The Real Dirt On Brush Creek

Throughout America's eastern seaboard, rainstorms are a normal part of the local weather pattern. But over time, as development has changed the contours of local land and paved areas have multiplied, handling water runoff from storms – both to avoid flooding and prevent the degradation of waterways – has become a costly issue for many municipalities, including Cranberry Township.

It's not so much that the Township's volume of rain has increased – although there are communities in other parts of the country where unusually heavy storms have led to serious flooding, extensive property damage, and even loss of life over the past few years. No one is exempt from the possibility of huge storms. But to date, Cranberry has been fortunate in dodging weather extremes. And, at least so far, its stormwater infrastructure has been able to handle the rain events which have occurred without major incident.

In Cranberry, the issue of greatest concern is silt – the accumulation of dirt from soil erosion washing into Brush Creek.

Even so, managing stormwater in Cranberry has become a difficult and expensive undertaking. And it's becoming even harder thanks to a growing volume of Pennsylvania Department of Environmental Protection regulations. Today, in addition to building, maintaining and inspecting its network of municipal water-handling facilities including catch basins, conduits, culverts and detention ponds, the Township is also being tasked with safeguarding nearby streams from becoming polluted – and DEP takes a broad view of what constitutes pollution.

The source

Contamination in Pennsylvania's waterways can come from a variety of sources. The specifics depend on local land uses and the housekeeping practices of their residents and businesses. They frequently involve the sorts of toxic materials most people associate with pollution – things like automotive fluids, agricultural chemicals, hazardous household wastes and industrial discharges. But in Cranberry, it's different. Here, the issue of greatest concern is silt – the accumulation of dirt from soil erosion washing into Brush Creek.

Up the creek. *Exposed soil along the banks of Brush Creek contributes to the more than 4,000 tons a year of silt that accumulates in the stream. DEP has tasked Cranberry with reducing that volume of erosion.*

It's not a minor issue. According to DEP calculations, the total volume of sediment going into local streams – especially Brush Creek – amounts to more than 4,000 tons a year. Some of it may be inevitable. But the agency is requiring Cranberry to submit a plan to reduce that volume by at least ten percent to qualify for its next five-year Municipal Separate Storm Sewer System permit – the state license that allows Cranberry to authorize new land development. The Township's current permit expires in March.

The money

"It's another unfunded mandate," according to Township Waterworks Coordinator Tim Schutzman. "DEP walks you through your options and you try to find the most cost-effective ones for your situation. We've found that the biggest bang for our buck would come from stream bank stabilization. If you go into Graham Park, you can see how water is hitting the stream banks, eroding them, taking all that sediment into the water. DEP is telling us that their sampling shows we have a higher level of sediment than they allow."

Even though stream bank stabilization appears to be the most cost-effective approach to reducing sediment, it's still expensive, amounting to an estimated $300,000 over the next five years. Together with several other pollution reduction steps including tree planting, filtering, vegetative channel clearing and street sweeping, the cost would easily exceed half a million dollars over the five-year permit period. When you add to that the cost of maintaining its established water-handling infrastructure, it comes to nearly a million dollars a year – about the same as Cranberry's fire company.

Of course, Cranberry isn't alone in falling under the DEP's mandate, and many of the state agency's demands actually stem from federal requirements. As a result, Virginia, Maryland and other eastern states are similarly affected. Some municipalities have enacted taxes to finance the work; some have established fees; and others, including Cranberry, have absorbed the cost in their general fund operations. But with steadily growing mandates and the reluctance of state and federal agencies to offer money to fund them, financing stormwater management is expected to remain a long-term challenge. ~