



Success Story

Blueprint Columbus

In 2005, the City of Columbus entered a consent decree with Ohio EPA to address storm and sanitary sewer issues that cause sewage backups into homes and overflows of untreated sewage into rivers during rain events. To address these issues in accordance with the consent decree, the city devised a Wet Weather Management Plan.

In 2015, as part of this strategy, Columbus received approval from Ohio EPA to add some non-traditional wet-weather control measures to its overall plan. According to the city, the goal of the Blueprint Columbus plan is to use today's technology to address the source of the problem by keeping rain water out of the sanitary sewers and directing it to the storm sewer where it belongs.

Challenge

Many larger cities like Columbus have combined storm and sanitary sewer systems. Dated and deteriorating sewer systems develop cracks and leaky joints that allow for the infiltration of rain water. Foundation drains that connect directly to these sewers also contribute to the problem of rain water mixing with sanitary sewage. During rain events, the added flows exceed the capacity of the combined sewer system, causing environmental and public health hazards like overflows of untreated sewage into rivers and backups in basements.

Eliminating combined sewer overflows purely through traditional grey infrastructure methods such as separation of storm and sanitary sewers or the construction of large sewer tunnels can be very expensive, take a long time and pose many construction challenges in an urban setting.

Solution

To address these challenges in a more timely and cost-effective way, the city's Blueprint Columbus plan approach blends traditional grey infrastructure methods with elements of green infrastructure solutions. Some of the blended options include the lining of service laterals from homes to the public sewer, redirecting roof water to a proper receiving pipe or to a special feature like a constructed rain garden, and a voluntary sump pump program where homeowners without sump pumps can receive assistance to purchase and install them, which helps to keep ground water infiltration out of the sanitary sewer system.

To help finance the plan and reduce the need for increased user rates, the city is using low-interest loan funds from Ohio EPA's Water Pollution Control Loan Fund (WPCLF) program. To date, the WPCLF has provided financing for five projects and expects to fund additional projects.



Project Specifics

Location

Columbus – Clintonville and Hilltop neighborhoods

Details

WPCLF 20-Year Construction Loans

Cost

Five projects totaling \$16,232,898. Green Project Discount .25 percent.

Environmental Impacts

Reduction in CSO discharges and basement backups, water quality improvements and reduced impacts from storm water runoff.

Economic Impacts

Reduced capital cost, significant loan savings, job creation.

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Outcome - Community and Environmental Benefits

The city has pinpointed areas where Blueprint Columbus and associated green infrastructure projects are likely to produce the most improvement to the sanitary sewer and storm water systems. The Clintonville and Hilltop neighborhoods were selected for the first round of projects to test out various green infrastructure approaches to determine those that work best under different conditions. Specific green infrastructure projects will include bioretention basins, rain gardens, infiltration galleries and pervious surfaces.



Future projects will improve sanitary sewers and storm water runoff in the Fifth by Northwest and West Franklinton neighborhoods. The city envisions that the plan will help address sewer overflow issues, improve water quality, create additional green space and improve quality of life for neighborhood communities.

Resources

Created in 1989, the WPCLF provides below-market interest rate loans as well as other forms of assistance for water-related infrastructure, resource protection and improvement projects. For information, please contact our office at (614) 644-2798 or visit our website at epa.ohio.gov/defa/ofa.