

1. Why is green infrastructure needed in the Farmington Quaker Crossroad Historic District?

2. What are the green infrastructure practices and techniques suitable for this area? Where should these practices be implemented?

3. What are the advantages of implementing these practices?

4. What are examples of successful green infrastructure practices here and in other historic districts?

History

Farmington is a town located in the northern part of Ontario County. The Farmington Quaker Crossroads Historic District was officially recognized and listed on the National Register of Historic Places in 2007. The historic district includes 11 contributing properties, and centers around the Farmington Friends Meetinghouse, which is an orthodox Quaker meetinghouse that was built in 1876.



Quakers are known for their passivism, and environmental awareness. Historic photos of the Quaker meetinghouse show lawn parking, rather than an impervious area, and a heavily vegetated garden that surround the structure. The garden helped soak up and absorb any excess rainfall thus minimizing the amount of stagnant and standing water. Farmington is a very flat area, therefore, the more vegetation the more the risk of flooding is reduced. Farmington is also home to natural freshwater wetland. Utilizing green infrastructure can help mitigate stormwater issues, but also allow for a more natural and strong local ecosystem, encouraging the valuation and use of preserving this wetland.

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About the FLI-Community Design Center (FLI-CDC)

The Finger Lakes Institute, in partnership with Hobart & William Smith Colleges has created a community design center that strives to provide Finger Lakes communities with innovative, creative, and sustainable design solutions that improve the built environment and quality of life, while protecting the natural environment.

Communities throughout the Finger Lakes region share similar economic, environmental, and social characteristics mainly as a result of the natural assets and history of the region. The current and future state of communities relies on improving quality of life for all citizens, being good stewards of natural resources, and fostering the responsible growth of the built environment. To support these efforts, we offer comprehensive sustainable community development planning and design services to communities throughout the Finger Lakes region.

- It is our mission to:
- Raise awareness of the benefits and potential of sustainable community development and design for small towns, villages, cities and other entities;
 - Encourage preservation and protection of natural resources and the built environment;
 - Facilitate regional planning and collaboration among communities, businesses, non-profits, higher education institutions, and other entities;
 - Foster community resilience by providing an active resource center for holistic community planning and design and disseminating our expertise nationally.

Please contact us at fli@hws.edu for more information.

About this Project

The primary goal of Green Infrastructure for Historic Districts is to provide assistance to municipalities and residents who wish to incorporate the concepts and practices of green infrastructure into their structures while maintaining the historic integrity of the individual buildings and the overall character of their community.



How to Grow a Green Community A Guideline for Stormwater Management

Farmington
Quaker
Historic
Crossroads
District

1. In the context of stormwater management, the term “green infrastructure” includes a wide array of practices at multiple scales to manage and treat stormwater, maintain and restore natural hydrology and ecological function by infiltration, evapotranspiration, capture and reuse of stormwater, and establishment of natural vegetative features.

As impervious ground cover increases with development, such as roadways, buildings and sidewalks, run-off from rain and snow events increases. As this run-off travels across these surfaces, it collects pollutants and contaminants. With traditional grey infrastructure, it travels to sewers and pipes, and is often deposited untreated into local waterbodies, harming the ecosystem. Green infrastructure provides opportunities to reuse that water, filter it and re-charge the groundwater aquifer, protecting the natural environment. Many green infrastructure practices today actually were common place in the Farmington Quaker Crossroads Historic District in the 19th century, pre-industrialization.

The green infrastructure techniques recommended are intended to improve the absorption of water, reduce risk of flooding, and minimize the spread of pollutants and contaminants. The district surrounds an open green space, therefore the recommended techniques are meant to blend in with existing infrastructure.

● A **filter strip** is a type of buffer strip that is an area of vegetation, generally narrow and long, that slows the rate of stormwater runoff from impervious surfaces. Vegetated filter strips are one of the best management practices to alleviate the pollution. The most ideal location for implementing filter strips would be one that can catch the most amount of water runoff.



2. The green infrastructure techniques proposed and recommended for Farmington Quaker Crossroads Historic District include:

Porous Pavement, Rain Gardens, Bioswales, and Filter Strips

● **Porous, or permeable pavement** is material that allows storm water to move through the surface and be absorbed rather than flow over the surface. This technique is ideal for low traffic roads, like the driveway and parking lot for the Farmington Friends church and Meetinghouse which is typically only accessed by residents or the infrequent park visitor who travels by car.



● **Rain gardens** are shallow depressions in the landscape that are planted with deep rooted native plants and grasses. Rain gardens should be placed around edges of a building, near downspout outlets, or frequently wet and soggy areas of yards. It is recommended to walk a property during a rain event and note where water runs and ponds naturally. This is where the garden should be installed.



● A **bio-swale** is a drainage channel that is broad and shallow with a dense stand of vegetation covering the side slopes and bottom. Bio-swales slow and cleanse runoff by filtering it through natural vegetation processes. Swales should be designed with native species to filter storm water pollutants to maximize the swales' effectiveness at managing stormwater. Putting together the swale ditch and the vegetated strips create a vegetated bioswale.



3. The benefits of implementing these green infrastructure techniques include: minimizing the spread of pollutants, filtering out pollutants, reducing erosion, slowing the speed of water, recharging ground water, collecting and storing free water resources for use, improving aesthetics, reducing the heat island effect, and strengthening the local ecosystem.

Specifically, **porous pavement** is effective at taking out heavy metals from water and restoring ground water levels. **Rain gardens** improve water quality and reduce storm water pollution by collecting and using rain water that would otherwise be drained into the sewer system. The usage of **vegetated bioswales** both benefits homeowners monetarily, protects adjacent properties in the long run and is beneficial for the natural environment. **Filter strips** can provide many environmental benefits including protecting surface water quality by trapping and filtering sediment, nutrients, pesticides and pathogens in water runoff and protecting groundwater quality by preventing contaminants from leaching into the water table.

4. Farmington utilized waterways to build up a healthy mill industry pre-industrialization. Pictures of Mud Creek, for example, during this era show a healthy creek lined with heavy vegetation and trees. This vegetation helps slow and filter water as it flows, while also preventing flooding during heavy rain fall events by being able to absorb more water. This natural event is mimicked by **filter strips** and **bioswales** in more urban areas, or adjacent to **porous pavement** to help reduce the spread of pollutants, minimize erosion, and prevent flooding. **Rain barrels** were also important for capturing and storing water resources to irrigate fields, and water gardens. The iris plants A.B. Katkamier cultivated, probably required a considerable amount of water to keep them healthy and thriving. Water storage of some sort probably played a major role. Not all of Farmington residents have access to public water either, therefore a rain barrel could help reduce any water stress.