

Municipal Separate Storm Sewer System (MS4)

Water quality and the St. Joseph River

The St. Joseph River is a major waterway, its course winding for more than 200 miles in northern Indiana and southern Michigan before emptying into Lake Michigan. Polluted runoff from municipalities, agriculture, forestry, and construction causes physical changes to the river's channel, harms fish and wildlife populations, kills native vegetation, fouls drinking water supplies, and can impair recreational uses.

Protection under the Clean Water Act

The Clean Water Act, administered by the [Environmental Protection Agency \(EPA\)](#), was implemented to protect our nation's water supply. As part of this effort to protect and maintain water quality, the EPA established the Municipal Separate Storm Sewer System Program, known as *MS4*. Both the City of Mishawaka and Bethel College have been designated MS4 entities and must comply with MS4 program requirements.

Mishawaka Department of Planning

For more information about [nonpoint source pollution](#) and how you can help prevent it, as well as community activities, contact the Mishawaka Planning Department or the Bethel College Physical Plant Director.

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- **Bethel College Physical Plant Director**
Phone: 574.257.3346
Web page: [Bethel College Physical Plant Director](#)
- **Mishawaka Planning Department**



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Nonpoint Source Pollution

Water is one of our most important natural resources and essential to sustain life. Pollution of our water causes devastating effects that threaten both public health and the environment.

When we think of environmental pollution, we most often conjure up images of smoking factories, toxic waste dumps, and oil spills. What we don't realize, however, is that the leading cause of water quality problems is from pollutants that don't originate from a single source or enter waterways at a particular site.

This type of widespread pollution, called *nonpoint source pollution*, occurs when rainfall, snowmelt or irrigation runs over land, picks up pollutants, and deposits them into streams, rivers, lakes and groundwater. In urban areas, this most often happens when runoff from hard surfaces, such as streets, parking lots, and buildings washes pollutants into storm drains. Runoff from construction sites, if not controlled, can pick up pollutants and soil from the disturbed areas, carrying them downstream into storm drains. Unlike wastewater, which is treated before it is released, storm water flows untreated into local waterways.

Contractors

What is nonpoint source pollution?

The Mishawaka community is growing and prospering. Many land use changes are part of this growth. With growth comes the responsibility for careful planning and proactive measures to ensure that progress does not come at the cost of our natural resources.

In urban areas, hard surfaces, such as roads, bridges, parking lots, and buildings prohibit rainwater and snowmelt from slowly filtering into the ground. Instead, this runoff, which picks up pollutants along the way, is channeled into the storm sewer system. Runoff from construction sites, if not controlled, can pick up pollutants and soil from the disturbed areas, carrying them downstream into receiving streams. This type of widespread pollution, called **nonpoint source pollution**, flows untreated into local waterways.

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You can make a difference

Residential and commercial construction sites are the leading cause of soil erosion and sediment runoff in urban areas. During periods of rainfall and snowmelt, improperly managed construction sites contribute more sediment to rivers and streams than would be deposited naturally. Pollutants often found in construction site runoff include sediment, pesticides, fertilizers, petroleum products, construction chemicals, contaminated soils, paints, debris, and sanitary waste s. Contractors and their crews are required to minimize the amount of pollutants that enter our waterways by implementing erosion control measures during construction. Post construction erosion control measures are also a requirement of the MS4 rules.

Ask questions first

The Mishawaka Department of Planning has informational materials to help contractors incorporate erosion control and storm water management plans into their projects. The department also works

with contractors and developers to make sure they have obtained the proper permits for residential and commercial construction and are in compliance with MS4 regulations. For more information, contact the Planning Department at 574.258.1625 or e-mail the Planning Department through the City's website at www.mishawakacity.com.

Implement erosion control practices

Erosion and sediment control plans are required before construction starts. Plans should include soil stabilization measures, perimeter controls and runoff treatment practices that will be implemented and maintained before and during construction activities. Plans should:

- Minimize clearing during construction
- Stabilize extreme slopes
- Protect waterways and stabilize drainage ways
- Phase construction to limit soil exposure
- Temporarily seed disturbed soils as soon as possible
- Prepare entrances/exits with materials that reduce tracking soils off site
- Install perimeter controls to filter sediments
- Keep sites clean by properly disposing of trash and litter

Put together a post-construction plan

What happens after construction is complete is as important as what happens during construction. Runoff from areas of new development or redevelopment significantly affects receiving waterways. Post-construction control measures should:

- Comply with engineering plans
- Implement practices to prevent, reduce, or treat storm water runoff
- Establish storage or detention controls to collect storm water
- Incorporate vegetation

Get involved

You can help protect local waterways and keep Mishawaka a clean environment in which to work and live by volunteering for community projects.

- Participate in local meetings to help develop cleanup strategies
- Volunteer for river and stream cleanup groups
- Help restoration efforts by planting trees

You Can Help

Although individual homes might contribute only minor amounts of nonpoint source pollution, the combined effect of an entire neighborhood, let alone a city, can have serious consequences. You can help reduce the amount of pollutants that enter local waterways by following a few simple measures.

Properly dispose of household hazardous waste

The City of Mishawaka operates a household hazardous waste disposal center facility located at 1105 E. Fifth St. It is open from 8:30 a.m. to 3:30 p.m., Tuesday through Saturday. For more information, contact the Mishawaka Street Department at 574.258.1660 or e-mail street@mishawakacity.com.

Limit use of pesticides and lawn fertilizers

Follow manufacturer's direction when using chemicals and apply only the recommended amount. Don't spread chemicals on your lawn if a storm or heavy rain is forecast. Landscaping with disease and pest resistant plants can reduce the need for pesticides and fertilizers.

Practice conservation in landscaping and lawn care

Altering the natural contours of your yard during landscaping and planting non-native plants that need fertilizer and extra water can increase the potential for runoff and soil erosion. Grasses and natural groundcover can be attractive and practical substitutes for non-porous surfaces, such as asphalt driveways, walkways, and patios. Incorporating natural grasses, trees, wooden decks, crushed stone or brick paths, rain gardens, and mulch into landscape reduces runoff and prevents erosion by allowing rainwater to slowly seep into the ground. Additionally, don't rake leaves, grass clippings or litter into streets where they can enter storm drains or be washed into the river.

Prevent automobile fluid leakage

Have your vehicle serviced regularly to prevent problems that lead to leakage. Clean up any spilled brake fluid, oil, grease, and antifreeze from garages, driveways, and streets. Do not hose these fluids or any cleanup residue into the street. If you change your own oil, be careful to avoid spills and collect waste oil for recycling. Take your vehicle to a car wash to prevent soaps and waxes from being washed into the storm drain. Car washes send dirty water to the wastewater treatment plant. If you wash your vehicle at home, wash it on the lawn, not the driveway.

Dispose of pet waste

Pet waste is a significant source of bacteria and nutrients that lead to harmful algae and plant growth in waterways. Clean up pet waste in your yard or when walking your pet. The best way to dispose of pet waste is to bag it or flush it, which ensures that it will be properly treated.

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Mishawaka's Role

The City of Mishawaka is implementing a number of measures to help prevent pollutants from entering storm drains. Among the city's responsibilities are:

- Enforcement of regulatory ordinances
- Review of construction plans and inspection of construction sites
- Regular street sweeping
- Proper use of street deicers
- Cleaning catch basins and storm sewers

Mishawaka and Bethel College join forces

The City of Mishawaka and Bethel College have formed a partnership to comply with MS4 regulations and educate those who live and work in the community about the impacts of stormwater pollution. City and college officials are working jointly to address:

- Public education and outreach
- Public participation and involvement
- Illicit discharge detection and elimination
- Construction site runoff control
- Post-construction runoff control
- Pollution prevention and good housekeeping

Detailed information on each of these control measures is available online at www.mishawakacity.com.