



Parkrose Middle School

PORTLAND, OR

The new Parkrose Middle School is a two-story 140,000 square-foot structure that will serve an eager community. It replaces an aging middle school that had reached capacity. Dull Olson Weekes – IBI Group Architects, Inc. were asked to create a new middle school on the same site as the old school, which was demolished. The new middle school is a beautiful example of an all masonry cavity wall system with 76,000 blended-color ground-face CMU exposed on the interior walls—140,000 block total—and 350,000 units of blended tan brick for the exterior.

Dan Hess, AIA, was the project architect and serves as a link between the architect group and the community it serves. “The goal was to create a school that was prepared to provide twenty-first century learning for a growing community,” said Hess. “We wanted to create a sustainable school that is a safe place for kids and an



environment that reflected a sense of professionalism—almost like a community college.” The district also wanted to relate the new middle school to the existing high school across the street that Dull Olson Weekes designed back in the 90s. “We wanted the two schools to feel complimentary because kids go back and forth between the high school and the middle school,” says Hess.

To achieve the aesthetic needed for the new school, Hess used blended tan brick for the exterior veneer and grey metal panels that help the new middle school relate visually to the nearby high school. For the interior walls, Hess chose ground-face concrete masonry for its durability as a long-term interior finish that will hold up for generations of students. Another benefit—exposed block means no steel studs or sheetrock are needed.

This project did not start out as a masonry building. In fact, four different wall assemblies were considered including tilt-up concrete with brick veneer, steel frame





with brick, concrete block/brick cavity wall, and precast panels. “We did an analysis of what these different wall systems would cost and our estimator ran the pricing on six or seven options. The most cost-effective solution was the masonry cavity wall, concrete block with insulation on the outside and then veneer over that. It is a great wall system,” said Hess.

From a thermal standpoint, Hess says that using CMU cavity wall construction on the building reduced the school’s energy costs. “The new school is bigger, has way more systems and yet is using less energy than the old school.” Hess says he insulated the wall with four inches of mineral wool placed on the exterior of the block wall system. “What that does is put the dew point right on the outside face of the block so you don’t have condensation moving through the wall system,” Hess explains. “If we had used a conventional steel building that had insulation in the steel studs, the dew point is in the studs—basically in the wall cavity—which creates the potential for condensation and mold growing over time.” This is another way CMU is a much better system in the long run, when compared to steel.

Hess says concrete masonry was also the most “constructable” option because it requires way less lead time compared to other materials. “Masonry construction was able to start as soon as the footings were poured. Typically general contractors prefer this [masonry] approach so they don’t have to build extra time into the schedule to get steel delivered on site. Sometimes from the time you sign the contract, it can take eight to nine months to get steel on site, which is really a problem because of the procurement involved.” Hess says the contractor completed this project in sixteen months using concrete masonry construction. “For a building of this size, that’s pretty amazing,” says Hess. “I don’t think they could have done that if we would have used steel. The new middle school was able to open in the fall of 2014. I think if we had used steel it would have been January of 2015 before we were able to open to students.”

The new school has received several design awards and LEED GOLD status. It is a huge source of pride within the community, and stayed within budget, which is very important in a district where every penny counts.



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