2015 Concrete Masonry Design Awards of Excellence

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The National Concrete Masonry Association and Interlocking Concrete Pavement Institute are pleased to announce the winners of the 2015 NCMA/ICPI Concrete Masonry Design Awards of Excellence. These winning projects, architects, designers and product producers are recognized for their outstanding use of concrete masonry units, segmental retaining wall units and interlocking concrete pavers. The Design Awards Program serves as a venue to showcase the design versatility of these products and how they are successfully used today.

The distinguished jury panel consisted of William T. Brown, AIA; Manoj Dalaya, AIA; Robb Jolly, RA; and Edward D. Weaver, AIA, LEED AP.
Mesa Community College Performing Arts Center
Mesa, Arizona

ARCHITECT: Jones Studio, Inc., Phoenix, AZ

BLOCK PRODUCER: Superlite Block, an Oldcastle Company, Phoenix, AZ

MASONRY CONTRACTOR: M.A.G Construction, Gilbert, AZ

PHOTO CREDIT: Timmerman Photography

CMU Offers Surround Sound
At the centerpiece of the new Mesa Community College Performing Arts Center (PAC) sits a 450-seat variable acoustic theater, designed to accommodate a broad range of musical performances.

Two separate enclosure shells and a steel frame define the new performance hall. The exterior shell is a composition of exposed concrete masonry and raked, unpainted cement stucco over metal stud framing. The interior shell consists of an exposed concrete
masonry enclosure that serves as the primary acoustic volume of the hall.

Concrete masonry is an important material for the PAC, as the two shells are shaped and detailed expressively to achieve independent goals. The north and east exterior walls of the hall are arranged with a running bond pattern and are sloped and folded to both emphasize the “waterfall” downspout at the northwest corner and point to the vertical marquee sign identifying the main entry courtyard. The dramatic folded masonry wall slopes away from the sign, lifting it up and emphasizing its presence. The slope is 2 degrees off the horizon and was achieved by carefully cutting the stem courses of the masonry at the footing.

This “marquee” wall is also folded by virtue of an offset coursing detail that slips each block a maximum of 5/8 inch (17 mm) off center from the one below, according to the architect. The line of the fold ascends diagonally across the north elevation and has no offset. As the wall splays out in either direction, the offset goes from zero to 5/8 inch (17 mm), creating the fold. The grey 8x8x16-inch (203x203x406-mm) concrete masonry units change to charcoal-colored units at this diagonal, and as the two tones blend together, the line culminates at the marquee sign.

The interior acoustic shell is a progression of masonry types. From the very basic grey 8x8x16-inch (203x203x406-mm) block that changes to charcoal on the exterior shell, the interior utilizes the same charcoal coloration, but with a ground face.

This acoustical concrete masonry shell has many jobs to accomplish: sound distribution, interior structure, a durable finish and a comfortable, visually rich interior. The hard and dense nature of solid-grouted concrete masonry provides an excellent surface for the reflection of sound. Sidewalls of the hall are scalloped in design, a series of convex curves designed to spray sound waves evenly across the audience chamber. Contrasting with the exterior detailing, the interior walls use a stacked bond arrangement—also with an offset coursing detail of 5/8 inch (17 mm) from the unit below.

In all, the variations in block, the bump outs that aid in sound distribution and hard surface sound reflectivity all add up to a building volume that enhances and distributes sound in an enveloping manner. Concrete masonry is the material that makes that possible.
“This unique use of concrete masonry pushes the structural component to be so much more than just an architectural statement.”

—Design Awards Jury
Form Follows Function Along a Slope

In rural Eureka, NV, the terrain is rough and mountainous. So rough, there were few options in this mining town for locating a new gymnasium near the local high school. The site available was a neglected, nearly unbuildable piece of land between the existing high school and the community swimming pool. But the challenging site would prove to be a powerful catalyst for the building’s design, according to Architect Jack Hawkins of Hawkins and Associates. “The concept was to create a modern interpretation of a stamp mill cascading down the mountainside as viewed from the primary frontage street,” says Hawkins.

With a design reference that so respectfully acknowledges the local vernacular, the gymnasium project has its long, west-side elevation buried into the hillside. As a result, the mountain views are unobstructed and the massive gymnasium structure complements the existing school campus without looming over it.

The low, horizontal form of the building is stepped down the difficult site and it is reinforced both visually and structurally with hard-wearing materials. Concrete masonry units were specified as a contemporary solution with timeless appeal and for an appearance substantial enough to anchor the project to its site. Integrally colored, standard 8x8x16-inch (203x203x406-mm) concrete masonry units are laid in a stack bond. The warm, red color of the block was selected for the exterior as well as the interior, and matches the existing high school color.

But color is only one of the reasons Hawkins specified concrete masonry units for loadbearing walls as well as in-fill panels. “It is a substantial, fire-resistant, rodent-resistant, long-lasting, low-maintenance material,” says Hawkins. And in addition, the concrete masonry walls could be dually employed as shear walls for the project. The material’s durability is especially

ARCHITECT: Hawkins and Associates, Reno, NV
BLOCK PRODUCER: Basalite Concrete Products, LLC, Sparks, NV
MASSONRY CONTRACTOR: Silver State Masonry, Reno, NV
PHOTO CREDIT: Hawkins and Associates
The design of the gymnasium is designed to accept a future active solar system—both panels and photovoltaic cells—to complement the passive solar strategies that are an integral part of the building design. Hugging the concrete masonry building to the landscape helped the designers enhance its energy efficiency and its cohesiveness with the natural environment.

“This design makes perfect use of concrete masonry, integrating it into the landscape in order to visually anchor the building and thus allow for the dramatic floating windows above.”

—Design Awards Jury

Weather conditions and temperatures can change quickly in the desert. In response, the designers created an all-weather, glass perimeter running track. Mostly cantilevered, the running track appears to float above the concrete masonry walls supporting it, according to the designer. The track was used as a design tool to break up what is normally the uninspired large box structure of a gymnasium. Its indoor-outdoor feel, combined with the weighty concrete masonry walls below, helps blur the transition between nature and the built environment.

Energy efficiency was also an important part of the program. Sustainability shaped many of the design decisions about architecture, lighting and mechanical systems. Daylighting from the perimeter running track brings natural light to interior spaces and allows for virtually no artificial lighting most days. By burying the entire west side of the structure in the hillside, a thermal buffer helps modulate indoor temperatures. In addition, the radiant slab heating and cooling system with a water-to-water heat pump, combined with evaporative cooling, mean there are no condenser units or chillers in the facility. The gymnasium is designed to accept a future active solar system—both panels and photovoltaic cells—to complement the passive solar strategies that are an integral part of the building design. Hugging the concrete masonry building to the landscape helped the designers enhance its energy efficiency and its cohesiveness with the natural environment.
San Jacinto Animal Shelter
San Jacinto, California

**ARCHITECT:** Harley Ellis Devereaux, San Diego, CA
**BLOCK PRODUCER:** Trenwyth, Emigsville, PA
**MASONRY CONTRACTOR:** Ron Shoffeitt Masonry, Winchester, CA
**PHOTO CREDIT:** Studio Maha

“Agrarian Roots for a Masonry Building
Set in a community rapidly transitioning from farming to residential, San Jacinto Animal Shelter was built to provide shelter, pet adoption services and education, as well as veterinary medical aid in Riverside County, CA. So, in a bow to the local design aesthetic, architects at Harley Ellis Devereaux created a complex reminiscent of the area’s agrarian roots.

“Despite its humble architectural expression, the planning was actually extremely complex and required

“Concrete masonry really is the focus and highlight of the design...
this is a simple building but it works! The bold and appropriate use of color in the glazed block functions perfectly for kenneling animals and concrete masonry eliminates damage from scratching.”

—Design Awards Jury
extensive interface with the users,” said Harley Ellis Devereaux Senior Project Designer Gary Leivers, AIA, RIBA, LEED AP. “The requirement for a single level and a footprint of 37,000 ft² (3437.5 m²) suggested several independent buildings clustered around a series of outdoor spaces.” The extensive program for the San Jacinto Animal Shelter included large spaces for animal housing and holding areas, and also administration offices, along with a full veterinary surgical suite. One important criterion was to create a welcoming area and a relaxing environment that encourages visitor interaction with the animals awaiting adoption and to provide space for animal owners reuniting with their lost pets.

Multiple buildings are closely clustered on a 10-acre (4.05-hectare) site. The 14,000-ft² (1300.6-m²) main administrative building houses several key customer and animal service departments, including adoption services, administrative services, community outreach and education, field services, and animal medical services. In addition to the main structure, the receiving, kennel and maintenance/warehousing structures are integrated around a central outdoor courtyard that is nicely landscaped. The result is a campus-like complex inviting to both animals and people.

Although the buildings accommodate a wide range of functions, they share a common design theme that references the local vernacular of simple forms and economic building systems, says Leivers. The main building is constructed with concrete masonry units with a honed surface in a neutral color that matches the ground material. The loadbearing capabilities of the architectural block provide the primary structural system, and help reduce the load on the mechanical systems through the block’s inherent mass, saving energy. Low slung metal roofs, ample overhangs and covered outdoor walkways offer shaded areas to all of the campus facilities and create a seamless transition between indoor and outdoor environments.

The animal holding areas must stand up to intensive maintenance and also maintain an attractive backdrop for pet adoptions. In response, a glazed masonry unit was selected for its self-finished characteristics, available in a wide range of colors, which the designers used to create a “pixilated interpretation of the surrounding rural landscape.” Concrete masonry is the key to the campus character, said Leivers. And that character helps bring the need for better treatment of animals in a rural setting to the forefront.
Lenoir-Rhyne University Chapel
Hickory, North Carolina

**Architect:** Clark Patterson Lee Design Professionals, Raleigh, NC

**Block Producer:** Adams, an Oldcastle Company, Asheville, NC

**Masonry Contractor:** Master Masonry, Inc., Hickory, NC

**Photo Credit:** C.E. Moser

**Varied Textures in a Single Wall System**

Grace Chapel was built at the heart of the Lenoir-Rhyne University Campus in Hickory, NC, and immediately became a spiritual focal point for visitors to the University. The 425-seat chapel serves the needs of weekly religious services as well as music concerts and special events. Additional support spaces include a pastor’s office, sacristy and choir rehearsal space.

Designed by Architects Clark Patterson Lee, the chapel design establishes a physical presence to the University’s origins in the Evangelical Lutheran Church and a religious center for students, faculty and staff.

The project was designed with a concrete masonry structure with exposed interior walls. Architecturally, the building hearkens to the older campus Neo-Gothic buildings with its exterior Flemish bond brick pattern, arched openings, cast stone, arched wood beams and stone-like concrete masonry walls. The chapel’s tower feature was patterned after the nearby Rhyne building.

The concrete masonry unit walls consist of architectural split-face, polished-face and shot-blast units. All three concrete masonry unit textures were manufactured with the same material mix so that all of the units would have the same base color and exposed aggregates. The different textures of the concrete masonry allowed the designers to create wall accents while adhering to a single concrete masonry wall system. The block is comprised of a brown aggregate that complements the wood trim used throughout the building.

One of the distinctive features of the concrete masonry Grace Chapel is its voluminous space. The interior ceiling is 53 feet (16.2 m) from the floor to the ceiling’s peak. The floor plan is arranged as a cruciform so that when viewed from above the chapel appears to be a cross.

While the concrete blocks are used for the building structure, they also provide an interior finish, which eliminates the need for other interior finishes. The block’s durability will greatly reduce the need for maintenance and upkeep. In addition, block’s fire-resistant qualities easily met local building code fire ratings requirements for the walls.

Acoustical performance was a high priority for the design team. Concrete masonry was a good choice for managing sound. The space is highly reverberant and perfectly suited for choral and orchestral performances. As a result, only a minimal sound system is required.

Built as part of a $65-million campaign, the new 10,000-ft² (929-m²) chapel blends with its campus surroundings thanks to the selection of concrete masonry for both its structural and aesthetic qualities.
“The use of concrete masonry on the interior with a backup of exterior veneer was an elegant solution. Inside, the concrete masonry details, with their combinations of large and small-scale units, is both inviting and quite handsome.”

—Design Awards Jury
City of Beverly Hills Public Works Warehouse
Beverly Hills, California

**ARCHITECT:** RTK Architects, Culver City, CA
**BLOCK PRODUCER:** ORCO Block & Hardscape, Stanton, CA
**MASONRY CONTRACTOR:** Industrial Masonry, Inc., Norco, CA
**PHOTO CREDITS:** Wundr Studio, Los Angeles, CA

**More Than Just a Pretty Face**
The City of Beverly Hills Public Works Warehouse and Shops was envisioned as a “container for industrial activity,” according to Mandana Motahari, principal of RTK Architects. Its location in a vital city center makes turning that vision into reality quite complicated. But RTK Architects addressed the issue of context by seamlessly weaving the new structure and grounds into its urban setting, connecting the landmark civic center designed by the noted Architect Charles Moore to the public works campus through an inviting and pedestrian-oriented streetscape.

The Public Works Warehouse and Shops is an essential services facility where maintenance and communications departments can operate and provide support in the event of a natural disaster or emergency. Meanwhile, on a daily basis, this 21,000-ft² (1951-m²) building provides the city with much needed storage and workshop space. The building contains a subterranean warehouse, maintenance yard and technical shops on the ground floor, staff offices, conference rooms and department operations center on the upper level. The new building was designed to connect to an existing city garage via a tunnel under the roadway.

Modern in its architectural style, the Public Works Warehouse and Shops building is distinguished by its longitudinal street façade. “A site wall, composed of honed concrete block and horizontal louvers, conceals the 15,000-ft² (1394-m²) maintenance yard and merges with the building mass to form a sculptural wholesome façade,” said Motahari. Rising vertically behind the site wall, a curtain wall system is indistinguishable from the skin of a typical daylit office building. The setback of the second floor frees the ground floor to achieve its pedestrian scale. The roof eaves, cantilevering long...
“With such a good design and the clean juxtaposition of materials, you would never know this handsome building was a warehouse.”

—Design Awards Jury

and out, both anchor the building and provide shade while they also ameliorate the concern for a pedestrian experience.

In order to accommodate heavy loads on each floor of this two-story structure, the building was designed with a steel structural space frame and concrete masonry shear walls. Concrete masonry serves multiple purposes in this facility. Massive masonry walls combined with an insulated glass curtain wall help resolve the building’s industrial activity-generated noise and also a number of thermal issues, and help lend it credence as a sustainable structure. The use of concrete masonry as the prominent exterior wall material addresses the requirements for durable surfaces that are low maintenance. And in addition, the choice of color and finish is aesthetically compatible with the high-quality design of nearby buildings.

The Public Works Warehouse building creates a functional industrial work environment with respect to the needs and qualities of daily experience for its users. Thanks in large part to concrete masonry, it meets all the requirements of a hard-working industrial facility while contributing positively to the external urban context and the urban experience for the non-users as well.
Masonry Palettes Perfect for Art Exhibitions

The new 14,000-ft² (1300.6-m²) Visual Arts facility at College of the Desert in Palm Desert reinterprets, rather than reiterates, the 1960s modern architectural language of the original campus. It serves as a new anchor for art within the college and its community, and the site allows for a strong axial connection to existing campus structures.

“Conceived as a vessel for the craft of art making, the Visual Arts Building connects passing students to interior exhibits and the critique spaces” with its large expanses of transparent glass, says Eric Van Aukeye, AIA, of Perkins + Will. “This ‘program transparency’ is a primary goal and serves as the prime catalyst for campus-wide engagement of the arts program.”

The building program includes indoor and outdoor classrooms and labs, exhibit spaces and a specialty multipurpose room for interdisciplinary classes and lectures. The two structures of the Visual Arts facility create an entry portal leading to the protected Arts District courtyard.

Burnished charcoal-grey concrete block is used for the ‘jewel box’ multipurpose space at the main gateway to the Arts District. The material was chosen to contrast sharply with the smooth, muted surfaces of the adjacent lab building and the existing campus. The concrete masonry provides a distinct, textured look appropriate for the importance of this key space.

Rooftop monitors flood the interiors with soft daylight from the north. The roof monitors’ projecting profiles were designed to evoke the surrounding mountain peaks. The palette of concrete block and stucco in desert tones in this LEED-registered project, coupled with exposed steel and custom-perforated panels, help protect the building and outdoor spaces from the harsh sun. Interior finishes are rendered in a neutral masonry palette that allows the artwork to be the focal point.
“The simple but elegant massing of the Performing Arts Center design has a strong impact; one that ties into the adjacent colors.”

—Design Awards Jury
Flexible Design and Adaptable Materials Bow to the Performing Arts

The District Performing Arts Center, located on the El Dorado High School campus in Placentia, CA, is a music, dance and theater center. Students throughout the Placentia-Yorba Linda Unified School District interested in the performing arts have access to the facility. Designed as a multiuse concert hall and theater, the arts center has a stage large enough for more than 120 student performers and seating for 635 spectators. It features an advanced multipoint sound system, variable acoustics, an adaptive orchestra shell and a multipurpose green room.

Numerous design workshops and charrettes were held with program coordinators from the high school and from the larger school district in the early design stages. The objective was to produce a design flexible enough to accommodate the school district’s diverse performance venue needs. The Center was built chiefly with concrete masonry because the block helped accomplish the design vision for the facility: that the building materials both harmonize with the existing buildings on campus and also reflect the essence of the musical performances that take place within, all in a cost-effective manner.

“...The use of concrete masonry makes a lot of sense in a performing arts center. The texture of the material, its durability and its design aesthetic make block a great backdrop for the complex visual elements and systems in this theater.”

—Design Awards Jury
creating an inviting and affordable new venue for the performing arts, SVA Architects, Inc., set the standard for future campus development by tapping into smart building technologies. “To that end, concrete masonry was one of the primary design aesthetics of the building, and the outcome exceeded the goals of the school district and community,” said Robert Simons, AIA, president and partner of SVA Architects.

Concrete masonry units are affordable, durable and sustainable, according to Simons. By integrating them into the building design, he was able to provide enough thermal mass to moderate the facility’s temperature, resulting in reduced energy usage and increased savings in maintenance costs over the life of the building.

California is considered a high seismic region and higher standards are required for public school facilities. The center was designed with structural steel roof framing and CMU shear wall to resist high seismic lateral forces.

Moreover, “concrete masonry comes in several forms; it can be a very flexible material when color and texture are used creatively,” said Simons. Along with a series of screen panels that wrap around the exterior, the design team used various types of concrete masonry units and projecting block patterns to create a subtle, yet dynamic façade. The new Performing Arts Center is a versatile and attractive, yet a truly economical, venue for the performing arts and sets the standard for future campus development using concrete masonry.
Perimeter Security for Indian Youth

RE-JUV for the Colorado River Indian Tribes is a project geared to the needs of at-risk youth offenders within the reservation. With part new construction and part existing facility renovation, RE-JUV balances the pragmatics of site, layout and adjacencies against the need for low maintenance, simple materials, appropriate spatial dynamics and natural light.

In their response, designers at Mark Ryan Studio Architects saved and repurposed 95 percent of the existing structure. While visually dynamic, the semi-circular form is derived not from art, but rather to ensure line-of-sight for staff stationed equidistant from all sleeping rooms. A simple, natural palette of materials is employed with the goal of decreasing operational and long-term maintenance costs—integranlly colored concrete masonry and a minimum of paint—while remaining dynamic and appropriate to the pragmatics of use. Concrete block is applied as a post-
“The aspirational quality of this design comes from its sky views and a humanizing pause space appropriately placed at the transition between personal space and communal space. And it celebrates the local landscape by creating a secure building perimeter against an exterior perimeter that is completely natural.”

—Design Awards Jury

tensioned insulated system that achieves an R-value sufficient to allow the exterior finish to simultaneously be the interior finish. Like other materials used on this project, the concrete block is locally sourced.

Natural light is abundant throughout RE-JUV. Large windows offer views to the landscape and the sky. Shifting from traditional detention-grade furnishings, this project uses lightweight, easily movable varieties to facilitate frequent rearrangement of the spaces and a less institutional demeanor. Another shift eliminates all barbed wire or razor ribbon. The enclosure for outdoor recreation incorporates anti-climb mesh and is planted with a combination of thorny vines around the perimeter, allowing the landscape to double as the security perimeter. The goal is that this project, although modest in scale, will act, beyond the boundaries of this specific site and circumstance, as a catalyst for positive change and progressive thinking within the larger tribal community. RE-JUV alludes to the building’s double roles as a regional juvenile facility and its goal of “rejuvenation” in the lives of the children it serves.
2345 House
Reno, Nevada

ARCHITECT: Cathexes, Reno, NV
BLOCK PRODUCER: Basalite Concrete Products, Sparks, NV
MASONRY CONTRACTOR: Sartorial Masonry, Reno, NV
PHOTO CREDITS: CATHEXES, Vance Fox, Ancil Hoffman and Tom Zikas

Industrial Materials in Balance with Nature

“Attention to detail was extremely important to our clients, from the massing of the house to the finest of details,” says Don Clark, AIA, of Cathexes. “They wanted Old World stonework and industrial materials.” In response, the architects provided a balance of various building materials as a major aspect of the overall design in a contemporary design that references the intrinsic nature of those materials.

Influenced by mid-20th Century modern architecture characterized by clean lines, simplicity and a balance with nature, 2345 House in Reno, NV, has ample windows and an open floor plan. Adhering to the design philosophy of the great modernist architectural designers like Piet Mondrian and Eero Saarinen, interior spaces are open with the intention of bringing the outdoors inside. Much of the design is expressed in its concrete masonry.

“We created a rigorous process for the design layout, textural selection and execution in the spirit of masonry as art. While a delicate balance had to be considered with the natural hues of all the exterior materials—which meant using only one color for all the block and pavers—it was important to create richness within. Shadow play, block orientation (i.e. soldier coursing in bands), and careful attention to composition were used to achieve this,” according to Clark. Components of concrete masonry, streamlined steel design, cedar siding with a deep profile, glazing and zinc siding are all combined into an artistic whole.

Each course of the concrete masonry, for every wall, was designed and selected. Bands and angles were placed specifically to balance and layer the composition. Four different finishes or face textures were carefully selected and located—using standard concrete block, split-face block, plus honed and shot-blast blocks. Various textures absorb and reflect light differently, giving every wall and space a visual richness that evolves throughout the day and over the course of the year.

“This house is nicely integrated into the landscape. The design makes perfect use of concrete masonry bearing walls combined with other building materials in a linear approach that intentionally directs the view.”

—Design Awards Jury
The floor plan is fully accessible, and includes an elevator and circulation around the exterior with a continuous switchback trail. Sun angles were studied with 3D modeling to maximize passive solar design. Light, and its effect on both exterior and interior spaces, was studied. Layers of technical controls are incorporated to accommodate different functions, from entertaining large groups to intimate uses.

The reception area divides private spaces from public. Forms are “held together” via the central curved hallway. The ceiling of the main curved hallway is arranged with a random-pattern “starry night” theme. The balance of building materials is a major aspect of the overall design of 2345 House. Rich block work, with its structural qualities and artistic potential help this house live in harmony with its natural setting.
EL Do House
La Jolla, California

ARCHITECT: Steven Lombardi Architect, San Diego, CA
BLOCK PRODUCER: RCP Block & Brick, Inc., Lemon Grove, CA
MASONRY CONTRACTOR: Dave Majia Masonry, San Diego, CA
PHOTO CREDITS: Steven Lombardi Architect

Concrete Masonry Keeps Retrofit Home True to Its Roots

After six years of construction, El Do is finally complete. This house is a one-level structure with a garage loft, located at La Jolla Shores in San Diego, CA.

Even though this house has been totally renovated, its design story has not changed, and the floor plan remains intact. But, the interior and exterior spaces are all new, and each interior space has been connected to a new outdoor space, which Architect Steven Lombardi refers to as its own outdoor living room.
This existing 3280-ft² (304.7-m²) house sits on a 20,400-ft² (1895-m²) site. Its design is a harmonious combination of old and new and is expressed through the marriage of cedar with concrete masonry units.

The main purpose of the new concrete masonry walls was to connect, and to create a dialogue between, the existing components of the home and those that are new, by using loadbearing, infill and privacy walls. These outdoor spaces harness the sun for heat during the winter.

Both existing fireplaces and loadbearing walls are 8x8x8-inch (203x203x203-mm) concrete block and were built in 1959. The new loadbearing, infill privacy walls are 8x8x16-inch (203x203x406-mm) concrete block, laid in both common and stacked patterns.

The horizontal 4-inch (101.6-mm) cedar wrap siding acts like a rain screen with a 3/4-inch (19.05-mm) airspace over the existing black wood siding, equal to the new concrete masonry unit horizontal joints, with an overall thickness of 8 inches (203 mm), equal in height to the 8-inch (203-mm) concrete block, both new and existing. The cedar creates shade to the exterior skin during the summer, and the concrete masonry retains heat gathered in the winter.

In the end, the old concrete masonry sets the stage for all the new materials to perform at their best and maintain the modernist message of this home's original design.

"Here is a retrofit home that sensationally blends other building materials with new concrete masonry and packs a lot of design into a little space."

—Design Awards Jury
An Organic Design with Exposed Concrete Masonry

The historic Oakland Hills firestorm in 1991 left behind grey ash and blackened foundations from thousands of homes in the fire’s path. Today, only a few of those torched lots remain vacant. AAA Architecture created a home for one of those sites that embodies the principles of the era of California’s best modernist architecture.

“We were asked to design a house for this site that would maximize views, connect to the outdoors and feature expressive materials,” said Randolph Ruiz of AAA Architecture. Successfully responding to this beautiful site was the challenge of this project. It faced a large, but awkward lot; great views, but close neighbors; and great climate, but harsh solar exposure.

These conditions demanded a solution that took advantage of everything the site had to offer. “We were determined to use ground-face CMU from the start due to the broad range of benefits this system offered,” Ruiz said. The block module helped impose an architectural rigor to the home’s plans that is easily lost in wood-frame construction.

Concrete masonry allowed for an exposed and attractive expression of structure that brought architectural value to both the interior and exterior. Block’s inherent energy benefits played a large role in the designer’s determination to employ it in this project. The thermal mass and integral insulation of the block allowed them to open up very large expanses of glass and still outperform California’s stringent energy requirements by a large margin, according to Ruiz.

“The simple and subtle use of concrete masonry for structural elements inside and outside is a striking juxtaposition with cedar and glass.”

—Design Awards Jury
The design went through a number of iterations, but eventually the clients ultimately chose a design that centers on the unexpected. Two offset bars create front and rear courtyards divided by a soaring space used as a breakfast room. Concrete masonry is used not only to define the design, but as part of the overall theme. Four parallel lines of masonry walls, which are oriented toward the site’s views, organize the ground floor plan. These walls define the house’s two bars and are both interrupted and connected by windows and glass doors. The eastern wall of each bar is buttressed at regular intervals; defining interior spaces and also eliminating the need for interrupting shear walls or expensive moment frames. The second floor contains three bedrooms and an office situated within four boxes balanced upon the concrete masonry walls below, and clad in charred cedar. Large glass windows at this level are framed in projecting metal hoods with operable louver screens to control solar loads on the western exposure.

Few reminders of the devastating Oakland Hills firestorm remain, and on this site, a concrete masonry home rises above what was once ashes in a modernist expression that relies on honest materials.
SRW Anchors Stadium to its Athletic Campus

When DePauw University undertook construction of a multisport stadium to serve as the southern anchor of its athletic campus, it was obvious that some large-scale retaining walls would be required. Grade changes at the stadium and practice fields required installation of several retaining walls, but bids were coming in higher than expected on the initial design. When the University approved a change to a more cost-effective concrete masonry patterned wall, the segmental retaining wall system provided a time-saving advantage as well.

Once work started on the DePauw multisport stadium, it soon came to light that there was a global stability issue with the site. The contractor worked with the wall engineering firms to revise the plans and create an acceptable solution. The solution was a multitiered system of terraced walls that specified select backfill for the infill zones and extended geogrid layers to counter the global stability slip arcs in each of the seven walls that were of concern.

Soil compaction was regularly checked, and design specifications were closely adhered to; walls were carefully aligned to maintain vertical elevations. Some difficulties arose near the cast-in-place concrete stairs, which cut straight through the walls and it took a great...
“The creative use of terracing breaks down the scale of the structure, which would otherwise have been a massive vertical wall, and it provides an attractive character with texture and relief on the face of the wall.”

—Design Awards Jury

deal of skill to properly position the leveling pads correctly. The end result was a well-terraced wall structure.

The whole project has been a collaborative effort between all parties from start to finish, according to the design team. Tim Bott of Allan Block, one member of that team says, “The resulting wall structures are a testament to how a closely managed project with a diligent contractor and a dedicated engineer can turn out.” The clean lines and careful attention to detail have created a solid and functional structure that provides the high degree of aesthetics that DePauw University sought.
Crawford Residence
Upper Arlington, Ohio

**SRW PRODUCER:** Reading Rock, Cincinnati, OH
**SRW CONTRACTOR:** Hedge Landscaping, Westerville, OH
**SRW LICENSOR:** Allan Block Corporation, Bloomington, MN
**PHOTO CREDIT:** Allan Block Corporation

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**Two-Wall System Tames a Steep Slope**

The client wanted an outdoor living space where friends and family could gather in multiple seasons. This request was addressed with a contemporary design that includes a fire pit and a water feature.

Natural views to the back were inviting, but space was at a premium. The solution was to create a series of terraces and travertine patios supported by segmental retaining walls with architectural finishes that emulate stone. Large sandstone boulders are scattered about as accents.
A water feature is rendered as a two-part fountain, built as a two-wall system. The rear wall retains the hillside and is an interlocking system with a six-degree batter. While this wall is 8 ft (2.4 m) high, only the top 2 ft (.61 m) is exposed. Meanwhile, the wall in front is built of non-retaining block that is decorative. Without any batter, it is ideal for the sheer waterfall system. Located between the two walls, a large French drain system and a cavity filled with packing peanuts eliminate any pressure on that front segmental retaining wall (SRW). Despite an extreme grade change and very tight access, work on the walls and drainage system progressed with ease, thanks in large part to the SRW system, which allows the wall to be constructed in small sections.

The SRW units used on the waterfall also were employed for the lower seating wall. The waterfalls and troughs were designed to look and function beautifully. The water does not splash into the patio space, and thus surrounding seating stays dry for comfortable use.

The sunken fire pit patio, with its surrounding SRW units, eliminates the need for outdoor furniture in the space, giving it a very clean, contemporary look. Together with the main columns, the space portrays a stately appearance. The terraced garden leads up to a hot tub patio area and then up to the pool patio above, which sit behind the water feature and retaining wall. Lighting was incorporated throughout the site for evening entertaining in style.

“The SRWs connect with other features—water, fire, lights and natural stone—to create a place-making design that is outstanding.”

—Design Awards Jury
Pendleton Multi-way Boulevard & Green Infrastructure Improvements

Joint Base Lewis McChord, Washington

LANDSCAPE ARCHITECT: Cascade Design Collaborative, Seattle, WA
BLOCK PRODUCER: Mutual Materials Company, Bellevue, WA
GENERAL CONTRACTOR: Bristol Environmental, Marysville, WA
PHOTO CREDITS: Cascade Design Collaborative

Permeable Pavement is Both Utilitarian and Aesthetic

This 100,000-ft² (9290-m²) installation at Joint Base Lewis McChord, WA, a major military base in the Pacific Northwest, used permeable interlocking concrete pavers (PICP) as part of a sustainable design and green infrastructure project. Virtually 100 percent of all runoff is treated onsite and infiltrated within the right of way through the permeable pavement system and two miles of rain gardens on both sides of the 160-ft (48.7-m) wide Pendleton Boulevard Multi-way.

PICP’s are used primarily in an access lane that separates traffic on the main boulevard from pedestrian and parking areas. These flexible space access lanes can be closed to motorized traffic for community events without interrupting main traffic flow. Two colors of pavers were used to further separate parking areas from traffic lanes without painted street lines. The numerous plaza spaces in the overall project contribute to a linear, but park-like, atmosphere. Businesses report increased sales along the boulevard, attesting to the exposure and accessibility of the area. The result of this forward-thinking infrastructure project is one that accommodates heavy military traffic, civilian vehicles, cyclists and pedestrians in a very comfortable corridor.

“This is a well-conceived and integrated urban streetscape that makes great use of green infrastructure.”

—Design Awards Jury
Sustainable, Permeable Pavers Lead Home

Set back only 90 feet (27.43) from Lake Winnebago in Menasha, WI, all work completed on this home had to comply with Department of Natural Resources (DNR) regulations. For all hard surfaced and paved areas, the DNR regulations dictated permeable paved surfaces on waterfront properties.

The design aesthetic used the pavers as a celebratory path to the residence. Three sizes of permeable pavers were used. Colors were mixed, with 75 percent of the units a blended buff color, and 25 percent a solid cream color. Combining the two different colors on site required careful consideration of placement to create a harmonious, uniform effect. A 4x8-inch (101x203-mm) permeable paver was used to create an eye-catching double border with dark brown sailor course on the inside, edged with a soldier course of the same cream color used in the drive.

A matching walkway defines the entryway. Limestone boulders provide a decorative accent that helps transition the hardscape with the surrounding areas.

“The clean detailing and combination of colors and textures was well done in this driveway, which nicely manages infiltration on site.”

—Design Awards Jury