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Asphalt Puts Lid on Hazardous Soil and Provides High Risk Driving Site

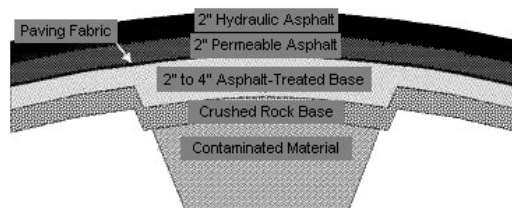
By Ed Schlect, Consulting Engineer, Olympia WA

Waterproofing a hazardous waste site with asphalt at the Port of Tacoma, Washington, has satisfied environmental requirements and provided a paved driving pad for use by local police departments.

The environmental consultants for the Port of Tacoma, RCI Environmental Inc., found a way to remediate the hazardous site without hauling off the contaminated soil. RCI moved the contaminated material, which was arsenic petroleum soil, into the middle of the site, forming a crown so water could drain to the edges. RCI then designed an 18-inch-wide, 4-inch high edge around the site with a perimeter drainage system to collect and monitor runoff.

After the contaminated soil was relocated and proper drainage was in place, the paving contractor, Woodworth & Co, of Tacoma placed 6 to 12 inches of crushed rock on top of the contaminated materials, followed by 2 to 4 inches of asphalt-treated base. After applying a tack coat to the base, Woodworth installed a non-woven geotextile fabric on the stabilized base, followed by 2 inches of permeable hot-mix asphalt on the fabric.

For a final layer of waterproofing, Woodworth placed 2 inches of hydraulic low permeability asphalt. The hydraulic asphalt layer contained less than 2.0 percent air voids and 7 percent asphalt cement. It required a rice density of 95 percent.



System Cross-Section

Waterproofing the hazardous waste site without hauling off the contaminated soil was a cost-effective solution for the owner. It satisfied all the regulatory agencies and elicited positive comments from environmentalists. "It encapsulated contaminated soils and put an otherwise unusable site to productive use," said one local environmentalist. "What is more positive than that?"

The paved site is now being used as a driver's training area for local agencies to teach high-risk driving techniques. The project recently won the Asphalt Pavement Association of Washington's award for the "the most innovative and special use of hot-mix asphalt."

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