sustainindy
FACT SHEET

FALL CREEK/COLLEGE AVENUE GREEN INFRASTRUCTURE PILOT PROJECT

The City of Indianapolis will soon begin construction on a green infrastructure pilot project to improve water quality in Fall Creek. This project, the first of its kind for the city, will use native plants, soil, stone and other natural elements to filter pollutants from storm water before releasing it into Fall Creek. The project also will serve as a model for future green infrastructure projects in Indianapolis.

Green infrastructure helps manage, transport and treat storm water runoff through either the use of natural systems or engineered systems that mimic natural systems. The primary goals are to capture, cleanse and slowly release storm water into rivers and streams.

For this project, the Department of Public Works (DPW) will partially separate combined sewers and redirect storm water to a bioretention cell for treatment. A bioretention cell, similar to a rain garden, is a landscaped area designed to cleanse storm water and remove pollutants (see Page 2 for a diagram).

PROJECT DETAILS

Status: In Design

Anticipated Construction Period:
August 2009 – November 2009

Estimated Project Cost: $500,000

Design: Indianapolis Clean Stream Team

Project Benefits:
- Reduce raw sewage overflows into Fall Creek
- Improve the quality of stormwater entering Fall Creek by removing pollutants
- Encourage green sustainable design

Green Concepts and Cost Savings
- Improve stormwater quality through a natural treatment system of plants, soil and stone
- May reduce the cost of the city's Long Term Control Plan by reducing the amount of clear water that is unnecessarily transported and treated

Project schedules and costs are subject to change.

THE PROBLEM

Indianapolis' combined sewer system in the old city limits is more than 100 years old and was designed to carry both sewage and storm water in the same pipe. As little as a quarter-inch of rain can overload the combined sewers, causing raw sewage to overflow into nearby streams, including Fall Creek. In addition, storm water picks up and carries pollutants as it runs off of rooftops, parking lots, streets, lawns and other surfaces. These pollutants can end up flowing directly into our waterways.

THE SOLUTION

To help reduce raw sewage overflows and improve the water quality of Fall Creek, DPW will partially separate combined sewers near the College Avenue and Fall Creek Parkway area. Nine existing storm drains will be redirected to a new storm sewer pipe. The storm drains and storm sewer pipe will collect storm water runoff and carry it to a bioretention cell, where it will be treated through a natural system of plants, soil and stone before being released into Fall Creek.

Bioretention cells are designed and constructed to treat what is commonly known as the "first flush," which is typically up to one inch of rainfall.

The new storm sewer will connect to a series of pipes within a stone filter at the base of the 70-foot by 35-foot bioretention cell. The stone filter will temporarily hold storm water until it rises to the top of the filter. Once it reaches the top, storm water will flow over onto the surface and be absorbed into the cell.

The storm water will filter through more than 1,300 deep-rooted, native trees, bushes and plants, including Red Maple, River Birch and Witch Hazel. These plants will remove trash, debris and other pollutants. As the storm water filters through the soil, a layer of porous stone below will capture additional

pollutants. A perforated drain pipe below the stone will collect the treated storm water and release it into Fall Creek through an outlet pipe.

As part of this project, DPW will install two monitoring structures. These structures will be used to collect water quality samples before and after treatment in the bioretention cell to measure water quality improvements. DPW will use this data to help guide similar green infrastructure projects in the future.

The cell will be located on existing public ground owned by Indy Parks and Recreation.

In addition to improving the water quality of storm water entering Fall Creek, the project also may reduce the cost of the city's Long Term Control Plan by reducing the amount of clear water, such as rain or melting snow, that is unnecessarily transported and treated at the treatment plants.

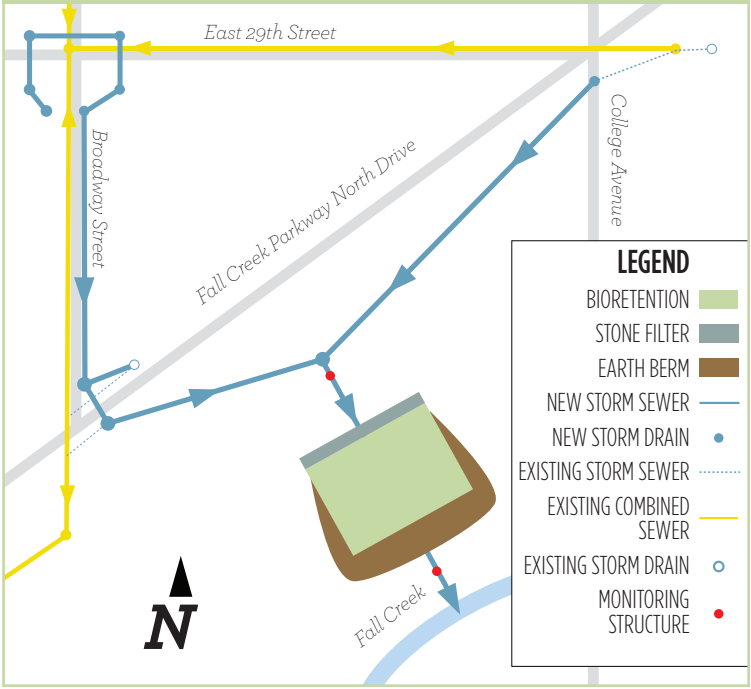
This project is funded through sanitary sewer user fees and is a part of the recent sewer rate increase approved by the City-County Council. Construction is anticipated to begin in August 2009.

HOW YOU CAN HELP

Everyone has a role in protecting our waterways. You can help by adopting the following environmentally friendly practices:

- Disconnect downspouts and sump pumps connected to the sewer system. Their flow takes up capacity we need to carry sewage.
- Don't send fats, oils and grease down the drain. They can clog our sewers and cause overflows and costly repairs.
- Clear gutters and storm sewer drains of leaves and debris.
- Never dispose motor oil, antifreeze, battery acid and household chemicals down the drain. Properly dispose of these materials through the city's ToxDrop program. Log on to www.sustainindy.org/ToxDrop to learn how.
- Reduce water use in your homes and businesses.
- Sign up to receive e-mail warnings of sewer over flows at www.indycleanstreams.org or call the Sewer Overflow Hotline at (317) 327-1643 before an outing near affected waterways.
- Pick up your pet's waste. It can end up in our waterways.
- Reduce or eliminate insecticide, herbicide and fertilizer use. These chemicals also can end up in our waterways.

PROJECT MAP



BIORETENTION CELL CROSS-SECTION