

Our Bay: 'Not just a pipe in the ground'

Developer tries bay-friendly stormwater controls

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For a developer, it was as good as things can get.

Officials with Reliable Contracting had all their permits in hand to lay pipes and install a giant stormwater pond at the Preserve at Severn Run, a 72-home development in the works in Millersville.

And then they threw them out.

At the nudging of environmentalists and the county's top public works official, Reliable started all over, and designed a system that will more naturally move stormwater off-site.

And if all goes according to plan, the system will reduce pollution and preserve the health of a rare trout stream nearby, the Jabez Branch.

The redoing and rehashing of plans set Reliable back a full year.

But the company's so convinced that it's the right thing to do that they're replicating the effort at another housing development on Kent Island called Ellendale.



Joshua McKerrow — The Capital

Landscape architect Keith Underwood shows a completed stream restoration in the Gambrills community of Aurora Hills that was paid for by the county. He's bringing similar techniques to a new housing development called the Preserve at Severn Run. The techniques use streams to handle stormwater instead of pipes and large holding ponds.



"It was a good opportunity for us to try a new system," said Liam O'Meara, project manager for Reliable.

How it works

The original plans approved for the site, also called Holladay Park, were in line with what's the norm for development, but not ideal as far as environmentalists are concerned.

The plans called for a mile's worth of underground pipes that would have funneled rainwater from rooftops, driveways and roads into a stormwater holding pond on the property. The pond would hold the water and discharge it through a pipe outfall.

But that process - which has been used in countless neighborhoods over the years - is flawed, environmentalists say. The pipes and ponds require maintenance, and the warm, dirty rainwater often washes into streams too quickly, scouring streambanks and harming aquatic life.

Under the new plan, the stormwater will be guided into one of two places - a stream that's being created out of an old overgrown gully, or a wetland that's being fashioned where the original stormwater pond would have stood.

The only pipe will be a short one linking the two areas, allowing water from the wetland to flow to the stream.

The stream looks something like a ladder, with boulders and rocks creating gentle barriers that allow the water to slow down and pool up on its way to the end of the stream.

Under the streambed, layers of underground gravel and sand allow water to percolate back into the earth.

Native plants such as pitch pines, magnolias, inkberries and Atlantic white cedar trees have been put in place.

The system is designed to handle the rain from a 100-year storm without any flooding or problems.

At the end, water that doesn't infiltrate the ground should be cool, clear and slow-moving as it hits a ditch that's actually the very beginnings of the Jabez Branch, a tributary to the Severn River and ultimately the Chesapeake Bay.

"We will have put a live stream on the ground," said Keith Underwood, a local

landscape architect who designed the system.

Mr. Underwood is a fervent promoter of such systems, which he calls a "regenerative stormwater conveyance system." He has led several county-funded stream restoration projects using similar techniques.

Many challenges

The Jabez Branch is home to a rare brook trout population and has gained special attention from the Severn River Commission, a panel of volunteers that advises the government on river issues. It was members of the commission, along with Ron Bowen, county director of public works, who encouraged Reliable to rethink the stormwater controls.

Mr. O'Meara from Reliable said the process wasn't easy. Even though Reliable officials were convinced of the benefits, county permitting officials weren't sold on it initially.

"I think the county had some misgivings, but Keith helped convince everyone it would work," Mr. O'Meara said.

Another challenge was educating Reliable's crews on the new techniques. A trip to one of Mr. Underwood's completed restoration projects in a nearby neighborhood called Aurora Hills helped them understand the vision.

Mr. O'Meara and Mr. Underwood chuckled as they recalled the crews putting the boulders into place across the stream. Normally accustomed to making sure everything lines up precisely, it was a fun challenge for them to put the boulders at random-looking angles.

Despite the challenges, Mr. Underwood and others believe that these systems should be the norm rather than the exception. If more construction projects involved natural movement of water, then there would be less pollution entering streams and ultimately ending up in rivers and the Chesapeake Bay, he said.

"It would stop the bleeding," he said. "We wouldn't be causing new damage."

Mr. O'Meara said there are benefits in addition helping the environment. The system is far prettier than a traditional stormwater pond, and so far, it's not costing the company any more money.

"Nobody wants to live next to stormwater ponds. They're ugly, they create

mosquitoes," he said. "We want it to be an amenity, something people can enjoy - not just a pipe in the ground."

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