MALINE CREEK CSO BP 051 & 052 LOCAL STORAGE FACILITY

MSD Project Clear is the Metropolitan St. Louis Sewer District's (MSD) initiative to improve water quality and alleviate many wastewater concerns throughout St. Louis City and County. MSD Project Clear is a long-term effort by MSD, undertaken as part of an agreement with the U.S. Environmental Protection Agency and the Missouri Coalition for the Environment. MSD Project Clear will invest billions of dollars over a generation in planning, designing, and building community rainscaping, system improvements, and an ambitious program of maintenance and repair. At times of heavy wet weather, the sewer system of St. Louis City and much of St. Louis County can be overwhelmed, causing overflows into area rivers and streams. Like many cities throughout the United States, this program is designed to reduce the occurrence of sewer overflows that result from older wastewater collection and treatment systems during heavy storms. MSD Project Clear has divided this multi-year, multi-billion dollar investment into numerous projects that will be designed and constructed over the next several decades. The Maline Creek Local Storage Facility project, for example, will address an aging system in the North St. Louis City area of the Region.

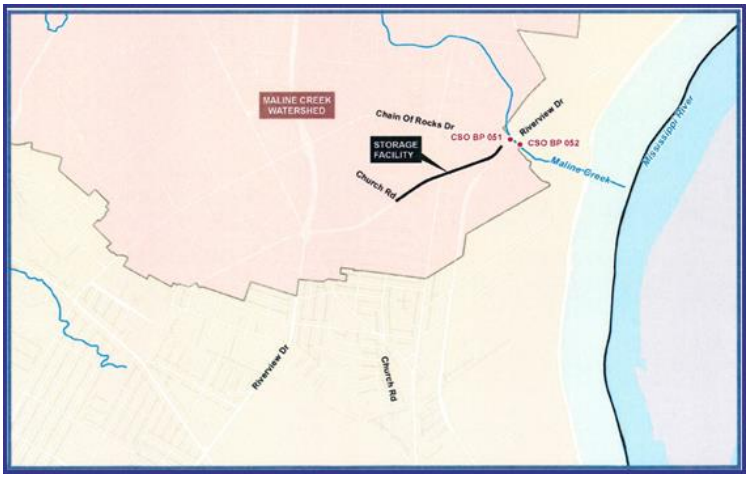
COMBINED SEWER OVERFLOWS (CSO) – WHAT ARE THEY?

Combined sewers were constructed through the mid-1900s to carry a set amount of rainwater and wastewater in the same pipe. During dry weather, these systems can handle the wastewater collected and carry it removed. However, during heavy rain or significant snowmelt the wastewater may exceed the capacity of the sewer system or the treatment plant, creating a need to discharge the excess sewage into an adjacent stream or other waterway. These are referred to as combined sewer overflows (CSO) and the pipes that carry the discharges are called "outfalls".

Systems are now designed to dramatically reduce the amount of overflow into our waterways by holding wastewater and stormwater in storage facilities until capacity is available at the treatment plant.

The Maline Creek Storage Facility Project

Maline Creek is a small tributary to the Mississippi River that lies on the northern edge of the City of St. Louis. The Maline Creek facility is the second MSD Project Clear storage project to be constructed. The underground storage facility will reduce the volume of discharge into Maline Creek and, ultimately, the Mississippi River.



The Maline Creek storage facility will run from Chain of Rocks Drive to Church Road. In this project, there are two locations, just upstream of the confluence of the Mississippi River, where combined sewers may discharge into Maline Creek during significant wet weather. They are located near the intersection of Riverview Drive and Maline Creek. The Maline Creek project will divert the excess water and sewage to the storage facility during times of significant wet weather, and then a pump station will transfer the stored flow back to the system when the wet weather subsides. The flow will be treated at the Bissell Point Wastewater Treatment Plant.

Maline Creek Storage Facility Construction Activities

The Metropolitan St. Louis Sewer District (MSD) has awarded the $82.8 million construction contract for the Maline Creek Storage Facility. Construction will take place over the next four years and some of the construction activities will have direct impacts for those living, working, and visiting the community.

BUILDING THE UNDERGROUND FACILITY

The underground storage facility itself will be 175 feet below the ground surface. To reach that depth the construction team has "blasted" a 40-foot diameter circular shaft. The underground storage facility will be a 2,700 foot long, 28-foot in diameter tunnel located below Riverview Drive between Chain of Rocks Drive and Church Drive.

The construction shaft (which will later serve as the location for the pump station to drain the storage facility) is located near the middle of the facility's alignment near N. Broadway and Riverview Drive on property that has been purchased for this project. Soil was excavated from the upper 40 feet of the shaft using backhoes to load the soil into buckets which were removed by crane. When the rock surface was reached, the rock was drilled and blasted to break the rock into small enough pieces to be removed by the backhoe, buckets, and crane.

BLASTING – WHAT TO EXPECT

Blasting operations began in October 2016 and are scheduled to continue until spring of 2018 for both the construction shaft and the storage facility excavation. Here is what the community can expect:

- Blasting at the shaft to the planned depth of 175 feet was completed in March 2017.
- Blasting for the storage facility will continue through late spring of 2018

- Blasting may occur twice a day during excavation of the storage facility, each blast takes about eight seconds
- Prior to blasting activities, nearby property owners will offered an inspection of their property to document the condition before blasting occurs within 500 feet of the property
- Five minutes and one minute before each blast, a blasting signal will be sounded to alert the community that a blast is about to happen. This will happen on a daily basis until excavation work is located away from the shaft
- The noise from the blasting may be noticeable up to about a half-mile
- Minor vibration will be felt from the blasting operations
- Removal of the rock will take 5 to 10 truckloads per hour
- No blasting will occur in the evening hours or on Sunday

DIRECTING RESIDENTIAL AND COMMERCIAL WASTEWATER AND STORMWATER FLOW INTO THE FACILITY

As described earlier, there are two locations where CSOs discharge into Maline Creek during heavy rains. This project will reduce the amount of CSO discharge into Maline Creek by directing the flow through "intake structures" to the storage facility. Two of these intake structures – one at Chain of Rocks Drive, and one at Church Drive - and their related construction activities will have minor traffic and noise impacts to the community. The third structure will be built next to the existing CSO 052 intake structure on the east bank of Maline Creek. Given its location there will be no direct impact to the community.

Shaft drilling work for all of the intake structures was completed prior to Spring 2017. Construction of the Chain of Rocks Drive intake will last through spring 2018 and the construction of the Church Drive intake structure will last through winter 2018. Construction of the pump station will continue through fall 2020.

TRAFFIC IMPACTS

There will be three conditions where traffic will be impacted for a period during construction.

- Vehicular and pedestrian traffic on Riverview Drive will be stopped beginning approximately one minute before each blast and lasting until the Blaster-In-Charge has determined that the blast area is safe
- Construction of the Church Drive structure requires a specific traffic control plan. In general, Riverview Drive will be reduced to one lane, bike lanes will be closed, parking in some locations will be eliminated, and traffic detours will be used.
- Construction of the Chain of Rocks Drive structure requires closure of Chain of Rocks Drive at Riverview Drive. Some lane closures will likely occur on westbound Riverview Drive, but Riverview will remain open to both westbound and eastbound traffic.

WHO TO CONTACT

Questions or concerns about construction should be directed to John Deeken at (314) 282-8502 during normal business hours. If there is an emergency please call 911!