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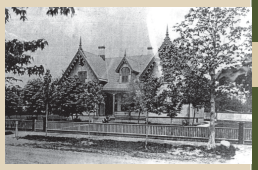
History

Canandaigua National Historic District includes 354 properties, with 338 contributing residential, commercial, religious, and civic properties; the North Main Street district was recognized and listed on the National Register of historic Places in 1973. North Main Street includes structures that date from 1810s to the 1930s and contain multiple different architectural styles. Greek revival, Italianate, and Colonial Revival are among the most common.



The residential area in the Historic District has often been characterized by its wide, tree lined streets - a major contributing factor in design throughout the 19th and 20th centuries. This can be seen in the photo to the right, which shows North Main Street in 1907 lined with trees that separate the sidewalk from the road. The Gibson Street image underneath it also shows a canopy tunnel of trees densely lining the road. In front of a historic home, the Gibson House, three small trees can be seen, planted behind five mature trees that reside in just the front lawn that are between the sidewalk and road.

Acknowledgements

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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.

FINGER LAKES INSTITUTE

HOBART AND WILLIAM SMITH COLLEGES

How to Grow a Green Community

A Guideline for Stormwater Management

Canandaigua National Historic 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.

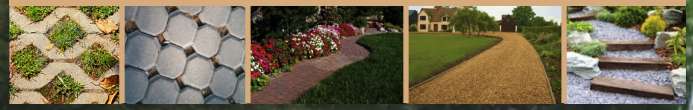
As impervious ground cover increases with development, such as roadways, buildings and sidewalks, run-off from rain and snow events increases. As this run-off travels across these surfaces, it collects pollutants and contaniments. With traditional grey infrastructure, it travels to sewers and pipes, 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 Canandaigua National Historic District in the 19th century, pre-industrialization.

Green infrastructure has the ability to slow the flow of water and trap it, helping the soil more slowly absorb and filtrate the water while restoring and recharging ground water naturally, rather than through manmade pipes and infrastructure. The specific green infrastructure techniques that have been suggested for Canandaigua's historic district given it's rich history, and particular location and existing built infrastructure are listed below.

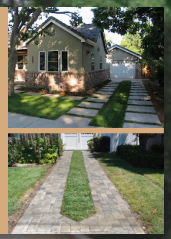
2. The green infrastructure techniques proposed and recommended for Canandaigua National Historic District include:

Porous Pavement, Ribbon driveways, Shared driveways, Bio-swales, Rain gardens, Rain barrels, Tree Planting, Stormwater planters, and Roof gardens

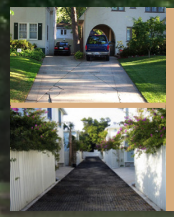
- **Porous, or permeable pavement** is material that allows storm water to move through the surface and be absorbed rather than flow over the surface.



- **Ribbon driveways** are drives where the ruts from wheels are paved leaving a strip of grass or other permeable material in the center. A ribbon driveway slows the water moving over a driveway during storm events causing sediment and pollutants to drop out or be slowly filtered out.

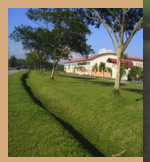


- **Shared driveways** are spaces that are used to serve two or more individual properties. This is when individual properties, either on the same site or from nearby sites form an agreement to share available parking and/or driveways.

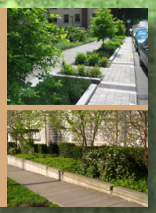


- **Tree planting** refers to concentrated groupings of trees planted in landscaped areas while tree pits, also called tree boxes, generally refer to individually planted trees in contained areas such as sidewalk cut-outs or curbed islands.

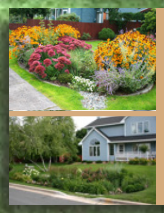
- A **bio-swale** is a drainage channel that is broad and shallow with a dense stand of vegetation covering the side slopes and bottom. Bio-swales slow and cleanse runoff by filtering it through natural vegetation processes.



- **Stormwater planters** are small landscaped stormwater treatment devices that can be placed above or below ground and can be designed as infiltration or filtering practices. Three versions of storm water planters exist: contained planters, infiltration planters, and flow-through planters.



- **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.



- **Roof gardens** are any kind of gardens that are grown on the roof of a building. They normally consist of a waterproof membrane, drainage layer, a thick layer of soil (typically 12 inches or more), and vegetation.

- **Rain barrels** are water tanks used to collect and store rainwater runoff, typically from rooftops via rain gutters. Barrels usually range from 50 to 80 gallons and have a spigot for filling watering cans and a connection for a soaker hose.

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. **Ribbon driveways** help increase property values and the appeal of a neighborhood. **Shared driveways** not only reduce impervious landscapes, but also have economic incentives such as reducing costs of developing and maintaining parking areas. The usage of **vegetated bioswales** benefits homeowners monetarily, protects adjacent properties in the long run and is beneficial for the natural environment. **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. **Rain barrels** are useful tools for saving money and reducing stormwater run-off. They easily collect gallons and gallons of water for gardening, car washing, pet washing, and other lawn care utilities, which reduces demand, and amount you are billed for each month. **Storm planters** are another creative way to incorporate "gardens" into urban areas. Hanging planters in front of storefronts and homes are always an aesthetic addition to an area, storm planters are just another way to achieve this effect on a larger scale. **Roof gardens** are beneficial in reducing rain run off and reduce the overall heat absorption of the building, which then reduces energy consumption.

4. Many home exteriors on Howell and Gibson Streets, for example, have pathways with spaced out stones framed by grass, where water could easily run off the surface and be absorbed by it's surrounding environment. This is considered a form of porous pavement that is a creative way to help recharge groundwater and help drainage. Canandaigua's historic district is in no short supply of ribbon and shared driveways, many of which are gravel with a strip of grass down the center - another example of porous paving. Canandaigua also has a rich history of gardening, as can be seen by the extensive gardens and landscaping that decorate many of the historic homes in the area. These gardens help absorb water, keeping it from damaging foundations or pooling.