

> Greening Merritt College – by Lorna Dare

On the hills above Oakland, the Peralta Community College District's commitment to upgrade its science and technical facilities is taking shape.

murakami/Nelson is part of the Clark & Sullivan / Walsh Construction - JK Architecture design build team for a new Science and Allied Health Building at Merritt College. This project, scheduled for completion in 2015, will capitalize on its dramatic site and provide an inspiring and engaging facility dedicated to the sciences.

The design build team's commitment to stewardship of the environment fully aligns with Peralta Community College District's core values. The District's resolution to divest from fossil fuel companies in order to reduce carbon emissions underscores their commitment to the environment and reducing their dependence on non-renewable energy sources to safeguard the future for students, the community and the planet.

To achieve our mutual goals the design-build team integrated the three pillars of sustainability – social, environmental and financial strategies in the design and construction of the project. Our value-engineered approach provided a successful integration of the bridging document's program and design with cost savings measures to reduce the project cost from \$52 million to \$42 million, a savings of nearly 20 percent.

While LEED guidelines matter, our team's aim was not merely to "chase LEED points." We focused on balancing the initial and life cycle cost impacts with the pursuit of LEED Gold certification. Furthermore, the project incorporates signage and learning tools that showcase the sustainable building features to educate the community about the benefits of sustainability – promoting health, creating a positive learning environment and reducing our consumption of precious resources.



▲ **An artist's rendering of the new Science and Allied Health Building at Merritt College, which will capitalize on its dramatic site and provide an inspiring and engaging facility dedicated to the sciences.**

Features of the new science building that promote health include using CO₂ monitors to determine levels of carbon dioxide and adjusting the mechanical equipment to allow more or less outside air to be delivered. The project provides daylight and views for a minimum of 90 percent of the regularly occupied spaces and provides

individual temperature control of all spaces to allow for proper thermal comfort. Additionally, users will be surveyed after occupancy to confirm proper operation of building systems and to adjust those systems to meet individual comfort.

To reduce energy consumption, the project includes a digital lighting management system that will allow for automatic daylighting dimming and automatic lighting shut-off when a room is vacant. Digital programmable HVAC controls will tie into a district-wide master controller allowing the district to control the temperature and operation of systems to fit within prescribed energy budgets. Solar panels will offset over 13 percent of the building's energy use. The project optimizes energy usage and exceeds CA Title 24 energy requirements by more than 25 percent.

To reduce the consumption of resources the project will separate construction waste so that at least 75 percent of construction waste will be recycled. More than 50 percent of wood installed in the project will be FSC certified. Temporary retention ponds will reduce and filter the storm water that flows off of the site. Meters on equipment will monitor energy usage and will allow the owner to make adjustments to meet the desired energy usage. Low flow plumbing fixtures will provide more than 40 percent water savings. Over 10 percent of the materials used on the project will be extracted, harvested, recovered or manufactured within a 500-mile radius from the site.

The Science and Allied Health Building exemplifies the Peralta Community College District's commitment to providing quality educational facilities for the community while minimizing the impact of those facilities on the environment. ■

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