

STREAMLINE

News and Events at Louisville MSD · August/September 2018

OUR VISION

Achieving Safe, Clean Waterways
for a Healthy and Vibrant Community



It is a tight traffic squeeze in a section of Main Street due to additional failures inside a large sewer pipe that runs under Main Street.

Another problem for one of MSD's largest sewer lines

Potential cave-in has become a reality

MSD has discovered another problem with the 84-inch sewer pipe running under West Main Street. A 5- by 2-foot section of the pipe has collapsed. MSD confirmed the cave-in with a remote-control camera scan on August 19. Video from the camera

shows a hole in the side of the pipe with debris, including abandoned pipes, which have fallen into the large sewer line. Further inspections have revealed a large void under the pavement, which is about 40-50 feet in both directions across and down the roadway, and 25-feet deep at the worst spot.

“Earlier this year, MSD explained that we believed there was imminent potential for this pipe to fail. Now, what we feared would happen has occurred.”

— MSD Executive Director
Tony Parrott

The road was unsupported in this area with a gas and water line suspended in the void. For public safety, MSD further reduced Main Street traffic in this area. Only one lane is open to traffic on the north side of Main Street midway between Third and Fourth streets to midway between Fourth and Fifth streets. An inspection of the pipe from June 21 shows a deteriorated pipe with exposed rebar, but no cave-in.



A video made inside the Main Street sewer reveals a hole in the side of the pipe, allowing debris to fall inside of it.

What happens next

A team of outside experts and MSD engineers have developed a way to fill the void so that the ongoing planned repair of the sewer line can continue. On August 26, contractors began carefully filling the void from above with light-weight flowable material. This effort will continue until the void is filled up to the pavement level. Then contractors will enter the pipe to install — from inside the pipe — new metal support for the top and sides of the pipe. Once that is complete, the planned repair can proceed.

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OUR MISSION

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

24/7/365

502.587.0603 · CustomerRelations@LouisvilleMSD.org





Contractors work to fill the void underneath the West Main Street pavement. A cave-in and heavy rains removed most of the supporting soil under this portion of the roadway.

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Problem for one of MSD's largest sewer lines

The sewer line was installed between 1958 and 1960 and is one of the city's largest and most vital, carrying approximately 40 percent of Louisville's wastewater flow. Known as the Ohio River Interceptor, the pipe carries wastewater to MSD's Morris Forman Water Quality Treatment Center for treatment and release of the treated water into the Ohio River. In March, MSD discovered a problem with the pipe and closed part of Main Street between Fourth and Seventh streets. In June, MSD announced a \$20 million project to repair the damaged section from Fourth to midway between Seventh and Eighth streets.

The repair project for the interceptor pipe includes lining the interior of the pipe with corrosion-resistant PVC panels fit together by hand and sealed to the unique shape of the pipe. This repair essentially creates a sturdy new pipe inside the damaged pipe.

The sewer pipe must be nearly empty for the repair to take place. To do this, MSD established a "pump-around," which is a temporary sewer line that utilizes existing pipes to convey the wastewater from Main and Fourth streets to a temporary pumping station at Fourth Street and River Road. From there, the wastewater travels west in four temporary pipes along River



The pink "X" marks the spot of the cave-in of the West Main Street sewer 25 feet below. The pink "19" gives the depth of the void at that point under the pavement.

Road, then up an embankment and around the floodwall, down West Washington Street to Ninth Street. The pipes continue up the hill on Ninth Street where the wastewater re-enters the existing sewer pipe under Main Street.

For more information on MSD's West Main Repair visit LouisvilleMSD.org/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



Phase I of Churchill Downs parking renovation, which includes underground storage for stormwater runoff, is now complete.

Churchill Downs makes effort for safe, clean waterways

Churchill Downs' storied history includes the Kentucky Derby, Kentucky Oaks and hosting the Breeders' Cup. But the Kentucky institution can now be recognized for its efforts to help maintain safe, clean waterways in Louisville Metro with its participation in Louisville MSD's Green Infrastructure Program.

The track is nearing the completion of Phase 2 of its parking renovation, where 96-inch pipes have been installed underneath the parking area. The pipes — covering approximately 33 acres — will act as a storage basin during heavy rainfall events. Phase One of the project saw similar pipes installed across 22 acres. In total, the project will provide 3 million gallons of stormwater storage.

Collected stormwater will be allowed to permeate into the sand under the parking lot into the Ohio River Alluvial Aquifer. Such basins keep stormwater out of the sewer system, reducing sewer overflows and stress on wastewater treatment facilities. It is estimated the project will reduce 12 million gallons of combined sewer overflows into the Ohio River.



Work on Phase 2 of the green infrastructure installation and parking lot renovation at Churchill Downs is scheduled for completion in October.

Additional Facts about Churchill Downs Infiltration Basins:

- Each basin is the length of a football field and roughly 17 feet underground
- Basins have 3 million gallon storage capacity total — equivalent to 4.5 Olympic-size swimming pools
- They capture more than 60 million gallons of water each year and will prevent about 12 million gallons of sewer overflow each year
- Are large enough to handle a 2.13-inch rain event — this is the largest rain event in a typical year of rainfall
- In a typical rainfall year, every drop of rain that falls on the 55 acre parking lot will infiltrate back into the ground
- More than 900 trees will be planted at Churchill Downs as part of this project

For more information regarding MSD's green infrastructure incentive program, please contact Jordan Basham at jordan.basham@louisvillemsd.org or 502.540.6634.

Waterway Protection Tunnel reveals millions of years of history



Rock core samples were used to determine the depth necessary for safe construction of MSD's Waterway Protection Tunnel.

MSD's project to build a tunnel 18 stories underground for wastewater and stormwater storage has also unearthed hundreds of millions of years of history. In January 2018, MSD began construction of its Waterway Protection Tunnel, a 20-foot diameter underground tunnel deep within bedrock that will help prevent hundreds of millions of gallons of wastewater and stormwater from polluting the Ohio River and Beargrass Creek. As part of the preparation for this project, geologists drilled down 200 feet or more along the path of the tunnel to pull up samples of limestone and shale, and then analyzed the rock as part of planning for the depth of the tunnel.

MSD has thousands of linear feet of these rock core samples stored in a southern Indiana warehouse. They act as a library of sorts for contractors to access as the project proceeds. The samples highlight the history of what is now Louisville. Many of the fossils found in the core samples are similar to those seen at the fossil beds at the Falls of the Ohio State Park just across the river in Clarksville.

MSD conducted rock boring at 15 locations along the Waterway Protection Tunnel alignment. Ten distinct bedrock units were found. The bedrock strata is approximately 350 million years old. Fossilized shell fragments and the remnants of other sea creatures exist within the collected samples.

Types of rock are often named for the city in which they were discovered or predominantly found. This area includes significant amounts of Louisville, New Albany, Sellersburg and Jeffersonville limestones.

Analysis of the rock requires specialized equipment and technology. The excavated rock was sent to the Colorado School of Mining for analysis. Engineers and geologists use the findings from core sampling to determine the ideal path and depth at which the tunnel should be built as well as to make other determinations about the tunnel's engineering.

One key finding during sampling was notable amounts of Waldron Shale — a type of rock native to Indiana which easily fragments. This discovery determined the tunnel would have to be dug 20-feet deeper than originally planned.

Sampling just east of Louisville Slugger Field also found an artesian well — a pocket of deep underground water. This water was three times saltier than seawater, due to the length of time the water was pressurized underground.

Learn more about the project at
LouisvilleMSD.org/tunnel
 Get Boring News at
LouisvilleMSD.org/tunnel/newletter

MSD Honors



Shawn Smith, Mike Stephenson, Duane Wright and Chris Coomer of Cedar Creek WQTC were recognized by NACWA.

Cedar Creek WQTC wins top honors

MSD Cedar Creek Water Quality Treatment Center was awarded a Platinum Peak Performance Award for permit compliance. The award — presented during the National Association of Clean Water Agencies (NACWA) Utility Leadership Conference in July — recognizes NACWA member agency facilities for 100-percent compliance with permits over a consecutive five-year period.

Rafferty appointed to Association of State Floodplain Managers



Lori Rafferty

MSD Floodplain Administrator Lori Rafferty has been appointed Co-Chair of the Professional Development and Continuing Education Policy Committee for the Association of State Floodplain Managers. Through her role she will provide vision, leadership and direction to ASFPM members regarding issues affecting the floodplain management profession.

**MSD is available 24/7
at 502.587.0603**

Report a sanitary sewer backup
before contacting a plumber.

Determining if the problem is located
on the public side of the system

will help to avoid unnecessary plumber expense.

Customer Compliments

The best job of clearing a ditch was done by the best crew behind my house. I want to thank **Bailey Baird, Stephen Prestigiacombo, Tadesse Seshagne** and **Derek Shields**. Their supervisor **Val Winburn** should buy them breakfast!

— Forrest Williams

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 and courteous and performed high-quality workmanship. MSD should be very proud to with way he represents MSD's name.

— Elenor Dougherty

I want to express my appreciation to MSD for addressing my drainage and erosion problem. I met with **Eric Toller** regarding the flow of water across the roadway into my yard, which was causing erosion issues. The crew of **Carey Smith** and **Mo Tolbert** spent several days working to address the lack of proper drainage and to reduce the erosion. All three of these gentlemen are a credit to MSD. I thank them for their work

— Patrick Shanahan

Two MSD employees came to my home to check my sewer line. **Derry Baker** and **Angel Smith** were courteous, efficient and extremely helpful. In less than an hour, they cleared my sewer line and saved me money and a major headache. I was so impressed with their skills and approach to the job that I wanted to let you know.

— Mary Pidgeon

Barbara Roberson was so helpful and professional when I called the MSD Customer Call Center. She went above and beyond to make sure I had the information that I needed.

— Fred Ralston

Carolyn Fust and **Brad Selch** came out to my house on very short notice and advised me on issues related to an MSD easement. Did a great job, were very professional and polite. I appreciate the work that MSD does.

— Russell Little



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The public is welcome to attend MSD Board meetings.
For MSD Board information and meeting schedule visit:
LouisvilleMSD.org/About-Us/MSD-Board

Upcoming Events

SEPTEMBER 24
MSD Infrastructure Board Committee Meeting
10:30 AM, 700 West Liberty Street

SEPTEMBER 24
MSD Board Meeting
1 PM, Open Session, 700 West Liberty Street

OCTOBER 5
MSD Supplier Diversity Program Orientation
9 AM, 700 West Liberty Street

OCTOBER 22
MSD Board Meeting
1 PM, Open Session, 700 West Liberty Street



Beargrass Creek confluence with the Ohio River



You can help Improve our waterways by...

Composting grass clippings, and decreasing your use of fertilizer and pesticides.

Rainwater flows over rooftops, lawns, parking lots and roadways as it travels to storm drains and ditches. This water accumulates pollutants along its journey—such as lawn chemicals, oil, litter and pet waste—which flow directly to our waterways.