Profiles in Architecture

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Why Masonry?
www.whymasonry.org

Concrete Masonry Association of California and Nevada

October 2020

San Juan
Telemachus Studio
Tom Bonner Photography
Temple City High School Classroom Building
Temple City, California

**Architect:**
LPA, Inc.
5301 California Avenue, Suite 100
Irvine, CA 92617

David Eaves, AIA, LEED AP BD+C
Principal-in-Charge

**Structural Engineer:**
LPA, Inc.

**General Contractor:**
Angeles Contractor, Inc.

**Masonry Contractor:**
Winegardner Masonry, Inc.

**Block Producer:**
ORCO Block & Hardscape

**Owner:**
Temple City Unified School District

**Photography:**
Ryan Hills Photography

**Architect’s Commentary:**

The two-story, three wing Temple City High School Classroom Building provides an existing campus with 32 new teaching stations. Its community edge brings new school identity and pride to a prominent intersection, while its campus edge creates outdoor learning courtyards to enrich educational opportunity. The project benefits from ideal solar orientation to take advantage of natural daylight. Displacement ventilation helps move heating and cooling at a lower velocity fostering quieter, more thermally comfortable learning spaces and promotes better air quality. Rain water is collected in landscaped areas in each outdoor learning court.

**Why Masonry?**
Located on an established campus with strong brick vocabulary, but faced with a tight budget, a controversial decision was made early in the design process that this new project would deviate from brick in favor of concrete masonry unit (CMU) construction. The goals set during Schematic Design were to form a strong relationship with the existing campus; to articulate long, two-story elevations to break down their scale; and to use CMU to its fullest design potential to limit the cost of multiple materials and trades on the project along with providing a thermal mass lag to control building temperatures.

Campus-facing elevations on each of the three finger buildings are composed of red CMU in a traditional brick module that serves as both structure and finish, helping the project blend seamlessly into its surrounding context. Street-facings elevations are articulated with strategic changes in CMU color, size, bond and texture, breathing new life into the community and identifying Temple City High School as a new beacon for 21st century learning.
**Architect**: Lionakis  
1919 Nineteenth Street  
Sacramento, CA 95811  

Maynard Feist  
Principal-in-Charge

**Structural Engineer**: Lionakis  

**General Contractor**: Roebbelen Contracting, Inc.  

**Masonry Contractor**: Stoney Masonry, Inc.  

**Block Producer**: Basalite Concrete Products, LLC  

**Owner**: Stanislaus County  

©Photography: Todd Quam, Digital Sky  

**Architect’s Commentary**: With a renewed emphasis on reducing recidivism through rehabilitation, Stanislaus County saw an opportunity to develop a Public Safety Center to support the continuum of inmate care, from intake to release. Serving as a model for rehabilitation, the final piece of the Justice Campus included the design and construction of two new buildings interconnected by an outdoor court: a 43,600-square-foot housing component with 288 replacement transitional beds and program-compatible living spaces, and a 13,800-square-foot Administration Building to accommodate custody administration, jail alternatives services, classroom, and training spaces. Together these buildings create the Re-Entry & Alternatives to Custody Training (REACT) Center to accommodate inmates during the last few months of their sentence, providing access to meaningful rehabilitation programs and facilities to support family reunification in a normative environment.

**Why Masonry?** Located in the Central Valley of California where extreme temperatures require building materials with a high thermal value and mass to maintain energy efficiency, concrete masonry units (CMUs) were selected to not only improve energy efficiency, but also to add to the facility’s durability, security, and structural integrity. As the final piece to the new campus, the REACT Center’s exterior needed to complement the other facilities on the site, all of which included CMUs. Colors and textures were selected to respond to, but not mimic, the adjacent buildings, allowing the REACT Center to have its own identity on the campus. With both secure and public environments within extremely close proximity, CMU patterning clearly defines the Center’s distinct functional areas to visitors, service providers, and the public. The selection of concrete masonry units fulfilled the County’s goal of creating a rehabilitative, normalized environment for their new REACT Center, while adding value and ensuring durability in a secure, yet public-facing environment.
Architect:
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Structural Engineer:
Pacific Coast Structural
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Masonry Contractor:
Orlando Masonry, Inc.

Block Producer:
RCP Block & Brick, Inc.

©Photography:
Pam Martin, RCP Block & Brick, Inc.

San Diego Residence
San Diego, California

Why Masonry?
Concrete construction was initially selected for durability, minimal maintenance, and fire resistance. Perched at the edge of a wildland urban interface zone, concrete construction was a logical response to the regular threat of canyon wild fires. Concrete masonry units (CMUs) allowed the owners some design flexibility to soften and refine the appearance of the concrete. Custom half-height CMUs in a stack bond pattern were selected to highlight the owners’ art collection. CMU custom capabilities allowed the owners to refine the color of the blocks by customizing the aggregate color by adding white pumice to the normal aggregates. Finally, ground face gives the CMU a truly finished appearance suitable for being exposed in the living areas.

An energy model was prepared for the house to prove that under California’s tight energy rules CMU could act as thermal mass on the sun exposed faces of the building. The north face and service areas were insulated where the exposed block was not desired. Special attention was paid to the placement and installation of outlets and services within the CMU walls so that utilities would be available (and centered within a block face) where needed. Some of the walls are over 14 feet tall and are plumb to within an 1/8 inch. The huge sliding doors fit easily in the plumb and square openings with minimal joints. Custom cap blocks and light fixtures were fabricated on site. The installation is truly a fine backdrop for the owners’ lives.
Why Masonry?

Given the very close and large building to the east, the courtyard to the west, and the variation of the floor diaphragms, concrete masonry units (CMUs) were used to provide most of the structural needs for the building. Charcoal-colored, burnished CMUs provide contrast to the glass walls and white interior partitions. The use of concrete masonry units in the main space yields a beautiful and rich interior finish that anchors the building and allows great structural freedom for the rest of the house. CMUs further assist by providing sound attenuation for the residence which has open-ended floors throughout and is placed on an extremely narrow lot with neighbors at an arms reach.
Architect's Commentary: The Clark County School District’s Vegas Verdes Elementary School in Nevada is one of the many District campuses responding to increased student population growth. It is doing so by providing permanent classrooms for students currently located in temporary facilities. Collaboration with the District concluded in developing a 30,000-square-foot, two-story building comprised of 18 classrooms and accompanying support spaces with a compact footprint to fit the existing elementary school site. The building has been designed to accommodate the future expansion of four additional classroom spaces, to a total of 22.

Throughout the building, a variety of learning opportunities are provided for the teachers and students. Lesser-used spaces have been adopted as “out of classroom” collaboration zones. Bold, bright colors are used against a neutral backdrop—inside and out. The exterior allows the structural material of the building to speak out and provide most of the architectural expression. Punches of color—in this case, a vibrant blue—identify the entries and highlight specialty areas within the building. These colors are unique to each school’s identity and are incorporated throughout the educational facility. These same colors are brought into the halls and classrooms to provide a sense of energy and fun in the learning environment.

Why Masonry? The design team considered many different alternatives for the exterior building envelope, finally selecting an exterior load bearing, integrally colored, concrete masonry unit (CMU) wall system. The durable material provides flexibility in building placement, allowing the building to be constructed upon a minimal site footprint while maintaining full functionality of the existing school. To work within the District’s strict budget constraints, the team pushed the boundaries of the CMU material in the design to limit additional applied elements on the building exterior. Focusing on craftsmanship and pure material expression, the base level is comprised of a field of an 8-inch-thick honed block interlaced with a calculated patterning of custom 9-inch-thick block. The undulating upper volumes are created by a combination of cantilevering 12-inch-thick block and 16-inch-thick block ledgers supporting a 4-inch-thick veneer above.
Architect’s Commentary: Norwalk-La Mirada Unified School District recently tackled the renovation of athletic fields that were ill-suited to serve students’ needs. Of those facilities, the John Glenn High School fields allowed for limited practice during fall and winter, and could not support varsity games, which were played at another nearby high school.

With the transformation complete, the project resulted in a new synthetic turf football field, baseball field, softball field, and three practice fields. The football field now features 2,500-seat-capacity bleachers that will accommodate athletic events and other school-related activities. Students will also enjoy a new track with nine lanes and ample lighting, allowing varsity home games and night use of the fields.

The new, centrally located Concession Building contains a warming kitchen/concession area that can be accessed from both sides of the building for both home and visiting teams. In addition, the building contains team rooms, storage rooms, and restrooms that will support current and future needs. Designed as a long, linear facility, the building sits at the junction of the football, baseball, softball, and soccer fields, allowing all sports easy access to the facility.

Why Masonry? Concrete masonry units (CMUs) were primarily selected in the construction of the Concession Building for their durability, versatility, and design aesthetic. As one of the strongest materials available, CMUs are not susceptible to rotting, mold, or damage from pests, making them ideal for permanent facilities. School colors, like the bright white CMUs on the Concession Building’s exterior, create a modern aesthetic that, when paired with the red angular plaster walls, link the building to the existing campus. In conjunction with steel framing, CMUs were also used as a component in the building’s structural system.

The new facilities will enhance opportunities for extracurricular activities and serve as a community hub, where students and the community can come together to celebrate Eagles’ pride.
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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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