



CITY OF MUSCATINE PRESS RELEASE

215 Sycamore, Muscatine, Iowa 52761 • 563.264.1550

FOR IMMEDIATE RELEASE

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WHAT ARE COMBINED SEWER SYSTEMS & OVERFLOWS?

And why is it so important to separate waste water and storm water systems

MUSCATINE, Iowa – Muscatine has had an overflow problem. But it wasn't until the 1970s that people really took notice and decided that something needed to be done.

An overflow problem? In Muscatine?

Well, yes. A sewer overflow problem.

Is this something new?

No, the problem has existed since sewers were first installed by virtue of the design. It is just that no one thought about possible damage to the environment until just after World War II.

Are we alone with this problem?

Definitely not. Cities around the state of Iowa and across the United States are facing the problem of sewer overflows. Muscatine just happens to be one of the few who have taken proactive steps to remedy the situation long before the federal government became involved.

When the combined sewers were first installed in the residential and business districts of Muscatine in 1894, a single pipe was used to carry storm water and waste water to the river. Nobody really thought much about the effects of the pollutants being poured into the Mississippi

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River (or any stream, lake, pond, ocean, or sea for that matter) until just after World War II when the Federal Water Pollution Control Act of 1948 was signed into law. That act was significantly changed 20 years later and became the Clean Water Act of 1972.

This act, with amendments, gave the Environmental Protection Agency (EPA) the guidance to develop their Combined Sewer Overflow (CSO) Policy which was published April 19, 1994. According to the EPA “the policy contains fundamental principles to ensure that CSO controls are cost-effective and meet local environmental objectives.”

Figure 2.1

Typical Combined Sewer System

Combined sewer systems are designed to discharge directly to surface waterbodies such as rivers, estuaries, and coastal waters during wet weather, when total flows exceed the capacity of the CSS or treatment plant.

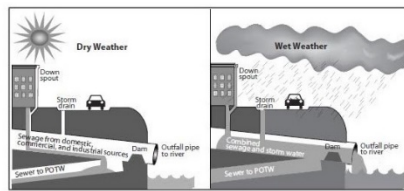
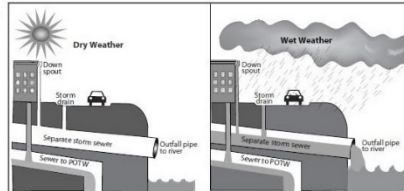


Figure 2.2

Typical Separate Sanitary and Storm Sewer Systems

Sanitary sewer systems are designed to collect and convey wastewater mixed with limited amounts of infiltration and inflow to a treatment plant. A separate storm sewer system is used in many areas to collect and convey storm water runoff directly to surface waterbodies.



A combined sewer system is a piping system that collects both waste water (the stuff that goes down the drain) and storm water (rain water and runoff) in the same pipe. Normally the system handles both without incident and the sewage is successfully funneled to the treatment plant.

But when communities like Muscatine are deluged with rain it is a different story.

“In Muscatine, there are many combined sewer pipes in the old West Hill area,” Karmen Heim, Senior Environmental Engineer at Stanley Consultants, said. “All these combined pipes connect to Papoose Creek Sewer.”

Papoose Creek Sewer is a large trunk sewer that extends from the Mississippi River at Sycamore Street, up Sycamore or Cedar streets all the way up to Fulliam Avenue.

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“When there is a wet weather event, the system is overwhelmed with combined sewage at the lift station, and the lift station (such as the Papoose Creek Lift Station in Riverside Park) discharges the combined sewage into the Mississippi River,” Heim said.

That creates a Combined Sewer Overflow (CSO).

“Under dry conditions, the waste water is collected and conveyed to the treatment plant for treatment,” Heim said.

From 33 to 50 percent of Muscatine’s waste water and storm water are collected at the Papoose Creek Lift Station located in Riverside Park. The present design has all that water being pumped to the treatment plant unless, of course, there is a wet weather event that overwhelms the system and allows for the overflow to be discharged into Mississippi River.

“The West Hill Separation project (Phases 1-6) is the construction of separate waste water sewer pipes, to create new pipes alongside of the existing combined pipe,” Heim said. “Miles and miles of new pipe are being constructed to create these separate piping systems.”

Muscatine did not wait for the EPA to require the separation of the sanitary and storm sewers. The City began improvements to its aging sewer system in the 1970s and was able to improve the infrastructure of the city at the same time.

In May 1994 Muscatine voters approved the first Local Option Sales Tax (LOST) referendum. All proceeds from this tax that went into effect on July 1, 1994, were used to fund storm and sanitary sewer projects for a five-year period. Several projects and studies were funded during those first years including the East Hill sewer improvements, President’s Hill sewer, and the Upper Orange/Oak Street sewer separation project. Six areas received new sewers, and four

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repair/replacement projects were undertaken as well as improvements to the drainage in the Houser/Fulliam Street area.

Voters approved a five-year extension in August 1998 with the main target being the sewer separation on West 2nd and West 3rd streets. Three repair/replacement projects were completed and new sewers were extended to the south end of the city during this period.

Muscatine residents were asked to extend LOST for another five years in January 2004 with a bit of a change. The 2004 referendum provided up to 10 percent of LOST funds to be directed toward Pearl of the Mississippi Projects with the balance going toward the storm and sanitary sewer projects. The Poplar Street sewer separation was completed along with work to correct CSOs on Washington Street and three lift stations during this time period.

Also in 2004, the City and Stanley Consultants signed an agreement for a study of and development of the project for the West Hill area, the largest and most expensive piece of the sewer separation projects. Three years later the City received a Consent Order from the EPA and Iowa Department of Natural Resources (IDNR). That order required the city to “submit to EPA and IDNR a report describing the projects needed to complete the separation of the remaining combined portions of the sewer system including the West Hill area” by Dec. 31, 2010. The work already undertaken by the City and Stanley Consultants allowed that deadline to be met.

The order also specified that the work must be accomplished by Dec. 31, 2024. The City requested, and was granted, an extension of that deadline to 2028 as the West Hill portion of the undertaking went from four phases to six.

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“This agreement will produce significant reductions in health risks to the public while making important improvements to the environment,” former EPA Region 7 Administrator John B. Askew said when announcing the 2007 Consent Order. “I commend Muscatine and its residents for making this investment in their city.”

The completion of the Hershey sewer project in 2009 was the first step in complying with the consent order. Since then the focus has been on the West Hill area.

The March 6, 2018, referendum to extend LOST for another 15 years, if approved by the voters, will allow the City to meet the EPA deadline, eliminate CSOs created by the combined sewer system, continue to improve the infrastructure of the city not only through curb-to-curb street and sidewalk replacement in the West Hill project areas but in other parts of the City through the Pavement Management program, and prevent future project costs from having an impact on sewer rates or property tax rates within the city.

For more information, visit the City of Muscatine web site at www.muscatineiowa.gov or click [HERE](#) to go to the Local Option Sales Tax page.

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