Concrete Masonry Association of California and Nevada

Spring 2023

CMU Profiles in Architecture

Why Masonry?
www.whymasonry.org

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Wiseburn USD / Da Vinci High School
Gensler
Photo by Ryan Gobuty and Makena Hudson

Elk Grove Animal Shelter

Elk Grove, California

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Masonry Contractor:
McCurley & Day Masonry
Block Producer:
Basalite Concrete Products, LLC
Owner:
City of Elk Grove
©Photography:
Dale Goff, Goff Photography

Architect's Commentary: This new building is the first animal shelter for the City of Elk Grove. Designed primarily of concrete masonry units (CMUs) with a wood roof framing, the facility encompasses state of the art animal housing with cost effective construction techniques. The design reflects retail elements and fundamental animal husbandry, along with functional office and administration areas for staff and animal comfort. Located within a primarily industrial area of the City, the architecture reflects the industrial nature of its surroundings, yet provides a playful whimsy to provide a unique and inviting environment to the public.

Why Masonry?

Programmatically, this 22,000 square-foot facility can be broken down into three main program elements: staff, public, and animal habitats. Due to its extreme durability and density, ease of maintenance, and its ability to respond to the overall facility's needs, CMU was a natural choice as one of the facility's primary building materials and is used throughout the facility.

CMU provides a natural sound barrier. Due to potential noise levels in dog housing, CMU was a project necessity and provided the needed mass to create sound mitigating enclosures. In these locations the CMU was left exposed and coated in an epoxy finish. Dog housing is constructed of CMU kennels within a larger CMU enclosed room, diminishing the transfer of noise from one habitat to another, helping to alleviate the stress of the animals.

Within the exposed CMU interior, the pattern was retained, but only ground face units were used, creating a visual mosaic. The exposed CMU consists of a repeating pattern made up of three separate colors, each with a ground face and split faced finish. However, when placed, it has the appearance of a random pattern. The result was a look of a variegated façade that not only anchors the building, but also resembles the coat pattern of tabby cats, providing a fun metaphor to the building's function and making it a memorable first animal shelter for the City of Elk Grove.

South High School Auditorium

Torrance, California

Architect's Commentary: The new South High School Auditorium for Torance Unified School District is a transformative project for students and the community, providing the campus and the public a true full spectrum facility supporting arts education and a broader venue of community performance. Prior to the facilities opening, students used the cafeteria and a black box theater built to fit 100 people. The new facility not only provides increased seating capacity and performance stage, but also the ability to explore theater from page to stage with firsthand education in rigging, lighting, and production, as well as audio and technical aspects of theater.

The project encompassed a 500-seat sloped floor auditorium with state-of-the-art lighting, rigging, audio system, and acoustics design, serving as part of the student educational program as well as enabling high quality performances on its 3,000-square-foot stage. Performance and education are further supported by a flexible classroom and dressing room, as well as a 1,150-square-foot scene shop for crafting scenery supporting performance productions. The building's entry lobby is designed to visually extend and welcome visitors entering from the new exterior plaza space, which serves to support pre-function theater events.

Why Masonry? The project's design took inspiration from the existing 1950's campus architecture with its use of uncomplicated masonry structures, vertical and horizontal planer elements that define key entries and moments, and formed covered walkways and sunshade devices. The concrete masonry unit (CMU) structure of the main auditorium space and stage was chosen for its structural efficiency, durability, its sound and thermal insulating properties, and its contextual connection with the masonry structures that make up the architectural character of the original campus buildings. While the new facility is modern in aesthetic, its use of familiar forms, materials, textures, and finishes compliment the campus in a fresh and contextual way.

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Torrance Unified School District
©Photography:
David Fennema, HMC Architects

Standley Middle School Joint Use Aquatic Center

San Diego, California

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Block Producer:
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San Diego Unified School District
©Photography:
Polished Image Photography

Architect's Commentary: This exciting project was designed in partnership with San Diego Unified School District and the City of San Diego. The Standley Middle School Aquatic Center is part of a larger Joint Use Improvement project between the City of San Diego and San Diego Unified School District which additionally includes an outdoor pavilion for school and community events, a running/walking path, restored and reconfigured ball fields at both Standley Middle School and Spreckels Elementary School as part of its Whole Site Modernization project.

The Standley Aquatic Center expands programs and recreation for local schools and the community. It and the other Joint Use Improvements have already become a new hotspot in the University City community. The new aquatic center consists of an outdoor competition pool (30 M x 25 yd) and pool amenities building. This pool is ideal for water polo and other team events. UC High School will benefit greatly from this pool as it will be their home pool for high school sporting events. The building provides outdoor showers, changing rooms, restrooms, concessions, storage, and equipment rooms. The shaded outdoor pavilion is a school and community gathering space integrated into the field landscape. The decomposed granite path leads from the aquatic center to the pavilion and around the perimeter of the joint use field.

Why Masonry?

The pool building is constructed of burnished concrete masonry units (CMUs) featuring a custom blue colored block. This resulted in an extremely attractive and unique building exterior that provided an outstanding finished product for an aquatic center. The project will remain beautiful and uphold to the high usage and wear and tear from moisture and the community.

The completed CMU facility is now being managed and maintained by the City of San Diego and allowing the SDUSD schools the priority for use without costing the schools any additional money. This resilient and gorgeous project is a true win, win, win for the City of San Diego, SDUSD, and the University City community.

Wiseburn USD/ Da Vinci Schools

El Segundo, California

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Wiseburn Unified School District/
Da Vinci Schools
©Photography:
Ryan Gobuty and Makena Hudson

Architect's Commentary: A public charter school client challenged us with an old commercial industrial real estate asset and a modest budget, well below ground-up construction, to create a novel, highly-adaptable school for 21st century learning. Our design team transformed the multi-story defunct office building into an innovative high school facility. Once a secretive engineering office building for a U.S. military contractor, it is now a highly transparent project-based high school facility that houses three independently run schools. An adjacent newly constructed gym and aquatic center concurrently designed by the team completes the campus.

Why Masonry? The renovated building's new façades hint at the cutting-away of the former building and the shifts between floors are subtly indicative of the individual schools within. Concrete masonry units (CMUs) were selected for the first floor to ground the building. The rusticated appearance of the base contrasts with the taut surfaces of the upper floors. The CMUs also lend durability and security at grade. The school building is designed with a saw-tooth wall configurating where withes of CMUs, roughly 10 feet long, are laid out in a staggered configuration to animate long façades. The adjacent gym building continues and expands on the use of the same CMU palette, visually unifying the campus. Here, the design team used projected CMUs to create a pixelated pattern on the tall and long walls of the gymnasium. The entire campus uses the same buff colored CMUs and matching mortar.

The project has been certified LEED® Silver by the USGBC. Sustainability and more specifically, the concept of resilience, was a driving factor in the design decisions, including the choice of CMUs which offer thermal mass, high durability, and very good sound transmission resistance.

Our Lady Queen of Angels Athletic and Activities Center

Newport Beach, California

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ORCO Block & Hardscape
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Roman Catholic Diocese of Orange
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Charles Kluger, Kluger Architects
Dean Owens, MBI Media

Architect's Commentary: The newly completed Athletic and Activities Center at Our Lady Queen of Angels in Newport Beach, California was designed to meet the contextual architectural vocabulary of the existing surrounding facilities which includes a Sanctuary. The massive scale of a large space required to facilitate sports was a challenge. However, the use of concrete masonry units (CMUs) allowed us to provide massing of different sizes to visually reduce the scale.

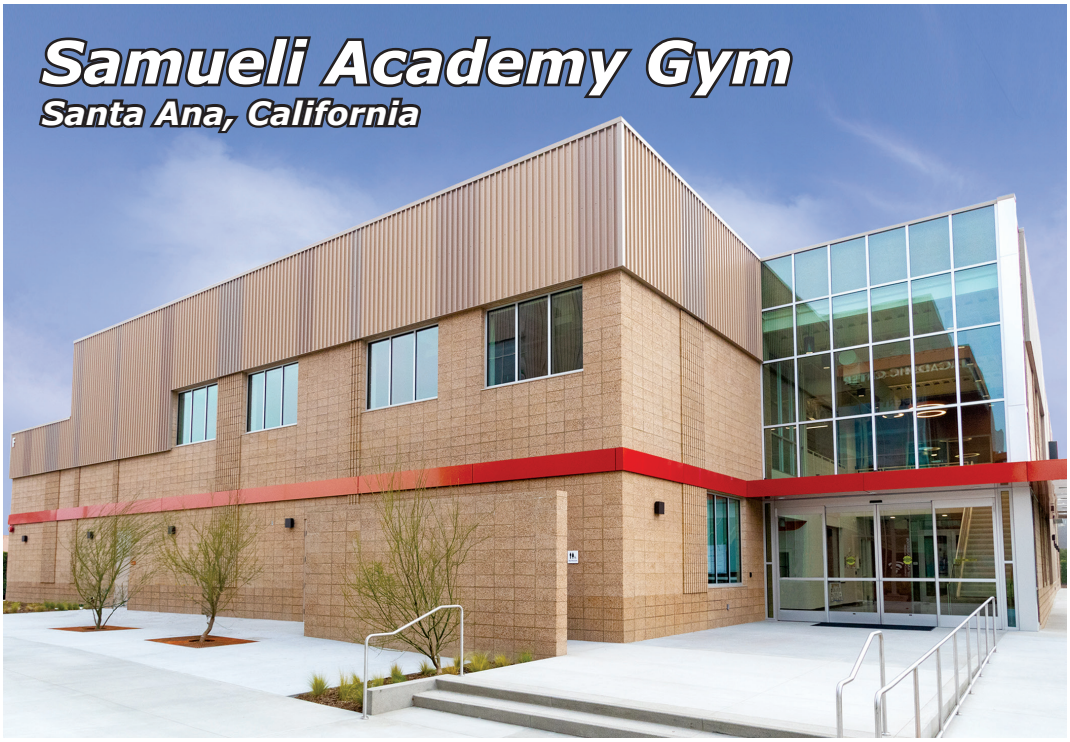
The use of dramatic white burnished CMUs for the main field block along with a larger "Jet Black" dark split face wainscot around the building provided a sense of monumentalism, historically typical of grand buildings. By using strategically placed darker CMUs within the white pristine burnished CMUs at the main event space, we created accent lines using the "Jet Black" CMUs, whereby the smaller adjoining buildings could relate to in scale and height.

We incorporated a breezeway into the project which separated the larger event space from the lower ancillary block building. The breezeway height strategically aligns with the adjoining accent CMUs and is designed to be of an intermediate height between the lower block and large block buildings. The CMU accents and wainscots were used on both block buildings as an element of continuity between the buildings.

Why Masonry? The selection of our CMUs was of utmost importance. Not only are the CMUs used as the aesthetic element, they were also selected for their enduring ability to hold up to rigorous use while maintaining their aesthetic appeal for many years. The CMUs are also a sustainable material which gave us both sound insulation from exterior noises (such as the nearby airport) and climate insulation qualities to meet our programming needs.

Samueli Academy Gym

Santa Ana, California



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Ryan Hills, ORCO Block and Hardscape

Architect's Commentary: The new gymnasium and soccer field at the inspiring Samueli Academy Charter School in Santa Ana was completed early 2022. Samueli Academy offers educationally under-served communities a new choice for the high school education of their teens. We worked with the Samueli Campus to design a new gym building and a new natural turf CIF soccer field, all designed to increase Samueli's existing focus on student wellness. The gym accommodates 700 spectators in the bleachers and up to another 600 on the gym floor for large assemblies, such as graduation. The new gym has a two-story entry lobby with stairs to a second floor over the locker rooms with a dance studio, workout room, and coach's office, all overlooking the gym.

A variety of concrete masonry unit (CMU) textures were used emulating the vocabulary of patterning on the façades of the other buildings on the Samueli campus. The CMUs are coursed in a stack bond pattern that has a base layer of finely ribbed CMUs from which bands of heavy ribbed CMUs extend up all the way to the parapet. The metal panel layers across the blocks provide depth of shadow across the ribbed pattern. The consistent color of the blocks revealed variances in the aggregate as it gets formed into the various ribbed shapes, a subtle detail that juxtaposes the strength of the CMU vertical bond pattern.

Why Masonry? CMUs were selected for Samueli Academy's Gym for a variety of reasons including their natural sustainability, energy reduction, noise transmission control, and cost efficiency. Our decision to use CMUs was introduced in the proposal phase of this project to save funds from that of a steel structure that was originally designed by the campus architects. Using CMUs on this project also allowed us to be energy efficient and safe as well as provide the architectural design to match the existing campus by using textured, ribbed, and honed blocks to recall the design of the other buildings on campus. By using CMUs and having it exposed on the exterior and interior, we were able to have one trade build a full, sustainable, green building that allowed faster construction time and less cost.

Concrete Masonry Association of California and Nevada

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