Profiles in Architecture

April 2013 Edition

CMU

Why Masonry?

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Concrete Masonry Association of California and Nevada

Inside this issue:

Las Vegas Cyclery

Las Vegas Nevada

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Chief Architect

Structural Engineer:
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General Contractor:
TWC Construction Inc.
Masonry Contractor:
Diamond Masonry
Block Producer:
CEMEX
Owners:
Jared & Heather Fisher
©Photography:
Jayne Furman

Architect's Commentary: The Las Vegas Cyclery is a full service bike shop and tour destination for group rides owned by Jared & Heather Fisher, Escape Adventures Inc. Designed by Wade Takashima with Creative FIT & TWC Construction, Inc. the 9,790 square-foot building was based on a self-sustainable design concept to reduce energy consumption and ultimately become a Net Zero building. The 2-story building, located in Summerlin, Las Vegas, utilizes a 53KW rooftop photovoltaic array and 4KW Micro Wind Turbine by Urban Green Energy to balance out the energy needs for the building over the course of a year.

The building incorporates a standing seam metal roof and 1-ply TPO roof to reduce heat island effect. High performance glazing was used for clerestory windows and side wall windows to minimize heat gain. Energy efficient LED light fixtures, Solatubes, & daylight sensors are utilized throughout the building to further reduce power consumption.

Why Masonry? The making of the building is grounded in the primal act-utilization of the thermal mass of the concrete masonry wall used in conjunction with 2″ rigid insulation to slow down the transfer of heat or cold throughout the building envelope in order to minimize temperature fluctuations. The absorption and retention of heat by concrete masonry provides several benefits contributing to increased energy performance. Indoor temperatures are additionally moderated when concrete masonry remains warm or cool after HVAC equipment is shut off reducing peak heating and cooling loads. This reduction in peak heating and cooling loads shifts demands to off-peak hours often results in reduced energy costs by avoiding peak utility rate periods. The HVAC system uses a combination of high efficiency rooftop heatpump DX units during peak cooling or heating conditions and evaporative coolers to cool the space under off-peak cooling conditions controlled by a DDC control system.

The project is in the final stages of commissioning for compliance for LEED® Platinum Certification.

Hollister Fire Station No. 1

Hollister, California

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Masonry Contractor:
Patania Masonry
Block Producer:
Calstone Company, Inc.
Owner:
City of Hollister
©Photography:
Austin Duncklee, WLC Architects, Inc.

Architect's Commentary: Hollister's new Fire Station Number 1 is located at 110 5th Street, and replaces the original station at that location. The 12,399 square foot building sits on a compact 12,534 square foot site anchoring the eastern edge of the city's downtown area. The site includes personnel parking, trash enclosure, outdoor patio, emergency power generator, automatic security gate, and a 75 foot tall communications antenna tower.

The exterior form bridges the gap between the traditional storefront facades to the west and the industrial Southern Pacific depot to the east, while introducing a contemporary vernacular. The "fire engine red" color and complimentary materials were chosen to add vibrancy to the downtown streetscape. Split face and precision concrete block masonry, fiber cement lap siding, stucco, aluminum store front, single-ply roofing, aluminum awnings, steel accents, double-glazed windows, and steel doors round out the exterior materials.

The two-story firehouse includes a four bay wide apparatus room, public lobby, technical support areas, living quarters, exercise room, and other necessary facilities. Construction materials include concrete masonry units (CMUs), wood framed walls, and steel braced frames and columns. Stained concrete floor, light tubes, multi-zone air distribution systems, occupancy and daylight sensors, and recycled materials are some of the interior sustainable features.

The biggest challenge during design was trying to fit over 12,000 square feet of necessary space on an impacted site that was barely larger than the required program. Attempting to make the most of every available inch this site had to offer, the building abuts the property line on all four sides. An internal courtyard, which is accessed by driving under an arched steel truss, is used for staff parking and engine maintenance. A second story balcony adjacent to the dining room overlooks the courtyard, and creates a private area for staff to enjoy some fresh air. The internal courtyard proved to be the organizational solution that made the design really work.

Why Masonry? Concrete masonry units were a perfect solution for this project as they are durable and economical; both musts for fire station design. CMU is in a class of its with regard to providing serious durability with an aesthetically pleasing finish. This is on display at the north wall of the apparatus bay as this wall is used for training, while boasting a beautiful, full height split face texture. Another reason concrete masonry units were chosen for this project was because of the variety of finishes available. As this project was built right up against the property line, it had real potential to become too "boxy". Using varying CMU sizes ranging from 6″ to 12″ wide and both split face and precision finishes, depth was added to each façade.

P-1029 Weapons Field Battalion

Camp Pendleton, California

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Principal-in-Charge

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Masonry Contractor:
Haxton Masonry, Inc.
Block Producer:
RCP Block & Brick, Inc.
Owner:
NAVFAC Southwest
©Photography:
Owen McGoldrick Photography

Architect's Commentary: Delawie provided master-planning and programming services, building design, interior architecture, furnishings, and LEED® management for the newly completed Weapons and Field Training Battalion Facilities at Camp Pendleton. The facilities provide support and training for up to 20,000 marine recruits annually. Recruits train to learn how to survive in the modern battlefield, in martial arts combat, and in rifle marksmanship.

The project is comprised of three new facilities at Edson Range. The $13.5 million project includes a Range Support Facility 9,677 square feet; Martial Arts Training Facility 11,044 square feet; and Storage Air Ground Organic Unit Warehouse Facility 14,208 square feet. The three buildings are on separate sites, but in close proximity to one another. All three buildings are designed to achieve a LEED® for New Construction v2.2 Gold Certification.

Why Masonry? Concrete masonry units (CMUs) were selected as the material of choice for the building exterior based on durability, economy, and visual continuity. The use of integral color split face CMUs as the main building element was essential in creating elegant, straight forward, aesthetically pleasing facilities. Concrete masonry construction presents a professional military appearance, clean and uncluttered, while responding to the function of each facility. The use of CMU also assisted in seeking LEED® Gold Certification for the buildings due to the use of recycled content and close proximity of the manufacturer.

Cold Springs Middle School

Reno, Nevada

Architect's Commentary: Cold Springs Middle School is set in a high desert valley north of Reno, Nevada. This 140,000 square foot, 1,100 student facility was designed to blend into the muted colors of the surrounding environment with durability and low maintenance driving the decisions on the use of materials.

A blend of split face block with precision face contrasting bands emphasize the horizontal architecture of this sprawling building, punctuated by colonnades with masonry columns and accented with precast concrete sills, headers, and gables. Pavers were used in the exterior patio areas.

Why Masonry? The masonry performs a significant function as a heat sink in a desert climate where outdoor daily temperature swings of 50°F are common. This significantly reduces the energy consumption of the building, while providing an excellent barrier against the desert winds.

This project was awarded an Energy Star Silver Rating. In addition to the temperature savings achieved through the use of concrete block, a geoexchange heat-pump system and increased insulation values have reduced heating and cooling costs by over $50,000 per year. Over 100 skylights were added to increase natural daylight for a better learning environment and for reduction of energy required from artificial sources.

The building is designed to reflect the criteria set forth by the Collaborative for High Performance Schools (a program incorporating National Best Practices and the Energy Smart Schools Program) and the American Schoolhouse Council (a professional collaborative dedicated to improved learning environments).

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Gene Koffler Masonry
Block Producer:
Basalite Concrete Products, LLC
Owner/Project Management:
Washoe County School District
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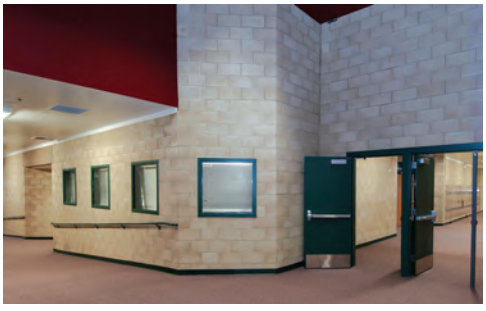
Hartung & Dickman Photographic Studio



401 South Tustin
(HCA Mental Health Campus)
Orange, California

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Masonry Contractor:
HBA, Inc.
Block Producer:
ORCO Block Co., Inc.
Owner:
County of Orange, Health Care Agency
©Photography:
Slav Zatoka Images, LLC

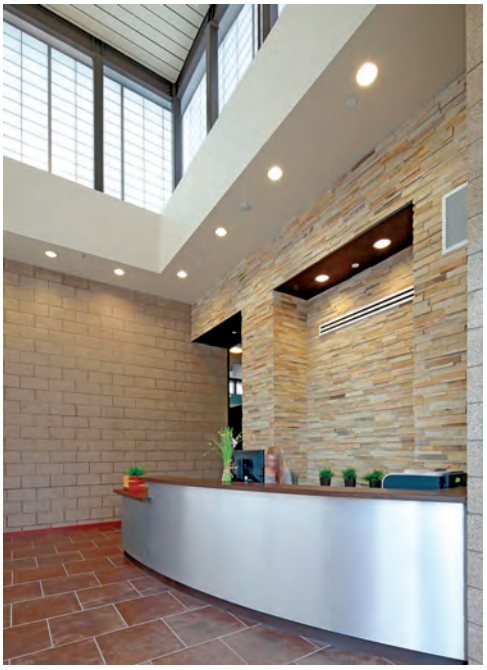
Architect's Commentary: The 401 South Tustin project, operated by the Health Care Agency of Orange County, provides centralized mental health services in a campus atmosphere. This project has varied uses that demand durability, sustainability, and an aesthetic quality that will last.

The 401 project replaces an on-site abandoned hospital with a new open, inviting campus that includes four new concrete masonry unit (CMU) buildings. The site has been revitalized with new structures that include a Wellness/Peer Support Center, Staff Center, Education/Training Center, 15-bed Crisis Residential Center, and a Maintenance Building. Each new building was programmed in collaboration with the staff and the patients/users.

Why Masonry? The aesthetic feature that visually ties the campus together is the use of the CMU running bond burnished block and accents of split faced block; each building different in shape and size, but unified using CMU.

The natural aesthetics of the burnished and split faced block add warmth to the project in addition to being budget friendly and contributing to the sustainability features. CMU offered multiple benefits for the owner as well as benefits to the design team including the opportunity to meld design with the inherent structural qualities in form and in function.

As the 401 project is a County-owned facility, durability and ease of maintenance factored heavily into the decision for the use of masonry. The end result is a long lasting aesthetic that is integral to the structure and will serve the needs of the community for years to come.



Fullerton Community Center

Fullerton, California

Architect's Commentary: The 60,000 square-foot, intergenerational community center combines the Fullerton Boys and Girls Club, the Fullerton Senior Center and the Community Recreational Services programs into a single facility. Located within Amerige Park across Commonwealth Avenue from the Fullerton City Hall and Library, the facility is divided into three wings, one for each of the major activity areas (recreational, senior center and Boys and Girls Club), and is planned around an outdoor activity courtyard open to the surrounding park.

The three wings of the building are organized along a major hallway/gallery that connects the two main building entries. The two entries allow for distinct and separate parking areas and access for the Boys and Girls Club and the Senior Center. The north parking lot for the Boys and Girls Club provides space for school bus parking and drop-off. The south entry, used primarily by the senior population, has a covered drop-off area and pick-up point at the entry doors.

Each of the four building elevations responds specifically to the varied context of the site and reflects the broad historical context of Fullerton's architecture. Masonry block is used extensively on the recreation wing and is detailed with alternating courses of precision and split face block. The wavy multi-colored tile wall of the natatorium and the barrel-vaulted form of the double gymnasium recall the form of the original Boys and Girls Club gymnasium. Decorative banners are used to promote seasonal recreational programs. The south sun porch re-creates a distinctive element of the original senior center building and the semi-circular steel framed porte-cochere provides a protected drop-off area at the building entry.

The building is designed to meet the requirements for LEED® SilverCertification. The building optimizes both passive and active energy saving design strategies. All south and west facing windows are under large overhangs with metal sunshade louvers. The pool water is partially heated by a heat exchange system and the Title 24 energy requirements are exceeded by over 20%. Additionally the pool de-humidification system is designed to save 93,900 gallons of potable water each year which translates into 657 pounds of avoided greenhouse gas (GHG) emissions. Water-efficient plumbing fixtures reduce water use by over 43%. Several of the most mature specimen trees found on the original site have been preserved and all of the new plant materials are drought tolerant.

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Principal

Reggie Wilson
Project Architect

Laura Converse
Project Designer

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General Contractor:
Swinerton Builders, Inc.
Masonry Contractor:
Winegardner Masonry, Inc.
Block Producer:
ORCO Block Co., Inc.
Owner:
City of Fullerton
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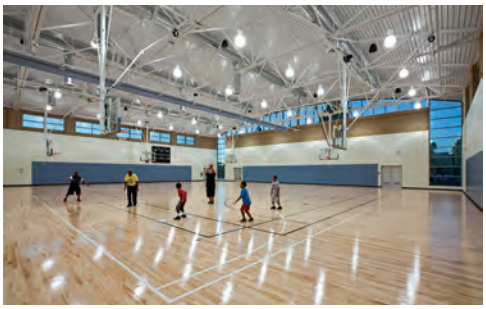

Why Masonry? Masonry was chosen for this project for its aesthetic and sustainable properties, long term durability, cost and energy efficiency and the opportunities it presented for texture and color. Used in combination with wood, steel, plaster and porcelain tile, the masonry provided an opportunity to develop a strong architectural statement that clearly defined the building's organization and reinforced the architect's goal of allowing the building's detail to be expressed in how the building is constructed. Additionally, the masonry was locally produced and the architectural detailing provided a subtle visual link to many of the mid-century concrete masonry buildings found in the City of Fullerton.

William Rolland Stadium

Thousand Oaks, California

Architect:
Amador Whittle Architects, Inc.
17 E. High Street
Moorpark CA, 93021

Bill Amador, AIA
Principal Architect

Jean Amador, AIA
Mark Quinones, AIA
Design Architects

Structural Engineer:
Li and Associates, Inc.
General Contractor:
Southern California Builders
Masonry Contractor:
Ross Custom Masonry
Block Producer:
Angelus Block Company, Inc.
Owner:
California Lutheran University
©Photography:
Lauren Amador, Amador Whittle Architects, Inc.

Architect's Commentary: The William Rolland Stadium at California Lutheran University located in Thousand Oaks California, houses the university's championship-winning NCAA Division III football team. The field also serves the men's and women's soccer teams. Highly visible from the campus and surrounding neighborhood, the stadium has quickly become a focal point and landmark of the campus. While football is at the heart of the 12,000 square-foot building program, with locker room, training, offices, meeting rooms and press box, the facility also includes a fine art gallery and the iconic campus clock tower.

In addition to the main building, a free-standing masonry "façade" wall encloses the southern end of the field. This wall provides a visual frame for the stadium, separating it from the adjoining access road and major arterial road below. Scored split face pilasters and porcelain tile columns with perforated aluminum shade elements articulate the expansive wall. Occasional grilled openings allow glimpses onto the field.

Why Masonry? Concrete masonry units (CMUs) were the ideal material for meeting the goals of the project. CMUs offer design flexibility and speedy construction resulting in a durable building with a solid and substantial appearance. A variety of block types, including split face, scored split face, precision and burnished, were used to create interest and compliment adjacent finishes. The CMU colors were chosen to harmonize with the nearby stone bluffs that define the character of the natural surroundings of the campus. The masonry adds texture and warmth to the simple rectangular building forms, contrasting with the other prominent construction materials: glass, aluminum, steel and porcelain tile.

The masonry contractor recognized early on that the CMU execution would be critical for a successful project. Walls are of running bond with courses varying in color and texture. The scored split face walls and pilasters are stacked bond for a clean, unified look. The integration of the CMU wall coursing with the cantilevered, cast-in-place, integral colored concrete solar shades required careful coordination. The CMU construction interfaced easily with both the wood framed and steel framed components of the hybrid structure.

South Region High School No. 9

South Gate, California

Architect:
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Richard L. Dachman, AIA, CDT, LEED® AP, BD+C
Architect of Record

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General Contractor:
Turner Construction Company
Masonry Contractor:
Winegardner Masonry, Inc.
Block Producer:
Angelus Block Company, Inc.
Owner:
Los Angeles Unified School District
©Photography:
Lawrence Anderson, Lawrence Anderson Photography

Architect's Commentary: Los Angeles Unified School District South Region High School No. 9 is a new from-the-ground-up facility. It incorporates LAUSD's latest thinking in "Small Learning Community" design and three smaller academic environments clustered around shared facilities that include administration, gymnasium and multi-purpose buildings.

Inspiration for the design is drawn in part from the nearby Los Angeles River and from the diversity of the community surrounding it. The new academic concept and the design of the school encourage synergy and healing in a historically neglected part of Los Angeles. Innovative site planning for the campus provides students with a strong sense of place. Beautifully landscaped outdoor walkways symbolically link to the ever-evolving Los Angeles River redevelopment project.

The school's three small learning centers surround an expansive landscaped courtyard which, provides a refuge for students. Each learning center includes dramatically designed exterior elements including stairs, gathering places, and lunch areas. Fabricated largely of steel, they are covered with light blue undulating canopies that mimic the flow of the nearby Los Angeles River.

The design of High School No. 9 is meant to inspire learning, teaching students about building systems with its exposed steel structural elements, sheer walls, and trusses. In addition, the libraries for each of the schools are oriented toward the courtyard, with broad floor-to-ceiling glass providing a direct connection to the outdoors.

Why Masonry? The choice of masonry for the structural envelopes was not only an economical one, but one that would ensure longevity by standing up to the rigors of day-to-day life in an urban high school. It was also an aesthetic choice, as it allowed creation of sculptural walls facing inward to the courtyard that provide visual stimulation for both students and faculty.

Student Services Center & Student Union Building

Whittier, California

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Design Principal

Charles Warner Oakley, FAIA
Principal-in-Charge

Mark Kim, AIA
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Yimon Lim
Matthew Moran
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Englekirk Structural Engineering
General Contractor
KPRS Construction Services, Inc
Masonry Contractor:
Premier Developing Services, Inc.
Block Producer:
Trenwyth Industries, Inc.
Angelus Block Company, Inc.
Owner:
Rio Hondo College
©Photography:
Lawrence Anderson / ESTO

Architect's Commentary: These two separate structures have been designed as an integrated complex for Rio Hondo College. The Student Services Center gathers all the dispersed student services of the College into one building, creating a new entryway to the College. The three-story 34,000 square-foot Center gathers the departments of Admission, Assessment, Financial Aid, Counseling, Career Center and Transfer, as well as the Disabled Students Programs and Services (DSPS), and the 2,400 square-foot Student Health Center.

The Student Union Building gathers the Student Activities Department, Student Lounge, and Campus Food Services in one 14,300 square-foot building immediately adjacent to, and largely an extension of, the Student Services Building. Located at the junction of Central Walk, Lower Quad, and Upper Quad, and filled with student centered program, the Student Union Building serves as a hub in the students' daily lives.

The Union is a two-level above grade structure with a below grade loading dock area. The dining area on the lower level seats up to 250 people inside, with twice that capacity outside, serving the wider campus. The Student Lounge on the upper level, is accessed directly off the Upper Quad and provides views across the Lower Quad and into the surrounding hills.

Why Masonry? The building utilizes cantilevered planes and a series of distinct layers on the building facade to animate the transition from lower to upper levels. Masonry veneer is used at the ground level to provide the sense of a solid base to counterbalance the cantilevering planes above. Polished precision masonry veneer was utilized to provide a smooth counterpart to the other facade elements such as plaster and striated metal panels to emphasize depth and texture. The cavity wall masonry veneer with airspace and backup metal studs were used for its easy maintenance and inherent durability and beauty.

The color of the veneer, which incorporates the light brown accent colors found in the natural aggregate, was selected to provide subtle contrast to the building's white color scheme.

Arroyo Grande High School Career Technical Education Complex

Arroyo Grande, California

Architect's Commentary: The CTE Complex at Arroyo Grande High School is located on the south edge of the campus and consists of four buildings - two newly constructed buildings and two buildings that were renovated and modernized.

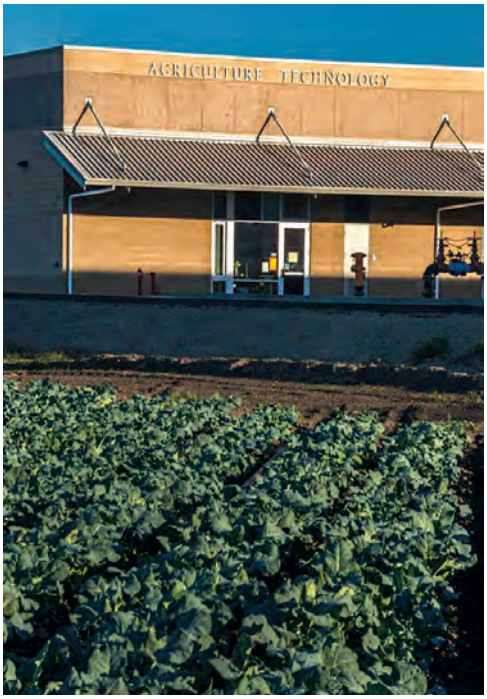
The two new south-facing buildings were constructed out of concrete masonry units. They feature energy efficient lighting, high efficiency mechanical units and were constructed with flat roofs for the addition of solar panels in the future.

The new 15,460 square-foot Agriculture Science Facility was designed to serve more than 500 students in three career pathways: Agriculture Mechanics, Veterinary Science, and Ornamental Horticulture.

The existing 7,104 square-foot Auto Tech facility was renovated and modernized to offer students state-of-the-art training that is in alignment with current industry standards and emerging technologies in the Transportation Industry Sector.

The existing 5,278 square-foot facility was renovated and modernized to provide classroom, lab and workshop space for the new pathway program in Environmental Engineering & Energy Technology (EEET). The EEET pathway serves approximately 400 students who are interested in the fields of sustainable design, green building practices, environmental science, hydrology and water resources, alternative fuels and marine science.

Why Masonry? Concrete masonry has become the material of choice for this campus. It was also widely used by PMSM Architects on the modernization and new construction on the campus completed in 2008. The architectural style and palette of colors and materials, including the concrete masonry units (CMUs) for this new complex, was taken from the surrounding buildings to provide continuity throughout the campus. It was chosen for its durability, longevity, ease of installation and maintenance, and thermal protection. The use of CMUs, open web steel trusses and structural steel canopies was appropriate for the agrarian and industrial aesthetic.



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Concrete Masonry Association of California and Nevada

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2013

CMACN/AIACC Concrete Masonry Design Awards "Call for Entries"

The 2013 CMACN/AIACC Concrete Masonry Design Awards competition "Call for Entries/Request for Binders" is now available at www.cmacn.org.

Last day to ship completed binders:
Monday April 15, 2013

Jury Deliberations:
Friday May 17, 2013

Design Awards Banquet:
Friday, September 20, 2013
The Island Hotel
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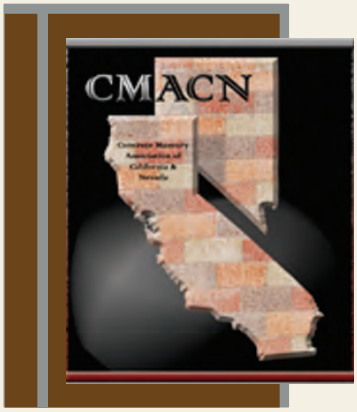

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- Providing technical information on concrete masonry for design professionals.
- Protecting and advancing the interests of the concrete masonry industry.
- Developing new and existing markets for concrete masonry products.
- Coordinating Members' efforts in solving common challenges within the masonry industry.

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