Metal may be the material of choice for educational buildings, but a brand new satellite campus in rural Arizona demonstrates that metal’s potential extends beyond durability, being low-maintenance, and blends design flexibility with artistry and cultural identity. For these reasons, and for its deference to the natural environment, the Central Arizona College (CAC) campus received the 2013 Metal Construction Association Chairman’s Award for Overall Excellence.

Located on the outskirts of Maricopa, AZ, and planned for significant growth in the next 20 years, CAC’s new campus, which so far comprises three academic buildings, is “conceptually rooted in its historic agricultural roots and Native American legacy,” says Mark Krantz, AIA, design principal with the SmithGroupJJR, Phoenix, AZ. “Structures are conceived as a series of honest, spare, and no-maintenance ‘academic sheds,’’” he states.

A unique mix of naturally oxidizing Corten siding panels and metal standing-seam roof panels painted a faux-rust hue were used to achieve the agrarian vision. “When you think about the use of different materials—14-gauge A606 Type 4 Cor-Ten steel sheets that were hand-brake bent into custom sizes and, on the roof, 90,000 sq ft of 22-gauge, 18-in.-wide Magna-Loc paint-ed steel standing-seam roof panels with a 2-part Kynar paint system—that was very creative,” says Christian Nolte, vice president, marketing and sales, Metal Sales Manufacturing Corp., Louisville, KY. “It provides two different solutions that give you a roofing-siding system that works together and yet performs very differently. It’s really a powerful commentary on the creative use of metal. New technologies available in the market today allowed us to create this visual outcome.”

Krantz adds, “Building a campus in an alfalfa field right...
next to farms and barns, there is a certain level of respect that you have for that context, and I think you have to reflect that in the decisions you make.” The Cor-Ten panels were “a natural and obvious reflection of the campus’s rural setting.”

**Sustainability**

The use of metal panels was one among many of this project’s sustainable elements. The panels themselves require minimal maintenance; last for 45 years or more; are recyclable at the end of their useful life; and serve as an ideal substrate for alternative energies, such as solar panels, wind energy, and rainwater catchment.

According to Krantz, other sustainable elements include the following:

- Each building strategically harvests northern daylight and creates a continuous shaded arcade on the south that connects the campus’ classrooms end to end.
- R-30 walls and R-40 roofs create an extremely insulated, high-performance envelope, while clerestory glazing fully illuminates the interior of the buildings with northern light.
- Open corridors are naturally ventilated with operable windows.
- Large “super roofs” maximize shaded outdoor space, enabling more outdoor learning and interaction throughout the year, while large overhead fans create air movement to increase student comfort.

“The design drivers of the shed and the relationship to the desert all contribute to the project’s sustainability. The large roof protects the buildings and occupants from the harsh southern sun,” Krantz adds. “The materials are rustic, natural, low maintenance, recycled, and the landscaping is native.”

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