



TOTAL MAXIMUM DAILY LOAD PLAN

Municipal Separate Storm Sewer System (MS4)
Stormwater Pollution Prevention Plan (SWPPP)
Best Management Practices (BMP)

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PURPOSE

The purpose of this Total Maximum Daily Load (TMDL) plan is to identify the sources and the locations of where the E. Coli is entering the Sycamore Creek watershed that flows through the City of Mason. This TMDL plan will be incorporated into the City of Mason Stormwater Pollution Prevention Plan (SWPPP) and Best Management Practices (BMP). The BMP currently addresses some of the issues that will aid in the TMDL plan. Good Housekeeping, Illicit Discharge Elimination Program (IDEP), and the Public Education Program (PEP) are currently in the City of Mason's SWPPP BMP. These programs address many of the potential E. Coli sources that could have an effect on the TMDL. The Public Education Program (PEP) provides material and information to the residents on how to reduce contaminants entering the waterways. Pet waste stations are available and pet waste signage is displayed in the City Parks and the Maple Grove Cemetery. Many stormwater catch basins have been labeled informing the public that only rain is allowed to enter the stormwater catch basins. Good Housekeeping procedures include scheduled street sweeping, catch basin cleanings, material storage, and vehicle maintenance. The IDEP program includes procedures on sampling and screenings of the MS4 outfalls. These samplings and screenings have allowed City staff to identify, locate and then remove a major source of contamination that was discharging into the Sycamore Creek watershed. IDEP training of City employees provides information to employees on what to look for, and how identify an illicit discharge. The City of Mason's MS4 and the Wastewater Treatment Plant's outfall discharges into the Sycamore Creek. The City of Mason MS4 has a total of 25 outfalls. The City's Parks, Riverwalk Trail (wooded areas), and the Maple Grove Cemetery could also be potential sources of E. Coli entering the Sycamore Creek watershed.

The following TMDL procedures will be added to the existing MS4 Best Management Practices.

- Identifying the potential sources of E. Coli
- Scheduled wet weather E. Coli samplings from MS4 outfalls
- In stream sampling (Ingham County Surface Water Program)
- Procedures to reduce E. Coli when present in samples
- Record keeping and performance in E. Coli reduction

SYCAMORE CREEK POTENTIAL SOURCES OF E. COLI

| Scoring | |
|---------|--|
| 0 | The source is not present in the designated watershed |
| 1 | The source exists and has a potential to discharge E. Coli into the designated watershed. However local conditions are such that the likelihood and/or amount of discharge would be considered relatively low. |
| 2 | The source exists and has a potential to discharge E. Coli into the designated watershed. However local conditions are such that the likelihood and/or amount would be considered moderate. |
| 3 | The source exists and has a potential to discharge E. Coli into the designated watershed. Local conditions are such that the likelihood and/or amount would be considered relatively high. |

| Source of E. Coli | Sycamore Creek Watershed Score |
|---|--------------------------------|
| Human: Septic Systems | 0 |
| Wastewater Treatment Plant (WWTP) | 1 |
| Human: Illicit Connections | 2 |
| Livestock | 2 |
| Wildlife: Parks, Woodlots, River Walk Trail | 3 |
| Pets: Dog Wastes | 3 |

Source of E. Coli Definitions

Septic Systems: There are no known septic systems in the City of Mason.

Wastewater Treatment Plant (WWTP): The City of Mason's Wastewater Treatment Plant discharges into the Sycamore Creek watershed. The City of Mason WWTP is required to hold a current National Pollution Discharge Elimination System (NPDES) permit. Within this permit are restrictions on fecal-coliform count discharges. The WWTP performs fecal coliform analysis five of seven days each week. The WWTP has the potential of discharging E. Coli into the Sycamore Creek watershed. A Sanitary Sewer Overflow (SSO) allowing raw or partially treated wastewater to enter the Sycamore Creek watershed. Extremely high flows, equipment failure or operator error could be a cause of an SSO.

Illicit Connections: Homes within the City have the potential of discharging E. Coli into the stormwater system. Improper plumbing connections could be source of E. Coli discharging into the Sycamore Creek watershed.

Livestock: During certain events livestock will be present at the Ingham County Fairgrounds located in the City of Mason. Within $\frac{1}{4}$ of a mile of the City there is a farm that has livestock. Run off from the livestock holding area could be source of the E. Coli present in the Sycamore Creek watershed.

Wildlife: The City has several Parks, a Cemetery, and a Riverwalk Trail that has woodlots at different locations throughout the trail. Wildlife is always present and producing E. Coli that will most likely enter the waterways.

Pet Wastes: Although the City has made extensive efforts to reduce pet waste from entering the Sycamore Creek watershed (public education, pet stations, signage) the potential of E. Coli entering the Sycamore Creek waterways from pets exists.

COMMITMENT

The City of Mason is currently following the BMP procedures contained within the City of Mason's Stormwater Pollution Prevention Plan (SWPPP). The City of Mason, in partners with the Greater Lansing Regional Committee (GLRC), will continue to educate the public on ways to prevent stormwater pollution.

The City of Mason will begin implementing the TMDL Program by collecting E. Coli wet weather samplings from all 25 MS4 outfalls in 2017. This complete set of E. Coli sampling will provide a data base for locating sources of E. Coli. When E. Coli is present in an outfall screening sample the site will be revisited and another sample will be collected. Should E. Coli be present in the second sample, the City staff will conduct an investigation and make every effort to eliminate the E. Coli source.

In 2018, the City will perform another round wet weather sampling for E. Coli sampling of all 25 MS4 outfalls.

Ingham County Surface Water Program annually performs the in-stream E. Coli samplings of the Sycamore Creek running through Mason. The 2017 E. Coli data along with the 2018 E. Coli data from both the City of Mason and Ingham County will provide information on the progress made in the reduction of E. Coli in the Sycamore Creek watershed.