Norris Street Stormwater Tree Trenches

The Norris Street Stormwater Tree Trenches project is located in Philadelphia and is funded by the Pennsylvania Infrastructure Investment Authority (PennVest). This project involves the installation of stormwater trees at five sites in Philadelphia to manage stormwater. The trees are designed to infiltrate the pits and trenches, and their implementation is expected to improve the quality of life in the area by reducing the urban “heat island” effect and improving air quality. The project is expected to benefit multiple locations including public streets, parks, and riparian buffers.

The trees were planted in three types of locations:
- Public streets
- Parks and open space
- Riparian buffers

This project aims to improve the urban environment by integrating green infrastructure solutions to address stormwater management needs. The trees are expected to enhance the aesthetic appeal of the area while contributing to the overall environmental health.

PennVEST Tree Planting and Tree Trenches

Philadelphia Water Department

Philadelphia, PA 19123

3rd and Wildey St.

Contact:
Norris Street Stormwater Tree Trenches, Philadelphia

STORMWATER TREE TRENCHES

PROJECT DESCRIPTION

More than 6,000 trees were planted in Philadelphia and the surrounding counties, with economic stimulus funding awarded by the Pennsylvania Infrastructure Investment Authority (PennVest).

As a “green infrastructure” project, the trees are intended to help alleviate flooding, manage stormwater, protect sources of drinking water, reduce the urban “heat island” effect, and improve air quality. The trees will also improve the quality of life in areas neighboring trees, increase residential property values, and boost the economic health of commercial districts.

The trees were planted in three types of locations:
- Aesthetic buffer
- Public streets
- Riparian buffer

More than 6,000 of the street trees are being planted at five locations in Philadelphia to manage stormwater. The tree plantings are part of the Green Stormwater Infrastructure (GSI) project, which aims to infiltrate stormwater into the ground, evaporate a portion of it into the air, and in some cases release a portion of it slowly back into the sewer system. This not only helps to reduce the volume of stormwater reaching the sewer system but also contributes to the city’s green legacy.

GREEN STORMWATER INFRASTRUCTURE

Integrating green stormwater infrastructure into a highly developed area like Philadelphia requires a decentralized and creative approach to planning and design. To achieve our vision, PWD is continuously exploring ways to implement green stormwater infrastructure through our land-based green programs.

Our definition of green stormwater infrastructure includes a range of soil-water-plant systems that intercept stormwater, infiltrate a portion of it into the ground, evaporate a portion of it into the air, and in some cases release a portion of it slowly back into the sewer system. As a result, less stormwater enters the combined sewer system, ultimately reducing CSOs.

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TRIPLE BOTTOM LINE BENEFITS

PWD has undertaken a Triple Bottom Line analysis of the environmental, social, and economic benefits of the Green City, Clean Waters plan. This triple bottom line accounting means expanding the traditional financial reporting framework to take into account ecological and social performance so that the total benefits can be evaluated against the financial investment. The figures associated with the following benefits are specific to Philadelphia.

- Reduced Combined Sewer Overflow events: 5 billion gallons of CSOs per year
- Improved groundwater recharge: 2.5 billion gallons of shallow groundwater recharge per year
- Increased carbon sequestration: 6.2 billion kg of CO2 per year
- Reduced energy and fuel demands
- Reduced pollution in rivers, lakes, and streams per year
- Reduced property values
- Increased property values
- Increased stormwater infiltration
- Increased recreational use
- Reduced Combined Sewer Overflow events

The Green City, Clean Waters plan details the Philadelphia Water Department’s vision for protecting and enhancing our waterways by managing stormwater with innovative green infrastructures, maximizing economic, social, and environmental benefits to Philadelphia and creating a green legacy for future generations.

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