

# COMBINED SEWERS

## Questions and Answers About the Combined Sewer System

### WHAT ARE COMBINED SEWERS?

Combined sewers are pipes that carry both sanitary sewage and stormwater. In some cases, a storm sewer existed to drain an area and sanitary connections were made when homes started installing indoor plumbing. In other cases, a sanitary sewer was built to serve an area and stormwater was tied into the sewer because no other outlet existed.

### HOW MANY COMBINED SEWERS DO WE HAVE?

Our current inventory shows 87,784 feet of combined sewer. This is less than 10% of our total sanitary collection system. Unfortunately, the combined sewer system includes the main sewers to the wastewater treatment plant, so all the sewage in the city passes through the combined sewer system.

### WHERE ARE THESE COMBINED SEWERS?

As you can guess, the oldest part of the City has the combined sewers. This includes the area roughly bounded by Pierce Avenue on the north, the Hocking River on the west and south, and Ewing Street on the east. But all the major sewers that carry sewage from the newer sections of the city also are tributary to the system.

### WHY ARE COMBINED SEWERS A PROBLEM?

When storm events occur, flow increases in the sewer until the sewers can no longer carry all the water. At certain locations, a relief point then allows the sewer to overflow sewage diluted with rainwater to either a storm sewer or a stream. The overflow may be triggered by a storm sewer or a sanitary sewer.

### HOW DO OVERFLOWS OCCUR?

A special manhole is built to divert the water when it reaches a certain level. All the overflows in the City of Lancaster are wet weather overflows, directly related to rainfall events. Some overflows activate only under extreme storms, some overflows activate in nearly every rain event. We have no dry weather overflows.

### DOES AN OVERFLOW CAUSE A PROBLEM?

During an overflow, we are discharging diluted sewage to the streams. Most people would probably not even notice the discharge. While we are not seeing long term impacts on the streams, Ohio EPA has determined that we are violating water quality standards for bacteria during overflow events.

### CAN'T WE JUST CLOSE OFF THE OVERFLOWS?

The overflows provide an important safety relief for the sewer system. During storm events flows in the sewers can increase dramatically. Monitoring in the Lake Allen area found flows increased 100 times the dry weather flow during rain events. Without the overflows, we would have street flooding, sewage backups, and property damage. Even the wastewater treatment plant would flood, preventing treatment of any sewage at all. The City continually evaluated the combined system and has closed overflows where possible. Since 1995 we have closed 12 of the 32 overflows.



## CITY OF LANCASTER

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# COMBINED SEWERS

## Long Term Control Plan

### How we got here

Prior to 1995, the primary focus of wastewater in the City of Lancaster was providing service to growth areas and upgrading the existing wastewater treatment plant to meet discharge limits. In 1995, the City began a Wastewater Collections System Evaluation to address basement flooding, evaluate system capacity and begin work to comply with anticipated Ohio EPA regulations. In 1997, as part of the Wastewater Plant's NPDES permit, Ohio EPA required that a Combined Sewer System Long Term Control Plan (LTCP) be completed by June 1, 2000. The plan was to include four areas:

- Characterization of the combined sewer system
- Assessment of the impacts on the area streams
- Evaluation of the impacts of future sewer extensions
- Determination of Public concerns related to Combined Sewer Overflows (CSOs)

The LTCP was submitted on May 31, 2000. The plan identified abandoning two CSOs, modifying two CSOs, separating the sewers in the downtown and Lake Allen area and providing some system maintenance. The cost of the proposal was \$5.3 million. This plan was based on the demonstrative approach to CSOs as stated in US EPA Combined Sewer Policy.

Separation of the sewers in the downtown area was completed 2002. This project consisted of sewer separation as part of the downtown revitalization project and construction of a new South Broad Street storm sewer. Also in 2002, three CSOs identified in the LTCP were removed and one was modified.

Three years later, Ohio EPA determined that compliance with the US EPA policy was not acceptable. As part of the permit issued in 2003, Ohio EPA required submission of a plan to eliminate 4 CSOs, treat increased peak flows at the wastewater treatment plant and provide complete treatment for flows from new and existing separated sewer areas. The plan was to be submitted by March 1, 2005. The Long Term Control Plan Addendum was submitted February 28, 2005. The plan called for separation of the Lake Allen sewer system, construction of the Upper Hocking Wastewater Treatment Plant to divert separate sewer areas, construction of two express sewers and equalization basins at the Lawrence Street Wastewater Treatment Plant. The cost of this proposal was \$35 million. As of December 2006, Ohio EPA has not issued comments or approved either the 2000 LTCP or the 2005 Addendum.



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## Long Term Control Plan Where We Are Now

On April 27, 2007, the Ohio EPA issued the final NPDES permit for the Lawrence Street Wastewater Treatment Plant. This permit included a schedule for implementing the Combined Sewer System Long Term Control Plan (LTCP) as follows

- Complete construction for the Lake Allen Maple sewer separation project by 2009
- Complete construction of the proposed Upper Hocking Wastewater Treatment Plant by 2012
- Complete Construction of the Baldwin Run Express Sewer by 2014
- Complete Construction of the South Broad Street Express Sewer by 2016
- Complete Construction of the Lawrence Street Flow Equalization Basins by 2017
- Submit a Phase II Long Term Control Plan by 2014
- Complete all improvements necessary to reduce Combine Sewer Overflows by 2025

The estimated 2007 cost to comply with first five items is \$72.6 million dollars over the next ten years. This is considered affordable by the Ohio EPA.

The Lake Allen Maple Sewer Separation is currently in construction and is expected to be completed by late 2008. This project is jointly funded by the Water Pollution Control Fund and the Stormwater Fund through notes to be paid from the user charges of both funds.

The Upper Hocking Wastewater Treatment Plant is currently under design. Land for the plant has been purchased on Campground Road and stream monitoring for the discharge permit application has been completed. An application for the NPDES permit will be submitted by the summer of 2007. We anticipate bidding the project in early 2009.

The remaining projects have not been initiated. Funding for the Upper Hocking Wastewater Treatment Plant, express sewers and flow equalization have not been identified. The City is currently evaluating all available funding sources.



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# STORMWATER

## Rates and Schedules

### JUNE 2003

#### WHEN WILL THE UTILITY BE ESTABLISHED?

City Council actually established the stormwater utility in January 2003. After the utility was established a rate study was completed. The rate ordinance was presented to City Council on May 12, 2003.

#### WHAT IS THE PROPOSED RATE?

The rate is proposed at \$4.64/month for each Equivalent Residential Unit, or 2600 square feet of impervious surface. Each residence in the City will be charge \$4.64/month. Duplexes will be charged for two units or \$9.28/month. Commercial and Industrial users will be charged an equivalent rate based on the square footage of impervious area.

#### WHEN WILL CITY COUNCIL SET THE RATES?

City Council will hold three readings on the ordinance and hold a public hearing on June 23, 2003. At the public hearing City Council will hear testimony from all interested parties. After the hearing City Council may take action on the rates. The proposed rates were developed to remain at \$4.64 for the next five years.

#### HOW MUCH MONEY WILL THE STORMWATER UTILITY GENERATE/

Based on the number of Equivalent Residential Users and the proposed rate, we estimate the utility will generate \$1.8 Million a year for the next 5 years.

#### WHERE WILL THE MONEY GO?

The stormwater utility is established as an enterprise fund. By law money in the enterprise fund can only be used for the utility it is collected for. Our proposed budget has 66% of the funds going to maintenance and capital projects. An additional 16% will go for planning, enforcement and regulation. The remaining funds are used for the credit program and loan repayment.

#### WHEN WILL I START SEEING THE STORMWATER UTILITY BILL

We have asked City Council to make the ordinance effective with for the first billing period in October, 2003. Because stormwater is billed after service, you will not see a stormwater charge until the November utility bill.

#### WHERE CAN I GET MORE INFORMATION?

The stormwater utility is coordinated by the Department of Engineering. If you have questions, you can contact the City Engineer's Office at (740) 687-6614.



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