

Parking lot an experiment in 'green' asphalt alternative; Volunteers help keep costs down at Moscow's PCEI

By Megan Doyle, Daily News staff writer

Roger Ames/Daily News

Dave Halvorson spreads gravel over a bed of Geoweb mesh in the parking lot of the Palouse Clearwater Environmental Institute Monday. The plastic material is being used as an alternative to asphalt paving.

Using environmentally friendly products goes hand in hand with goals of the Palouse-Clearwater Environmental Institute. So when Moscow city officials directed them to construct a parking lot, PCEI dove into researching alternatives to asphalt. What they came up with may someday be the preferred material for driveways.

"We wanted something that would allow us to do different things, like higher permeability and use less petroleum products," said Tom Lamar, PCEI director.

They also went with a material that's similar to what's under the White House lawn in Washington, D.C. PCEI had to pave the 12,000-square-foot parking lot near its building as part of its conditional-use permit from the city. In an effort to find a more environmentally friendly alternative, PCEI stumbled on the Geoweb® cellular confinement system made by Presto, a company that primarily makes plastic bags. There also is a tentative plan to use the Geoweb system as a planter, which will make the grass stall striping.

"The hope is that we can stripe it with grass instead of paint, but we have to figure out a method of doing that," Lamar said. The Geoweb section strengthens structural fill, controls lateral movement of in-fill material and minimizes ruts in the surface. Not only will the parking lot be made of the product, but so will the perimeter of the lot and the curb along the driveway, each of which also will be planted with grass or other vegetation.

The Geoweb system is also very porous, which allows for maximum groundwater replenishment and minimal surface runoff.

Construction of the parking lot began a week ago and is expected to be finished today. The striping of stalls, landscaping and construction of a water retention pond will be completed soon.

The Geoweb cellular confinement system was developed more than 50 years ago by the U.S. Army Corps of Engineers, said Toney Driver of Terra Enterprises, which sells the product. "It became an environmental issue for water crossings," Driver said. "It prevents erosion."

The new parking lot surface will continue to be observed by city staff to determine whether the Geoweb system is efficient, said Anne Clapperton, a Moscow city planner.

According to city codes, parking lots must have plant mix asphaltic concrete of two-inch thickness with six inches of crushed rock base or Portland cement concrete of four-inch thickness with four-inch crushed rock base surfaces. The code also leaves room for alternatives that have the same durability and can be adequately maintained.



"In all effectiveness for structure, it does meet the requirements," Clapperton said of city code requirements. The Geoweb load support system, which will prevent the surface from shifting and will support vehicles, meets the requirements.

"This does that by putting the material in a cellular web," Clapperton said. There are some city concerns regarding striping of stalls, handicap parking and maintenance of the system. "PCEI has been given until Sept. 1, 2008 to fully meet the requirements of the parking lot," she said.

The Geoweb system is a test run for Moscow. To date, city planners are not aware of the system being used anywhere else in the city, but they look forward to seeing the results of the test.

As an added benefit for PCEI, the cost for the Geoweb solutions reportedly is much less than standard asphalt when considering the costs of the total project, including labor.

The Geoweb system was placed by PCEI volunteers. "That helps to make it more doable," Lamar said. "Compared to traditional methods it is a little more expensive," Driver said, if only considering the price of materials.

The difference is the labor costs. The Geoweb system doesn't require skilled construction labor. Private donations funded the project, but PCEI still is accepting donations.

The parking lot site at PCEI will become a demonstration site of alternative and sustainable living practices for communities on the Palouse.

"It's part of our interest in educating the public about various green living techniques," Lamar said. "This is something people should be able to use as a driveway material if they want."

For more information about the parking lot project or to donate or volunteer, see the PCEI Web site at www.pcei.org.

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