

Courting Success

Long Beach courthouse construction uses BMP for sediment control

By Steve Stonehouse

Construction on the new Gov. George Deukmejian Courthouse in downtown Long Beach, Calif., is nearing completion. The former Long Beach court building was one of the courthouses in California with the greatest need for replacement; built in 1959, it suffered from fundamental flaws, was overcrowded and failed to meet accessibility requirements. The new courthouse includes renovation of an adjacent parking structure, 531,000 sq ft of office space within the court building for related justice agencies of Los Angeles County, a commercial office, retail space and 31 courtrooms.

Clark Design Build of California Inc. is managing the project's design and construction for delivery by the fall of

2013. The 105-year-old company has completed more than 75 design-build projects and has grown and expanded to become the ninth-largest general contractor in the U.S.

Kirk Hansen, project safety and environmental manager for Clark Design Build, has ongoing responsibility for site storm water management, inspection and reporting. One of the most difficult challenges for Hansen was the protection of the site perimeters to prevent movement of soil and particulates from construction activities onto the highly visible surrounding city streets and then into the city's storm drain system.

The site was completely bordered by busy city streets. Sidewalk surrounded the site where the project perimeter fence

was constructed. Because of the concrete and asphalt surrounding the work areas, traditional BMPs were not the way to go.

Changing the Game

The initial storm water pollution prevention plan called for the deployment of rice-straw wattles around the sidewalk at the base of the project perimeter fence. It is common to see wattles deployed like this, with sand or gravel bags placed over the top of the wattles at periodic intervals to weigh them down. While it is not unusual for storm water plans to call for wattles in these situations, it is known that they cannot seal well to hard surfaces, which makes it possible for sediment-laden effluent to flow untreated underneath and off site.



The new Gov. George Deukmejian Courthouse, mid-construction



The storm water pollution prevention plan is aided by a perimeter storm water BMP designed to seal to hard surfaces.

After a few storms, it became clear to Hansen that the wattles were not performing as desired. This might be acceptable when the slowed flow leaving the straw wattles can enter a buffer zone or landscaped area, but given the characteristics of this site, this untreated underflow was unacceptable. Not only did the straw wattles not adequately seal to the hard surfaces surrounding the site, they needed frequent maintenance and replacement. Straw decays over time and within six to nine months in some climates, the straw wattle may drop to less than half of its original height, lose its bulk and need to be replaced. On this two-plus-year project, that would mean two to three complete sets of wattles.

To address these challenges, Hansen turned to Ertec's Hard Surface Guard, a perimeter storm water BMP designed to seal to hard surfaces. It is made to flex back and forth in limited traffic environments and can be reshaped

after deformation. The system can be anchored with masonry nails, liquid cement or gravel bags, and is easily removed. The system is durable and reusable. Underflow is limited by a long-lasting and heavy-duty geotextile gasket. While filtering the effluent, Hard Surface Guard keeps debris and a high percentage of soil or other particulates from moving off site. It allows water flow-through and significantly reduces water velocity. It is made from durable and recyclable high-density polyethylene. The key components of the BMP are its heavy outer jacket and an integrated, extruded filter. In this case, Hard Surface Guard was anchored with masonry nails and set up against the project's perimeter fence.

"We were having trouble with wattles throughout the site—their inability to seal to hard surfaces," Hansen said. "We also were having problems with the ease with which they are destroyed by equipment or materials. [Then] we installed

Hard Surface Guard in mid-2012. It installed easily and we've had a good solution for both performance and durability since then."

Hansen said the material has held up well, even after the rainstorms during the winter of 2012 through 2013. "We also used Ertec's ProWattle inside the site in softscape areas," he said. "When this project completes, I'm going to take the materials with me to the next project."

After installing Hard Surface Guard, there was a reduction to the sediment leaving the site. Solids in rainwater runoff to the street and then to the city's storm drain system were reduced. **SWS**

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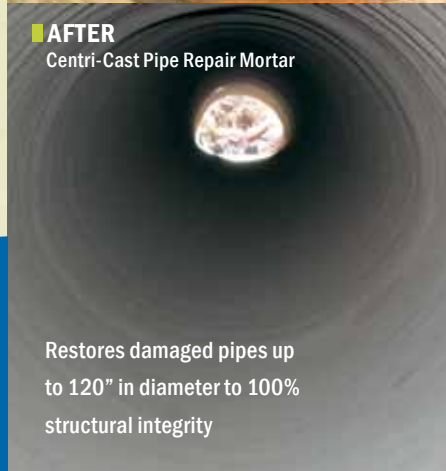
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