

Solitaire Court Stream Restoration

Frequently Asked Questions

Is this the first stream restoration project constructed by the City?

The [Solitaire Court Stream Restoration](#) is the fourth one in the City. Three other projects are completed:

- A project in Blohm Park is finishing up now. The project page is available [here](#).
- In 2019, the Great Seneca Stream Restoration Project was constructed. A storymap for this project is available [here](#).
- A short stream restoration on Muddy Branch just upstream from Morris Park was constructed in 2016. This project has remained stable for nearly five years.

How was this project chosen?

During 2013-14, the City performed assessments in each of its three major watersheds. Each study looked for areas with opportunities for a variety of restoration project types to meet the goals of what was then a future water quality permit. The [Lower Great Seneca Creek Watershed Study](#) identified the tributary in Diamond Farm Park as a good place to site a restoration project (see segment GST-4 on page 56). Not only was the stream eroding its banks at this location, it was also eroding downward, making it inhospitable to aquatic life. Given that the stream's ecosystem had not shown any improvement since a 2001 assessment, this project was recommended to proceed to the conceptual design stage (p. 57) since the environmental benefits of restoring this section of stream were found to outweigh the environmental costs.

Do other jurisdictions perform stream restorations?

Many other municipalities in Maryland and the Chesapeake Bay Region construct stream restoration projects both as part of their watershed restoration plans and to protect infrastructure such as wastewater pipes.

Information on Montgomery County Government's stream restoration program can be found [here](#).

The Maryland State Highway Administration is also required to construct mitigation projects. Two of its stream restoration projects are within the City of Gaithersburg. In 2019, SHA restored a section of Long Draught Branch just downstream from the Firstfield Road / Quince Orchard Boulevard intersection. Part of the mitigation for the new Watkins Mill Road / I-270 interchange also included a stream restoration.

Also within the City, Asbury Methodist Village has constructed a stream restoration project on its property. Other nonprofit organizations, such as Glenstone in Potomac

and the Audubon Naturalist Society in North Chevy Chase, have chosen to restore streams on their properties.

What is the extent of the project?

The upstream end of the project is near the [Diamond Farms Park](#) tot lot and courts. The downstream end is at the tributary's confluence with Long Draught Branch behind the field at [Robertson Park](#).

When will the construction begin? How long will it last? Will the park be closed during construction?

Construction is expected to begin in late July, 2021 and last six to eight months. Most of the park will remain open; however, the tot lot and courts might be too noisy and dusty for enjoyment of these amenities.

Will the trails in Diamond Farms Park be impacted?

Some of the trails that parallel the tributary will be closed during construction. A dirt trail in the same location will be replaced at the conclusion of the construction. Most of the trail that leads from the stream to the Robertson Facility will not be impacted during construction.

Hikers that ford the tributary near the northern end of Diamond Drive will find a shallow riffle at the same location after construction. With the exception of storm events, hikers should continue to be able to cross the tributary after the restoration is complete.

Will the stream become a storm drainage ditch?

The new configuration of the stream will look like a stream. The new banks and floodplain will enable the stream to withstand the erosive forces from stream flows expected during a [100-year storm event](#).

Will the stream be filled in with dirt?

In one location the stream banks will be filled in with compacted soil. A new channel for the stream will be created in an adjacent area. The stream needs to be rerouted in this location because it has moved onto a private property and is endangering a wastewater pipe and a private home. About 20 years ago, when this issue was first noticed, rocks were placed on the banks as a spot treatment to protect the home and wastewater pipe from the encroaching stream. That solution worked for a while. Now a more permanent solution is necessary.

Will the park be clear-cut of its trees?

Most of the trees along the stream will be removed so the banks can be reconstructed. Other trees will be removed to allow access for the construction equipment. Some trees within the limits of disturbance – and some close to the limits – will be protected from the construction equipment. Most of the trees at the park will remain. The limits of

disturbance will be revegetated with native trees, shrubs, grasses and groundcovers in the spring of 2022. It will take a year or two for the park to fully revegetate.

What kind of approvals and permits does the City have for this project?

Before construction can proceed, environmental permits from the Maryland Department of the Environment, the U.S. Army Corps of Engineers, the Washington Suburban Sanitary Commission, and the City itself are required. The state and federal permits have requirements for identifying critical habitats, endangered species, and impacts to wetlands and floodplains. These issues were discussed with the permitting agencies early in the design process.

The proposed impact to the trees in and near the project area required a variance from the City. On January 20, 2021, the Planning Commission [unanimously approved](#) the variance at a public hearing. The presentation from the January meeting is available [here](#).

Why is this project being constructed now?

As part of the federal [Clean Water Act](#), Maryland requires cities to have a watershed improvement program and meet restoration goals. The restoration credits from this project will help the City meet the restoration goals of its current permit.

The U.S. Department of Agriculture's information on stream restorations says that stream restoration projects should keep the trees along the stream banks. Why are trees being removed here?

The causes of water quality issues in urban areas are different than those in agricultural areas. Poor water quality in agricultural areas is usually from the overuse of fertilizers and animal waste left on pastures. A best practice to manage those excess nutrients is to have trees along the streams that will use the nutrients before they reach the stream.

In urban areas a main culprit of poor water quality is excess impervious area that ends up allowing rainfall to quickly access and overwhelm streams. Using urban stream restoration techniques, this project will help slow down the flow in the stream by dispersing it to a floodplain area. Unfortunately, when reconstructing urban stream banks to withstand storm flows, the trees on and near the current banks need to be removed.

Are the City's watershed restoration goals being fully met with stream restoration projects?

Gaithersburg's Watershed Restoration Plan includes green street projects, retrofits of existing stormwater facilities and street sweeping in addition to stream restorations.

Is the EPA considering granting extensions to permit requirements based on the impact of COVID?

The Maryland Department of the Environment staff who administer Gaithersburg's permit have said that there are no extensions planned for watershed restoration requirements.

Are stream restoration projects more stable when there are stormwater facilities upstream?

Stream restoration projects can be considered better stabilized if there are other stormwater facilities located upstream that can buffer the flow of storm runoff into the stream. For the Solitaire Court project, there are three existing bioretention facilities upstream. In addition, a plunge pool to dissipate energy from the storm drain outfall is included at the upstream end of the project. Whether or not there are upstream facilities, the most important design criteria is to have resilient, stable stream banks able to withstand the stress of extreme storm events.

How is this project funded?

The Stormwater Program Fund is the source for the design and construction funds for this project. Property owners in the City with impervious surfaces pay into the fund based on the extent of the impervious surface. More information on the Stormwater Program Fund is located [here](#).

Why haven't I heard about this project until now?

The Stormwater Program held a well-attended public meeting in 2017 to discuss design options for possible watershed improvements to be located at this park. Once the project's design was complete in early 2021, a public hearing with the City's Planning Commission was advertised by postcard to nearby addresses, by signage in and near the park, to people who attended the 2017 meeting, to nearby HOAs and condominium associations, and on the City's [Meeting Center](#). An April 2021 stream walk was advertised to the people who had attended previous meetings, on the Green Month event list, on social media @GburgMD, and by signage at the park. Each event increases our list of interested parties for the next information update.

Updates are also made to the Solitaire Court Stream Restoration Project Page [here](#). [Subscribe](#) to the City's *inGaithersburg* newsletter to see weekly updates on all City projects.

Was community input considered in the decision to change the project from a wet pond to a stream restoration?

In 2017, the project consisted of both a wet pond and a stream restoration. The wet pond was removed from the project based on community input. The stream restoration portion of the project has been a part of the restoration work from the beginning.

Was the monitoring that preceded the project done over a period of years?

Assessments of this tributary were performed in 2001, in 2013 as part of the [Lower Great Seneca Creek Watershed Study](#), and most recently in 2017-19 by the design engineers. The watershed study concluded, “the 2001 stream sampling results are similar to those found in 2013; therefore, conditions have not changed significantly at [the Solitaire Court] monitoring site . . .” (p.4-17). The 2013 study recommends this tributary for restoration.

The design engineers for the project used the methodology from a U.S. Environmental Protection Agency paper, [A Function-Based Framework for Stream Assessment and Restoration Projects](#) (Harman *et al.*, 2012), to ensure that the most appropriate design approach was selected. The analysis showed that the tributary is not functioning at any of the five functional levels: hydrology, hydraulics, geomorphologic, physiochemical, and biological.

The design of the restored stream was modeled. Once the restoration is complete, the model indicates the tributary would operate on a functional level for geomorphology and a functioning-at-risk level for hydrology and hydraulics. The physiochemical function of the stream is expected to experience uplift once the erosion and sediment load is reduced. The biological function is expected to experience uplift once the aquatic and terrestrial habitats improve with floodplain reconnection, and the riffle-pool sequences and stable step pools are established. Full functionality is restricted by the stream’s proximity to existing homes.

Why is a functioning ecosystem being removed?

Based on a 2017-19 assessment of the stream corridor using an EPA-approved methodology, this stream corridor is not a fully functional ecosystem. While some parameters are functioning at risk, many parameters are nonfunctional.

How does making the stream banks more resilient help the environment?

The restoration will make stream banks more resilient to the erosive stresses of storm events. Using the Chesapeake Bay Program’s approved model, assessment of current stream bank stability, and lab testing of the nutrients in stream bank soils, it is estimated that there will be a decrease of 589.1 pounds per year of nitrogen, 156.5 pounds per year of phosphorus, and 361.6 tons per year of sediment at the completion of this project.

Are the invasive species along the stream corridor a result of the sewer line installation?

It is difficult to connect the invasive vegetation in the stream corridor with the sewer construction. Most of the sewer pipes parallel to the stream are in the rear yards of the homes on Solitaire Court, where the occupants maintain turf yards. The bamboo and *rosa multiflora* are lush on the opposite side of the stream from the sewer line.

Why aren't there requirements for post-construction invasive species control in the construction drawings and special provisions?

Requirements for post-construction monitoring and invasive removal are in the state and federal agency permits for the work, not the construction drawings and special provisions. The contract with the design engineer includes funds to develop a post-construction monitoring plan. The design engineer will be given the go ahead for preparing the post-construction monitoring plan when the construction is nearing completion.

How can this be a Chesapeake Bay Project when Gaithersburg is, as the crow flies, 50 miles from the bay?

Jurisdictions and agencies within the six states and the District of Columbia that make up the Chesapeake Bay watershed are all required to participate in the Bay's clean-up. Poor water quality, primarily excess nutrients and sediments, in upland areas will eventually flow downstream to the Bay. For more information on the Chesapeake Bay Program, please see its overview [here](#).

Will wildlife be exterminated?

Wildlife in Diamond Farms Park will not be exterminated. It is expected that terrestrial wildlife and some of the aquatic species will move away from the area when the construction equipment arrives. Wildlife normally returns to the area once the construction is over. One of the reasons this site was chosen for a stream restoration project was that the assessment of the stream-bottom macroinvertebrates, performed as part of the [Lower Great Seneca Creek Watershed Study](#), showed that there was poor habitat and few organisms in this stretch of stream.

Where is more detailed information about the project available?

The construction drawings and specifications are available on the City's [Procurement page](#), which is also accessible from the [Solitaire Court Stream Restoration Project Page](#).

The replanting plan is located on Sheets 56-61 of the drawings. The extent of the invasive bamboo grove proposed for removal is depicted on Sheets 5 and 6 of the drawings.