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Building material can curb runoff

By Christina Marnik / Journal staff writer

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Editor's note: The following article is part of a series to celebrate Earth Day this week.

MARTINSBURG - A building material that has been available for more than 100 years is seeing a revival based on the new environmentally conscious consumer.

Among those are engineers, developers and government employees who attended a seminar Thursday hosted by Potomac Construction Industries meant to educate them on the benefits of pervious, or porous, concrete. The material can be used for streets, driveways, sidewalks and any other paved surface as a way to absorb water rather than contributing to storm water runoff.

"Pervious concrete has been around for a while, but ... the green movement and green building (have) brought this technology back to the forefront," said Mike Abbruzzese, president of Potomac Construction Industries, which produces the product.

Storm water runoff occurs when rain or melting snow flows over the ground. Man-made surfaces, such as sidewalks, streets and driveways, prevent the water from absorbing into the ground.

According to the Storm Water Outreach Alliance, chemicals, dirt, debris and other pollutants can be picked up by storm water and then flow into a storm water sewer or directly into a lake, stream, river, wetland or coastal water. Anything that enters a sewer flows untreated into bodies of water that could be used for providing drinking water or for recreational activities.

Pervious concrete is made using controlled amounts of water and cementitious materials to create a paste that forms a thick coating around coarse aggregate particles. The mixture contains little or no sand but still creates a paste that is sufficient enough to coat and bind the particles together in a way that is highly permeable, according to company representatives.

The coarse particles allow water to soak through the pavement and back into the ground, preventing runoff.

"This class was meant to educate architects, engineers and municipality government on how to solve storm water management issues and environmental issues," said Bruce White, the company's technical service director. "This helps dissipate the water rather than (let it) drain off and collect."

Any type of concrete is considered to be green because it is sustainable, made from local raw materials and light in color, which reflects light rather than absorbs it, resulting in less need for outdoor lighting. It is also a good insulator when used in walls, Abbruzzese said.

He added that porous concrete has all of these same qualities along with being liquid permeable.

This type of concrete is also useful for expanding populations, Abbruzzese said.

"As this area grows and we outgrow the existing storm water management that's currently being used, this product can be put in place to utilize current sewers," he said.

It also can limit the use of land for retaining ponds, he said.

Jason P. Gerhart, a project engineer with William H. Gordon Associates Inc., said he attended the seminar to see how pervious concrete works. He hopes to implement it in the future.

"I think it could be a real benefit to some of the water runoff issues some residents have. It can be a benefit to the environment as well," he said. "Knowing the background of how this works will make it easier to introduce it into new developments and work with the government to get this new type of pavement approved."

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Article Photos



Construction workers lay pervious concrete Thursday outside of Potomac Construction Industries in Martinsburg. The demonstration was meant to educate engineers, developers and government officials about the benefits of the environmentally friendly building material, which captures storm water and allows it to absorb into the ground. (Journal photo by Christina Marnik)