MSD takes innovative approach to repair Main Street sewer

Repair plan will reduce impact to downtown business and tourist area

MSD has developed an innovative approach to repair a major downtown sewer pipe at risk of a cave-in. The repair will largely occur underground and prevent closing and excavating sections of West Main Street, a busy commercial and tourism corridor.

Video and laser inspections earlier this year revealed structural damage to a section of the 60-year-old pipe underneath West Main Street between Fourth and Seventh streets. The damaged sewer pipe is one of the city’s largest, carrying approximately 40 percent of Louisville’s wastewater flow. The pipe carries wastewater to MSD’s Morris Forman Water Quality Treatment Center so that it can be treated before release into the Ohio River.

“Last year, a different section of this pipe caved-in due to age and wear,” said MSD Executive Director Tony Parrott, referring to the August 2017 collapse at Main and Hancock streets that took six weeks to repair. “We must address the safety and health hazard of this crucial sewer line and do it in a way that minimizes disruption to this vibrant downtown area.”

For more information on this repair visit:
- LouisvilleMSD.org/WestMainRepair
- Social media #WestMainRepair

The Ohio River Interceptor is one of the hundreds of projects identified in MSD’s Critical Repair & Reinvestment Plan, which includes funding to rehabilitate major sewer lines within the service area.

Visit: LouisvilleMSD.org/CriticalRepairPlan

‘Pump-around’ will allow workers to enter pipe and repair from within

The $20 million repair project involves building a temporary “pump-around” system to remove wastewater flow from the damaged section of pipe, so that workers can go underground and make repairs from within the 7-foot wide pipe. Workers will enter the pipe through existing hatches in the pavement at Fourth and Main streets.

The interior of the pipe will be lined with corrosion-resistant PVC panels fit together by hand and sealed to the unique shape of the pipe itself — essentially creating a sturdy new pipe inside the damaged pipe. This will eliminate the need to close and excavate Main Street.

Pipes for the temporary pump-around are ready for installation along River Road.

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Our Vision
Achieving Safe, Clean Waterways for a Healthy and Vibrant Community

Our Mission
Providing Exceptional Wastewater, Drainage and Flood Protection Services for Our Community

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Main Street sewer repair

Wastewater pumped out of the damaged pipe will be temporarily re-routed west along River Road to Ninth Street where it will re-enter the large sewer pipe and continue its path to MSD’s Morris Forman Water Quality Treatment Center for treatment and release to the Ohio River.

Roadway closures

There will be some detours and lane reductions due to the repair and the pump-around for the wastewater. Some of the closures will be conducted during the overnight hours to minimize traffic and pedestrian disruption.

- A section of **4th Street just south of River Road** is closed for construction of a temporary pump station that will power the pump-around. It will reopen for northbound traffic by August 1.
- From July through the project’s completion in November, there will be lane reductions and traffic flow changes on **Main Street near Fourth Street** to provide space for contractors to safely complete the work, while maintaining vehicle and pedestrian traffic.
- One lane of **Ninth Street — between Main and West Washington streets** — and a section of West Washington at Ninth Street will also close July 23.
- Parking lanes on the **south side of Main Street between Fourth and Seventh streets** remain closed to protect the public at this time. These lanes have been closed since March to allow inspectors to continually monitor the pavement for signs of cave-in and will allow space for MSD to safely complete the repair. As the repair progresses, these parking lanes will be reopened to traffic.

Below: The parking lane along the south side of Main Street between Fourth and Seventh streets has been closed since March due to the threat of a cave-in of a large sewer line under the pavement.

Inspectors regularly look for changes in the pavement that might indicate a cave-in.

Cave-ins result from corrosion of pipe interior

Following the prior cave-in of the Ohio River Interceptor at Main and Hancock streets, MSD conducted extensive video and laser inspections of the pipe, to allow engineers to analyze the pipe without having to empty it. The inspection revealed that some of the concrete and rebar in the Fourth to Seventh street section had worn away due to corrosion caused by sewer gases, reducing the structural integrity of the pipe.

MSD maintains more than 3,300 MSD miles of sewer lines — enough to stretch from California to Maine, and many dating back 75 years or more. In the past 12 months, MSD has responded to more than 1,100 cave-ins across the community, including recent collapses of a stone sewer at 2nd and Main streets and a brick sewer at Liberty Street between East Chestnut and Baxter Avenue, both more than 150 years old.

To view a map of cave-ins over the past year, visit: [LouisvilleMSD.org/prevent-collapsing-sewers](http://LouisvilleMSD.org/prevent-collapsing-sewers).
Following the rainiest February in Louisville in 134 years, MSD will receive $3 million from the U.S. Army Corps of Engineers (USACE) to identify risks to the city’s flood protection system and develop a repair plan. U.S. Senate Majority Leader Mitch McConnell (R-KY) announced the funding July 12th as part of the Bipartisan Budget Act of 2018.

One of MSD’s core functions is to maintain and operate the Ohio River Flood Protection System, which protects $24 billion in property throughout 110 square miles of Louisville Metro. The system includes 29 miles of floodwall and earthen levee, 16 flood pumping stations, nearly 150 floodgates and 80 floodwall closures.

The recent flooding in February and March ranks among the 10 worst floods in Louisville as approximately 40 billion gallons of rain fell across the city in five days. Inspections have revealed that MSD lost 17 percent of its flood protection capacity from damages suffered during that recent flood.

“Evaluations of the system are ongoing, but the figure to date is $2.5 million and climbing,” stated MSD Chief of Operations Brian Bingham.

Louisville has an aging flood protection system. The 1937 Ohio River flood led to the construction of the system MSD operates today. The floodwalls constructed in the 1940s and ‘50s are still in service. The pumping stations that redirect flood waters away from homes and businesses are more than 60 years old and operate with parts that are no longer available for replacement. “MSD needs to update this infrastructure to keep up with Louisville’s growing population. We are grateful for Leader McConnell’s support to secure funding,” said MSD Executive Director Tony Parrott. “We’re ready to get started, to work with the USACE, and develop a plan to protect Louisville for future generations.”

The flood protection study will look at the potential failures in the flood protection system, the impact to homes and businesses and options for repair. MSD had already started to identify improvements as part of its Critical Repair & Reinvestment Plan, a 20-year outline of projects for flood protection, wastewater and drainage. However up to this point, funding the projects has been a challenge. The study will take 18 months to complete.

Below: MSD’s Pond Creek Flood Pumping Station is the second largest flood pumping station in its system. The station provides flood protection to a large swath of southwest Jefferson County.
How did you spend your Fourth of July?

With temperatures teetering close to 100 degrees, and the smell of barbecue grills filling the air, this past Fourth of July was a day of rest and celebration for many. But it played out differently for a group of MSD employees who spent the day coping with a force main that sent a discharge onto Cedar Creek Road.

Chief Operations Manager Brian Bingham said MSD’s customer service was contacted about the discharge that morning. “The problem was an air release valve in a force main,” Bingham said. “It created a discharge that flowed from the road into a driveway and yard.”

Sanitary Supervisor Darrell Goodwin answered the call to inspect the situation. He and his crew of Kenny Alford, Roderick Harris and Ben Smith worked the site. “We brought in vactor trucks and cleaned up the discharge, then we scooped up the gravel from the driveway and replenished it with pea gravel,” said Goodwin.

Compounding everything was working with a skeleton crew due to the holiday in extreme temperatures. “That area is wide open, and the sun beats down on you,” Goodwin said. “It was an all-day job in a tough situation, but we were able to clean it up.”

Bingham praised the MSD crew, “This was an outstanding effort by everyone involved. It is a credit to the hard work and determination of MSD employees that they worked to rectify this as others celebrated Independence Day.”

Customer Compliments

I want to thank Horace Gaither for a job well done. I had a downspout disconnection performed on my home. Mr. Gaither was very professional, courteous and performed high-quality workmanship. MSD should be very proud with way he represents MSD’s name.

— Elenor Dougherty

Val Winburn and his crew of Virgil Brown, Cecil Edwards, Calbert Kelsey, Malcolm Thomas and Mike Young did an excellent job cleaning the ditch near my house. We appreciate their hard work!

— The Summers Family

My husband and I want to thank you for sending the crew of Johnny Caudill, Dwayne Edwards, Miko Santana and Ricky Tobin to our home to correct a drainage problem. The guys were wonderful. They were on time, worked hard in the heat and took time with neighbors who were curious. They dug, connected, graded, seeded and put straw down; my yard has never looked better. These gentlemen are a true asset to your organization.

— Tom and Ann Armstrong
MSD supports Ohio River Sweep for the 29th year

The Ohio River Sweep—one of the nation’s largest and longest-running environmental cleanup events—was held Saturday, June 16. River Sweep is sponsored by the Ohio River Valley Water Sanitation Commission (ORSANCO), and locally by MSD, Louisville Water Company and LG&E. MSD’s Rhonda Boyle-Crotzer coordinates Jefferson County’s leg of the sweep. Dane Anderson, Lynne Fleming, Kandyce Groves, Lanita Grimes, Loren Levitz, Robin Shaw and Dolly Smith were hosts for the seven locations along Beargrass Creek and the Ohio River. These sites stretch from Hays Kennedy Park, in the northeast, to Riverview Park in the southwest. MSD’s Val Winburn coordinates our crews for proper trash removal. Sheila Beard and JP Carsone organized the post-cleanup cookout for all the volunteers.

MSD thanks the volunteers who continue to help us realize Our Vision—Clean, Safe Waterways for a Healthy and Vibrant Community.

Join us next year!
River Sweep—June 15, 2019
Controlling mosquitoes in our catch basins

MSD has partnered with Louisville Metro Public Health and Wellness Department to routinely test and treat for mosquitoes in the coming months. The city routinely tests mosquito populations as part of the insect-control program, which includes controlling mosquitoes in MSD’s 24,000 trapped catch basins within the combined sewer system.