



PROJECT GROUNDWORK
your pipeline to clean water

West Fork Creek Riparian/Floodplain Restoration Project

The Metropolitan Sewer District of Greater Cincinnati (MSD) – in partnership with Groundwork Cincinnati/Mill Creek, the Northside community and Cincinnati Parks – will construct a stormwater bioinfiltration basin in 2014 along the West Fork Channel to help reduce combined sewer overflows (CSOs), improve water quality and provide a community amenity.

What's the Challenge?

During rains, our combined sewer system can overflow into streams and rivers, making Cincinnati among the top five communities in the U.S. for combined sewer overflows (CSOs).

MSD is under a federal Consent Decree to reduce the overflows and has implemented a major public works initiative called "Project Groundwork" to achieve compliance and bring value to the community through this significant investment.

Focus on Lower Mill Creek

More than half of our 11 billion gallons in annual overflows occur in the Lower Mill Creek watershed, which covers 40,000 acres in the heart of Cincinnati.

As a result, MSD is implementing a near-term solution called the "Lower Mill Creek Partial Remedy (LMCPR)" that seeks to significantly reduce the overflows by 2018 (Phase 1 of Project Groundwork). Additional solutions will be implemented after 2018.

Lower Mill Creek Solution

MSD's Lower Mill Creek solution – which was officially approved by the U.S. EPA in May 2013 – will eliminate 1.78 billion gallons of CSOs annually into the Mill Creek.

The remedy seeks to reduce CSOs by primarily focusing on reducing the amount of stormwater entering combined sewers during heavy rains.



West Fork Channel

This approach integrates green infrastructure (e.g., stream restoration, wetlands, bioswales, raingardens and stormwater detention basins) with gray (e.g., new storm sewers) to provide cost-effective solutions with community benefits.

The remedy includes projects in the Lick Run, Kings Run, Bloody Run, and West Fork watersheds. Overall project costs are estimated at \$244 million (in 2006 dollars).

West Fork Watershed

The West Fork watershed – a subwatershed of Lower Mill Creek – covers more than 6,000 acres within the City of Cincinnati, City of Cheviot and Green Township and overlaps the Cincinnati neighborhoods of College Hill, East Westwood, Fay Apartments, Mt. Airy, Northside, South Cumminsville, and Westwood.

The West Fork watershed was named after the West Fork Creek, which transports natural drainage and stormwater runoff to the Mill Creek. West Fork Creek flows naturally upstream, but is channelized (with concrete sides and bottom) in the valley where it parallels West Fork Road.

Fifteen CSO locations within the watershed – 12 along the West Fork Channel – contribute to millions of gallons of sewer overflows each year. The majority of the overflow is not sewage – it's stormwater runoff from hillsides and natural creek flow.

Phase 1 Solution in West Fork

MSD's Phase 1 solution for West Fork includes two individual projects that will help remove stormwater flow from the combined sewer system and eliminate about 173 million gallons of CSOs annually:

- CSO 125 Stream Separation Project (also known as Martha and North Basin) - collection of stormwater in two stormwater detention basins with discharge directly to the West Fork Channel. Anticipated construction: 2015
- CSO 127 and 128 Stream Separation Project - collection of stormwater from Mt. Airy Forest with discharge directly to the West Fork Channel. Anticipated Construction: 2016-2017

MSD may consider other potential future projects in the West Fork watershed during Phase 2 (after 2018).

As an early success project in the watershed, MSD and Groundwork Cincinnati/Mill Creek applied for and were awarded a Clean Ohio Conservation Fund grant to help restore a portion of the West Fork Channel floodplain (see back page).

West Fork Creek Riparian/Floodplain Restoration Project

MSD — in partnership with Groundwork Cincinnati/Mill Creek, the Northside community and Cincinnati Parks — will construct a stormwater bioinfiltration basin in the floodplain of the West Fork Channel in 2014. The project is partially funded by a Clean Ohio Conservation Fund grant.

The basin will be located on four MSD/Hamilton County-owned parcels of land in the vicinity of 1759 West Fork Road in Northside. The property is vacant. The basin will capture about 500,000 gallons of stormwater annually, preventing it from entering the combined sewer system. The project will reduce CSOs into the West Fork Channel from CSO 128.

Bioinfiltration Basin Details

The basin, which will be about 0.8 acres in size and 4-6 feet deep, will use native plant species, special soils and layers of gravel to absorb, cleanse and store stormwater during a rain event. It will also promote the infiltration of stormwater into the ground and groundwater.

The basin will capture stormwater runoff from West Fork Road through inlet drains in the street and from stormwater flowing overland. Excess stormwater in the basin will drain to the West Fork Channel.

During heavy storms, the basin may fill with stormwater. If this occurs, it will take 24 hours or less to empty. The basin will be mostly dry during dry weather.

In addition, a walking path will be constructed around the basin, and educational signage will be installed.

Landscaping

In coordination with Groundwork Cincinnati/Mill Creek, Cincinnati Parks and the Northside community, the bioinfiltration basin will be planted with native trees, shrubs, grasses and other plants that can tolerate wet conditions. Examples of trees include:

- Paw Paw
- Various Apples
- Bald Cypress
- Various Redbuds
- Stanley Plum
- American Yellowwood
- Various Oaks
- Tulip Tree

Plants include Autumn Magic Black Chokeberry, Buttonbush, various Dogwoods, Pee Wee Oakleaf Hydrangea, Henry's Garnet Virginia Sweetspire and Blackhaw Viburnum. Various grasses and perennials will also be planted.

Safety

The basin will not be fenced, as it is intended to be a community amenity.

During heavy rain storms, the basin should be treated with caution. Like any natural stream or creek, it can start to fill up with water which can pose a potential hazard.

MSD will be responsible for maintaining the basin and should be alerted of any public safety hazards.

Schedule

Construction is anticipated for 2014.

Need More Information?

Contact **MSD Engineering Customer Service** at **(513) 557-3594**

or **MSD.Communications@cincinnati-oh.gov**

Visit **www.projectgroundwork.org/westfork**

Concept drawing of the West Fork Creek Riparian/Floodplain Restoration Project

