

From: [Cathy Wiss](#)
To: [Dixon, Kenneth](#)
Cc: [David Lake](#); [Matthews, Catherine \(Catherine.Matthews@montgomerycountymd.gov\)](#)
Subject: RE: Clarksburg-Ten Mile Creek Area Sewer Study Citizens Advisory Committee (CAC) Meeting Thursday - Meeting materials attached
Date: Thursday, February 12, 2015 3:04:38 PM
Attachments: [image001eaa08f](#)

Dear Mr. Dixon,

Thank you for appointing me to the Citizens' Advisory Committee. Unfortunately, I will not be able to attend the first meeting tonight because I am teaching on Thursday evenings from now through March 19. During spring term (late April-June), I will be teaching on Wednesday nights. No one asked the committee members when they could attend a meeting before scheduling this one. I hope that before scheduling the next meeting you send around a Doodle Poll to find out what days work for members of the committee.

Because I cannot attend, I would like to submit the following questions and recommendations:

1. Unsuitability of soils in the Ten Mile Creek watershed for WSSC's plans

The 1994 Clarksburg Master Plan states:

Environmental studies for the Plan indicate that the Ten Mile Creek watershed has the greatest constraints for development. Existing sampling data, aquatic biota surveys, and field observations indicate that Ten Mile Creek has good water quality that supports a diverse environmental community. The combination of relatively healthy streams, existing wetlands, significant woodlands, and diverse land cover help provide valuable habitats. At the same time, *steep slopes and poor soils limit opportunities for development*. Of the Little Seneca sub-basins, Ten Mile Creek is the most prone to environmental degradation from development. (p. 138, emphasis added)

a) Shallow depth to bedrock

Most of the upland soils in the Ten Mile Creek watershed are characterized by shallow depth to bedrock. The two main complexes are Brinklow-Blocktown soils, ranging from 3-25% slope close the ridgelines, and Linganore-Hyattstown soils, ranging from 3-15% slopes at somewhat lower elevations. Both Brinklow-Blocktown soils and Linganore-Hyattstown soils are found in the Historic District and all of the major properties. The depth to hard bedrock (Ijamsville phyllite) is 35" for Brinklow soils; 21" for Blocktown soils; 51" for Linganore soils; and 26" for Hyattstown soils. This is why the septic systems in the Historic District do not "perc" well.

Questions about excavation: How deep must the soils be excavated to install gravity sewers and force mains? With depths to bedrock this shallow, could sewer pipes be placed below the surface at all without ripping or blasting the bedrock? How does this compare to installation of pressure sewers, which I understand are much smaller in diameter and can be placed in shallow trenches near or under roadways and be made to follow the up-and-down contour of the land?

Questions about ripping and blasting: Would ripping or blasting have to be done? If these activities cause cracks in the plaster, walls, or foundations of existing homes, who will compensate the homeowners? (I have an old house and know from personal experience that construction activity to break apart rock and blasting

cause cracks in nearby buildings.)

Questions about construction access roads: Access roads would have to be built down to Ten Mile Creek and its tributaries to bring in heavy equipment to excavate stream crossings, construct pumping stations, and install the gravity sewers and force mains. Some of these roads would have to be permanent to maintain access to the pumping stations. Do access roads have a slope limitation? How much of the hillsides would have to be removed to attain the proper slope for these access roads? How many trees and water resources would have to be destroyed in the process? How expensive would this be? Wouldn't it be cheaper to avoid slope removal and access road building? What will future costs be when the sewers and force mains in the creek and stream valleys have to be repaired or replaced, as is being done right now in Rock Creek and Sligo Creek? Please give long-range cost estimates for repair/replacement of sewer lines.

Recommendation: I urge WSSC not to rip, blast, or excavate into bedrock to provide sewer service, but to find a less destructive and invasive method.

b) Erodibility

Hyattstown channery silt loam soil on the Pulte/King and County properties is highly erodible. Even now, the effects of erosion are evident. While monitoring on Sunday, my team encountered a thick layer of new sand and gravel on the substrate of the mainstem near the ford on West Old Baltimore Road, carried during recent storms from erodible soils upstream.

In Hyattstown channery silt loam, hard bedrock (phyllite) is encountered at 26". Also limiting construction are the 15-45% slopes, rock outcrops, and potential for frost action. Yet WSSC's plans call for construction of a sewer line through this soil on the Pulte/King property, as well as sewer lines and a pumping station on County property in alternatives 3 and 4. Access roads would also have to be built through this soil.

When sewers are built on erodible soils, the soil eventually erodes around them and exposes them. Downstream sedimentation would be devastating, and the exposed pipes could limit fish passage. They also have a tendency to crack when exposed to cold air temperatures and leak sewage into streams.

Recommendation: Building sewers in this soil and on these slopes is unwise, expensive, and something that should be avoided at all costs.

c) Potential for flooding

Ten Mile Creek floods frequently. The effects are astounding and devastating, as can be seen in my video "Flooding at Ten Mile Creek", <https://www.youtube.com/watch?v=wKr0NwVUeWQ>, filmed during and after a summer thunderstorm. The opening scene shows tributary LSTM 112, a small first order stream, flowing over West Old Baltimore Road.

Despite the potential for flooding, WSSC is proposing to build pumping stations in flood-prone areas on the Pulte/King, Egan, County (alternatives 3 and 4), and Miles-Coppola (alternative 5) properties. Soils in these areas are Baile silt loam, Hatboro silt loam, and Glenville silt loam. In all of them the water table is high, but particularly so for the Baile and Hatboro soils, where it is no deeper than 6" during winter to spring. The potential for frost action is high.

Questions about the effect of high water table and flooding on pumping stations: If pumping stations were

built on soils with high water table, what could be done to prevent sewage spills and overflows from simply washing into the creek? What would happen if one of these pumping stations were flooded? Would pumping equipment be damaged or destroyed? Would that cause more spills and overflows?

Recommendation: I recommend not building any pumping stations on Baile, Hatboro, or Glenville silt loam soils to avoid the monetary and environmental costs of flooding and spillage into the creek.

2. Encroachment of sewers and pumping stations on the public park and greenway system and into protected buffers and forested areas

The 1994 Clarksburg Master Plan designates corridors along Ten Mile Creek for public parks and a greenway system. See Figure 34, page 88. WSSC's plans call for placing sewers and pumping stations on the Pulte/King and Egan properties within these public parks and greenways. This would seriously compromise the park and greenway experience for the public and high water quality of the creek, which the greenways are to protect.

The 1994 Plan designated stream buffers to be protected. The 2014 amendment expanded these buffers and included forest protection:

- "On the Miles-Coppola properties, the forest bounded by the two northernmost environmental buffer areas on the north and south, I-270 on the west, and the existing agricultural fields on the east"
- "On the Pulte/King properties, all forest adjacent to environmental buffers"
- "All forest on County-owned properties"

WSSC's plans would locate sewers and pumping stations within protected stream buffers and forests on the Pulte/King, Egan, and Miles-Coppola properties and also County property if the existing pumping station is relocated. Innumerable trees would have to be cut. It would take decades for the forest to regenerate, if it could regenerate at all.

Recommendation: Design alternatives that keep sewers and pumping stations out of the public park and greenway system, the protected stream buffers, and protected forests.

3. Encroachment into the creek itself and associated water resources

The 1994 Master Plan acknowledges the special qualities of Ten Mile Creek, in particular its high water quality. The 2014 Ten Mile Creek Limited Master Plan Amendment reaffirms this and states that "as a result of its unique characteristics, Ten Mile Creek warrants extraordinary protection." (Council Resolution No. 17-1048, page 8)

In all of WSSC's alternatives, the creek would have to be excavated to build sewers underneath it. Sewers would follow the creek in several places, either underneath it or adjacent to it, where seeps, springs, wetlands, and smaller tributaries abound. Force mains, and pumping stations might also encroach on the creek. Over time, sewer pipes crack and leak sewage into the stream or groundwater. This is not "extraordinary protection". In fact, it is no protection at all. Water quality will suffer irreparably.

Recommendation: Redesign the sewer system so that no sewers, force mains, pumping stations or other appurtenances cross or obliterate Ten Mile Creek, its tributaries, intermittent and ephemeral streams, seeps, springs, or wetlands.

4. Alternatives to gravity sewers

Other sewer systems are available that would not require encroachment into the creek, its buffers, forests, greenways, or public parks. One type of system that WSSC has used throughout Montgomery County is a pressure sewer system. In a pressure sewer system, wastewater does not have to flow to the lowest point in the landscape. The pipes can follow the natural topography up and down. The pipes are small in diameter, much smaller than gravity sewer lines. They can be installed under streets and do not require deep or costly excavation. Because they are pressurized, they are watertight. The pipes do not leak, nor can stormwater seep in through manholes to cause overflows. They may not need pumping stations at all. All reports say they cost less to build than gravity sewers. And because they are small and not located in inaccessible streams or stream valleys, they are much less costly to repair or replace.

A pressure sewer system is already being used in the Ten Mile Creek watershed. The Woodcrest subdivision in the headwaters of Ten Mile Creek across Route 355 from the Egan property has pressure sewers.

Another alternative is a vacuum sewer system, but these are most effective in areas with relatively flat topography.

Recommendation: Design alternatives with pressure sewers, and if feasible other types of sewers like vacuum sewers in order to avoid protected natural resources.

5. Questions about costs of sewerage Ten Mile Creek

a) Correctional Facility Pumping Station

Alternative 3 and 4 would move the pumping station at the correctional facility from its current upland site to a site adjacent to the mainstem of Ten Mile Creek. Soils in this area are either Hatboro Silt Loam, where the water table is high and flooding is frequent, or Hyattstown channery silt loam with a moderate hazard of erosion, only 26" to hard phyllite bedrock, rock outcrops, and steep slopes (15-25%).

Aside from the questionability and difficulty of locating a pumping station in this very steep stream valley and on these soils, who would pay for its relocation? The developers who want to have their sewage transported? The County, because the pumping station is on County property? WSSC ratepayers? I note that just last spring and summer, work was done to repair or upgrade the lines to this pumping station and perhaps to the station itself. It would be a waste of resources to redo the work so soon.

Recommendation: Do not relocate this pumping station.

b) Future costs for repair and replacement of sewers

Sewers do not last forever. Right now, WSSC is repairing or replacing sewers located in the North Branch of Rock Creek and Sligo Creek. In addition to the actual repair or replacement of sewer pipes, the work entails felling trees, building access roads and temporary bridges, bringing in heavy equipment, pumping sewage around the work area, and remediation after the work is complete. All of this is very costly. Ignoring these future costs skews the cost estimates for any project.

Recommendation: WSSC should provide analysis of future repair/replacement costs for each type of sewer

system and all of its components. In a gravity system, this would include not only the pumping stations, but also replacement/repair of the sewer pipes and force mains.

c) Costs of alternative sewer systems

All reports state that pressure sewer systems cost much less to install than gravity sewers. The City of Warwick, Rhode Island, estimates a cost savings of \$1,000 per home:

Homeowner connection costs to E/One pressure sewers generally result in significant savings compared to the conventional or modified gravity alternatives This homeowner savings represent a major advantage compared to gravity sewers. The savings to the community can be \$300,000 for a project with 300 houses.

Recommendation: Provide cost estimates for installing a pressure sewer system in the Ten Mile Creek watershed, and if warranted, a vacuum or other type of system.

Thank you so much for considering my questions and comments. I look forward to serving on the Citizens Advisory Committee and hope that I will be able to attend future meetings.

Best,
Cathy Wiss

From: Dixon, Kenneth [Kenneth.Dixon@wsscwater.com]
Sent: Tuesday, February 10, 2015 5:00 PM
Cc: David Lake; Matthews, Catherine (Catherine.Matthews@montgomerycountymd.gov)
Subject: Clarksburg-Ten Mile Creek Area Sewer Study Citizens Advisory Committee (CAC) Meeting Thursday - Meeting materials attached

Good evening, all:

Attached for your preparation for Thursday night's commencement of the Citizen's Advisory Committee (CAC) are the following documents regarding:

1. Our meeting agenda;
2. Information on the CAC's composition, purpose, etc.; and
3. The CAC's members

Again, on behalf of the Washington Suburban Sanitary Commission (WSSC) and Montgomery County Government's Department of Environmental Protection (DEP), we welcome you to the Clarksburg-Ten Mile Creek Area Sewer Study Citizens' Advisory Committee (CAC).

The first meeting of the CAC will be held on **Thursday evening, February 12, 2015, from 7:00 p.m. to 9:00 p.m. at the Montgomery County Government Upcounty Regional Services Center, Room A.** The address of the Upcounty Regional Services Center is **12900 Middlebrook Road, Suite 1000, Germantown, Maryland 20874.**

For your information, directions to the Upcounty Regional Services Center are provided via the following link, <http://www.montgomerycountymd.gov/upcounty/about.html>

Thank you for your patience, cooperation, and participation.

Kenneth C. Dixon
Planning Unit Coordinator - Sewer Planning Unit
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Established in 1918, today **WSSC** is among the largest water and wastewater utilities in the nation, with a network of nearly 5,600 miles of fresh water pipeline and more than 5,400 miles of sewer pipeline. Serving 1.8 million residents in Prince George's and Montgomery counties, WSSC drinking water has always met or exceeded federal standards..



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