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West Career and Technical Academy
Las Vegas, Nevada

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Block Producer: CEMEX

Owner: Clark County School District

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Architect’s Commentary: West Career and Technical Academy is a 196,500 square foot, public high school academy in the Summerlin area of Las Vegas. Its site is planned to promote a sense of community by creating unique social environments within its six academic academies and communal areas in the two support facilities, as well as the outdoor spaces. The individual prototyped academy buildings are placed with the contours of the site to minimize excavation costs, creating a more dynamic land and hardscape in the interior courtyard.

Sustainable practices further enhance the learning and social spaces by providing shade with photovoltaic panels in the outdoor courtyard, and strategically designing each façade for day-lighting according to its orientation. Large overhangs are used to protect not only the students from inclement weather, but to shade the large glazing areas in the communal gathering spaces.

The academies are designed based on the idea of “project based” learning. Each radiates from its core, a large specialty space designed for its specific academy. Visual connections are maintained throughout with glazing between the circulation area, classroom and lab spaces; defining and reinforcing the ultimate goals of each discipline.

Why Masonry? Concrete Masonry Units enhance the interstitial spaces between each building that serve as entry and exit points for students and faculty. They provide not only needed security, but also a visual feature between each building’s façade. Eight inch block is used for each space in multiple colors, giving a unique look that aesthetically complements the building facades. Wire mesh inserts in the CMU wall allow for visibility into and out of the campus’s courtyard. CMU was used to allow flexibility for location of door and wire mesh openings, ease of installation, maintenance and repair, as well as its clean, contemporary aesthetic.
Architect's Commentary: Located north of San Diego at Marine Corps Base Camp Pendleton, this 323,911 square-foot, design-build project consists of a wide variety of building types in separate sites at 41 Area; P-1012 ANGLICO Complex, P-1016 Recon Battalion Complex and P-1067 Bachelor Enlisted Quarters (BEQ). In total, 18 new buildings on three diverse sites were designed and constructed to meet the Marine Corps Mission to build a new facility support complex to promote professional development, support training and improve the quality of life for Marines. This $136 million dollar facility incorporates sustainable design concepts that improve building performance and reduce total ownership costs including the use of high efficiency and low maintenance equipment and the selection of materials like concrete masonry that are durable, offer a variety of colors and textures and are easy to maintain.

**Why Masonry?** The Marine Corp Base at Camp Pendleton has many different facility requirements that have developed over the years and the mandatory construction guidelines outlined in the Base Exterior Architectural Program (BEAP) requires the use of concrete masonry unit (CMU) structures for all facilities on base. The BEAP specifies architectural designs that are simple, straightforward, flexible, and use compatible, cost effective materials like CMUs to achieve a unifying architectural vocabulary. The Marines have discovered that consistently using just a few dependable materials for all their facilities will reduce life cycle costs and maintenance requirements for many years to come. Additional sustainable strategies of the design included installing a 28,700 square-foot, 380 kilowatt photovoltaic system as a parking shade structure, installing high efficiency electrical and mechanical systems, incorporating water saving fixtures and equipment, and installing drought resistant landscaping to reduce water use. US Green Building Council Leadership in Energy and Environmental Design (LEED®) certifications for the complex include the following:

- Emergency Response Station, BEQ and Recon Headquarters – LEED® Platinum
- RECON North Campus and the ANGLICO Complex – LEED® Gold.
Architect’s Commentary: Carson Park is an existing 11 acre, flag shaped park site located in Carson, California. The city conducted a survey of the residents within a 500-foot radius of the park, and they indicated a need for upgrading the park facilities and amenities. The existing community building was inadequate, outdated, and no longer able to serve the needs of the community. The fields had poor drainage and did not invite a broad range of activities.

The Carson Park Plan fulfilled the needs of the community and made the park more usable. The construction of the new park was divided into phases for funding releases. Phase One Scope of Work was the demolition of the existing recreation building, existing parking, and selected existing park elements such as the ball fields and lighting. Phase Two was the construction of new ball fields and associated elements; the construction of a new 21,227 square-foot, one story concrete masonry community building, new parking area, new landscaping and hardscape elements, including colonnades and associated grading, drainage and utility installations that once again made Carson Park an inviting social and athletic gathering area for the community and the City of Carson.

The Carson Park indoor program included a full-size gymnasium for basketball and volleyball, day care facilities, lobby area and offices, technology center, dance studio, workout room, kitchen and concessionaire, and community room. The outdoor activities are basketball, two softball fields with electronic scoreboard, picnic areas, arcade area, play area for younger children, passive park and walking trails, and a splash pad for hot summer days.

Why Masonry? Concrete masonry was chosen as the primary and dominant building and architectural element for its durability, low maintenance, cost effectiveness, and to provide the signature architecture for the community. It was very important that the building for the community center be able to withstand the many activities associated with the play of children and adults such as the rigors of basketball, kids using the building as a ball wall, and the occasional person resting their shoes on the building walls. These activities would not damage the building nor require a need for repairs.

We selected three colors to give the building a variety of planes and texture to enhance the dimensionality and warmth of the masonry block. The Spice, Slate and Charcoal Burnish Texture was selected for its depth of color, its polished character and for its safety of not scratching children that may brush against it.

With the choice of masonry we knew that our design would offer numerous other benefits to the city and community such as providing an enduring and natural beauty; be resistant to fire and termites; enhance sustainability with local materials; provide thermal protection, and help block out noise from the activities scheduled inside the gymnasium. Energy efficiency was also designed in the use of tinted and dual glazed windows, efficient mechanical and plumbing systems, and with clerestory windows to capture daylight in the gymnasium. Masonry and stone accents were used throughout the park area to compliment the park’s flagship building’s warmth, texture, strength, and durability.

With the requirements that were established for the project, masonry was a “no-brainer” choice.
Architect’s Commentary: This complicated, multi-mixed-use project involved retention of an existing 5,000 square-foot metal “Butler Building”, along with a later 2-story, wood framed addition attached to the front of the metal structure. The ground floor of the existing complex previously housed a rental car company and a furniture import and retail business. In addition, the 2nd story contained a 3-bedroom residential unit, which remained as part of this mixed-use redevelopment project. A full-height concrete masonry unit (CMU) demising wall along with an expansion of the existing metal building was constructed to accommodate a new self-serve carwash facility, which occupies the northern and eastern portions of the property. The carwash facility is a conveyor-style, state-of-the-art mechanized system, utilizing the latest in water-reclamation and recycling technologies for washing operations. However, noise separation between the new carwash use and existing retail business was absolutely crucial for the economic viability for both businesses.

In terms of architectural vocabulary, the design team leveraged the existing Butler Building as well as the quasi-mid-century front addition for aesthetic inspiration and design direction. Given the nature of the extant corrugated metal structure, the team approached building and site layout from a decidedly agrarian vernacular, proposing an organization strategy that respected the existing building while addressing the programmatic needs of this multi-user project. The overall project architecture therefore reflects simple agrarian shapes integrated with modern and sustainable aesthetic strategies. The use of common “farmer” building materials such as concrete masonry units and corrugated metal, also pay homage to indigenous local agrarian design. The intent is to simultaneously acknowledge the property’s indigenous architecture while integrating new design elements in a contemporary mixed-use, modern day development setting.

All design decisions for this redevelopment project were guided by sustainable considerations and green principals. This project seeks to propagate sustainable and responsible architecture and redevelopment principals for San Luis Obispo. In addition to implementation of many Smart-Growth and L.I.D. concepts such as infill redevelopment, recycled building materials, integrated mixed uses, and recycled water use, the project has been designed to the highest standards in terms of energy efficiency and sustainable design. The proposed project qualifies for LEED® certification, and is also designed to meet the Architecture 2030 Challenge. As members of SLO Green Build, the design team has also ensured compliance with the established SLO “Green Build Guidelines”.

Why Masonry? Solid grouted concrete masonry units were primarily chosen for their acoustic performance and sound deadening characteristics, and actually serve as a “peace-maker” demising wall between the new high noise generating carwash facility and the existing retail furniture store. In addition, burnished CMU was chosen as the exterior finish for its functional beauty and simplicity, as well as ease of construction. Finally, these concrete masonry units were selected due to their inherent thermal mass qualities, recycled content, industrial aesthetic and durability, serving as an ideal sustainable building material for this urban mixed use project.
Architect’s Commentary: This was the first Catholic church to be built in the high density, rapidly growing Natomas area north of Sacramento. The small site with Design Review oversight required non-traditional site planning. The City mandated that these buildings have an “urban” feel and blend with the nearby Community Club House. Pushing the building complex to the highly visible corner and rotating it 45-degrees created a variety of street frontage landscapes. This also allowed the connecting pedestrian plaza to have “welcoming” openings to the surrounding streets and creating more safety for small children.

The initial phase consists of an 11,600 square-foot Parish Center that includes a 600-seat “First Church,” parish offices, and flexible meeting rooms. The site’s Masterplan includes a future two-story K-8 school and Final Church, as well as a large kitchen addition to the Phase 1 building. When the Final Church is constructed, the “First Church” will be converted into a parish hall/gym. Therefore, the sanctuary’s finish and design had to be suitable for a basketball court and small stage for use by the school and adults.

The “First Church” challenge was that it could not be just a utilitarian “box,” but had to convey the Parish pride of finally having its own church. The design however, needed to be understated so not to compete with, but complement the “Final Church”.

Why Masonry? Key factors for selecting concrete masonry were budget concerns and a low maintenance desire, along with the architect’s desire for a versatile product. The Design/Build Team evaluated various building system options at the early design development phase to determined the best system that balanced function, integrity and aesthetics with cost effectiveness and schedule. The three different structural systems evaluated were: steel frame, structural pre-cast concrete and upgraded small concrete masonry units (CMUs) with a pargeted coating. Concrete masonry became the obvious choice based on its superior aesthetics, structural integrity and competitive cost. In addition, this upgraded, but rugged-textured look is able to take the future gym abuse. This was accomplished by combining 4”x16” slump block with the textured parget coating on both sides. Additionally, the concrete masonry units with the random interior texture are a great background for the many statues and paintings.
Saint Martha’s Catholic Church Parish Hall and Educational Center
Murrieta, California

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Block Producer:
RCP Block & Brick, Inc.

Owner:
Diocese of San Bernardino

©Photography:
Pamela Martin, RCP Block & Brick, Inc., Photo 1
Greg Epstein, Greg Epstein Photography, Photos 2-4

Architect’s Commentary: The program required space to accommodate an educational center, choir rehearsal room, nursery and classrooms. This 14,500 square-foot educational building was to be added to the existing church facility, which included a 50,000 square-foot Sanctuary, covered patios and walkways. The site was defined on the east by a parking lot with a large radius, as well as by the existing sanctuary building to the west.

The curve was used to benefit the design. The building plan used a portion of the Fibonacci Spiral to follow the edge of the parking on the exterior, enclose a half-moon shaped courtyard bordered on the east by a masonry colonnade located between the sanctuary and educational center. A 32’ tall masonry bell tower and 10’ 6” carillon were provided at the intersection of the education center and the northeast corner of the sanctuary.

Why Masonry? A combination of split face and precision concrete masonry units (CMUs) were the ideal product to use for this project. Its relatively small unit size allowed creation of seamless and graceful curves, arches and colonnades. Its warm, natural tones harmonize well with the native landscaping. Its durability endures the rigorous actives associated with the use, and its earthy texture adds interest and texture to the wall surfaces. The use of concrete masonry units also allowed two phases built eight years apart to be tied into a seamless project.
Dee Residence
Rancho Mirage, California

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Architect’s Commentary: This custom home is built on a gently sloping (10’ vertical over 200’) desert lot in Rancho Mirage, California. The clients required a home that would accommodate their six children (ages 1-12) and withstand the rigors of an active family environment. The Architect wanted to create a thermally efficient home that replicated and embraced the local desert topography.

Why Masonry? Concrete masonry units (CMUs) were used as a simple and effective design solution to many of the project’s complex needs. Exposed concrete masonry units were used extensively to retain earth, provide structure, and facilitate privacy in a way that is both practical and aesthetically pleasing. In the courtyard, CMUs are used to retain the sloping terrain and create individual terraces. In and out of the home, concrete masonry is used as both structure and finish. Exposed CMU walls flow from the exterior to the interior of the building, highlighting the material’s ability to be both durable and refined. Concrete masonry was also chosen for its high thermal mass, providing a barrier from the desert heat and stabilizing interior temperature swings. As an interior building material, exposed concrete masonry units and the ground and sealed concrete slab contain no VOC’s. CMU serves as a simple alternative to standard finishes that can off gas and create an unhealthy interior environment—especially for young children. These high mass walls also provide privacy in a highly active home, providing effective sound attenuation and tangibly establishing physical boundaries.
Architect’s Commentary: Dos Palmas was purpose-built to house a family-owned Mexican bakery, including associated retail and dining spaces. The clients found an ideal site with great visibility, in a regenerating neighborhood of Encinitas, a coastal city just north of San Diego. The project is located on an infill lot (previously a parking lot, which was actually ground and used in the slab underlayment bed) in a gentrifying, walkable community, on a busy highway with bus and train transportation nearby. Project goals included creating a low-maintenance, sustainable, LEED® certified building that reflected both its function and the character of its funky neighborhood. As an owner/operator, the client demanded a high-quality building that would hold up to the rigors of a commercial bakery, while respecting the environment through its design, construction, daily operation and ultimately, its longevity.

The bakery was named for the two existing 80-foot Canary Island palms that were cleaned up and then carefully maintained throughout construction. The dining area opens up through a bi-fold window system to an outdoor dining area, which faces onto the busy sidewalk and coastal highway activity. In addition to first floor dining spaces, a public roof deck was created as a neighborhood hangout. Bicycle parking was included to accommodate the many cyclists enjoying the scenic 101 (the most heavily cycled highway in the US). The stages of the baking process (preparation, baking, retail sales and dining) are reflected in the building structure and finishes through materials with an analogous level of finish (concrete masonry units, adobe brick, reclaimed cedar and stucco). All interior spaces are naturally day-lit with skylights, Solatubes and large windows. The concrete floors and exterior countertops are polished to expose the colorful recycled glass added during the pour.

Why Masonry?: Concrete masonry units were chosen as the primary building material because of their flexibility, durability and inherent beauty as both a structural system and building finish. The regular pattern of the warm-colored stack-bond concrete masonry units provide a visual and textural contrast to the smooth white stucco and randomly sized, rough-sawn, reclaimed vertical cedar siding. The concrete masonry proved ideal as both a dependable structure (holding up to both the damp, salty sea breezes, and voracious local termite population), as well as a durable and handsome finish inside and out that didn’t require additional finish treatments such as potentially toxic stains and paints. Only low VOC and water-based sealers were used on the concrete block and wood siding.

All roofing (TPO) and onsite paving are high-albedo (reflective) materials. Drought tolerant landscaping was grouped into zones with similar water requirements and landscape irrigation is controlled by a time clock with a rain sensor. The project includes a below-grade, 3,000 cubic-foot water storage and filtration system to collect onsite rain water and occasional local flooding for storm water control, treatment and storage.
Architect’s Commentary: Inspired by the rapidly disappearing saw-tooth roof greenhouses as the City of Encinitas has developed, this fire station is a 6,330 square-foot, LEED® Silver Certified building.

The standing seam metal roofs of the building are sloped facing south to allow optimal daylighting orientation to the north and efficient future solar collecting panels to the south. Between the masonry wall and roof, triangular clerestory windows are formed providing effective interior daylighting of the main circulation hallway. Conceptually, the series of sloping roof lines and clerestory windows are intended to emulate Encinitas’s history of greenhouses as “the flower capital of the world”. To further project this history, a graphic Poinsettia flower (with LED night lighting) punctuates the south end of the masonry wall. The free standing hose tower provides identity signage, while also serving basic functional uses. It is clad in perforated metal panels and includes a lift platform to raise the fire hoses which allow the canvas hoses to naturally drain/air dry between uses. The building is intended to convey a simple design of modular elements with a sense of permanence and energy consciousness.

Why Masonry? The building is designed incorporating a continuous concrete masonry wall fronting the Interstate 5 freeway. For the 320 foot long, 14 foot tall wall, concrete masonry was selected for its mass, specifically to help mitigate the adjacent freeway noise and dramatic heat gain or loss. With offsetting faces, the heavy fluted and split face textured concrete masonry units in shades of gray were specified for design impact, to discourage potential graffiti, and remain maintenance free. Concrete masonry was integral in reducing the amount of energy in construction of the building envelope as it was a regional material. Both the extraction and manufacturing locations were within 500 miles of the building site.

Site sustainable design elements such as storm water control, with a planted bioswale that traverses the length of the long narrow site, drought tolerant landscaping, and reserved parking for fuel efficient vehicles allows the design to take advantage of many site and program challenges to create a highly functional and visible building.
Architect’s Commentary: The City of Salinas committed funds from a recently passed bond issue to save its libraries to include the expansion of this neighborhood resource.

The design includes a new entry through a central tower, which separates the original building from the addition. The tower includes a fully glazed clerestory band below a pyramid-shape with roof deep overhangs. This form acts as a symbolical lantern representing the light of learning, which is the main purpose of the facility. The overhangs contribute a dramatic form while protecting the glass from direct sunlight and reducing heat loads. Areas were created for children, pre-teens, teenagers and adults. There are also rooms created for community meetings, and an exterior platform between three wings of the building to support special events.

The original building was entirely remodeled, removing low flat ceilings and opening up a full-length skylight that had been concealed with egg crate reflectors at the ceiling level. The original clear glass was replaced with translucent fiberglass panels to admit copious amounts of day-lighting without the glare problems which would have been presented by clear glass.

Why Masonry? The original building walls were constructed of rough split faced concrete masonry units (CMUs) which were left unfinished. One challenge was to match the texture, color and exposed aggregate of the original CMU. Working with the manufacturer it was determined that the concrete masonry units they could produce today would effectively match the original concrete masonry units. With this confidence the designers specified split face concrete masonry units for the new structural walls. In the lobby and other areas the CMU was specified with split face on each side and left exposed on interior walls. The concrete masonry units were treated with penetrating water repellents to control efflorescence. The water repellent blocks liquid water, allows water vapor to exit, and has no effect on the color or rough textured appearance of the specified units.

The City of Salinas is committed to sustainable design and requested the designers attempt to secure LEED® certification at the silver level for both the new and remodeled wings. The design team was not only able to meet this goal but to exceed it. The building has achieved LEED® Gold certification. The Cesar Chavez library has proved to be very popular, and has become an important community asset as it hosts a large number of users of every age during most of its operable hours, as well as many special community events.
Concrete Masonry Association of California and Nevada

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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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2015 CMACN/AIACC
Concrete Masonry Design Awards
"Call for Entries"

The 2015 CMACN/AIACC Concrete Masonry Design Awards competition “Call for Entries/Request for Entry CD” will be available January 2015.

The 2013 award winning projects can be viewed at www.cmacn.org.

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