transparency In Transit

by STEPHEN SHARPE

**PROJECT** METRO Texas Medical Center Transit Facility

**CLIENT** Metropolitan Transit Authority of Harris County

**ARCHITECT** Rey de la Reza Architects, Inc.

**DESIGN TEAM** Rey de la Reza, FAIA; Howard Merrill III, AIA; Stephane Giet; Scott Buehler, Assoc. AIA; Vince Yauger, AIA

**CONTRACTOR** Satterfield & Pontikes Construction

**CONSULTANTS** CBM Engineers (structural); Brewer and Escalante (civil & MEP); Clark Condon Associates (landscape); RS&S Engineers (traffic); HVJ Associates (geotechnical); Jones & Carter (construction manager)

**PHOTOGRAPHER** Stephane Giet

**RESOURCES** STAINED CONCRETE: Bomanite of Texas; UNIT PAVERS: Tar-taglia; SITE, STREET AND MALL FURNISHINGS: Dura Art Stone; CONCRETE FORMWORK/PLACING: Southern Star; MASONRY UNITS: Southwest Concrete Products; METAL MATERIALS: Cadit/Beck Steel; METAL DECKING: Cadit/Beck Steel; RAILINGS AND HANDRAILS: Cadit/Beck Steel; ROOF AND WALL PANELS: Economy/T&S Metal Works; METAL ROOFING: Berbice Corp.; METAL DOORS AND FRAMES: Door Pro; GLAZED CURTAINWALL: All-Tex Glass; CANOPY GLASS: Vision Products; SKYLIGHTS: Imperial Glass Structures; GLASS BLOCK: Pittsburge Corning (Masonry & Glass Systems, Dist.); CABLE-SUPPORTED FABRIC STRUCTURES: Brunson Builders

HOUSTON METRO's Texas Medical Center (TMC) Transit Facility functions as a critical node in METRO's multi-modal General Mobility Plan. Located near the southern terminus of the city's Main Street light-rail line, the facility links the rail corridor with bus routes bringing passengers from park-and-ride locations throughout the city's southwest and southeast sectors, as well as local bus routes and hike-and-bike trails. Operational 21 hours a day and accommodating 16 bus berths, the TMC station is sited on a constrained urban site across from the M. D. Anderson South Campus.

The station's two parallel architectural membrane roofs cover an area of 32,000 square feet, and provide the facility with a distinctive form that appropriately responds to the scale of the surrounding mid-rise buildings. Because the transit station would be visible from adjacent taller buildings, its roof form (above) was considered to be critical to the success of the overall design, in effect acting as the structure's fifth elevation. The architect developed the roof to be experienced by passengers at the transit level as an undulating forms metaphorically expressing movement. The transparency of the pedestrian bridge similarly manifests a sense of dynamic motion that carries through to the station's vertical circulation systems as the stair enclosures unfold from the waves of the roof in the center bays and curve up to the sky-bridge level. Fully transparent elevators complete the openness of the design scheme.

Light and transparency are important design elements for pragmatic reasons of safety and security, as well as for aesthetic reasons necessary for pedestrians to feel comfortable in a virtual sea of pavement and buses. Translucent fabric canopies shelter perimeter passenger loading zones (opposite page), their roofs cantilevered from the concrete super structure. The roofs start completely horizontal and are tensioned into the central corridor's undulating double-curve geometry. The perimeter zones are evenly illuminated with diffused natural light in the daytime, and at night with artificial uplighting. Sunlight illuminates the central zone via intermittent skylights integrated within the opaque roof. Configured as a linear gallery, all vertical wall planes within the corridor are visually transparent for security reasons and for ease of orientation.

The image for the TMC Transit Facility derives from its function as a place of movement, an environment where people require safe transition both during daytime and nighttime hours. Evoking metaphors of travel, light, and technology, the design successfully creates a sense of place in the emerging urban district of the Texas Medical Center. **■**



# Fresh on Arrival

by LAWRENCE CONNOLLY, AIA



**PROJECT** San Antonio International Airport Improvements

**CLIENT** Department of Aviation, City of San Antonio

**ARCHITECT** Marmon Mok with DHR Architects

**DESIGN TEAM** Stephen R. Souter, AIA; Bill Reeves, AIA; Herbert A.

Denny II, AIA; Angel Garcia, Assoc. AIA; Shawn Bacon, Assoc. AIA;

Wade A. Cleary/PE, AIA affiliate; Gabriel Durand-Hollis, FAIA

**CONTRACTOR** Constructors, Inc.

**CONSULTANTS** Marmon Mok (MEP); Halff Engineering (electrical);

Archillum (lighting); Bender Wells Clark (signage); Ross and

Baruzzini (flight information displays); BAI (public address system);

César Martínez (public artist); May Sun (public artist)

**PHOTOGRAPHER** Craig D. Blackmon, FAIA

(above) Where drab carpet previously set a somber tone, white terrazzo now brightens the ticket lobby with reflected light from skylight ribs in the original ceiling vault. (opposite page) La Charreada is one of 16 works by artist César Martínez that integrate tile mosaics on walls and columns with terrazzo patterns on the floor to greet passengers upon arrival at SAT.

ALMOST 20 years after its terminal was built, San Antonio International Airport's need for a comprehensive renovation became obvious shortly after the terrorist hijackings of Sept. 11, 2001, when increased airport security across the nation changed many aspects of routine commercial air travel. One residual effect of 9/11 is the longer downtime that passengers must endure every time they fly—typically an additional hour spent in the terminal before boarding a domestic flight. That longer wait strained the capacity for airport concessions to serve stalled travelers seeking diversion. Airport retail was previously seen as analogous to a convenience store. But post-9/11, with more people forced to spend more time there, airport administrators see the shopping mall as the more appropriate retail model. A consultant's study substantiated San Antonio's airport (SAT) need for additional space to handle the number of passengers with increased time on their hands.

SAT's 360,000-sf Terminal 1 originally opened in 1984. The terminal, with 16 gates, was designed by the joint venture team of Heery & Heery of Atlanta with local architectural firm Marmon Mok and W.E. Simpson Co. structural and civil engineers. Its T-shaped circulation spine is anchored by a vaulted-ceiling ticket lobby that intersects the concourse in the middle with gates on either side. This perpendicular configuration and grand central space did not reflect the linear terminal arrangement that was more prevalent in airport design in the 1980s. The ticket lobby boasts an uncluttered ceiling with ingenious skylight ribs that are repeated the entire length of the vault. Concrete block in a purple-hued checkerboard pattern was used as a primary wall material inside and outside the terminal.

According to SAT Assistant Director Barbara Possen, airport officials had three primary goals for the renovation and concession redevelopment (RCR) project: to increase passenger convenience; to





(above) Most dramatic are the changes within the baggage area. As in the ticket lobby, white terrazzo replaced dark carpet. Removal of furr downs extended sight lines and created the illusion of a raised ceiling. (opposite page) In the concourse seating area, aluminum panels now clad masonry columns, ceilings, and upper walls.

capture a meaningful image of San Antonio; and to increase lighting levels that adhered to energy-conservation codes set during the 1980s. They selected San Antonio-based Marmon Mok for the job, in association with DHR Architects, also of San Antonio. Hiring one of the original architects made sense because they understood the facility's nuances and consequently could respond to the challenges posed by the retrofit.

To help achieve the goal of increasing passenger convenience, the team added 10,000 sf of concession space. That additional space allowed for a doubling of the number of company brands, which under SAT's new retail outlet guidelines had to be merchants featuring a decidedly San Antonio flavor. Also, passenger convenience was improved by enhancing the terminal's wayfinding system. Terminal sight lines were lengthened by eliminating non-essential stub walls, furr downs, and bulky bases for light fixtures. Wayfinding was further improved by evolving airport technology, in this case large, flat-screen multi-user flight information display (MUFID) systems linked directly to the airlines to provide up-to-the-minute flight information. These displays were strategically located in the terminal to facilitate efficient passenger movement.

As for capturing a meaningful image of San Antonio, the design team wanted arriving passengers to realize immediately through visual and aural clues that they were in the Alamo City. Creating



such regional sensory distinction was achieved through the City of San Antonio's Arts Enhancement Program that allocates a portion of the construction budget to integrate artwork with the city's building projects. According to Steve Souter, AIA, partner-in-charge with Marmon Mok for both the original building and the renovation, certain areas of the terminal were specified for "San Antonio features" created by local artist César Martinez. Most prominent to SAT passengers are the "portals" of mosaic tile and terrazzo flooring located at the 16 arrival/departure gates that depict events from the city's history, its institutions, and its unique cultural mix. Similarly, San Antonio's Paseo del Rio inspired Los Angeles artist May Sun's meandering "river" in the terrazzo and the fountain at the main food court.

To respond to the airport's problem with the dimness of the existing lighting, Marmon Mok/DHR first brightened the colors of the interior finishes and replaced the yellow (but energy efficient) sodium-vapor lights with a variety of "white" lights throughout the terminal. Light-colored terrazzo floors replaced areas previously covered in dark carpet, and high-tech aluminum panels were specified for ceilings, masonry columns, and the upper parts of the concrete-block walls. The new metal wall panel system also effectively solved the annoying visual problem of airlines' promotional banners being taped to the walls of each gate's waiting area—continuous concealed moldings now allow for the orderly display of temporary banners via metal hooks.

The net effect of the RCR project has been overwhelmingly positive. Its relatively simple changes have resulted in appreciable functional and cosmetic improvements. In fact, a 2004 study by J.D. Power and Associates ranked SAT with the "highest passenger satisfaction." Concessionaires have also benefited from the improvements, as businesses have flourished and Airport Revenue News recognized SAT as having the "most innovative services." ■

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

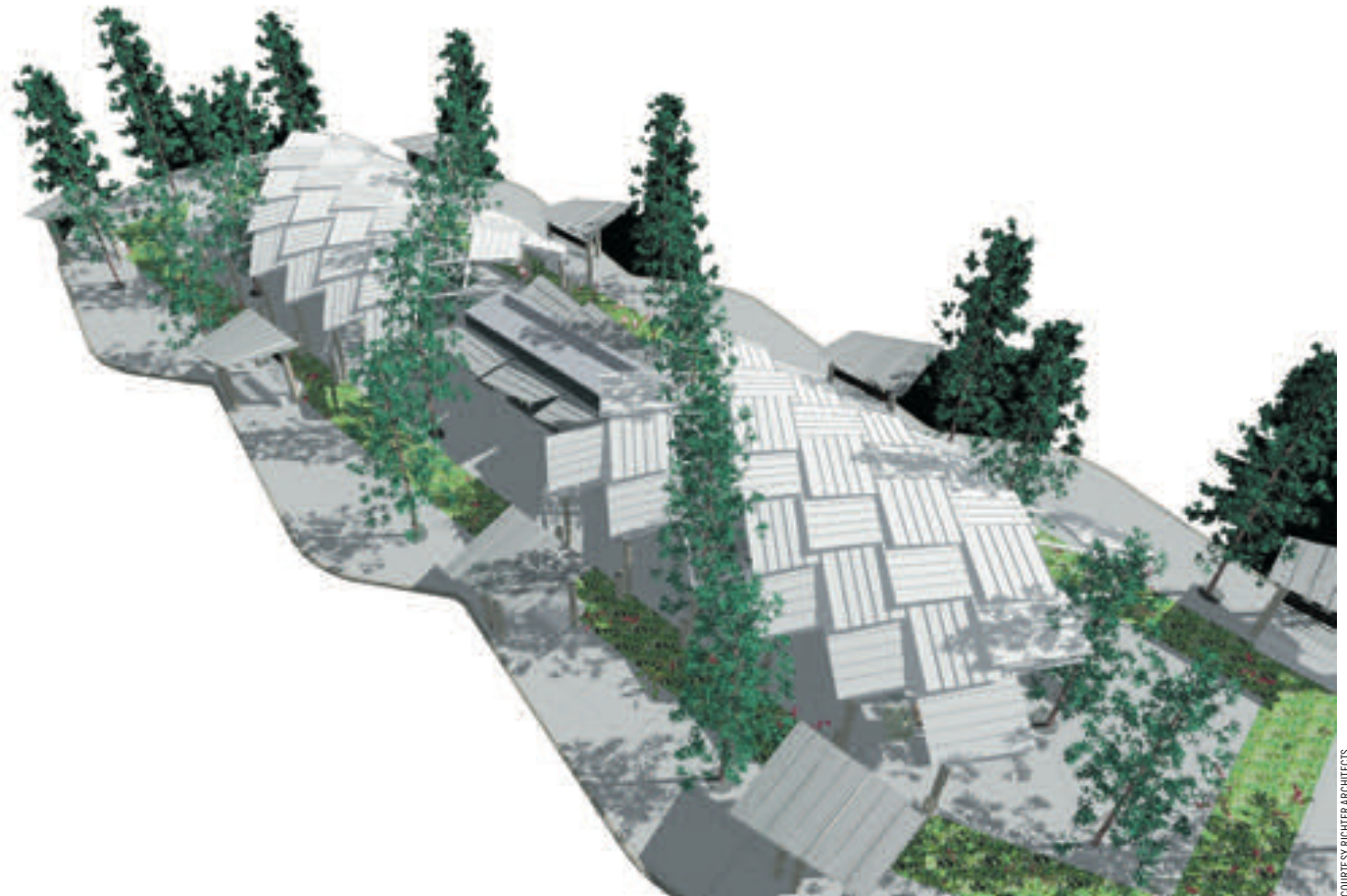
RESOURCES FOUNTAINS, POOLS, AND WATER DISPLAYS: Beldon Roofing Company; LIMESTONE: Delta Granite and Marble; SIMULATED/MANUFACTURED STONE: Petrarch Architectural Panels; ARCHITECTURAL METALWORK: Architectural Graphics, Inc.; RAILINGS AND HANDRAILS: Architectural Graphics; ARCHITECTURAL WOODWORK: Formica Ligna Wood Surfacing; WATER REPELLANTS: Stonelok Sealer; ENTRANCES AND STOREFRONTS: Samuels Glass Company; GLASS: Samuels Glass Company; TILE (ARTISTIC MURALS): American-Olean; TERRAZZO: National Terrazzo; ACOUSTICAL CEILINGS: Armstrong World Industries, Inc.; METAL CEILINGS: Armstrong; LETTERS AND PLAQUES: Architectural Graphics; SIGNAGE AND GRAPHICS: Architectural Graphics, Inc.

# Crossing Over

by LAURINE MILLER







COURTESY RICHTER ARCHITECTS

DESIGNED as an “urban forest” and sited across an arterial road from a busy shopping mall, Corpus Christi’s Southside Transit Station buzzes with activity throughout each workday. As many as 1,500 passengers—workers, shoppers, high school students and other commuters—use the transfer station on a daily basis to catch buses serving nine routes that cycle through the outdoor station. In design and spirit, the station is one of the *cooler* places in town—where a sprawling public project unfolds like site-specific sculptural artwork that tempers the semi-tropical conditions of the surrounding hardscape of concrete.

The Southside Transit Station opened in 2004, one of five administered by the Corpus Christi Regional Transportation Authority (RTA). It occupies two acres between a garden apartment complex and a nightclub parking lot, and faces the parking garage of the city’s largest shopping mall.

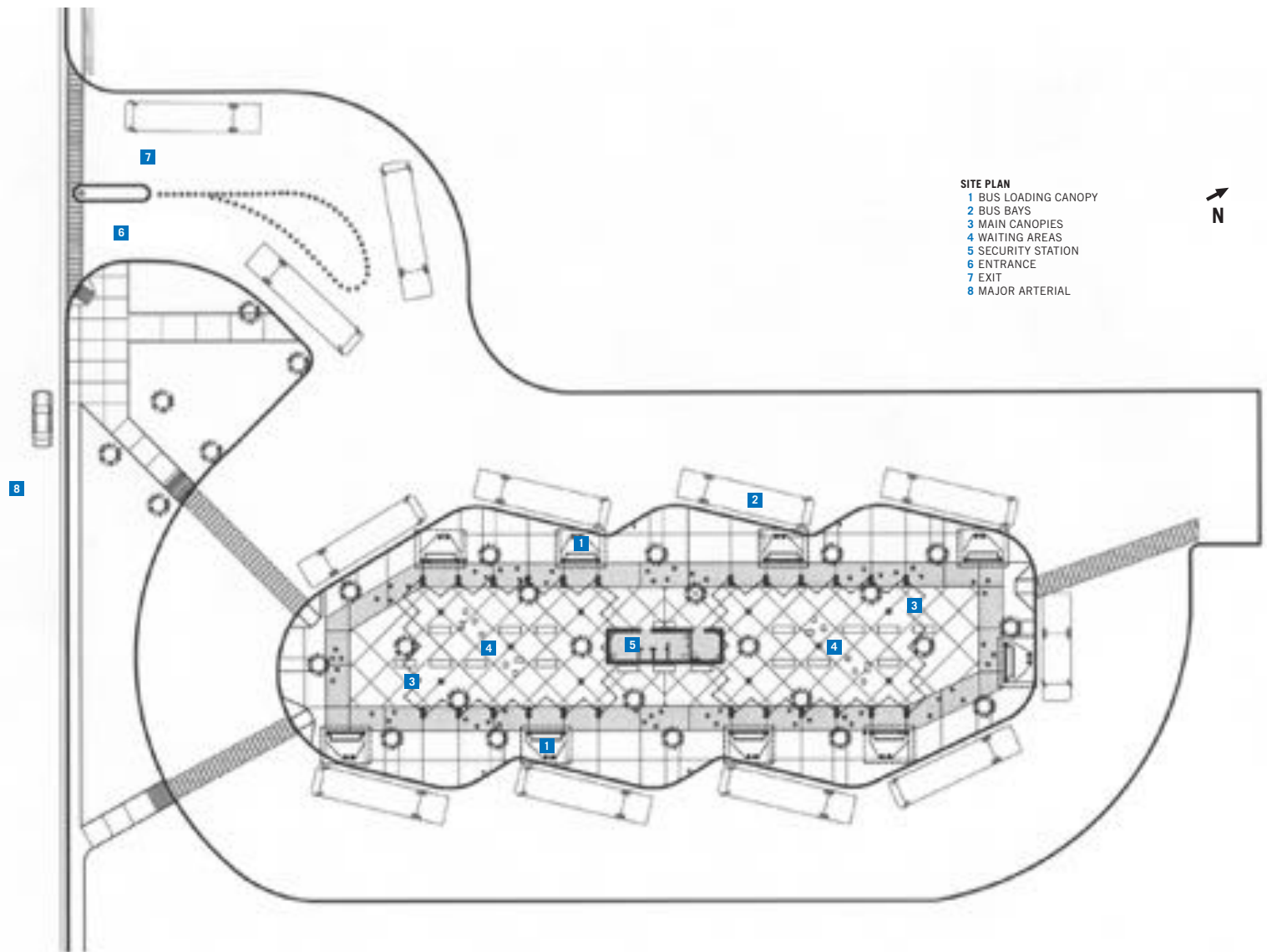
With a budget of \$1.5 million, RTA asked the architects to create a station that was comfortable, safe, and secure; protected from intense heat; resistant to graffiti and other vandalism, and otherwise easy to maintain. RTA also wanted the design to elevate the image of public transportation.

Corpus Christi-based Richter Architects met the challenge by creating a park-like setting with neither grass nor flowers, and only one type of tree—the feathery Australian pine—which thrives in coastal climates. The station’s central elements are two tubular, stainless steel lamella vaults covered with stainless steel, standing-seam roof segments. Springing from columns of rusticated, black brick, each canopy rises 30 feet and spans 60 feet. The architects selected materials resistant to the corrosive coastal environment and vandalism, and worked with local fabricators that typically service refineries in the region. Computer modeling aided the design of the intricate matrix, with its interlocking tubular sections reminiscent of a spider web.

**PROJECT** RTA Southside Transit Station  
**CLIENT** Corpus Christi Regional Transportation Authority  
**ARCHITECT** Richter Architects  
**DESIGN TEAM** David Richter, FAIA; Elizabeth Chu Richter, FAIA; Sam Morris, AIA; Stephen Cox, AIA; Sheldon Schroeder, Assoc. AIA; Lonnie Gatlin, Assoc. AIA  
**CONTRACTOR** Barcom Commercial  
**CONSULTANTS** WSC, Inc. (structural); Stridde Callins & Associates (MEP); Shiner, Mosley & Associates (civil); Doug Wade, ASLA (landscape)  
**PHOTOGRAPHER** Larry Rose

**(left)** Like lush fronds extending from thick, coarse palm trees, the two canopies shade a combined 8,000 square feet. **(above)** Feathery Australian pines eventually will grow through openings in the canopies to complete the architect’s “urban forest” concept.





As they mature, the pine trees will grow through openings in the canopy, completing the urban forest image that the architects use to describe their design concept. Primarily, the openings allow heat from within to rise and escape. The microclimate beneath the canopy is markedly cooler than the air outside it. The heat-escape openings and prevailing southeasterly breeze make even a half-hour wait pleasant.

Scattered underneath are cubes of varied sizes and shapes that support the station's lighting, and also provide places to rest a backpack or shopping bag. The cubes are faced with the same one-inch blue glass tiles used on the banquettes located at each of the nine bus bays that ring the station. The bays are protected from the sun by smaller stainless steel canopies that are perched like parasols on their own rusticated columns. Additional seating is constructed of welded steel mesh. A central, enclosed security area is built with the same black Endicott brick as the columns. Along the station's perimeter, mosaics of broken, light-green ceramic tiles suggest grassy strips. For security and comfort, the station is open and transparent, including the glass blocks that form the backs of the banquettes at the bus bays. At night, the site glows with indirect light.

The client expresses satisfaction with the completed project, both in terms of its design and its response to a rigorous program. "This structure is way beyond the box. The genius is in its simplicity and sleekness. At the same time, it's very functional," said RTA General Manager Ricardo Sanchez. "It does what it's supposed to do—good shade, comfort, and optimum security. It has all those ingredients to meet customer needs." ■

**RESOURCES** CONCRETE PAVEMENT: Alamo Concrete Products; SITE, STREET AND MALL FURNISHINGS: Dumor, Inc; MASONRY UNITS: Acme/Featherlite; METAL MATERIALS: Serpa Fabrications; WATERPROOFING AND DAMPPROOFING: W.R. Grace and Co; BUILDING INSULATION: Owens Corning; METAL ROOFING: Metecno Morin Co; METAL DOORS AND FRAMES: Ceco Door Products; WOOD AND PLASTIC DOORS AND FRAMES: Buell Door Co; TILE: Daltile; ACOUSTICAL CEILINGS: Armstrong; EXTERIOR WALL TILE: Daltile

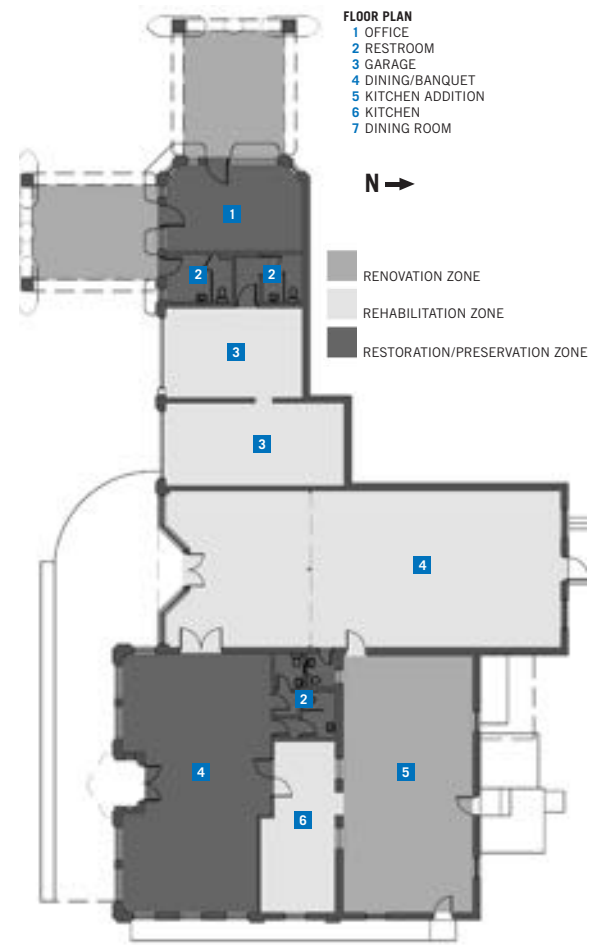
Lauraine Miller produces TSA's *The Shape of Texas* radio series.

# Roadside Renewal

by THOMAS J. DEGROOD



With its refreshed art deco facade, the Tower Station/U Drop Inn once again welcomes travelers to Shamrock. The former café's refurbished interior serves visitors with information about the Texas Panhandle.



NEARLY 70 years ago, on April 1, 1936, the Tower Service Station and U Drop Inn Café opened for business in Shamrock, a small town that was bursting with neon-accented storefronts that beckoned motorists traveling along Route 66. Located at the eastern edge of the Texas Panhandle, Shamrock’s iridescent glow was then visible for 20 miles at night across the treeless Texas plains.

The Tower Station/U Drop Inn was originally designed by architect Joseph C. Berry of Pampa in the art deco style with neon lighting, glazed brick and wall tiles, stepped forms, rounded corners, and geometric patterns. Most prominent were its two spires – one that rises about 20 feet over the gas station and a 10-footer above the café entrance – crowned with whimsical sheet metal forms. The unique roadside structure was once described as “the most up-to-date edifice of its kind on the U.S. Highway 66 between Oklahoma City and Amarillo.”

But then in the late 1950s downtown Shamrock was bypassed by Interstate 40. Facilities such as the Tower Station/U Drop Inn that once catered to thousands of travelers became neglected and fell into disrepair. In the 1970s the building was painted red, white, and blue. Then, in the mid 1990s, it closed completely.

In May 1999, the First National Bank of Shamrock purchased the property and donated it to the City of Shamrock. The Shamrock Chamber of Commerce used a federal transportation enhancement grant to restore the building for use as a visitors’ information center. Architects Phillips Swager Associates of Dallas provided design services and ArchiTexas of Dallas served as restoration architects.

To return the building to its original grandeur, ArchiTexas’ restoration specialist Jay Firshing reviewed old photographs, visited with long-time residents, and removed layer upon layer of paint and fabric to uncover the building’s original colors and details. Still, some of the history was elusive. For example, neon lighting was evident in historical photographs, but there weren’t any nighttime photographs, so colors were difficult to determine.

Completed in July 2003, the restoration begins a new chapter for one of the finest examples of art deco design still remaining along Route 66. This extraordinary piece of roadside Americana once again entices travelers to visit Shamrock while experiencing the freedom of the open road. ■

Thomas J. deGrood is a freelance writer in Amarillo.

**PROJECT** Tower Station/U Drop Inn, Shamrock  
**CLIENT** Texas Department of Transportation  
**ARCHITECT** PSA-Dewberry Inc.  
**DESIGN TEAM** Tim S. Kraft, AIA; David M. Meis, AIA; Thomas Shaw; Patrick W. Ruland  
**CONTRACTOR** Phoenix I Restoration and Construction, Ltd.  
**CONSULTANTS** Lynn Ramsey Architect (on-site construction administration); Jaster-Quintanilla (structural); Tolk, Inc. (MEP)  
**PHOTOGRAPHER** Mark Trew Photography

**RESOURCES** CONCRETE PAVEMENT: TXI Midlothian Cement; CONCRETE RESTORATION, PATCHING AND REPAIR: Cathedral Stone; MASONRY CLEANER: ProSoCo; UNIT MASONRY WALL ASSEMBLIES: Boston Valley Terra Cotta; MASONRY PATCHING COMPOUND: Cathedral Stone; STRUCTURAL STEEL SHAPES: Chaparral Steel; RAILINGS AND HANDRAILS: Phoenix I Restoration and Construction; ORNAMENTAL METAL RESTORATION: Phoenix I Restoration and Construction; EXPANSION ANCHORS: Hilti Corporation; LAMINATES: Nevamar; INTERIOR VENEER FACED DOORS: Graham; ACCESS DOORS AND FRAMES: Mifab Manufacturing; DOOR HARDWARE: Cal-Royal Products, Inc.; HISTORIC FLOAT GLASS: Oldcastle Glass; DRYWALL STUDS: Dietrich Industries; METAL CEILINGS: Phoenix I Restoration and Construction; RESILIENT FLOOR TILE: Armstrong; CERAMIC TILE: Daltile; PAINT: ICI; CONCRETE: TXI Midlothian; SIGNAGE AND GRAPHICS: Phoenix I Restoration and Construction; TOILET AND BATH ACCESSORIES: Bobrick Washroom Equipment

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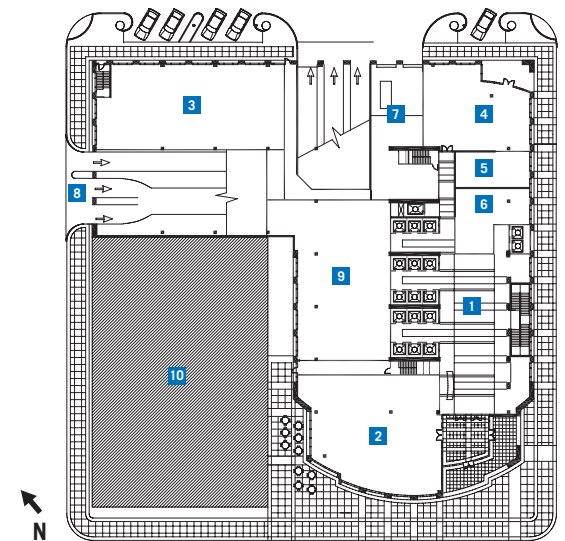
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# Hines Calpine Center



PROJECT Hines Calpine Center, Houston

CLIENT Hines

ARCHITECT HOK with Kendall/Heaton Associates, Inc.

CONTRACTOR Turner Construction Company

CONSULTANTS Thornton-Tomasetti (structural); Wylie & Associates (MEP/fire protection); HOK (landscape); Persohn/Hahn Associates (elevators); Quentin Thomas Assoc. (lighting); TechnoKnowledge Consulting Corp. (information technology); Ulrich Engineers (geotechnical); Walker Parker Consultants (parking); Walter P. Moore and Associate (civil)

PHOTOGRAPHER Aker Zvonkovic Photography

Completed in 2003, the Hines Calpine Center stands in the heart of Houston's ever-expanding Theatre District, adding another unique shape to the western skyline. The 35-story, 1.1 million-sf rounded granite and glass structure delicately bridges the gap between old and new, reflecting the historic nature of the surrounding buildings while enhancing the area with ample retail and dining space. High-transmittance glass invites natural light deep into the building, pleasing to both the aesthetist and the environmentalist. Unitized curtain wall systems allowed for faster construction and higher craftsmanship, while a flexible floor plate accommodates a wide variety of tenants.

F O R D G U N T E R

**GROUND FLOOR PLAN**

- 1 LOBBY
- 2 RESTAURANT
- 3 RESTAURANT/BAR
- 4 CAFÉ
- 5 NEWSSTAND
- 6 COFFEE BAR
- 7 LOADING DOCK
- 8 GARAGE ENTRANCE
- 9 CENTRAL PLANT
- 10 PARK

RESOURCES UNIT PAVERS: Pavestone; CONCRETE MATERIALS: Cemex; GRANITE: Intrepid, Arrowall; ARCHITECTURAL WOODWORK/BOOTHS AND TABLES: Brochsteins/AWC; WATERPROOFING/DAMP-PROOFING: Neogard/Carlisle; MEMBRANE ROOFING: Performance Roofing Systems; ROOF PAVERS/BALLAST MATERIALS: Hanover Architectural Products; TRAFFIC COATING: Neogard; SPECIALTY DOORS: Cookson Coiling Doors; ENTRANCES/STOREFRONTS: Arrowall; GLAZED CURTAINWALL: Viracon; GYPSUM FABRICATIONS: Fry Reglet; TILE: Daltile; TERRAZZO: American Marble; ACOUSTICAL CEILINGS: Armstrong; METAL CEILINGS: Ceiling Plus; PAINTS/HIGH-PERFORMANCE COATINGS: PPG Industries; ARCHITECTURAL METAL WORK, RAILINGS AND HANDRAILS: Berger Iron Works





# Network Associates Data Center

**PROJECT** Network Associates Regional Data Center, Plano

**CLIENT** Network Associates

**ARCHITECT** Good Fulton & Farrell Architects

**PROJECT MANAGER** CarrAmerica

**CONTRACTOR** Hill and Wilkinson, Inc.

**CONSULTANTS** Gensler (interiors); Kimley-Horn and Associates (civil);

Raymond L. Goodson, Inc. (structural); Purdy McGuire (mech./electrical);

SMR (landscape); Savant Solutions (technology)

**PHOTOGRAPHER** Mark Olsen

Multiplying in physical size at its three Dallas facilities, the client was in dire need of consolidation. In January 2003 the three-story, 170,000-sf project was completed, providing Plano with the client's largest presence outside of its international headquarters in Silicon Valley. Constructed with tilt-wall panels, the building includes engineering labs, a customer care center, an executive briefing center, a corporate cafeteria, a childcare area and an exercise facility. "[The client] wanted a building that was distinctive in appearance in order to convey its presence to the local workforce," Duncan T.

Fulton, FAIA, of Good Fulton and Farrell Architects said in a recent interview with *Real Estate Construction and Review*. With employee satisfaction a top design priority, the office was built to hold 1,100 workers with space to expand as the business continues to grow. An open-plan interior provides workers with a unified and affable atmosphere. On the exterior, an articulated concrete facade features varying textures and intricate colors. "The building reflects that [it is] an established company with its modernistic yet classic interior. It is a world-class facility and gives [the client] a major presence in the Dallas/Fort Worth area," Fulton said.

STACY SCHULTZ

**RESOURCES** METAL MATERIALS: Alpha Industries; METAL DECKING: Vulcraft; ARCHITECTURAL METAL WORK: Metal Rite; ROOF AND WALL PANELS: VISTA Panel Systems; MEMBRANE ROOFING: GenFlex Roofing Systems; METAL DOORS AND FRAMES: DFW Doors and Hardware; PREASSEMBLED METAL DOOR AND FRAME UNITS: Level-Rite; WOOD AND PLASTIC DOORS AND FRAMES: Buell; SPECIALTY DOORS: Boon Edam, Inc.; ENTRANCES AND STOREFRONTS: Kawneer; GLAZED CURTAINWALL: Viracon; ACOUSTICAL CEILINGS: Armstrong PAINTS: Pittsburgh Paints; HIGH-PERFORMANCE COATING: Tnemec



**GROUND FLOOR PLAN**

- 1 PUBLIC ENTRY
- 2 PUBLIC LOBBY
- 3 CONFERENCE CENTER PRE-FUNCTION AREA
- 4 CONFERENCE CENTER
- 5 EMPLOYEE ENTRY
- 6 EMPLOYEE LOBBY
- 7 CORE ELEMENTS
- 8 OPEN OFFICE AREA
- 9 SERVICE AREA
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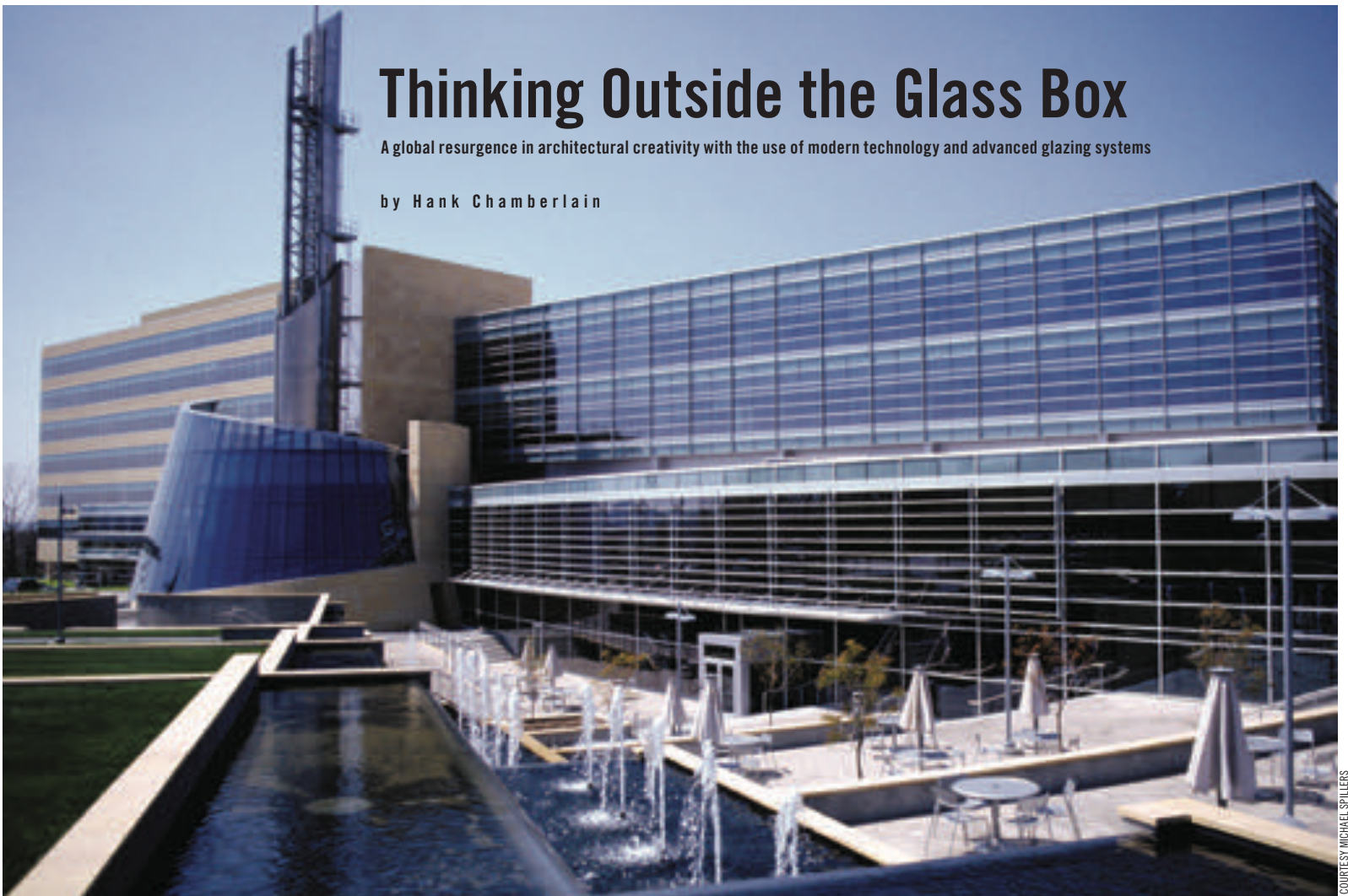
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# Thinking Outside the Glass Box

A global resurgence in architectural creativity with the use of modern technology and advanced glazing systems

by Hank Chamberlain



COURTESY MICHAEL SPILLERS

OFTEN disparaged for leading to the proliferation of “glass boxes” around the world, curtainwall is alive and well. Despite continued criticism over its limitations to design freedom, the versatility of glazing systems is facilitating a renewed global resurgence in architectural creativity.

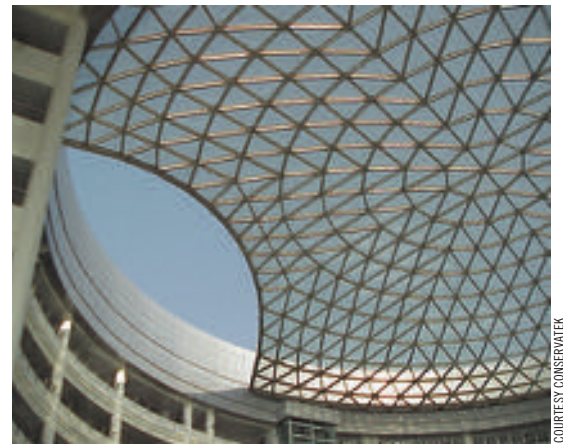
Once upon a time, not long ago, most architecture was boxy. There were wood, metal, concrete, stone, and brick boxes too. But with the advent of new technologies and new ways of thinking, today’s buildings are following a different mold. They are sheathed with panels of metal or masonry, and glass – plenty of glass – thermally efficient, sound shielding, economical, beautiful glass.

Essentially, it is computerized drafting, and finite element analysis of structures, that have enabled architects to fully utilize the geometric versatility of glazing systems, and optimize its performance.

Modern glazing systems generate exhilaration and by proving that framing does not have to be rectilinear; glass does not have to be flat; edges do not have to be straight; walls do not have to be plumb; and mullions are not essential where angles change. Glazing can still be within budget.

Excellent examples abound worldwide. Gould Evans Associates used water and framing features with a small sloped curtain wall to create a fascinating outdoor environment for the Cerner Headquarters in Kansas City.

Double-skin designs for the outer envelope are gaining momentum, especially where large expanses of daylighting are desirable. “Structural glazing” has received much notoriety. A way to meet structural requirements with glazing systems in long spans is to use bent glass. The Casa de Musica in Oporto, Portugal, has a double skin of bent laminated glass. Architect Rem Koolhaas used glass fabricated by Cricursa.



COURTESY CONSERVATEK

(Top) With a small, sloped curtain wall and complementing water and framing features, the Cerner Headquarters in Kansas City creates an outdoor environment. (Above) The Hunan Provincial Government Main Office Building in China features a dome that is 203 feet in diameter over a 12-story atrium. The dome rises 19 feet at its center.

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Atria, solarium, glass domes, skylights, and various other forms of overhead sloped glazing remain popular, in spite of the tangle of steel commonly used to support the larger ones. Recently, new innovations include building large canopies and skylights that are self-supporting, without relying on a steel support structure below. A dome of that design was completed in China that is 203 feet in diameter over a 12-story atrium in the Hunan Provincial Government Main Office Building.

The dome rises 19 feet in the center and it is the world's flattest perimeter-supported, single-layer glazed structure. The design saved money by eliminating any secondary support system.

Glass walls do not have to stop where the building envelope ends. A glazed wall can extend to define, frame, secure, and wind-break an outdoor area - without hiding it. In that manner, entrance areas and gardens can be sheltered. The transition between interior



PHOTO BY MARK TREW

(Above) Acension Group Architects used energy-efficient, highly reflective, low-e glass as a major component in the design for the Presbyterian Hospital and Medical Office in Denton.

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PHOTO BY BRYANT STANTON

(Above) Detail of custom entrance for Saint Michael and All Angel's Episcopal Church in Dallas. The cast and leaded door glass used sculpted clear cast glass that was leaded together with flat clear textured glasses, irridized, and etched glass. The project was designed by John Campbell Wright Architects in Dallas.

and exterior spaces can be softened. Utilizing tempered glass with enough ceramic frit pattern to avoid injury to birds would be appropriate.

Traditionally, the glazing industry failed to provide capabilities requested by architects and architects under utilized capabilities that were available in glazing systems. Fewer such omissions occur today.

Increasingly, foreign glass and glazing manufacturers of systems are marketing their products in North America. The proliferation of vendors—and the extent and diversity of their product lines—has increased demand for independent glazing consultants to assist architects in sorting out glazing options. Using computational tools, architects and their glazing consultants can optimize glazing systems for each application in terms of parameters such as energy efficiency, acoustics, structure, daylighting, security, maintenance, economics, and aesthetics. That optimization has been facilitated by the availability of numerous glass types and constructions, which are offered in myriad colors and with numerous coatings.

Interior glazing has evolved from plain cubicle windows, bathroom mirrors, and counter-top partitions into a fundamental component of design and décor. Designers must be wary

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## Glazing for Protection: Blast-Resistant Windows

Glazing is a transparent or semitransparent material that closes fenestrations in walls. In most applications, frames support the glazing and attach it to the structure. The glazing and frame together form windows. In closing fenestrations in buildings, windows must perform several functions that most people rarely think about as they gaze through them.

Windows glazed with safety glazing materials can perform additional functions. Fully tempered glass is a monolithic glazing material formed by putting annealed glass through a special heat-treatment process. The process makes fully tempered glass very strong. Also, the heat-treatment process induces a complex stress distribution in fully tempered glass that makes it dice into small shards upon fracture, reducing the potential lacerative hazard.

Laminated glass is a construction fabricated using two glass plies of any type – annealed, heat-strengthened, or fully tempered – bonded together by an elastomeric interlayer such

as polyvinyl butyral. Upon fracture, shards from the glass plies adhere to the elastomeric interlayer, hence reducing lacerative hazard. Since both fully tempered glass and laminated glass have lower lacerative hazards associated with them on fracture, model building codes have deemed them as safety glazing materials. Safety glazing materials are used in conditions where a high chance of impact can occur, such as sidelites for doors or floor-to-ceiling windows.

Protective glazing goes beyond either standard of safety glazing in that it protects against specific threats. Glazing designed to prevent intrusion, glazing designed to resist windborne debris impact, and blast-resistant glazing define three types of protective glazing. Each protective glazing type must perform the functions of normal glazing. Through engineering design and testing, protective glazing types must be able to resist specific threats.

When a bomb explodes in an urban area, numerous injuries result from flying and fall-

ing glass shards that cause lacerations and abrasions. Glass becomes a second weapon of terrorists detonating bombs.

Blast-resistant windows must perform all the functions of normal glazing in the absence of a blast without excessive maintenance and without detracting from the aesthetic quality of a building. If a blast occurs, the blast-resistant window must fracture safely. Under air-blast pressure, a blast-resistant window must prevent glass shards from flying and falling from the window in a dangerous manner and, preferably, should stay in the opening. The first requirement obviates the use of retrofit security film, which requires replacement after an indefinite period, and any plastic glazing materials that scratch easily and are photodegradable.

**H. Scott Norville, PE, PhD**

*The author is professor and chairman for the Department of Civil Engineering at Texas Tech University.*



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of erecting invisible barriers where they may injure people, but use of very clear low-reflectance glass panels can make decoration on the glass seem to levitate. Architectural decorative glass is now commonly used in sculptures, counter tops, and wall panels, as well as in doors and windows.

Cast glass, slumped and fused glass, along with mouth-blown and etched glass, are adding a new depths of glass usage to the designers pallet. Traditional stained glass has experienced a renaissance over the past years and is being used in some very nontraditional ways in architecture. Stained glass domes and ceilings are being rediscovered in custom homes and upscale hotels and restaurants as major interior design focal points.

As businesses grow and prosper within a market, new city buildings are a necessity. However, designing buildings that will fit with existing structures as well as remain a timeless design for years to come is a never-ending challenge for engineers and architects. Few building products can master both objectives like real glass block.

Over the past 70 years, glass block has added both artistic and timeless value when used in commercial applications. Builders and architects today have found that glass block provides a dramatic, aesthetic affect, as well as functionality, while complementing a variety of exterior claddings like brick, stucco and stone.

No longer just a material used to make windows, developing trends and various designs have provided an all-glass look for buildings both inside and out. Whether used in exterior or interior walls, stairwells, fountain enclosures or receptionist areas, glass block allows the transmission of light while still securing visual and audible privacy. With new easy-to-use installation systems utilizing spacers and silicone adhesives, glass block walls and partitions can easily be constructed, incorporating curves and angled walls in both residential and commercial settings. New colors of glass block can also be interspersed with clear glass block to accentuate design features.

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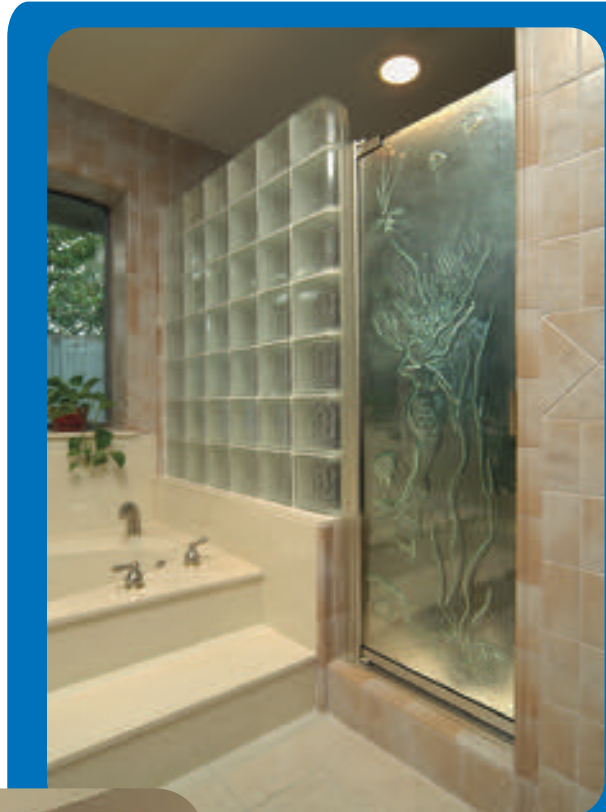
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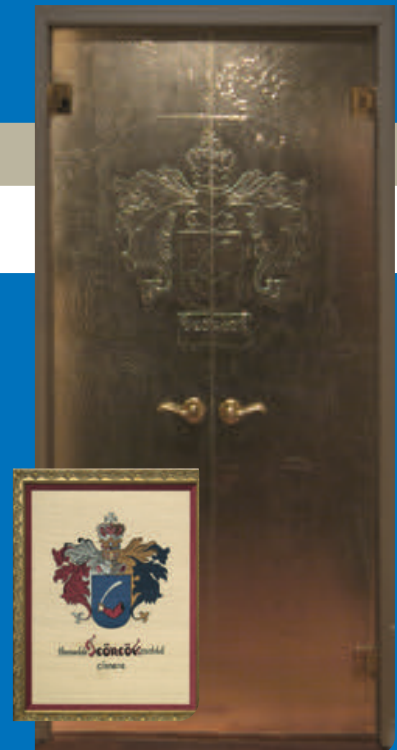


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beams, ceilings, canopies, and sculptures. Frequently, these architectural elements are used for interior applications.

New technologies for architectural applications of glass are being introduced at an unprecedented rate. Some of the intriguing new products now available include:

- Anti-reflective glass – With no discernable reflectance at most angles, it is ideal for retail display windows, sports facilities, and zoo exhibits. One product is a durable baked-on coating that can be applied to both sides of a monolithic plate. Another is applied to one surface on the float line (to create durability) and works great as a laminated product (so both exposed surfaces are coated).

- Dichroic glass laminates – Reflects a rainbow of color in patterns created by computer-controlled lasers.

- Electrochromic glass – This type of glass can be switched from a dark to an almost clear tint.

- Fire-resistant safety glass – Now that wire glass is no longer exempt from the impact tests for safety glazing, new products—with or without wire—are offered.

- Glass bonded to thin translucent marble – A glass and marble laminate that transmits light to the interior but looks like marble. This product may be double-glazed.

- Glass that changes color with view angle – A sol-gel-applied interference film coating that changes through the spectrum from blue to gold and remains durable and chemical resistant.

- Glowing glass – With LED light sources powered by transparent conductive coatings within the laminate, research shows it can last for decades. Useful for logos or other signage in glass partitions, lighting walkways, making glass partitions visible at night.

- Heated glass – Thin transparent film conductors warm the glass to eliminate cold drafts and condensation in sensitive areas like hospitals, offices, and restaurants.

- Heat-reflective film – This co-extruded polymer film significantly reduces cooling load, is colorless, not hazy, and can be laminated.

- Photovoltaic glass – Generates electrical power, provides shading, and is decorative.

- Scratch-resistant glass – A clear, diamond-like carbon deposition makes it 10 times more scratch-resistant than tempered or chemically strengthened glass.

- “Self-cleaning” glass – Sheds dirt and dries without spotting. This type of glass works in two ways. First, the coating reacts with ultra-violet

light to disintegrate organic dirt. Second, the coating is also hydrophilic, so rainwater spreads and dries evenly without spotting.

Future developments will be even more impressive with thermochromic reflectivity being the most anticipated. Thermochromic glass will reduce heat transfer in response to ambient temperature. The ideal version will do that by increasing NIR (near infra-red) reflectivity. (Reflectivity modulation is preferable to absorptance modulation.) When installed as the outboard panel of an insulating glass assembly, the thermochromic panel is controlled by ambient temperature. When outdoor temperature rises, the surface reflects more heat away. When temperature drops, it lets more heat into the building.

This new technology works in the lab. It is only a matter of time until such products will be commercially available.

Hank Chamberlain is chairman of Allied Glass Experts, LLC, an international consulting firm based in Kansas City. The practice is limited to glass and glazing matters.

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## TRENDS OF THE TRADE

**Researchers: Glass Coating Reduces Heat, Not Light**

As reported in the March 2005 edition of *U.S. Glass* magazine, researchers at University College London (UCL) have developed a glass coating that reflects the sun's heat while still letting in light. The findings by a team of UCL chemists form the basis of a paper recently published in the *Journal of Materials Chemistry*.

While conventional tints block both heat and light, the new coating allows visible wavelengths of light through at all times, but reflects the infrared light that causes heating when temperatures rise above 84 degrees Fahrenheit. "Technological innovations such as intelligent window coatings really open the door to more creative design," said professor Ivan Parkin of UCL's Department of Chemistry, senior author of the paper. "The current trend toward using glass extensively in building poses a dilemma for architects. Do they tint the glass, which reduces the benefit of natural light, or face hefty air conditioning bills?"

The new coating is made from a derivative of vanadium dioxide, which has long been recognized for its heat-reflective properties because of its ability to alternate between acting as a metal and a semiconductor. The difficulty in reducing the switching temperature had been a stumbling block up to this point. "It's not much good if the material starts to reflect infrared light at 160 degrees Fahrenheit," Parkin said. "We've shown it's possible to reduce the switching temperature to just above room temperature and manufacture it in a commercially viable way."

Researchers are currently looking at such issues as cost to produce, durability, and color as the next step in getting the coating to market.

**Glass Association Launches Online 'Tech Center'**

The Glass Association of North America (GANA) has added a new section to its Web site ([www.glasswebsite.com](http://www.glasswebsite.com)) called "Tech Center" to provide quick and free access to GANA's technical information. Downloadable bulletins are available on topics ranging from proper methods of cleaning architectural glass products to new flat glass industry specifications. Other documents such include the newly revamped versions of "Mirrors: Handle with Extreme Care" and "Specifier's Guide to Architectural Glass."

**Steel Prices Drop by 20 Percent**

Structural steel prices have dropped more than \$100 per ton since the beginning of 2005, reflecting a 20-percent decrease in the cost of material, according to the American Institute of Steel Construction (AISC). The current decrease in price, from a typical price of \$618 to \$510 per ton of wide flange, is primarily the result of lower scrap costs.

Major U.S. producers of structural steel significantly reduced mill prices of structural steel effective June 8. Inventory of structural material remains high and availability of structural steel is excellent from mills, warehouses and at local fabricators. The current inventory of structural steel exceeds one million tons and delivery to fabricators from warehouses can be accomplished in a matter of days.

"Unlike the concrete industry, where costs are increasing, cement is in short supply, and lead times are growing, the structural steel industry is experiencing a period of reduced costs and readily available product," explained John Cross, AISC vice president of marketing. "Projects utilizing structural steel are gaining the benefits of reduced cost and achievable schedules."

More information on the American Institute of Steel Construction is available at [www.aisc.org](http://www.aisc.org).

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# Point of Departure

Easterwood Airport's site-specific *Free Flight* conjures up fanciful notions of air travel

IN a facility chiefly concerned with smooth operation and procedural order, a poetic art installation reminds visitors of the mystery beyond the departure gate. Taeg Nishimoto's 100-piece *Free Flight* hovers above the ticket area and lobby at the Easterwood Airport in College Station, rendering flight in visual form.

Nishimoto, an architecture professor at Texas A&M University, designed *Free Flight* to enliven Easterwood's utilitarian public spaces. Visible upon approach to the rather monolithic building and hanging just inside its glazing line, the multiple works of expanded stainless steel mesh refract sunlight throughout the day and at night reflect glints of interior lighting. *Free Flight* comprises a flock of oval shapes, assemblages of three to five pieces each, carefully

bent to gentle curves and suspended by cables from the aluminum slat ceiling. The number of individual works represents the centennial of the Wright Brothers' inaugural flight.

Installation of the long parade was achieved by adjusting the location point of the cables and making on-the-spot refinements. The form, the artist explains, is intrinsically related to the spontaneity of the process of fabrication and

installation. With *Free Flight* and his other site-specific projects, Nishimoto pointedly preserves the ability to change his mind as each project comes into being, allowing for the particular materials and methods of construction to influence his direction as well. His projects, as a result, demonstrate a hands-on quality. A second pair of hands helped to construct *Free Flight*, those of Dave Sellers, a graduate of A&M's environmental design program, who was fully involved in the fabrication and installation of its elements.

The idea for the Easterwood installation was initiated by John Happ, the airport's director of aviation. Funding came from the Arts Council of Brazos Valley, under the helm of Dr. P. David Romei, the council's executive director. A prototype of the piece was funded by A&M's College of Architecture, where Nishimoto is coordinator of the Masters of Architecture program. An involved series of approval processes (because the airport is part of the A&M campus) ensued as the project took shape.

Nishimoto sees the occasional opportunity for creating site-specific artwork as complementary to his teaching and architectural practice. A Tokyo native, he is licensed in New York and Japan and teaches design studios at all levels in the College of Architecture, in addition to helping formulate the direction of A&M's architectural program. His approach to craft is thus colored from various and related angles. The Easterwood commission offered Nishimoto a unique chance to draw on local interest as he explored formal expressions that trigger flight-full imaginations.

LARS STANLEY, AIA, AND  
LAUREN WOODWARD

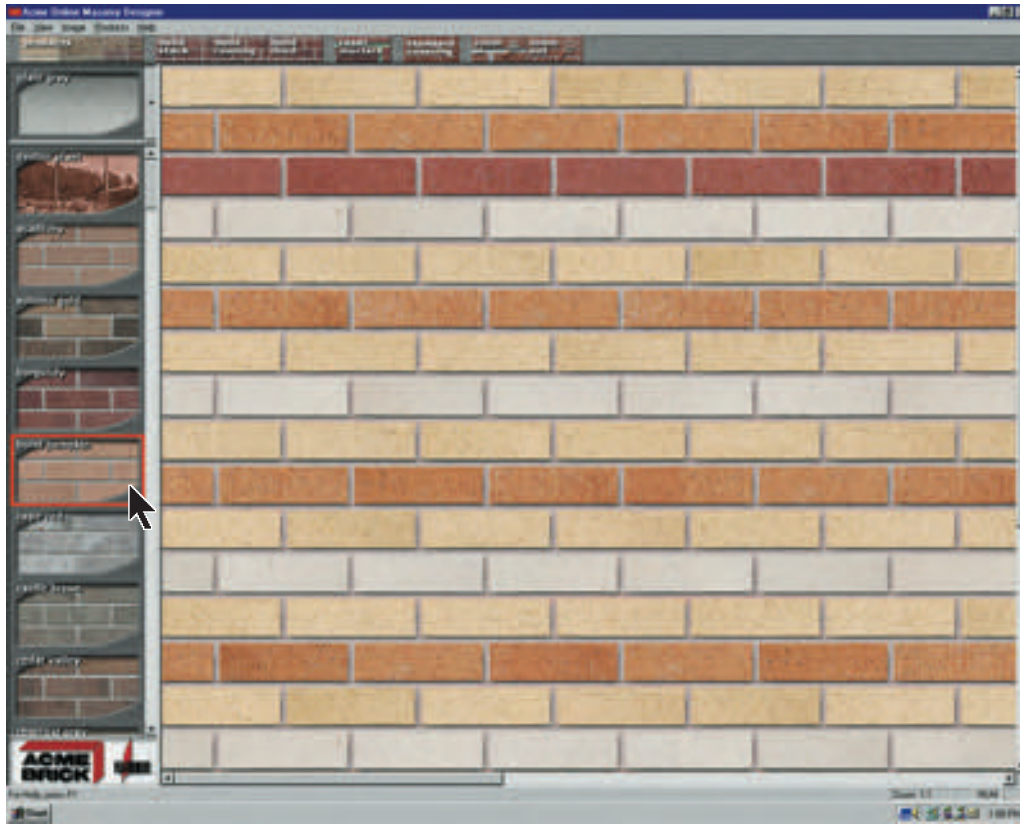
Lars Stanley, AIA, and Lauren Woodward work together at Stanley Architects and Artisans in Austin.



TAEG NISHIMOTO

Taeg Nishimoto's installation *Free Flight* is on permanent display at the Easterwood Airport in College Station.

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