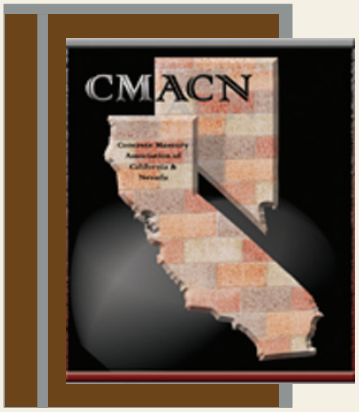

Profiles in Architecture

January 2015 Edition

CMU

Why Masonry?

www.whymasonry.org

Concrete Masonry Association of California and Nevada

Inside this issue:

2013 Grand Award Winner
Advanced Water Purification Facility (AWPF)
Oxnard, California
Mainstreet Architects + Planners, Inc.

Photography: Michael E. Cabezas, City of Oxnard

Announcing 2015 "Call for Entries"

2015 CMACN/AIACC Concrete Masonry Design Awards Competition "Request for Entry Materials" is now available at www.cmacn.org

Coachella Valley Water District Headquarters

Palm Desert, California

Architect:
WLC Architects, Inc.
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Principal-in-Charge

Larry Wolff
Phuc Vinh Tran
Jamie Parades
Design Team

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General Contractor:
Bayley Construction
Masonry Contractor:
Moody Masonry and Concrete
Block Producer:
Angelus Block Company, Inc.
Owner:
Coachella Valley Water District
©Photography:
Phuc Vinh Tran, WLC Architects
Robert Keeran, Coachella Valley Water District - middle small inset photo Center Column

Architect's Commentary: The Steven Robbins Administration Building is the new 42,500 square-foot headquarters for Coachella Valley Water District located in the City of Palm Desert. Coachella Valley Water District has been delivering water to the local communities since 1961 and provides domestic drinking water to more than 100,000 homes and businesses in the Coachella Valley.

Why Masonry? The two-story facility was designed to blend in with the existing campus. The former administrative facility was constructed from concrete masonry, and the District wanted the new building to have a more distinguished street presence due to its prominent street visibility. Concrete masonry units (CMUs) provided a durable, economical, and aesthetic solution. A CMU building envelope provided contrast and texture as well as thermal mass to help moderate the interior building climate in the extreme temperature ranges of the desert. Split-face concete masonry units were used at the base of the building and at larger massing elements. Precision CMUs were used to enhance window planes. Precision CMUs were also used at the second story and for accent banding to break the massing of the larger split-face building forms.

Sustainable features were always a consideration in the design. From the onset, the project team worked closely with Southern California Edision's Savings-By-Design staff to maximize the efficiency of the building. As a result, the building envelope and mechanical system exceeded Title 24 requirements, which translated into long term financial energy savings for the Owner. The landscape design not only met the strict design criteria of the City of Palm Desert, but also addressed the contextual desert setting in terms of colors, textures, and water efficiency.

Interior features of the building include a Board Room, which is used for meetings between the local community and the District's board members. The facility also has a large multi-purpose space that serves as a training room and the District's Emergency Operations Center.

District Performing Arts Center

Placentia, California

Architect:
SVA Architects, Inc.
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Santa Ana, CA 92707

Robert M. Simons, AIA
Partner-in-Charge

Structural Engineer:
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General Contractor:
Swinerton Builders, Inc.
Masonry Contractor:
Frazier Masonry Corporation
Block Producer:
Angelus Block Company, Inc.
Owner:
Placentia-Yorba Linda Unified School District
©Photography:
Dale Lang, NW Architectural Photography

Architect's Commentary: The District Performing Arts Center, located on the El Dorado High School campus in the City of Placentia, serves music, dance and theater students from throughout the Placentia-Yorba Linda Unified School District. Designed as a multi-use concert hall and theater venue, it provides a stage large enough for over 120 performers and accommodates 635 spectators. It features an advanced multi-point sound system, variable acoustics, adaptive orchestra shell, and a multipurpose green room.

The design vision of the facility addresses various community desires, but most importantly, it complements and revitalizes the existing school campus. The goal was to create a versatile, attractive yet affordable new venue for the performing arts, and to set the standard for future campus development by utilizing smart building technologies. To that end, concrete masonry was one of the primary design aesthetic of the building, and the outcome exceeded the goals of the school district and community.

Why Masonry? Concrete masonry can be a very flexible material when color and texture are used creatively, and it is both affordable and sustainable. Reduction in energy usage and savings in maintenance costs over the life of the building made it an appealing choice for the new District Performing Arts Center. The SVA design team used various types of concrete masonry units and projected block patterns to create a subtle, yet dynamic façade that contributed to the overall enhanced building performance and reduced construction costs.

Allan Hancock College Industrial Technology Program Complex

San Luis Obispo, California

Architect of Record:
Nacht & Lewis Architects
600 Q Street, Suite 100
Sacramento, CA 95811

Brian Maytum, AIA, LEED® AP
Principal-in-Charge

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William R. Tuculet, AIA
Craig L. Atkinson, AIA, LEED® AP
Design Principals

Structural Engineer:
Buehler & Buehler Structural Engineers
General Contractor:
Flintco
Masonry Contractor:
Conerstone Masonry, Inc.
Block Producer:
Air Vol Block, Inc.
Owner:
Allan Hancock College
©Photography:
Chip Allen, Chip Allen Photography

Architect's Commentary: The Industrial Technology (I.T.) program is one of the core educational opportunities at Allan Hancock College, and one of the cornerstones for the passage of Bond Measure "I". The project consists of an addition to the existing I.T. building for storage and an outdoor work area for the Pacific Conservatory Theater (PCPA) and two new I.T. buildings. One of the new buildings houses the Industrial Technology Department Administration and (3) C.A.D. Labs for engineering and architecture. The other houses the Auto Lab, Engine Lab, Transmission Lab, Machine Lab, Welding Labs, Autobody Lab, Enology Lab and (4) classrooms. All buildings are connected via paseos forming an I.T. complex for one of the busiest programs on campus. Outdoor covered work spaces for all labs are provided in new concrete masonry unit enclosed Industrial Technology Yards. This project consolidates the I.T. and Enology Programs that had been housed in several locations around the campus. It also creates a new welcoming entrance at the northwest corner of the campus thanks to the use of concrete masonry.

Why Masonry? Concrete masonry units (CMUs) were utilized for the construction of the PCPA Storage, Work Yard and Industrial Technology Building and a work yard enclosure for their durability, structural performance, fire resistive construction and aesthetic quality. Integral colored precision block was utilized in the I.T. Labs, and a combination of integral colored precision block and split face block was utilized at the exterior areas.

Concrete masonry units were utilized specifically to withstand the wear and tear of auto repair work and machine shop work in the I.T. labs and exterior work yards. However, the aesthetic quality was also a very important factor when choosing materials for construction. This facility is located at the northwest entrance to the campus. The work yard, filled with in-progress welding and auto repair projects, had to be screened, rugged, and used to help provide a welcoming entrance to the campus. Concrete masonry units fit the bill, and when combined with the plaster, metal and glass elements, create a facility for 21st Century Education.

Bonita High School Gymnasium

La Verne, California

Architect:
Dougherty + Dougherty
3194 D Airport Loop Drive
Costa Mesa, CA 92626

Brian Paul Dougherty, FAIA, LEED® AP
Principal-in-Charge

Structural Engineer:
Saiful/Bouquet Structural Engineers
General Contractor:
Chap, Inc.
Masonry Contractor:
New Dimension Masonry, Inc.
Block Producer:
ORCO Block Co., Inc.
Owner:
Bonita Unified School District
©Photography:
John Edward Linden, John Linden Photography

Architect's Commentary: This new high school gymnasium provides a full size CIF gymnasium competition play area, basketball practice courts, volleyball court, bleachers, team rooms, storage areas, restrooms and a pre-function lobby and concession. A butterfly canopy defines a new outdoor events plaza and campus entrance as a focal point serving adjacent student and staff parking lots. This outdoor gathering space creates a supportive location for receptions, outdoor assemblies, and physical education-oriented events. An illuminated tower signals the approach to campus, and has become a new way-finding landmark for the local community.

Why Masonry? The primary construction material selection demanded consensus, and led to the research and testing of appropriate materials for moisture penetration and graffiti resistance. Concrete masonry has been selected, providing for a durable yet beautiful new front door to the campus. A dense polished finish provides an impressive amount of added protection from moisture, and lends a fine texture to the exterior. A plaster wainscot provides a paintable graffiti-resistant surface, and protects the beauty of the masonry finish. Interior exposed concrete masonry walls are resistant to the predictable abuse that defines an active gymnasium program. A ring of padding provides safety during play. The exterior concrete masonry wall becomes a new secure perimeter to the campus, providing a change in material from adjacent metal fencing. This perimeter is complemented with tiered masonry enclosures, fences and gates to ensure campus safety and security while creating a beautiful and valued campus asset.

As a sustainable selection, concrete masonry supports the Green Design criteria that meets the goals of LEED® Silver and CHPS self-certification. It is a good insulator for a gym that has heat and ventilation but no air conditioning. Clerestories, solotubes and translucent panels wash the interior masonry walls with light. Sustainable best practices highlight the multifaceted considerations that define this new campus center.

Concrete Masonry Association of California and Nevada

CMACN Monthly

Why Masonry?
www.whymasonry.org

November 2014

Product Warning – Some "Sustainable" Building Materials May Not Be Safe

As the design and construction industries in California and Nevada embrace sustainable building codes and initiatives, there has been a corresponding rush to utilize new "sustainable" or "green" building products. CMACN is dedicated to sustainable building practices, including building products that incorporate recycled materials. However, sustainable building products, whether new or traditional, must meet ASTM requirements for material properties, and meet building code requirements for structural integrity and fire safety before they can be used in building construction.

Recently, the market has seen an infusion of "sustainable" building materials that claim to possess the same physical, structural, and aesthetic properties of traditional building materials. Most of these products contain some sort of recycled material bound together by resins, cement, or proprietary chemicals. Most of these products claim to meet the requirements of the ASTM Standard of the traditional material that the "new" material is proposed to replace. The product brochures, and webpages for these materials claim that the same design and construction techniques used with traditional materials apply directly to their new material. Designers, owners and building officials are cautioned to investigate these claims before using, or approving, these products.

As an example, recycled carpet is being bound with plastic resins to form a "brick." The manufacturer claims that the new sustainable product performs exactly as traditional brick; and further, that traditional mortar and building techniques are used to build with these new "bricks." Unfortunately, several vital physical characteristics have been ignored by the manufacturer. For structural integrity, a brick needs to absorb water from the mortar. This interaction has two effects: it creates the brick/mortar bond that is necessary for both water penetration resistance and structural performance; and, it decreases the mortar water/cement ratio prior to the plastic set of the mortar, hence increasing the mortar's final strength. A resin-based material does not absorb water from the mortar, thus the intended bond is not created, nor is the expected strength of the mortar attained. Just as important from a safety standpoint, fire ratings for traditional brick cannot be directly or automatically applied to a new resin-based material.

Similarly, compressed soil is being marketed as a "sustainable" replacement for concrete masonry materials. The promoters of compressed earth materials claim that their new "earthen block products meet the relevant ASTM C 90 requirements." The promoters seem to think that they can choose the characteristics outlined in C 90 that are "relevant." Compressed soil units are made from "a soil composite using pre-consumer quarry by-product," in other words, the soil overburden and washings from the mining and production of sand and aggregates.

The design and construction industry are being duped by promoters of compressed soil materials. ASTM C 90 is the *Standard Specification for Loadbearing Concrete Masonry Units*, not the *Standard Specification for Compressed Soil Products.* ASTM C 90 contains minimum requirements that help assure quality performance. As such, ASTM C 90 is very specific as to the materials that are permitted in concrete block, as well as the material properties of those ingredients: hydraulic cement (cementitious materials conforming to ASTM C 150, C 595, C 1157, C 618, or C 618), water, and aggregates (conforming to ASTM C 33 or C 331), with or without the inclusion of other materials. "Soil" is not specified in ASTM C 90 as an acceptable aggregate for loadbearing units (unless it meets ALL the requirements of ASTM C 33 or C 331).

Units conforming to ASTM C 90 must meet specific physical requirements. They must have a minimum compressive strength of 2,000 psi (average of three units), they must conform to linear shrinkage requirements, and they must meet maximum water absorption requirements. Promoters of compressed soil products generally tout their materials as meeting the compressive strength requirement of ASTM C 90. It is interesting to note that some species of wood will also meet this minimum compressive strength requirement, but we would not say that "wood meets the requirements of ASTM C 90." Compressed soil units do not meet the requirements of ASTM C 90, and therefore cannot be casually substituted for traditional concrete masonry material.

Continued on Next Page

Product Warning – Some "Sustainable" Building Materials May Not Be Safe, Continued

Two of the more troubling facets of compressed soil units are the claims that existing concrete masonry code requirements, design equations, and construction techniques can be directly applied to compressed soil; and the inference that compressed soil units will have the same fire resistance as concrete masonry.

For decades, research and testing methods have been developed and performed to document the physical properties of concrete masonry construction. Test protocols for concrete masonry follow the appropriate ASTM testing standards. Reinforced concrete masonry is designed to behave as a composite matrix of concrete masonry units, grout and steel reinforcement. The interaction of concrete masonry units, mortar, grout, and reinforcing steel have been studied, and equations developed to safely design and construct loadbearing concrete masonry structures to resist seismic and wind loads. Compressed soil units have not been subjected to this rigorous evaluation. It is unknown whether the existing equations used to design concrete masonry structures even apply to these materials. The interaction of a compressed soil unit with traditional grout, mortar, and reinforcing steel is unknown. The seismic and wind load failure modes are unknown. These unknowns are very dangerous, particularly in seismically active California and Nevada. We are unaware of any full scale walls having been constructed and loaded to failure to determine if these soil based products perform as traditional concrete masonry units; we are unaware of any assemblages that have been constructed and then dissected to determine the interaction of the compressed soil, grout, mortar, and reinforcing steel; and, no new ASTM Standards have been developed for compressed soil materials.

ASTM Committee C-15 Position on Usage of C-15 Standards: "C-15 does not endorse usage of its standards for masonry units to validate new products made from materials that are not within the materials and manufacture limits defined for each standard. Even though these new units may meet the physical property limits of these existing standards, C-15 does not recognize claims that units made from materials or through processes outside the current scope of these standards will perform in a satisfactory manner. Only testing and performance correlations of the physical properties of the new masonry units made from a new material can provide true indicators of performance and durability for a masonry unit of that material."

ASTM Committee C-15's Recommendation for Non-Traditional Masonry Materials Seeking Validation: "In an attempt to identify material compositions and appropriate physical property requirements for these new products, C-15 has in-place a task group to identify appropriate indicators of performance for masonry units made of non-traditional materials. This was established in response to requests of a material manufacturer of masonry units made primarily of recycled carpet. ASTM Committee C-15 welcomes manufacturers of masonry units composed of non-traditional materials to join its efforts in providing appropriate physical property requirements and performance indicators of their products. This way, consumers are better able to compare materials and assess those products best suited for the life and serviceability of their projects."

In addition to its superior structural performance, concrete masonry construction also provides excellent fire protection. The fire resistance ratings of concrete masonry walls are commonly determined by a standard, code-approved, calculation method. This calculated fire resistance method is based on extensive research and testing of concrete masonry walls. Fire testing of wall assemblies is conducted in accordance with the *Standard Test Methods for Fire Tests of Building Construction and Materials*, ASTM E 119, which measures four performance criteria: resistance to the transmission of heat through the wall assembly; resistance to the passage of hot gases through the wall sufficient to ignite cotton waste; load-carrying capacity of loadbearing walls; and resistance to the impact, erosion and cooling effects of a hose stream on the assembly after exposure to the standard fire. Using the calculation method, the aggregates used to manufacture the concrete masonry unit are used to determine the fire rating for a wall assemblage. Soil is not included in the types of aggregate used to calculate concrete masonry fire ratings. The promoters of compressed soil products need to perform tests equivalent to ASTM E 119 to determine the fire resistance capacity of their material before it is incorporated into a fire resisting structure.

Designers, owners and building officials need to be very vigilant in determining the physical characteristics of "sustainable" building materials promoted as replacements for traditional building materials. Test reports and the results of legitimate studies should be obtained and reviewed prior to accepting any building material used in a loadbearing structure.

Traditional concrete masonry products can contribute to LEED®, and other green rating systems, as can newly introduced "sustainable" products. However, the physical characteristics of traditional concrete masonry products are well known, and design provisions well tested. Some "sustainable" building materials may not be safe.

This article was written by Kurtis K. Siggard, Executive Director of the Concrete Masonry Association of California and Nevada (CMACN). With permission from CMACN, this article may be reproduced in its entirety. Contact CMACN at: info@cmacn.org or at 6060 Sunrise Vista Drive, Suite 1990, Citrus Heights CA 95610. Phone number, 916-722-1700.

Creative, Performing and Media Arts Middle School Performing Arts Center

San Diego, California

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Platt/Whitelaw Architects, Inc.
4034 30th Street
San Diego, California 92104

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Principal-in-Charge

Rebecca Grijalva
Project Manager

Thomas Brothers
Project Coordinator

Structural Engineer:
Stedman & Dyson Structural Engineers
General Contractor:
Triton Structural
Masonry Contractor:
J.B. Masonry, Inc.
Block Producer:
RCP Block & Brick, Inc.
Owner:
San Diego Unified School District
©Photography:
Ralph LoVuolo Photography, LLC
Melissa Fraser, Photo 2

Architect's Commentary: The Performing Arts Center was designed to provide performance space for the Creative, Performing Media Arts (CPMA) Middle School, which is a program with extensive focus on performances such as dance, symphonic productions, jazz band, theatrical productions, and the use of projected multimedia. The focus of the Center is the 3,000 square-foot stage and house with seating for 432. Support spaces include a green room and changing rooms for the use of students during performances, as well as a dedicated theater arts classroom intended to facilitate student-driven design and assembly of stage sets. Other spaces include two dedicated music classrooms and associated practice room, instrument storage room, and teachers' offices.

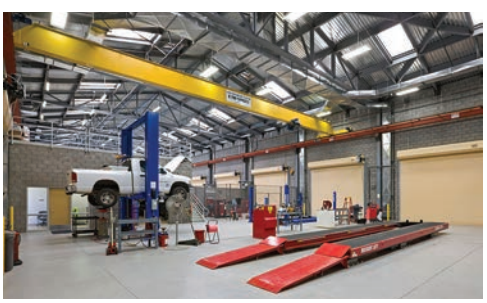
Sustainable design features of the project started at site design with use of landscaping to filter and retain stormwater through the use of a bioswale. Inside the building, multiple spaces including the auditorium use displacement ventilation to reduce the energy use of heating and cooling, lighting selection incorporates high-efficiency fixtures, and finish selections incorporate recycled materials and choices intended to promote healthy interior air quality. Extensive attention was paid to the acoustic qualities of interior spaces, including noise transmission between spaces, background noise levels, and reverberation times – all to promote high performance learning environments, and to support the performing arts program.

Why Masonry? Concrete masonry was selected as the material of choice early on due to the proximity of nearby air traffic. Aircraft noise would severely disrupt the performing arts program of the facility, so concrete masonry construction was selected as the best method of sheltering the interior acoustic environment from exterior noise. Concrete masonry is also a very durable material, which is important for school construction where longevity is required. Furthermore, the use of exposed concrete masonry allowed for the reduction of additional finish materials in many locations, reducing the cost and embodied energy of the project.

Architect's Commentary: Western Municipal Water District's new, LEED® Certified Gold, Operations Center sits on 7.6 acres and is part of a larger master plan that also includes an adjacent fire station. The Ruhnau Ruhnau Clarke team focused on providing a design that created little or no impact on the surrounding habitat and provided operational efficiency and effectiveness in a setting that reflected the environmentally conscious values of the organization.

The Western Municipal Water District Operations Center needed to serve several functional purposes for a variety of user groups. A flexible training center with configurable partitions accommodates large group training for staff and technicians and is divisible into smaller group/conference rooms for operations and management staff; a secure SCADA Room houses the highly technical water monitoring and control systems that are central to the Water District's Operations; and the on-site vehicle maintenance bays allows the Water District to quickly perform routine maintenance or repairs, minimizing delays for technicians in the field. Employee wellness was also a high priority as this was greatly lacking in the previous environment. To that end, a shower and locker facility, kitchen and lounge, and fitness center have all been incorporated.

Why Masonry? The selection of materials and building systems were directly informed by the existing context of the site, an understanding of Western Municipal Water District's commitment to the environment, and a reflection of the District's primary function to provide water to the region. Interiors utilized highly recycled content, and low VOC materials. On the exterior, split face and bead blasted concrete masonry units were used to fit the context of the existing buildings and local rocky hillsides, and served as both a durable and attractive building material. The concrete masonry work serves as a contrast and compliment to the heavy use of glass throughout the building.



Western Municipal Water District Operations Center

Riverside, California

Architect:
Ruhnau Ruhnau Clarke Architects
3775 Tenth Street
Riverside, CA 92501

Roger Clarke, AIA, NCARB
Principal-in-Charge

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Masonry Contractor:
Kretschmar & Smith
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Owner:
Western Municipal Water District
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Dollar General
Dos Palos, California

Architect of Record:
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8525 N. Cedar, Suite 106
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Robert Vermeltfoort, RA
Principal-in-Charge

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Masonry Contractor:
Ahrenholtz Masonry
Block Producer:
Basalite Concrete Products, LLC
Owner:
Dollar General Corporation
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Robert Vermeltfoort, RA

Architect's Commentary: The project requirements for this small community store was to build a structure that complimented the existing neighborhood, used efficient and cost effective materials and construction, and would be durable enough to withstand the abuse of shopping carts and everyday abuse a market is given. The 20,695 square-foot market building for Dollar General Corporation in Dos Palos, California is a very good example of effective selection of materials and sustainability.

Why Masonry? Concrete masonry units (CMUs) were selected as the exterior load bearing wall material due to its durability, cost efficiency and thermal values, as well as aesthetically pleasing appearance. Concrete masonry is easy to maintain. Graffiti and grime can easily be removed and the building is not easily damaged by shopping carts. Additionally, the CMU production plant was in close proximity to the construction site, reducing cost and emissions for shipping material.

Concrete masonry units are proven to be very effective at keeping the heat out of the conditioned space in an arid region such as the central valley, and work well as a finish material in a seismically active area. Concrete masonry also provides a very pleasurable appearance when integral color units and different face textures are applied as they are on this building.

Project Architect, Robert Vermeltfoort, VAI states that all of these reasons make it very apparent that concrete masonry units are the best material to be used on this type of structure. It gives the best flexibility of design, ease of detailing and constructability of all the materials available for this type of structure and its green building properties are hard to beat.

Palo Alto Mosque

Palo Alto, California

Architects:
Carrasco/Barton a Joint Venture

Carrasco & Associates
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Principal Architect

Abha Nehru, AIA
Project Architect

Architect:
Barton Architect
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John Barton, FAIA
Principal Architect

Structural Engineer:
Rinne & Peterson Structural Engineers
General Contractor:
Lerch Construction Company
Masonry Contractor:
Pacific Bay Masonry, Inc.
Block Producer:
Calstone Company, Inc.
Owner:
Palo Alto Mosque
©Photography:
Cathy Lerch, Lerch Construction Company

Architect's Commentary: Palo Alto Mosque, is the first newly constructed mosque on the Peninsula. The existing structure on the site was a former church, that was being used as a temporary mosque, and as such lacking the necessary elements to be recognized as an official mosque within the community. The Mosque will become a religious and cultural destination for Dawoodi Bhora Muslims living in the surrounding areas and an addition to the multi-cultural fabric of Palo Alto.

The Mosque consists of two major parts, the two-level masjid (prayer hall) and a single level community center that provides informal congregation space and office space for volunteer staff. In accordance with the Islamic tradition, the masjid is oriented in the direction of Mecca. The 'mihrab' (the Imam's prayer space) emphasizes this geographical and spiritual connection and allows the congregation within to identify the correct direction of prayer.

The 'minaret' (the segmented tower rising above the Mosque) joins the two functionally separate parts with the circulation core below it. Even though the upper portion of the minaret is not accessible, the minaret has an important historic and religious symbolic value that within the Islamic context defines the structure as a "mosque." The minaret serves as a visible beacon for the community.

In our design, we aimed to both preserve the integrity of Islamic architecture, particularly the 'Fatimid Style' followed by the Bhora community, and integrate it with the contemporary setting of twenty-first century Palo Alto. The Prayer Hall building,(The Masjid) built with 12" thick concrete masonry units (CMUs) is clad in stone, whereas the social hall and exit stair block flanking the masjid on the sides are exposed concrete masonry units. The color palette follows the traditional soft pastel hue of Fatimid Style of architecture. Horizontal accent bands continue from the prayer hall to the social hall in order to create visual continuity between the two structures. The Mosque's clearly articulated proportions along with the modern interpretation of traditional screens attempt to fuse Islamic traditions with a modern setting and construction methods.

Following responsible urban planning practices and Islamic architectural tradition of open plazas, the areas surrounding the mosque integrate lush landscaping and paved courtyard areas that soften the appearance of the parking lot and add green and pedestrian-friendly public space.

The inclusion of the Mosque into the greater Peninsula community will not only increase the urban and cultural value of our public spaces, but also more accurately reflect the multi-cultural nature of current times.

Why Masonry? The program guidelines provided to the design team included a requirement for longevity of the mosque structure. The other critical guideline was to ensure that the building stay cool and allow for air-movement. Selection of 12" thick concrete masonry units for the main prayer hall building became a natural choice, the stone cladding allowed the structure to reflect the traditional color palette on the exterior face and furred construction allowed for additional thermal insulation.

During the construction document phase of the project, the design team considered building the social hall building with metal framing and stucco exterior. But on analysis of the aesthetics & the long term benefits that exposed CMU provided, it was decided use exposed CMU for the social hall portion of the project as well. Color selections of the 8" thick exposed concrete masonry units balanced and complimented the main prayer hall building colors, with the base of the building being exposed concrete and the main prayer hall building being clad with Jerusalem Gold stone tile. The stair block on the North end of the prayer hall building is built in exposed CMU as well with a random pattern of glass blocks arranged to introduce light into the stairwell. The social hall building and the stair block in exposed CMU cradle and provide a backdrop for the main prayer hall building. The CMU producer assisted the design team to get the concrete mix for the exposed CMU to match the color palette created for the project. The split face CMU accent block running horizontally on the social hall building provided visually continuity and color that balanced with the Jerusalem gold tile cladding.

The building was also required to meet LEED® silver/ equivalent rating and the concrete masonry unit construction provided the adequate thermal mass.

Concrete Masonry Association of California and Nevada

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2015

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Last day to request entry materials:
March 13, 2015

Last day to ship completed materials:
April 13, 2015

Jury Deliberations:
June 5, 2015

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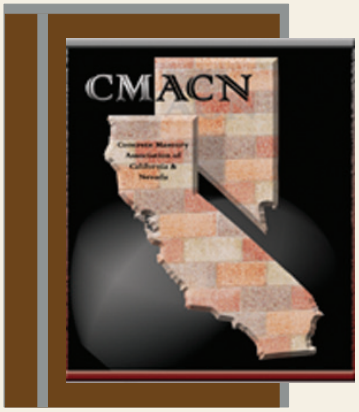
Friday, September 18, 2015
Newport Beach, California



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Bakersfield, CA 93307

ORCO Block Co., Inc.
(800) 473-6726
Stanton, CA 90680
Indio, CA 92203
Oceanside, CA 92056
Riverside, CA 92509
Romoland, CA 92585

RCP Block & Brick, Inc.
(619) 460-7250
Lemon Grove, CA 91946
San Diego, CA 92154
Santee, CA 92071

Superlite
an Oldcastle Company
(702)633-5787
North Las Vegas, NV 89030

Concrete Masonry Association of California and Nevada (CMACN) *a nonprofit professional trade association established in 1977, is committed to strengthening the masonry industry in California and Nevada by:*

- 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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