Why Masonry?
www.whymasonry.org

Concrete masonry Units are an excellent surface on which to bond stucco, stone, tile or other finish materials.

Concrete Masonry Association of California and Nevada

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Architect's Commentary: The local police departments had been going to Southern and Northern California for their yearly training — well forever. They are required by law to go through several different types of training each year: driving courses, skid pad training, several different types of pistol and rifle courses, hand to hand combat, etc. After seeing their costs for these training requirements increase substantially, the Fresno Police Department decided to do something about it. They decided to build their own facility.

Most of the Southern and Northern California facilities had some of the different training facilities, but Fresno wanted to have them all.

The City of Fresno Regional Police Training Facility consists of 96 total acres, of which about 75% are developed. The other 25% is set aside for future development. The project has a driver awareness pad for low speed agility training, an EVOC course, a skid pad, a simulations building, a sniper tower and seven outdoor shooting ranges. The heart of the project, though, is a 21,000 square-foot Range House. The Range House provides classrooms, offices, training rooms, an armory, gun repair warehouse and a break room. The facility is designed so that several different local police entities can share the facility. The local police cadets also use this facility for their education and training purposes.

Why Masonry? The Range House required a look of strength and stability. In addition, as with all education facilities, it needed to be durable and easily maintained. Concrete masonry units fit the bill on all these levels. By utilizing several colors and textures of concrete masonry, and juxtaposing this material with stucco walls and metal roofs, it provides a simple, powerful, yet dynamic feel. The less apparent, but equally important quality concrete masonry block provides, is its great lateral restraint and acoustic isolation. Its heavy mass also works well in the hot arid climate of the Central Valley. This project was required to meet Fresno Green compliance standards and again the concrete masonry product worked perfectly. Not only does concrete masonry use recycled content, but it was produced just 30 miles from the site.
VALLEY CHRISTIAN HIGH SCHOOL STUDENT SERVICES BUILDING
CERRITOS, CALIFORNIA

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Wendy Rogers, AIA
Principal-in-Charge

STRUCTURAL ENGINEER:
KPFF Consulting Engineers

GENERAL CONTRACTOR:
Patterson Construction Group, Inc.

MASONRY CONTRACTOR:
Robert Stinchfield, Inc.

BLOCK PRODUCER:
ORCO Block Company, Inc.

OWNER:
Valley Christian Schools

Architect’s Commentary: Built originally in 1953, the Valley Christian High School campus is located between an active auto mall strip and a quiet agricultural zone. As part of a phased campus Master Plan for the High School and adjacent Middle School, the new 26,300 square-foot Student Services Building creates a new identity as the front door to the campus.

The project is organized into two separate buildings, creating a new entry spine and gateway for the campus. The Administration has been relocated to the Student Services Wing giving the public entry a new identity. Also included are Attendance, Career Center and Counseling Services, which are more appropriately located adjacent to student entry. The Math and Science Wing is located adjacent to existing science labs, which facilitates shared resources for the science curriculum. Also part of the reorganization of the campus is the relocation of the Academic Support Program, which was previously in a severely undersized space.

In addition to creating a new entry to the campus, the building acts as a secure edge with the existing buildings, forming a new “Urban Court” where students can hold pep rallies and campus-wide events. The “Walk of Faith” is a circulation spine, which links the new courtyard with the existing quad, and is an organizational element that contains inspirational words of wisdom and faith.

Why Masonry? Exposed burnished concrete masonry units, the primary building material, are used at all entry areas where walls are exposed to high traffic. These walls are articulated with 4” high split face banding and lintels. For all other walls precision concrete masonry is finished in plaster to tie into the aesthetic of the existing campus.

The two wings are held together both physically and symbolically by the main entry wall and tower, which are clad in Jerusalem Stone. The wall not only provides the main gateway for student entry into the campus, but also provides a symbol for the religious birthplace from which the school was founded. The entry tower serves as the primary public entrance and is a beacon for the campus, which can be seen from both the Middle School and adjacent freeways.
Architect's Commentary:

Tropico Middle School Gymnasium was built through Measure H Bond funds specifically for joint school and community use facilities. The Gymnasium is a 17,500 square-foot addition to a 34,000 square-foot campus housing over 760 students grades 6 through grade 8. The Gymnasium facility consists of an 8,500 square-foot main gymnasium, 4,800 square-foot locker/shower rooms, restrooms, coach’s offices, play equipment storage, laundry facilities, a 4,200 square-foot music classroom, an accessory music storage room and physical education classroom spaces.

This gymnasium provides an essential facility for indoor recreation and physical education and shelters the students from the extreme temperatures and challenging climate typical of this westernmost region of the Mojave Desert. The development of this facility will limit the negative impact of the often harsh climate endured by students during outdoor physical education for many months of the school year.

Why Masonry?

Concrete masonry wall construction was the natural choice for its ability, through thermal mass, to offset the drastic temperature ranges that exist in the Mojave Desert. The high density of the CMU walls allows for the walls to absorb great amounts of thermal energy (solar radiation entering the building as heat load) with a relatively small change in temperature. This results in the ability of the building to maintain the climate of the interior spaces within the acceptable ranges for a greater period of time without the necessity of cooling or heating mechanically. The natural durability of CMU is also a desirable aspect for use in a gymnasium building as it lends itself to the ease of maintenance for this type of facility. The aesthetic quality of the concrete masonry was paramount to providing the proper contextual response to the surrounding desert landscape and the dynamic reddish colors of the nearby hillsides.
MCKENNEY INTERMEDIATE SCHOOL GYMNASIUM ADDITION
MARYSVILLE, CALIFORNIA

ARCHITECT:
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Jeffrey A. Grau, AIA
Principal

Tim DeWitt
Principal

Anthony Fejarang-Herrera
Project Architect

STRUCTURAL ENGINEER:
ZFA Structural Engineers

CONSTRUCTION MANAGER:
BRCO Constructors

MASONRY CONTRACTOR:
PTS Masonry

BLOCK PRODUCER:
Calstone Company

OWNER:
Marysville Joint Unified School District

Architect’s Commentary: In 2008, Marysville Joint Unified School District had initiated a series of projects across their district where no significant work had been completed in over 40 years. This gymnasium was their opportunity to address a decades long need and project a sense of newness with permanence - that it was being built to last for the next 40 years.

The building entry is a curved and smaller form clad with prefinished metal wall panels to both compliment and contrast CMU walls. The intersection of this form with the larger scale concrete masonry structure is highlighted “literally” at night with a 36-foot high glass curtain wall emitting a beacon-like appearance as a larger scale gesture to the neighborhood.

Why Masonry? Concrete masonry was used among other sustainable materials and strategies helping this project achieve California’s High Performance Incentive Grant (HPI). CMU is both structure and finish. Its qualities are both aesthetic and durable and make the gym modern, traditional and timeless.

Purposeful variation in block color and style present a modern, but not exotic building. Split face concrete masonry units were used adjacent to ground face units to amplify a textural contrast. Combined with darker black colored CMUs as accents, the split and ground face concrete masonry units are configured to bring a sense of scale to the building.

Twelve-inch wide concrete masonry units were structurally selected to achieve a 38-foot overall wall height, and reinforced pilasters are used intermittently at large glazed openings including a nearly full-length clerestory. The pilasters at the clerestory engage only 2/3 the depth of the wall permitting the curtain wall system to run past the block pilasters seamlessly. The result is an uninterrupted window from the outside and visible pilasters on the interior, which serve to resolve the scale typical of tall gymnasium walls.
HOUSE IN 2 PARTS
LAS VEGAS, NEVADA

ARCHITECT:
assemblageSTUDIO
817 South Main Street, Suite 200
Las Vegas, NV 89101

Eric Strain, AIA
Principal

Design Team:
Drew Gregory
CJ Hoogland
David Nedrow
Rachel Tarr
Tony Diaz

STRUCTURAL ENGINEER:
Mendenhall Smith Structural Engineers

GENERAL CONTRACTOR:
Steven M. Green Custom Homes, LLC

MASONRY CONTRACTOR:
Buckroff Masonry

BLOCK PRODUCER:
Tri Delta (a Division of Superlite Block a subsidiary of Oldcastle APG West)

OWNERS:
Danny and Lauren Eisenberg

Architect’s Commentary: The 6,000 square-foot residence lies at the foothills of the Redrock Mountains within a master planned community in southwest Las Vegas. The design departs from the traditional U-shaped desert courtyard home by dividing the home into two components linked through a common elevated breezeway. Each component works as an individual home and/or in conjunction with each other for extended family living. The design incorporates the existing contours of the building lot, stepping along the contours to form an upper public level and lower private level. Using the idea of stratification present in the adjacent Redrock Mountains, the materials’ emphasis are horizontally within the massing, which relates to the stepping of the form over the contours. This form reinforces the distant views to the Las Vegas Strip. The view is initially screened from view as you enter the residence, shielded by the entry bridge. Once across the bridge you encounter the elevated breezeway, which serves as the exterior living room for the component homes. Here the view to the strip is exposed, acting as the “front door” for the two component houses. The split of the home into two parts, occurs to create a main house – living, master suite and guest room, and a guest house – living, theatre and guest bedrooms.

Why Masonry? The design reinforces living in the desert through an incorporation of indoor and outdoor living environments. Daylight is celebrated. Each space receives protected lighting through low e windows with maximum viewing potential away from late afternoon heat gain. The envelope materials, which include Trendstone and Mesastone concrete masonry units (CMUs), and 8-inch Integra CMUs used in a composite post-tension reinforced design, have been selected from this area to create a connection to the native mountain base. A feeling of permanence is achieved. Additional materials, such as the weathered copper panel cladding, are selected to create an aesthetic, high performance envelope with R49 insulation. Solar panels provide the heat for the domestic water and pool water. Individual high SEER mechanical equipment is supplemented with cross ventilation and room fans. Massing of the design created convection breeze patterns across the pool and into the two separate volumes.
ARCHITECT:
SH Architecture
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Las Vegas, NV 89128
Eric M. Roberts, AIA, LEED® AP
Principal
Curt J. Carlson, AIA, LEED® AP
Design Architect

STRUCTURAL ENGINEER:
Mendenhall Smith, Inc.

GENERAL CONTRACTOR:
Rafael Construction, Inc.

MASONRY CONTRACTOR:
Ramco Masonry, Inc.

BLOCK PRODUCER:
CEMEX

OWNER:
City of Henderson

Architect's Commentary:

HERITAGE PARK AQUATIC COMPLEX
HENDERSON, NEVADA

Architect's Commentary: The Henderson Heritage Aquatic Complex is the cornerstone of the new regional park in Henderson Nevada. This masonry structure is part of the multi-generational recreation hub for the park. Designed by SH Architecture of Las Vegas and built by Rafael Construction, this LEED® Gold Certified facility offers a long term solution to the City’s recreation mission.

The Aquatic Complex is also a good neighbor. The HVAC system was designed to take the waste heat from the neighboring Senior Center and use it to heat the pool water. This reduces the cooling costs of the neighboring building AND reduces the heating costs of the Aquatic Complex. This approach is indicative of the forward thinking approach used by the City of Henderson towards energy efficiency. The heating and cooling efficiency of the project is further enhanced by the use of a ground source heat pump system that utilizes 187 wells drilled 400 feet into the ground beneath the parking lot. These wells use a water to water heat exchanger system to migrate heat out of the building and into the ground (summer season) or move heat out of the ground and into the building (winter season) The lifetime operational cost of this system is a fraction of the cost to do the same thing strictly by mechanical means.

The Aquatic Complex also utilizes daylighting throughout the space, low VOC materials and paints, local and recycled material and uses 40% less energy than a code designed natatorium. The natatorium is certain to be a building that stands the test of time and is appreciated by generations to come.

Why Masonry? Masonry was selected as the main structural material for its durability and ability to meet the high material standards required in a natatorium environment. On the exterior of the building the masonry is finished with EIFS, Cultured Stone and Ceramic Tile. The interior spaces utilize the durability of the concrete masonry units to provide a finish surface that is attractive and able to take the abuse of a public recreation facility.

©Photography: Terry Mahana, Mphoto 7
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GENERAL CONTRACTOR:
BRCO Constructors

MASONRY CONTRACTOR:
Townsend & Schmidt Masonry

BLOCK PRODUCER:
Basalite Concrete Products, LLC

OWNER:
Marysville Joint Unified School District

ARCHITECT’S COMMENTARY:  This gymnasium is one of two buildings comprising the first phase in a masterplanned building addition and modernization to a 40+ year old campus. Both buildings are purposefully situated to be highly visible from the adjacent highway and thereby become prominent faces for the new and improving campus.

The curved smaller building entry form is clad with prefinished metal wall panels to both compliment and contrast the CMU walls. The intersection of this form with the larger scale block structure is highlighted “literally” at night with a 36-foot high glass curtain wall emitting a beacon-like appearance not only for the building’s entry, but the campus’ identity.

Why Masonry? Concrete masonry was an easy selection as the gym’s main building material and is repeated here in this re-use of the gymnasium within the school district. Selected primarily because it is simple and authentic: it is both the finish and structure. Its aesthetics, durability and tactile qualities are leveraged for both the exterior and interior.

Variation in block color and style targets a modern, but not exotic building. Split face units are used adjacent to ground faced units to amplify a textural contrast. Combined with darker black colored units as accents, the split and ground face blocks are configured to break up the scale of the gym building walls.

Twelve-inch wide concrete masonry units are up to the challenge of achieving a 38-foot overall wall height and reinforced pilasters are used intermittently at large glazed openings including a nearly full-length clerestory. The pilasters at the clerestory engage only 2/3 the depth of the wall permitting the curtain wall system to run past the block pilasters seamlessly. The result is an uninterrupted window from the outside and visible pilasters on the interior, which serve to resolve the scale of an otherwise tall and impenetrable masonry wall.
The 8,004 square-foot Engelstad Boys and Girls Club has a game room, kitchen, and dining area on level one and an upstairs quiet zone, which includes a study area, resource center/library, and a multipurpose room. Other spaces are a teen center, art classroom, recording studio for club members’ projects, and two administrative offices.

SH Architecture of Las Vegas, Nevada, designed the Engelstad Club as a prototype for the Boys and Girls Clubs of Las Vegas's urban locations. Because most of the Club sites are infill lots in existing neighborhoods, and because the children that attend the Clubs walk to the buildings from their homes, it was clear right away that the prototypes were good candidates for LEED®. The Engelstad Club is LEED® registered and anticipates a LEED® Gold rating.

Some particular challenges were the recycling of materials from the demolition of an existing building on the site, and managing construction on the tight site. The building footprint is just over 4,000 square feet, and the 14,000 square-foot site also accommodates parking, an equipment yard, and an outdoor play yard. The small site was another factor that made concrete masonry a good choice for this infill site in an established neighborhood.

Why Masonry? The Engelstad Boys and Girls Club is designed to accomplish energy savings and an exceptional interior environment through uncomplicated, thoughtful design. The design team chose materials for reliable operation and ease of maintenance, which is performed by a changing staff over many years. That is why concrete masonry was part of our palette for the Club; it is durable, easily maintained, and local availability and low cost suited the LEED® goals and our budget. Split face concrete masonry units make up most of the exterior wall finish. Rigid insulation and gypsum board interior finish comprise the rest of the building envelope wall construction. Glazed block helps to incorporate the exterior accent colors in the building façade.

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GENERAL CONTRACTOR:
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MASONRY CONTRACTOR:
David Masonry, Inc.
BLOCK PRODUCER:
Cind-R-Lite Block Company, Inc.

OWNER:
Boys and Girls Clubs of Las Vegas

Architect’s Commentary: The 8,004 square-foot Engelstad Boys and Girls Club has a game room, kitchen, and dining area on level one and an upstairs quiet zone, which includes a study area, resource center/library, and a multipurpose room. Other spaces are a teen center, art classroom, recording studio for club members’ projects, and two administrative offices.

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Completed in February 2009, the new Sierra Vista High School Music Building sits majestically on its hill, an upside-down, acoustically superior structure in which the roof holds up the hyperboloid walls.

**Why Masonry?** Each material selected had to support the project’s acoustical program. Because mass is the most effective way to isolate sound, fully grouted concrete masonry units were chosen for their mass properties, but also their cost-effectiveness; they provided structure as well as finish. In addition, they are low maintenance and could withstand the facility’s intensive use.

Outward corbelled walls support the structural steel that spans the length of the building. The corbelling aids the acoustic values by reducing flutter echo and standing waves. To counteract the overturning forces of the outward corbelled walls, the roof diaphragm was made of concrete that stitches the structure together.

The corbelling also provides a subtle expression of depth through a phenomenological play of light and shadow. Glass block inserted into the corner helps express the interaction between the perpendicular side of the corner and the outward leaning corbelled side. The glass also provides a light connection from the interior to the environment outside. Its use in the interior expansion provides an uplifting feeling when the sun shines in.

**Architect’s Commentary:** The Sierra Vista High School Music Building is designed to optimize internal acoustics, minimize sound transmission, and increase classroom space - all within a restrictive public school budget.

The project necessitated an intensive study of acoustics. Solutions involved factoring cubic volume and room shape (especially the acoustical virtues of splayed, non-parallel walls), providing sound isolation between rooms, adding acoustical treatments and ribbon diffusers to each classroom, and employing properly designed mechanical systems.
Architect: Colbourn-Currier-Noll Architecture, Inc.
9939 Hibert Street, Suite 107
San Diego, CA 92131
Peter S. Noll
Principal

Structural Engineer: Schmit Engineering, Inc.
General Contractor: J. Reese Construction, Inc.
Masonry Contractor: Modern Masonry
Block Producer: RCP Block & Brick, Inc.
Owner: Richard Witherow

Architect’s Commentary: Moving from a facility they occupied from 1935 to 2010, the owner’s of the J. P. Witherow Roofing Company needed a new, economical, flexible, sustainable, yet aesthetic facility to house their family owned business. The challenge was to design a 20,000 square-foot facility on a two-acre site on a busy street corner to meet their needs, requirements of the Lakeside Community Group, San Diego County Department of Public Works, San Diego County Department of Planning and Land Use, Lakeside Fire Department and the California Department of Transportation. Space on site was required for storage of all their equipment, warehousing for all roofing materials, a truck repair area, storage for 75 years of client files, and office space for administrative services.

Circulation was key, as the roofing trucks and equipment needed to move efficiently through the site. All storm water was required to be retained on site creating a delicate balance between maximizing the size of the building envelope, providing required parking, landscaping, and maximizing the size of the storm water retention basins.

Concrete masonry, glass, stucco, stone and metal panels were selected for the building. A mixture of split face, scored and precision block was specified. The concrete masonry warehouse space created a beautiful contrast to the symmetrical juxtaposition of the administrative portion of the structure. A concrete masonry wall was provided along two property lines to secure the owner’s trucks and roofing equipment.

Why Masonry? Initially concrete masonry was selected for it’s appearance. The selection of concrete masonry textures and colors is varied and allowed for unlimited design possibilities. Other considerations were the fire resistive qualities, durability, low maintenance and cost effectiveness. The fact that it’s locally produced and has recycled content was a plus as well!
2011
CMACN/AIACC Concrete Masonry Design Awards

Mark your calendar for our “Call-For-Entries” brochure to be mailed in February 2011. Requests for submittal binders can also be obtained in February, 2011, by calling the CMACN office at (916) 722-1700, from our website at www.cmacn.org, or by e-mail at info@cmacn.org.

Schedule:
Last date to request submittal binders: March 31, 2011
Last date for postmark of completed submittal binders: April 30, 2011
2011 Concrete Masonry Design Awards Banquet: Friday, September 23, 2011, The Island Hotel, Newport Beach, CA

Cost: $150 per binder

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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.
• Protect and advance the interests of the concrete masonry industry.
• Develop new and existing markets for concrete masonry products.
• Coordinate members’ efforts in solving common challenges within the masonry industry.

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