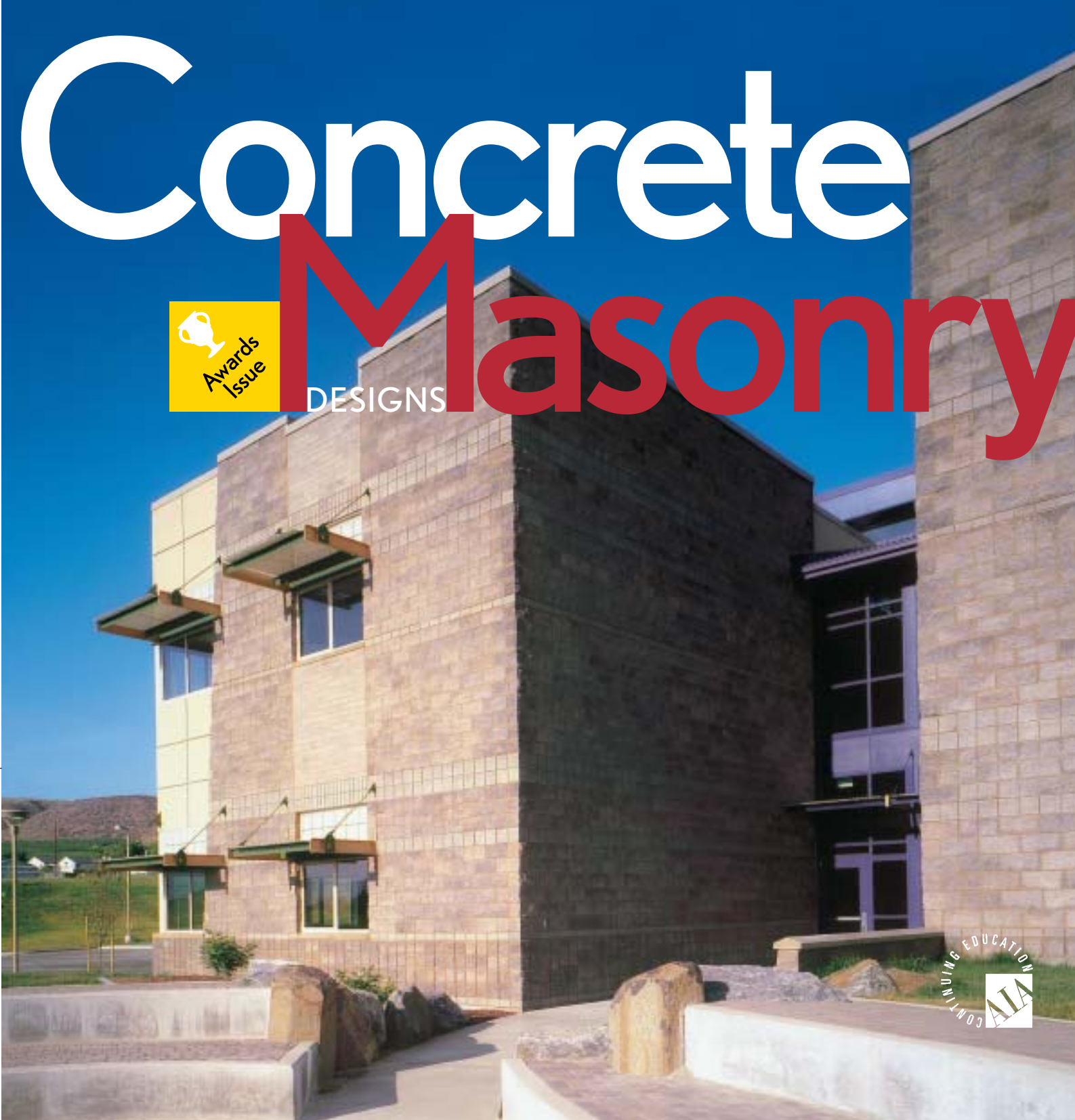


# Concrete Masonry



DESIGNS



2004 NCMA DESIGN AWARDS OF EXCELLENCE



# A Juror's Reflection on the Awards

Having had the pleasure of serving on many AIA Design Award Juries over the years, I was especially looking forward to my role as juror on this year's NCMA Design Awards at NCMA headquarters in Herndon, Virginia. I wasn't sure what to expect, but as a former winner of this Awards program, I knew the competition would be very stiff. I was not disappointed.

We gathered at NCMA headquarters on Friday, August 20. I was joined by esteemed fellow jurors David Brems, AIA of Salt Lake City, Utah, Bert Smith, PE of Winnipeg, Canada, and Marsha Lea, ASLA of Alexandria, Va. We all arrived at the conference room where approximately 80 binders awaited us. The majority of entries were in the commercial category followed by the residential category and landscape category.

The NCMA Design Awards of Excellence is a top-tier program and one in which all architects that use concrete block in their design should submit projects. The cash prizes, certificates, publicity and trip to the NCMA convention are second to none in the country among design awards programs. Plus, one couldn't ask to be around better people than those that run the NCMA. I strongly urge AIA component chapters do an even better job of getting the word out to all architects, engineers, and landscape architects to participate in this program. It truly

is one of the best-sponsored design award programs in the country.

Regarding the entries this year, the jury struggled to pare down the submittals to the final few. It then became quite difficult to select the winners. There was much discussion supported by passionate defense of each juror's favorites. In the end, we were unanimous in our selection of the winners.

The Award of Excellence in the commercial category, the SDG& E Mission Skills Training Facility, San Diego, Calif., was quite a delightful little project. The use of multiple colors of block grounded in very solid, fundamental design decisions was well executed. We especially enjoyed the clever use of marching the timber poles through the project as a metaphor for what the project was all about. It also helped that the photography was well done.

The submittals in the residential category were a tough call. The emerging Award of Excellence, the Ward Luu Residence, Los Angeles, Calif., was an outstanding example of contemporary residential architecture that skillfully utilized concrete block as the main material palette. Materials of burnished concrete masonry units, galvanized steel paneling, and glass complement the openness of the design and integration of the object-like forms on the site.

This year in the landscape cat-

egory, the jury felt there were two entries deserving of the Award of Honor. They were the Knapp Forest Elementary School, Grand Rapids, Mich., and the Wagner Residence, Hugo, Minn. These projects range from the use of unit pavers and segmental retaining wall units in a residential application to a 32,000 ft<sup>2</sup> (2,973 m<sup>2</sup>), 42 foot (12.8 m) wall height project which solved its need by using segmental retaining walls in 7 foot (2.1 m) high tiers 5 feet (1.5 m) apart. This was a very effective solution in both wall design and performance.

In conclusion, the quality of entries this year was very high. It was very difficult for the jury to arrive at its final selections. It just goes to show that there are excellent buildings utilizing concrete block around the United States and Canada. The jury extends its heartiest congratulations to this year's winners. At the same time, we urge local component chapters to continue their efforts promoting this prestigious awards program because it is truly one of the best programs in the country. ■

*Neal E. Jones, AIA  
Jones Studio, Inc.*

# Concrete DESIGNS Masonry

12/04

The 2004 NCMA Design Awards of Excellence highlight the best use of concrete masonry and concrete landscape products.



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**Concrete Masonry Designs** showcases the qualities of design and construction using concrete masonry.

**Concrete Masonry Designs** is devoted to design techniques using standard and architectural concrete masonry units; concrete brick; unit concrete pavers and segmental retaining walls; and other concrete masonry products around the world. We welcome your editorial comments, ideas and submissions.

It is the policy of **Concrete Masonry Designs** magazine to provide the names of authors of articles appearing in the magazine upon request.

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# Design Awards Go to Top

**T**he 2004 National Concrete Masonry Association (NCMA) Design Awards of Excellence program showcases design excellence in commercial, residential and landscape applications of concrete masonry. Entries included projects completed within the last five years in North America.

The designs that follow on these pages are both beautiful and durable and create a sense of permanence in an ever-changing world.

The 2004 awards were chosen by a distinguished jury of professionals including:



■ David Brems, AIA, Principal, Gilles Stransky Brems Smith, Salt Lake City, Utah



■ Neal E. Jones, AIA, Principal, Jones Studio, Phoenix, Arizona



■ Marsha Lea, ASLA, Principal, EDAW INC, Alexandria, Virginia



■ J. Bert Smith, P.E., Principal, KGS Group, Winnipeg, Manitoba

Winners will be recognized at a special banquet during NCMA's Annual

Convention in Indianapolis on Thursday, February 10, 2005, at 6:30 p.m. The design of each winning project and profiles of the architects who designed them will be showcased at the banquet. Winners receive an expense-paid trip to the banquet along with a monetary prize. Attendees may register by contacting NCMA at 703.713.1900 or online at [www.mcpix.org](http://www.mcpix.org).

Exemplary designs that entered the competition but did not win will be featured in upcoming issues of *Commercial Concrete Masonry*, *Residential Concrete Masonry* and *Concrete Landscape Designs* magazines.

A pull-out entry form is included in the center of this magazine for anyone wishing to submit entries for the 2005 Design Awards.



# Architectural Projects



AWARD OF EXCELLENCE: COMMERCIAL

# SDG&E Mission Skills Training Facility

San Diego, California

**S**ituated on the crest of a mesa overlooking the Mission Valley, and drawing both on nature and surrounding manmade structures for its inspiration, the San Diego Gas and Electric (SDG&E) Mission Skills Training Facility was described by members of the awards review panel of judges as “a fun place to learn and train for technical work.” The feeling of fun is stirred and aroused by the visual forms of electrical substations, towers and high voltage power lines of the surroundings, which once skillfully

incorporated into the design, provide a strong statement of why this structure had to be built, and the purpose that this site is intended to serve.

Inventive patterns, choices of colors, and surface finishes (split face and standard) were used in arrangements of concrete masonry units forming inside and outside walls that evoke a sense of great strength. These also provide warmth that complements the natural surroundings and balances the coldness of the steel framing used for support of the covered walkways and the high



PHOTOS: ARCHITECTURAL PHOTOGRAPHY INC.



**Learning Objectives:**

After reading this article, you will understand:

1. How to identify different types of architectural CMU and appropriate uses of each.

**“Concrete blocks are used effectively as functional and design elements to create an exceptional house that fits well within the landscape.”**

—J. Bert Smith, P.E.

**Architect:**

Austin Veum Robbins Partners

**Structural Engineers:**

Envision Engineering/Alejandro Barajas

**Masonry Contractor:**

Dihmann Masonry

**General Contractor:**

Reno Contracting

**Block Supplier:**

Orco Block Company, Inc.



voltage utility towers. More than 100,000 medium weight concrete masonry units were used.

The design integrated new facilities with the existing context. It provided essential indoor/outdoor instructional areas, externalized circulation and it articulated interior functions with physically discrete operational zones. Concrete masonry was used to define the building volumes, while reflecting the hues and textures of the physical context. Within this “expressive industrial aesthetic,” Architect Randy Robbins is relying on masonry to “ensure a minimization of on-going and cyclic maintenance.”

The greater community of Mission Valley is served as students in and about this 47,500 ft<sup>2</sup> (4413 m<sup>2</sup>) two-story facility, learning the very serious skills about the business of gas and electric power distribution, are inspired by the local surroundings of natural beauty, and feelings of warmth and fun toward higher levels of skill and achievement. ■



## Architectural Concrete Masonry Units

One of the most significant architectural benefits of designing with concrete masonry is its versatility—the finished appearance of a concrete masonry wall can be varied with the unit size and shape, color of units and mortar, bond pattern, and surface finish of the units. The term “architectural concrete masonry units” typically is used to describe units displaying any one of several surface finishes that affects the texture of the unit, allowing the structural wall and finished surface to be installed in a single step. The units described below are some of the more common architectural concrete masonry units.

### Split Face Units ▶

Split face units have a natural stone-like texture produced by molding two units face-to-face, then mechanically splitting them apart after curing, creating a fractured surface. Because coarse aggregate is also fractured and exposed in this process, aggregate selection can alter the final appearance.



### Ground Face Units ▶

Ground face concrete masonry units are polished after manufacture to achieve a smooth finish which reveals the natural aggregate colors. The units have the appearance of polished natural stone. These blocks are also referred to as burnished and honed units. The finished look of the ground surface can be altered by changing aggregate type and proportions.



### Slump Block Units ▶

Slump block concrete masonry units have a rounded face that resembles handmade adobe. They are more commonly available in the Southwest U.S. where adobe is part of the architectural heritage. Conventional concrete masonry units are manufactured using a “no-slump” concrete mix, which holds its shape when removed from the manufacturing mold. Slump units, on the other hand, are manufactured using a concrete mix that slumps within desired limits when removed from its mold.



### Glazed Units ▶

Glazed concrete masonry units are manufactured by bonding a permanent colored facing (typically porcelain or ceramic) to a concrete masonry unit, providing a smooth impervious surface. The glazed surface is waterproof, resistant to staining and graffiti, highly impact resistant, and resistant to many chemicals and bacteria. Glazed units are available in a variety of vibrant colors, pastels, earth tones, and even faux granite and marble patterns. They are often used for brightly-colored accent bands, and in gymnasiums, rest rooms, and indoor swimming pools where the stain and moisture resistant finish reduces maintenance. Kitchens and laboratories also benefit from the chemical and bacteria-resistant surface.



*Other block types are available, including silicate masonry units, offset face units, glazed, striated, ribbed, scored, and sandblasted. For more information about these concrete masonry units please visit the online TEK manual at [www.ncma.org/map\\_pages/state\\_finder.cfm](http://www.ncma.org/map_pages/state_finder.cfm) and look up TEK 2-3A: Architectural Concrete Masonry Units.*



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retrofitting buildings  
with concrete masonry.**

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*Commercial Concrete Masonry*  
magazine today.**

**Call NCMA Publications at 703.713.1900.**



# The Brooktree Project

Los Angeles, California

## Design Concept

**S**ituated in Rustic Canyon, one of the most serene areas in Los Angeles, the 4,000 ft<sup>2</sup> (371 m<sup>2</sup>) Ward Luu residence offers a view of the canyon and gently sloping hillsides to the east. The house is effectively divided into two separate but connected areas: a public pavilion with the kitchen, living room, and dining areas; and a private pavilion containing the bedrooms. Filtering in the landscape, the site introduces a skewed procession that leads up to the pavilions and looks beyond to the additional structures.

## Design Solution

A glass-enclosed walkway bridges the two masses, taking optimal advantage of the location and surrounding landscapes. A third mass includes a double cantilevered guesthouse resting on top of a studio, accentuating the breezeway and intimate arrival area. Materials of burnished concrete block, galvanized steel paneling, and glass complement the openness of the design and integration of the object-like forms on the site. Working with the landscape into one pictorial image, the simple lap pool lines the back of the property.

## Block Selection

Special attention was given to choosing the block that would become the defining motif in this home. All textures, from the craggy split face to sandblasted precision, and colors, from pale



white to warm gray, were considered. The final choice, a custom fabricated block of white cement with burnished faces was selected for its unique beauty and its ability to play off the rustic nature of the site. To save cost, only the exposed face of the block was burnished. Scaled drawings of each block wall were color-coded and keyed to determine quantity and orientation of the burnished faces.

## Block Usage

The Ward Luu Residence uses concrete block as functional and design elements throughout the home. The block anchors the house, providing mass as the buildings emerge from the slope and a counterbalance to the cantilevered pavilions resting on top. On the exterior, the concrete

### Architect:

Marmol Radziner and Associates

### Engineers:

KPFF Consulting Engineers

### Masonry Contractor:

Clive Christie

### General Contractor:

Marmol Radziner and Associates

### Block Supplier:

Orco Block Company, Inc.



### Learning Objectives:

After reading this article, you will understand:

1. How custom fabricated block with burnished surfaces can be used to fit the rustic nature of a site.
2. How concrete blocks can serve as a visual contrast with other products as well as landscaping.



block also serves as a visual contrast to the steel cladding and landscaping. The motif is continued through the interior with the blocks providing a warm balance between the dark stained wood floors and the white plaster walls and ceiling. In addition, block highlights the connection between indoors and outdoors by continuing exterior walls and structural elements inside the home.

The Brooktree Project involved the demolition and replacement of an existing two-story home. The original home's siting was located on an upper plateau of the lot and was vigi-

lantly poised to oversee views into adjacent backyards. A strategy was chosen and developed which instead offered greater privacy and separation from neighboring lots by utilizing the opportunities of the site's natural topography and foliage. By shifting the new home forward and away from neighboring yards, additional stories of the new home could be claimed by exploiting the lot's section and building within the hillside. Additionally, by keeping the home below tree level, the home's focus became more introverted, a retreat within a lush hillside

garden. Neal E. Jones, AIA, who served as a juror selecting the Brooktree Project for the Award of Excellence commented, "The project was well integrated within its site. This helped to reduce the overall size of the house." Jones added, "The house presents clean, modern lines on the interior and the balance between masonry and glass is excellent." J. Bert Smith, P.E., who also served as a juror said, "Concrete block was used effectively as functional and design elements to create an exceptional house that fits well within the landscape." ■

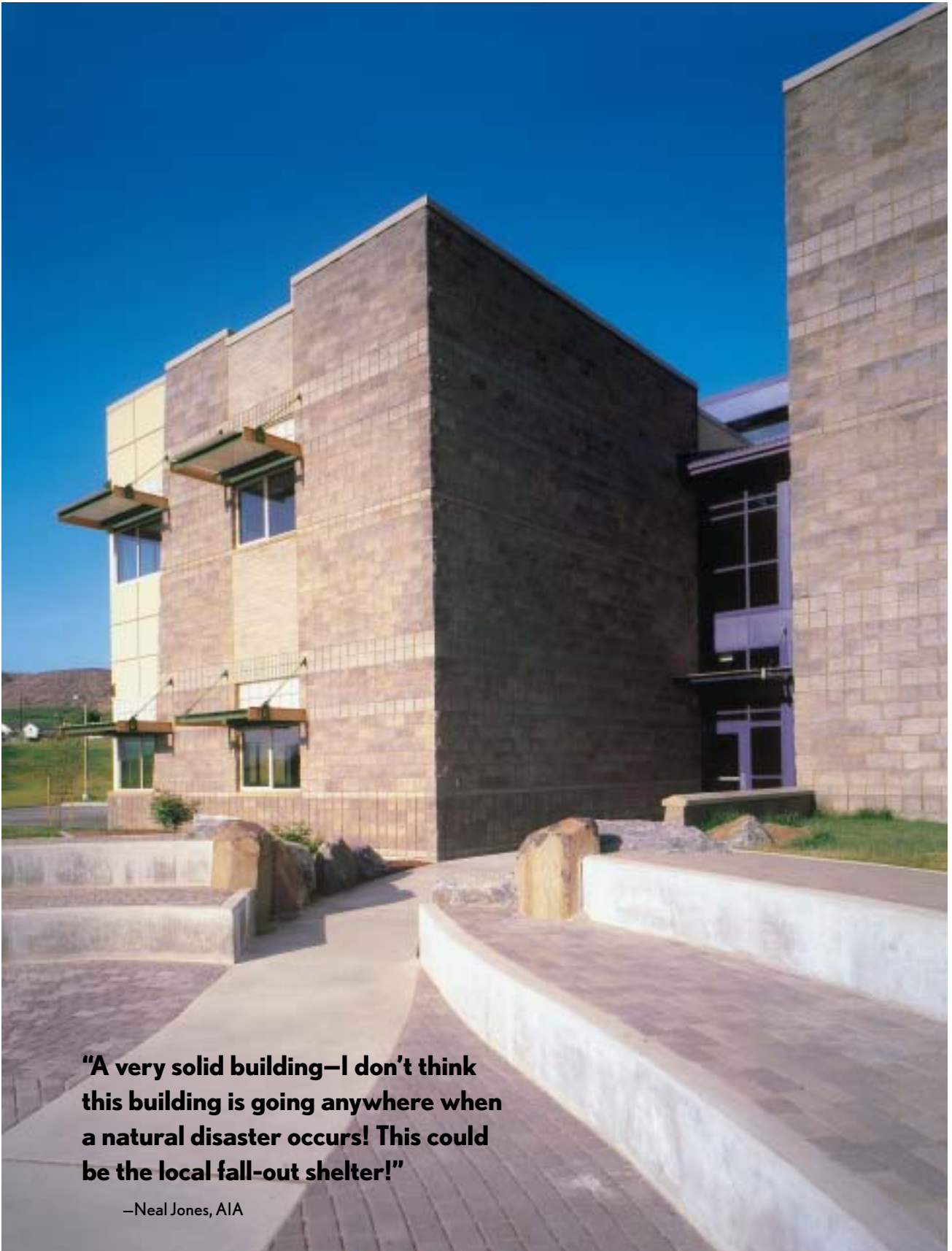


**“This is a great residence design! Simple, modern, very thoughtful. The separation of public, private, and office/studio is well executed. The masonry anchors the design and plays well with the glass. The burnished, white concrete masonry units add elegance to the design. This is my favorite project!”**

—David Brems, AIA



AWARD OF EXCELLENCE



**“A very solid building—I don’t think this building is going anywhere when a natural disaster occurs! This could be the local fall-out shelter!”**

—Neal Jones, AIA

PHOTOS: EXPLOSIVE ILLUSIONS PHOTOGRAPHY

# Eastmont Junior High School

East Wenatchee, Washington

In planning for this new Junior High School, the architect was challenged by the District's Facilities Committee to design a school that was student centered and that also responded strongly to its unique location in the East Wenatchee Valley in Washington State.

The 38-acre (15.4 hectare) site offered wonderful opportunities including a slope over 100 feet (30.5m) towards the Columbia River and magnificent views of the mountains to the west. Dominant features of the East Wenatchee Valley include the basalt cliffs, the Columbia River and the man-made grid of the surrounding orchards.

The organizational concept developed by the architect creates a main corridor that parallels and bends with the site contours. Radiating from the spine and toward the views are three two-story learning community wings. The student entrance and commons space also extend from the central spine on the lower level with the public entrance on the upper level, as the building is built into the hillside. The mass of the double gymnasium is also tucked into the sloping site.

The massing and organizational concepts were designed to reduce the scale of this 150,000 ft<sup>2</sup> (13,935 m<sup>2</sup>) school and to relate to the valley's basalt cliffs. Natural light splits the exterior facade and provides lighting in

the heart of the building; allowing for views from the main common spaces and the library.

Planning conversations between the architect and the facilities committee focused on the school's exterior character and how this would continue into the interior of the building. Various types of masonry products were considered because the client wanted their new school to reflect the importance that they placed on education, to have a strong presence within the community and to have a timeless quality. A predominantly masonry building also responded to their concerns regarding maintenance and durability.

Integrally colored CMU were chosen because of the variety of textures, patterns and colors available; thus responding to the texture and color of the basalt cliffs. The Architect worked closely with the concrete products supplier to create a variegated and blended color that resulted in a more natural stone appearance. The majority of the masonry is split face CMU veneer resting on a split face scored CMU base that grows out of the hillside. Ground face CMU bands were used to reduce the scale of the façade and to add texture to the wall. Battered CMU columns supporting the canopies at the main en-



trances and battered edges of CMU further refined the massing and scale of the exterior walls.

CMU were also used along the main corridor at the entrance to each of the learning communities. The CMU provide a path for students to follow within the school and lead to the source of natural light. Curved metal panels that contain various quotes relating to education and community cascade down the masonry at these locations. Load bearing smooth CMU were used in other areas of the main corridor and at the locker rooms to provide an economical and durable wall surface. ■

**Architect:**

ALSC Architects, P.S.

**Structural Engineers:**

Golden Graper & Burton

**Masonry Contractor:**

Spilker Masonry

**General Contractor:**

Garco Construction

**Block Supplier:**

Central Pre-Mix Concrete Co.

# Horace Mann Elementary School

San Jose, California

In San Jose, California, Horace Mann Elementary School was designed as part of a major redevelopment in the downtown area of a growing city, which includes a new city hall and civic center complex. The school, funded jointly by the local school district and the community redevelopment agency, provides a multi-purpose hall and other public facilities, allowing the school and its playgrounds to be used by both the 750 students and by all of the other members of the community.

Moore Ruble Yudell Architects & Planners of Santa Monica designed the three-story, 71,000 ft<sup>2</sup> (6,600 m<sup>2</sup>) school, responding to a city that prides itself on its many downtown open spaces by creating a cohesive campus of forms and courtyards. Concrete masonry was selected as the

building material because of its durability and affordability, and provided an aesthetic that helped blend the school into its surroundings, while maintaining a distinguished appearance. The burnished block provides a tough, yet finely textured base appropriate for an elementary school. The custom-colored masonry block was chosen in neutral gray and warm ochre tones with carefully selected aggregates.

The design of the structure, created in response to the different contextual conditions around the site, steps from one to three stories in height to preserve a critical play area and define a series of linked, positively shaped outdoor spaces that vary in character. The courtyards, turf play areas, terraces, and gathering spaces provide a visual link between the school and the larger



community. Care was taken to position the school's great lawn so that it was adjacent to a surrounding residential community, and slightly pitched roof angles draw the eye away from a nearby parking structure.

The clean design is held together by masonry. It features uniform dimensions and a field of block punctuated with openings, trellises, canopies and balconies that highlight crucial elements. Large and small windows framed with bright colors were designed with children in mind, situated at heights that enable easy viewing.

Beautiful and contextually relevant, Horace Mann Elementary School functions as a true community center in downtown San Jose. ■



**“The design is inventive, creative and teaches a lot about architecture and the nature of materials.”**

– David Brems, AIA



**Executive Architect:**

BFGC Architects Planners, Inc.

**Design Architect:**

Moore Ruble Yudell Architects & Planners

**General Contractor:**

Toeniskoetter & Breeding, Inc.

**Masonry Contractor:**

John Jackson Masonry

**Block Supplier:**

AIR VOL Block, Inc.

**“A thoughtful plan, simple elegant palette of materials, a great deal of restraint. The simple strong forms are made better by the use of masonry. I like the way materials are integrated and play off each other. The use of masonry as a residential building material is coming into its own.”**

—David Brems, AIA



# Private Single Family Residence

Lincoln, Rhode Island

The young couple and their two children who live in this beautiful home had expressed a desire to see their passion for modern and contemporary architecture come alive. They wanted minimal maintenance, abundant natural light, openness between spaces and exacting precision with all aspects of the construction. To accomplish this, they chose concrete masonry.

The architect, William L. Kite, Jr., AIA of William Kite Architects, Inc., developed a scheme that expressed sculptural forms and floating planes of materials in their natural state. Concrete masonry and precast concrete lintels form the basis of the design—acting as exterior enclosure, load-bearing wall, and interior finish. The three primary volumes, residence, stair, and office/garage, are modulated by custom maple and stainless steel cabinetry.

With a blend of openness and intimacy, the final design created a 4,400 ft<sup>2</sup> (409 m<sup>2</sup>) residence with materials selected based on their durability and unadorned beauty. Polished concrete masonry, slate, wood, stainless steel, ceramic and glass tiles, and terrazzo were combined to create a rich and minimal maintenance material palette.

The architect developed a very close working relationship with the owner/contractor and the craftsmen executing the work.

Details were carefully studied in the office and resolved in the field. Concrete masonry was used in a variety of applications. The primary below-grade structural system is a reinforced double wythe wall of 8 inch (203 mm) natural concrete block that is left exposed on the interior. The texture of the light gray block provides a rich balance for the maple and millwork. The above grade wall system is a 16 ft (4.8 m) load-bearing cavity wall consisting of 8 inch (203 mm) reinforced ground face masonry units on the interior with a 4 inch (102 mm) veneer of ground face masonry on the exterior. Interior masonry partitions allow for increased sound control between program spaces, as well as a dramatically cantilevered light structure over the kitchen island. Much of the over five miles (8 km) of wiring in the home was run within the concrete block cores to precise locations throughout the house.

Located off a cul-de-sac development in a suburb of Providence, Rhode Island, the site is adjacent to properties that include large two-story residences of mixed quality, agricultural land, and ma-



ture deciduous trees. There is approximately ten feet (3 m) of elevation change across the site.

Fulfilling the owner's desire for a great deal of privacy and limited views of and from the street, the architect strategically placed windows on the south and east facades, while opening the north and west elevations up to landscape.

Sculptural in form and highly detailed in execution, the architecture provides a unique, modern living experience. ■

**Architect:**

William Kite Architects, Inc.

**General Contractor:**

Owner

**Masonry Contractor:**

Silveira's Masonry Construction

**Block Producer/Supplier:**

A. Jandris & Sons, Inc.

Seacoast Masonry Supply

**“A fun, nicely scaled mixed use project.  
The green-stained masonry is unexpected  
and works well with the natural  
copper. A very good project.”**

—David Brems, AIA



# Innovative Artists Talent and Literary Agency, Inc.

Santa Monica, California

In Santa Monica, California, the Innovative Artists Talent and Literary Agency's building stands as a historical reminder of the important role its neighborhood played during World War II. The building is located on Broadway in Santa Monica in a section that during WWII housed many small aircraft parts manufacturers located in Quonset huts that have all but disappeared. The building design is influenced by the neighborhood's industrial history, with the curved roof paying homage to the Quonset hut. The industrial materials that were found on the typical building in the area have been reinterpreted to provide an upgraded palette.

The purpose of the building required this to be a mixed-use project, combining commercial office spaces for a talent agency with residential uses. Additionally, the zoning did not permit ground floor commercial uses. So, the proposed solution at the ground floor was to place four residential apartments with large covered patios facing a landscaped sideyard,

and locate Innovative Artists offices within a two-story volume at the second floor.

Burnished 8 × 8 × 16 inch (203 × 203 × 406 mm) CMU with a "mint" stain has been used throughout the building. The joints have been raked and finished and charcoal colored mor-

tar was used to emphasize the joints. The ground floor utilizes structural block and the second floor is clad with a block veneer to match. Design award juror Neal E. Jones, AIA, described this building as "daring and innovative." ■



**Architect:**

DE Architects, AIA

**Structural Engineer:**

Masoud Dejban

**Masonry Contractor:**

Sam Van Construction

**General Contractor:**

Becker General Contractors, Inc.

**Block Supplier:**

Angelus Block Company

# Multi-Tier Retaining Wall

Knapp Forest Elementary School  
Grand Rapids, Michigan

**A**rchitectural firm O'Boyle, Cowell, Blalock & Associates, Inc. looked to the structural capacity and aesthetic quality of segmental retaining walls to contain a 50 ft. (15.2 m) high slope that had been historically subject to soil erosion. Isolating and controlling the erosion and maximizing land space near the Knapp Forest Elementary School in Grand Rapids, Michigan, was coordinated by designer and contractor Walltek, a premier designer and installer of innovative retaining walls.


The land had been donated to the school district, but the zoning commission required that most of the land on this hillside remain untouched, as ordinances required that a "green belt" remain intact between the school property and public land. This requirement was achieved through the design and construction of a tiered wall in which each tier was vegetated, providing the "green" guidelines set forth by the zoning commission.

The first concern of the developer, Barnes Management Inc., was to retain the existing hillside slope that loomed near the school. Soils on site were mostly sandy, which made the actual removal of the native soil easy. However, extensive excavation was required to accommodate grid layers that would extend back approximately

40 ft. (12.2 m) behind the wall face, near the bottom of the wall. Walltek Design removed a substantial portion of the hillside to permit installation.

Global stability, always a consideration in retaining wall design, was more complex here due to the seven multiple tiers being constructed on the project site. Careful consideration was given to these individual walls, as there was no room for error. The multi-tiered walls would not only retain the slope, they would also provide additional space for recreational play structures at the foot of the wall. Public safety was a higher than normal concern so Walltek Design designed and engineered the wall to exceed normal performance requirements. Each tier measures 7 ft. (2.1 m) in





**“The design for this impressive series of retaining walls successfully breaks down the mass of wall through the use of dark toned, bevel-faced units and a cap stone that provides horizontal bands across the top of each tier of wall.”**

—Marsha Lea, ASLA, EDAW INC

height and is spaced 5 ft. (1.5 m) apart, as independent walls. At one section of the wall, the total wall height is an impressive 42 feet (12.8 m).

The 8-inch (203-mm) high segmental retaining wall units, covering one square foot (0.093 square meter) per unit, chosen by O’Boyle, Cowell, Blalock & Associates, Inc. and Walltek Design were the most sensible and efficient solution for the 32,000 ft<sup>2</sup> (2973 m<sup>2</sup>) of retaining wall needed to develop the play area at Knapp Forest Elementary

School. An anchor bar on each block ensures high shear resistance and creates the secure mechanical connection strength needed for the wall. The beveled face achieves continuity between the landscape and the school.

Regarded as the biggest retaining wall in the Midwest, the Knapp Forest Elementary School wall demonstrates that performance of a segmental retaining wall can retain a significant earth formation, reclaim invaluable space and ultimately prevent soil erosion. ■

**Architect:**

O’Boyle, Cowell, Blalock & Associates, Inc.  
Kalamazoo, Michigan

**Developer:**

Barnes Management, Inc.  
Grand Rapids, Michigan

**Engineer and**

**Contractor/Installer:**

Walltek Design  
Lake Orion, Michigan

**SRW Unit Producer**

Consumers Concrete  
South Haven, Michigan

**“The use of unit pavers and segmental wall units for paving steps, walls and columns to support the trellis and enclose the new terrace greatly enhances the character of the home.”**

—Marsha Lea, ASLA, EDWINC



# Wagner Residence

Hugo, Minnesota

In April 2004, the Wagner residence was given a face-lift to create a distinctive and elegant entryway into the stone façade and traditional siding ranch home in Hugo, Minnesota. The original entry way consisted of a small front porch area that had been expanded via a small wooden deck with trellis, but this fell short of the home's architectural style, was too small and required greater maintenance than anticipated.

The solution was the design and construction of a raised concrete unit paver patio and segmental retaining wall unit partition wall supporting an elegant trellis. The new entry way would appear more inviting and provide more usable space for traffic flow and outdoor lounging. It further enhanced the architectural style of the home to create a sense of old style front porches.

In only two months, the Wagner residence underwent a beautiful transformation. Construction began with the dismantling and removal of the existing patio and undersized trellis. The new design began with the construction of the concrete unit paver porch and accenting walls and columns. Elegance and style were added to the porch area with a large trellis supported on the segmental retaining wall unit columns.

Landscape architects at Villa Landscapes further enhanced the site with attention to detail.

Redwood mulch provides a striking contrast to the grey pavers, wall units and house façade. Properly sized vegetation introduced a sense of color while the natural stone walk and border complemented the raised segmental retaining wall flowerbed. Introducing a number of brightly colored and hanging flower arrangements provided the final touch.

Marsha Lea, ASLA, design awards juror and principal with EDAW Inc., comments, "The landscape architect successfully transformed an undersized and fairly mundane front entry into a gracious and appealing outdoor room. The use of unit

pavers and segmental wall units for paving steps, walls and columns to support the trellis and enclose the new terrace greatly enhances the character of the home." ■

**Architect:**

Villa Landscapes  
Oakdale, Minnesota

**Landscape Architect:**

Villa Landscapes  
Jordan, Minnesota

**Installer:**

DC Landscaping  
Hugo, Minnesota

**Supplier:**

Willow Creek Concrete Products,  
Inc.  
Kimball, Minnesota





## Concrete Masonry Designs' AIA/CES Continuing Education Learning Program

### Learning Units Reporting Form

To receive one learning unit, read "SDG&E Mission Skills Training Facility" (page 6) and "The Brooktree Project" (page 10) and complete the following questions on both articles. Return this form to the National Concrete Masonry Association. Only original forms will be accepted for learning unit credit.

Forms received after December 2006 will not be accepted for learning unit credit.

Replies will be submitted to AIA on December 30 and April 15, 2005.

I am a non-AIA architect or design professional. Please send me a certificate stating the learning units earned that I can use for documentation to fulfill other continuing education requirements.

Send completed Report Form to: AIA/CES, National Concrete Masonry Association, 13750 Sunrise Valley Drive, Herndon, VA 20171-4662. If you have questions, please contact NCMA at 703.713.1900.

December 2004

1. What is the difference between split-face and ground-face CMU?

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2. What types of CMU are ideal for use in restrooms and pool areas? Why?

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3. How is the concrete used to make slump block units different from other types of CMU?

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4. What are some design elements that visually connect the interior and exterior of a home?

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5. How can CMU contribute a "warming influence"?

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#### AIA Member Information:

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I certify that the above information is true and accurate to the best of my knowledge. I have complied with the AIA Continuing Education Guidelines.

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 DATE 

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