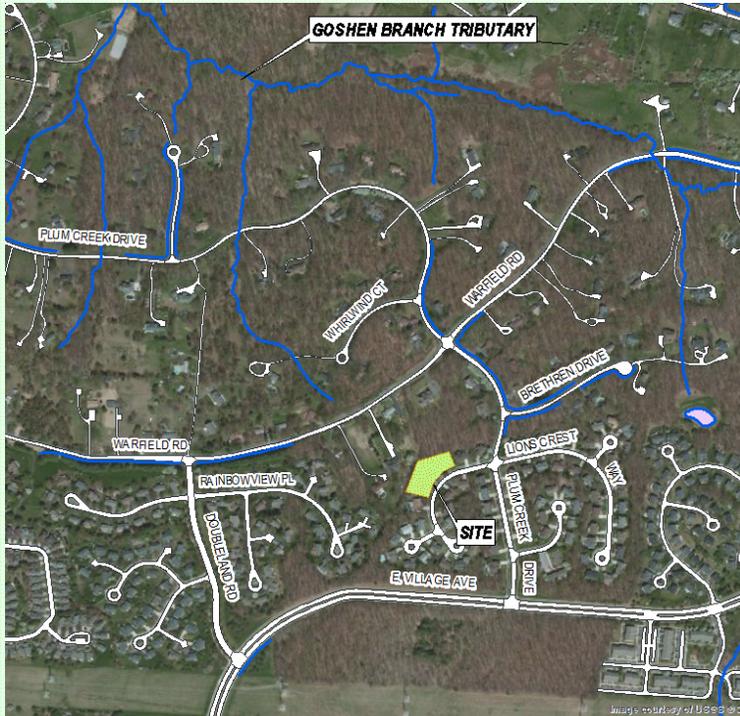


Watershed Restoration FACTSHEET:

COLLINGWOOD HOA (GOSHEN ESTATES) STORMWATER POND RETROFIT



Vicinity map showing location in Gaithersburg, MD

Watershed Facts:

Watershed: The Collingwood HOA Pond drains to a tributary of Goshen Branch. Goshen Branch is a tributary of Seneca Creek, in the Potomac River watershed.
Pond drainage area: 18 acres (0.03 sq. mi.)
Drainage area imperviousness: 43%

Property Ownership:

The proposed limits of disturbance are entirely within Parcel A of the Goshen Estates subdivision. The land is owned by the Collingwood Homeowners Association.

Restoration Goals:

Restoration goals for this project include reconfiguring storage within the pond to improve the health of receiving waters and bring the pond into compliance with current safety and design standards.

Restoration/Retrofit Project Facts:

Total impervious area treated: 7.6 acres
Project status: Concept (30%) design
Estimated construction start: Spring 2014

Other Facts:

The area in and around the pond will be revegetated with a variety of attractive and site-appropriate native plants.

Project Description

The Montgomery County Department of Environmental Protection has selected the Collingwood HOA (Goshen Estates) stormwater management pond for a stormwater retrofit project. The project is located in the Goshen Estates neighborhood within the Goshen Branch watershed.

Similar to other stormwater pond retrofit projects that are ongoing throughout the County, this project is designed to assist in compliance with the County's Municipal Separate Storm Sewer System (MS4) permit by treating

stormwater runoff using current, proven methods. This project will help to restore water quality, stream health, and ecological function in Goshen Branch and downstream waters, including Great Seneca Creek.

Existing Conditions

The drainage area to the pond lies within the Goshen Estates community. The drainage area is fully developed and has 43% impervious cover. Land cover consists of single-family residential homes on ¼ acre lots, as well as open space with several areas of tree canopy. The pond was constructed in the

early 1990s and currently acts as a dry detention facility, receiving piped flow from the community. The pond is in good structural condition and is well maintained. However, the pond does not provide the treatment and control needed to protect downstream receiving waters.

View to south of pond, riser, and embankment.



**Restoration/Retrofit
Actions and Benefits**

Advances in stormwater management since the 1980s have shown that flood control ponds alone do not provide adequate protection for the County's valuable natural resources. The retrofit is proposed to prevent frequent long duration erosive velocities downstream of the site, which will result in improved water quality and will better protect the Goshen Branch and Seneca Creek stream systems.

The retrofit design proposes the addition of a forebay, expansion of the pond volume, and replacement of the existing outlet structure. The forebay will be added to detain the initial inflow generated from frequent storm events. This detention will help separate sediment and

pollutants from flows prior to downstream discharge. To gain the storage volume required, the southern pond bank will be graded at a slightly steeper slope and the bottom of the pond will be widened. The overall pond footprint will remain the same. The north and west pond banks will include minor grading only to accommodate a new outlet structure.

The additional volume will allow frequent storm events to be detained and released over an extended period of time. This extended release will help protect the downstream receiving channels from being eroded by frequent storm events. The extended release will also help remove common stormwater pollutants such as sediment, nutrients, hydrocarbons, and metals.

The new outlet structure will be constructed to convey large storm events and reduce flood elevations during large storm events. Reducing the flood elevations will help prevent dam failure and downstream property damage. The project area will be revegetated with native dryland grasses that are attractive and site-appropriate.

The pond improvements proposed with this project will provide stormwater management for an 18-acre drainage area, including 7.6 acres of impervious surface. This will help the County meet its watershed restoration goals and will improve habitat, stream health, and water quality in Goshen Branch, Great Seneca Creek, and ultimately the Chesapeake Bay.

Embankment with existing concrete riser structure.



View to the east.



View to the south.



For more information:

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