

## PRESIDENT/TRUSTEE MESSAGE

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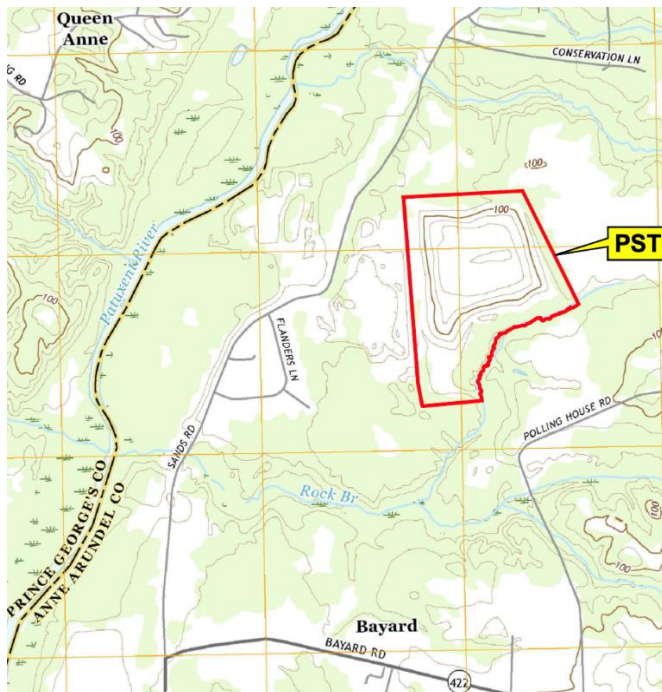


In 2007 CEPA accepted a community benefit grant from Anne Arundel County to monitor the environmental impact on the surrounding community of the closed PST-Harwood Landfill (PST) on Sands Road in Harwood, MD. This landfill, classified as a "Rubble Landfill", operated in the 1990s, before the State and the County adopted strict engineering design principles for this type of landfill. It is one of approximately 10 legacy landfills in the State that have no bottom liner to prevent groundwater intrusion into rubble within the landfill.



To understand why the PST Landfill presents a danger to the surrounding neighborhoods and also a threat to a major aquifer in southern Anne Arundel, we need to consider how it is constructed. Up until the 1990s, the US EPA and its predecessor organizations developed guidelines for keeping water from infiltrating the trash within a landfill. Impermeable caps were required, and water diversion trenches were required if groundwater could penetrate from beneath. As a result, landfills would then require considerable annual maintenance. Trees are not allowed to grow on the landfill, since their roots would penetrate the impermeable caps and pumps must run 24/7 to divert groundwater from penetrating below. The site location was not a consideration. Hence, these landfills discharge significant amounts of water into nearby streams. As a result, these landfills require a surface water discharge permit from EPA. The water discharged must not have contaminant levels that exceed the maximum contaminant levels set by the EPA. If it does exceed these levels, it must be treated at a hazardous waste disposal site.

So what does a rubble landfill in Maryland contain? It accepts waste derived from construction debris such as wood, metal, bricks and masonry, concrete, glass, shingles, and roofing material. It may also contain interior structures and materials such as carpets, floor and wall tile, asphalt, insulation material, pipes, and even appliances. Additionally, debris derived from land clearing operations such as tree stumps, brush and limbs, logs, topsoil, vegetation, and rock. Paper and cardboard packaging or building materials are accepted if they do not exceed 10% of the waste by volume. Empty paint containers and empty caulk or glaze containers are accepted, provided they do not exceed 1% of the waste accepted at the rubble landfill by volume. Wood and paper products are primarily organic materials that produce methane as they decompose. Appliances, paint, asphalt materials for example can be the sources of volatile organic compounds and some heavy metals.



Since July 1, 2001, the EPA guidelines have required all landfills to have liners and leachate collection systems. In addition, the liner system must be impermeable and located entirely above the composite high-water table. Landfills must now be sited to have a buffer distance between the liner and the maximum expected groundwater elevation at that location. More simply stated, the landfill must be constructed to prevent water infiltration from any direction at any time.

Since the PST Landfill occupies an exhausted gravel mine site that operated until 1999 when it was closed, it does not meet these requirements. As a result, it is grandfathered under regulations that existed prior to 2001. The geotechnical analysis for PST shows that its unprotected bottom lies within a few feet of the Aquia aquifer, a major drinking water aquifer for South County. In this area, the Aquia is semi-confined, which means that its water can mix with the surficial water aquifer. Thus, the diversion trenches at PST must intercept the natural groundwater flow and be pumped to the surface. At PST these trenches intercept about 250 gallons per minute, in other words, more than a small stream. A trench on the

western side of the landfill monitors the effectiveness of the natural groundwater diversion. This trench then captures any leachate and groundwater seepage. It is within this trench that violations have been observed. Over the years, cadmium, barium, volatile organic compounds, and iron found in this trench have exceeded the EPA limits.

In 2013 the Maryland Department of Environment (MDE) entered into a consent decree with Waste Management Inc. (WMI), the current owner of the landfill, to remediate and limit these contaminant exceedances. The solution agreed to by MDE combined the discharges from the trenches into a single pond. Here, the leachate is diluted with fresh water from the primary diversion trench. The levels of contaminants in the surface water discharged from this pond are below the levels proscribed by the EPA.

In the meantime, the surface water discharge permit for PST has expired, and WMI has applied for renewal. Rubble landfills are required to maintain these permits until such time as the MDE determines that a regulated discharge is no longer occurring. That begs the question, what happens if they make this determination? This landfill has mechanical systems that must operate 24/7. If they fail, water may enter the facility, and the leachate may contaminate the groundwater. One of CEPA's primary interests is the contamination of aquifers, and leachates from the landfill have the potential to expose the aquifer to toxic chemicals. CEPA accepted the community benefit grant to act as a third-party observer and to continue groundwater monitoring in the event that the landfill is considered permanently closed.

Currently, WMI is responsible for maintaining the integrity of the landfill and for guaranteeing that any discharge from it is safe. Any landfill that has a remote possibility of groundwater intrusion should require monitoring in perpetuity.

In order to protect the drinking water supply to area residents and the Aquia aquifer, CEPA recommends that MDE:

1. Establish a rigorous monitoring program that recognizes the unique conditions associated with PST and other unlined landfills in Maryland.
2. Create a class of discharge permits that establish requirements to address the extended time periods and other conditions such landfills warrant to assure protection of drinking water sources.
3. Identify and test drinking water wells downgradient from the landfill.
4. Ensure that the closure bond is sufficient to remediate future contamination.

CEPA will encourage appropriate State and County officials to create new or to amend existing laws/regulations to minimize threats to public health.