"All this Rain"
Where does it go?

How the city's storm sewers work.

The City of Hazel Park has two different drain systems to deal with rainwater and melting snow. Each system sends water to a different location.

1) Separated Storm Sewer System
2) Combined Storm Sewer System

Where are these two systems located?
Easiest answer to give is how the city is divided by the I-75 Interstate.

- All street drains EAST of I-75 (Northbound Service Drive to Dequindre) is the "SEPARATED" system.
- All street drains WEST of I-75 (Southbound Service Drive to Ferndale Border) is the "COMBINED" system.

What is the difference between a **SEPARATED** or **COMBINED** sewer system?

Separated Storm Sewer System *(East of I-75)*

The SEPARATED drain system is just that. It is separate from any other sewer pipes. No sanitary sewer wastewater enters these pipes, only water from street drains flow into this sewer system.

These pipes are of different sizes along each street, and eventually enter a large 96-inch diameter pipe to exit the city. (NO sanitary sewer sewage wastewater enters these pipes, it is separated.)

How big is a 96-inch pipe?
A 96-inch pipe is 8 feet in diameter, large enough to drive a car through.
The city has two of these 96-inch pipes that send water into Macomb County, on a direct route to Lake St. Clair. One is located north of Nine Mile Road and the other is south of Nine Mile Road.

This creates challenges environmentally. Anything on the ground can be rinsed into this system from rain and other careless acts. Nothing stops this water and what it is carrying from entering the Great Lakes.

Rainwater falls everywhere and runs wherever it wants on all properties.
The lowest elevation in a neighborhood is the city street.

Rain or melting snow from yards, driveways, and roof tops will flow to the street if it is not properly contained.
Leaking oils from cars in driveways, landscaping debris, and litter will be rinsed into the road.

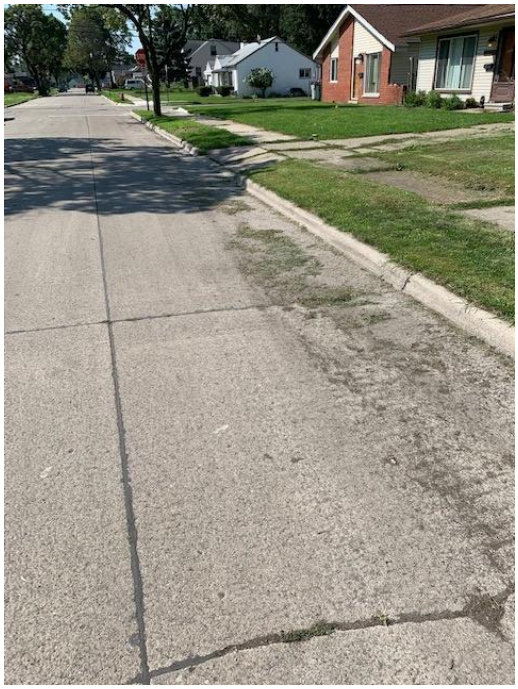
The lowest elevation on the road is the street drain. Anything rinsed from private properties during a rainstorm will end up entering the street drain.

The city has only so much equipment to clean streets and street drains, the rest is up to residents and business owners.

The photos below were taken on 7/26/21, two days after the rainstorm from Saturday evening on 7/24/21.
The city's street sweeper performed street sweeping activities to this area on Wednesday, 7/21/21, three days before the large rain event. The debris in the road or around catch basins are from rain runoff of private properties in the area.

Post Storm - Landscaping Dirt

Post Storm - Debris, Dirt, Litter



Post Storm - Grass Clipping

Post Storm - Debris & Litter

All the above contribute to clogging street drains from performing properly. The water cannot enter the separated storm system and therefore it remains on the road while draining through the debris, causing the streets flood over. This untreated debris will enter the separated system and end up in Lake St. Clair.

How can you help?
Sweep up debris, grass clippings, dirt, and oil leaks from vehicles…and dispose properly. Redirect gutter downspouts to send water to your lawn where it can be absorbed. Check any sump pump discharges are directed to the lawn to be absorbed. During a rain storm, if you see a catch basin covered by debris, please clear it off, and dispose properly. Everyone needs to do their part.

The City of Hazel Park holds a MS4 Permit with the State of Michigan. The permit is the guidelines for a city with a separated system. The city must follow the MS4 permit rules and best practices to keep the water clean as it enters the Great Lakes.

Also remember…the separated sewer system has no sanitary sewage wastewater within its pipes, it is forbidden by the State of Michigan and the city's MS4 Permit to allow sanitary sewer to be connected to a separated system.

Combined Storm Sewer System. *(West of I-75)*

The COMBINED system is just that as well. Water from rain and melting snow share the same pipe as the sanitary sewage wastewater. Although Hazel Park has one section separated and one section combined, many cities to our west only have combined sewer systems.

This water is sent to a treatment plant for disposal, it does not get sent to any waters of the state until it has been properly treated, unless permitted by the State of Michigan.

The city's combined sewer system consists of pipes of all different sizes that take away rainwater, melting snow, and sewage from the city. Some of the southernmost area wastewater flows to a Detroit Sewage Treatment Plant, while the middle to northern most area of the city's wastewater flow to the George W. Kuhn Retention Basin located in Madison Heights. This facility can accept 150 million gallons of wastewater.

How big is that facility?
Answer: Big, but most is underground.
Comparison: When you drive along an expressway, and you see a water tower in a field. These towers look quite large, but they only have a capacity to hold one to two million gallons of water. The GWK can hold 100 times that.

Depending on the amount of water flowing to GWK determines what processes are performed. The GWK services 14 communities and must process all the wastewater it receives daily, especially during storm events.
Generally, rainstorms or normal flow, this wastewater goes through a process of removing solid and the water is pumped to a Detroit Water/Sewer Treatment Plant. During heavy storm events, the wastewater will follow the same process, and if needed it will be discharged to waters of the state only if permitted by the State of Michigan.

Remember, rainwater falls everywhere and runs wherever it wants on all properties.
The lowest elevation in a neighborhood is the city street.

Rain or melting snow from yards, driveways, and roof tops will flow to the street if it is not properly contained.
Leaking oils from cars in driveways, landscaping debris, and litter will be rinsed into the road.

The lowest elevation on the road is the street drain. Anything rinsed from properties during rain will end up entering the street drain.

During heavier rainstorms, the streets located within the combined system of Hazel Park will tend to flood over more often. This is by design.
The street drains may have restricted covers unlike the street drains in the separated system. These covers have fewer holes for rainwater to drain, this is to slow the rainwater from entering the combined system too quickly. Pipes also may have restrictions underground to slow water flow as well. Because of these restrictions, streets will drain slower, and debris can block these covers much easier.

The city has only so much equipment to clean streets and street drains, the rest is up to residents and business owners.

How can you help?
Sweep up debris, grass clippings, dirt, and oil leaks from vehicles… and properly dispose. Redirect gutter downspouts to send water to your lawn where it can be absorbed. Check any sump pump discharges are directed to the lawn to be absorbed. You may look into installing a back flow device on your home's sewer, this will stop water from backing up in your home during the worst storms. Remove any debris covering catch basins to allow street to drain. Again, We all have to do our part as a communitee.

The MS4 Permit held by the city does not pertain to any combined sewer systems, but because of the good practices of the permit, the Hazel Park Water/Sewer Department utilizes many of the permits practices for maintenancing the combined system area as well.

In the recent past, we have seen rain events that have been some of the largest on record and most often. The system is old, but it works well for its intended design. Let's continue to work together to keep the system flowing properly.

Both of these sewer systems flow by gravity. No pump system is used to move the waste water through the city pipes. This is why it is so important that everyone keeps unwanted debris from entering either system that could cause flow disruptions.

Should you have questions, please contact the Water/Sewer Department.