



GREEN STREETS | GREEN JOBS | GREEN TOWNS INITIATIVE

The Green Streets, Green Jobs, Green Towns Partnership (G3) aims to stimulate the green jobs market and enable families to work where they live and play. Small to mid-sized communities can boost their local economies and protect water resources through the use of watershed planning, design and construction of stormwater best management practices.



 1 concept plan created

 20 volunteers engaged

 3 workshops with 20 attendees



TOWN OF BARNESVILLE

Barnesville Stormwater Management Concept Design

Barnesville MD is a small, (population 172 according to 2010 census) historic, rural municipality located in Western Montgomery County. The town does not own the roads or one of the key locations where stormwater originates, but the town residents are affected by the results. Because of this, the town had discussions with St. Mary's Catholic Church, and Montgomery County Department of Transportation to address the stormwater run-off that was damaging roads, sidewalks, driveways, and other private property. St. Mary's Church, with several paved parking areas, sits on top of a hill. During storms, water runs down one parking area to a storm drain which drains across the street and down West Harris Road through a culvert built approximately in 2008. The water continues through fields, carrying sediment, pollutants and manure through residential properties, flooding basements and destroying fields, and eventually ends up into a stream. The volume and force of one stream overflow completely washed out a driveway bridge across the stream.

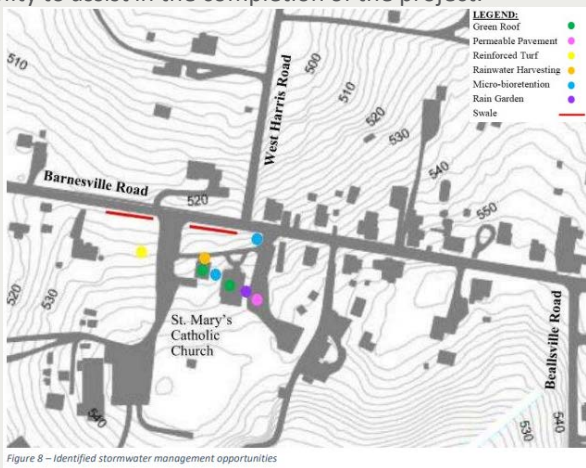
The Town contracted Charles P. Johnson, Inc. (CPJ), who created a final conceptual plan. CPJ identified opportunities where green roofs, permeable pavements, pavement removal, reinforced turf, rainwater harvesting, micro-bioretenion, rain gardens and swales could be implemented.

In the second phase of the Plan, CPJ recommended several specific projects that would address the stormwater problems, indicating those projects that would require County approval and implementation and those that can be implemented by St. Mary's Church.

This project also increased the awareness of town residents in stormwater management issues. In addition to the educational community outreach provided by the contractor, stormwater management issues and questions were discussed regularly at town meetings. Several other areas in town were identified as having stormwater run-off issues as a result of these discussions.

PROJECT ELEMENTS

- **Concept plan** – The conceptual plan created covered green infrastructure suggestions for different parts of the Town of Barnesville, including green roofs, rain gardens, and permeable paving.
- **Green roof** – These rooftops are overlaid with a lightweight soil media that can support plants. They help to improve water quality by filtering, absorbing, or detaining rainfall.
- **Rain gardens** – These features filter and reduce stormwater runoff, allowing it to infiltrate into the ground before it enters into the storm drain system.
- **Permeable paving** – This alternative to traditional black top allows surface water to flow into the ground where the volume can be held, infiltrate into the lower soil or conveyed through a stormwater system. Porous paving is a good application for areas that require a hardscape surface and have no viable options for stormwater management. There are various applications and styles making porous asphalt a good aesthetic option as well as functional.
- **Community Engagement** – This project engaged 20 volunteers from the local community to assist in the completion of the project.



SUSTAINABILITY & GROWTH

The town submitted its conceptual plan to St. Mary's Catholic Church with a list of possible grant and other funding opportunities. The town offered on several occasions to help the Church obtain grant and/or other funding sources for the engineered design/implementation phase of the project. The engineering consultant met with the County, providing them the Final Concept Plan and suggestions for the improving stormwater management in the County Right-of-Ways.

The town envisions this concept design proposal as a first step in identifying solutions to stormwater run-off issues affecting town residents. Walking through town with prospective contractors has increased awareness of the importance of green infrastructure in protecting property and ensuring the safety of town residents. The Town of Barnesville hopes to work as much as possible with Montgomery County Department of Transportation, Department of Environmental Protection, and Maryland Department of Natural Resources. The town will explore other grant programs to address green infrastructure and conservation landscaping further down West Harris Road and along the stream bed as many of the metrics that would indicate success (reducing damage to streets and private property and reducing stream overflow) may only be significant if other projects were initiated alongside this one.

Year Awarded: 2020

Award Amount: \$14,960

Runoff at St. Mary's Church



Project Partners: Charles P. Johnson Inc., Chesapeake Bay Trust, Montgomery County Department of Transportation, St. Mary's Catholic Church, Town of Barnesville, U.S. Environmental Protection Agency