

# Stormwater Management Plan (SWMP)

CHARTER TOWNSHIP OF SHELBY  
Department of Public Works

Certificate of Coverage No. **MIG610115**



**Watershed Permit General Permit No. MIG619000**

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## **Introduction**

The National Pollutant Discharge Elimination System (NPDES) protects the surface waters of the state by assuring that discharges of wastewater comply with state and federal regulations.

NPDES permits are required under Section 402 of the Federal Clean Water Act (the "Federal Act"), as amended (33 U.S.C. 1251 et seq., P.L. 92-500, 95-217), and under Part 31, Water Resources Protection, of Michigan's "Natural Resources and Environmental Protection Act", 1994 PA 451, as amended (NREPA). Part 31 of the NREPA also provides authority for the State to issue NPDES permits. The Michigan Department of Environmental Quality (DEQ) administers the NPDES permit program for the State of Michigan.

Shelby Township is required to apply for a storm water discharge from a regulated Municipal Separate Storm Sewer System (MS4) to the surface waters of the state. Under the requirements for permit, Shelby Twp. must have a Storm Water Management Plan (SWMP). Shelby Township's will to the maximum extent practicable implement best management practices identified in their SWMP.

The SWMP for Shelby will reference several other documents. Some of these documents are Shelby Township's IDEP, Shelby Township's SWPPP, and the Clinton River Watershed Anchor Bay Lake St Clair Direct Drainage collaborative public education plan.

## **Enforcement Response Procedure**

Shelby Township's MS4 permit only covers township owned properties. We are self-regulating and enforcing. If a violation occurs, we will take the appropriate actions in a timely manner to correct the situation.

## **Public Participation/Involvement Program (PPP)**

Shelby Township's storm water plan will be posted on the Shelby Twp. Department of Public Works website for review and comment from the public. The township will include contact information for the storm water manager so comments can be forwarded. The manager will track and compile comments from the public including: commenter name, date, and comment.

The website will be utilized to explain the program and opportunities for public involvement and comment. This method will be tracked for BMP's by the number of comments and questions that are received.

Shelby Twp. DPW will also include a link in their annual Consumer Confidence Report. This report is an annual report that is available to all township residents.

## **Public Education Program**

The township is a member of the Clinton River Watershed Counsel's Stormwater Education Program (CREW). The CREW provides the Collaborative Public Education Plan for the township. This plan is updated annually and is submitted with the annual report.

The CREW has set priorities based on ratings from each community. The ratings have been based on local knowledge.

### **Illicit Discharge Identification and Investigation**

Shelby Twp. has an illicit discharge program which addresses procedures for identifying and investigating illicit discharges on all of the properties covered by their MS4 permit. This includes one Outfall and 11 points of discharge.

### **Construction Storm Water Runoff Control Program**

Shelby Township's MS4 permit covers township properties only. Shelby Twp. has established BMP's to aide Macomb County with construction controls and soil erosion issues. If the township under goes a construction project, they are required to obtain the same permits that non-township owned properties obtain.

The townships plan review process requires applicants to meet the Macomb County Procedures and Design Standards for Stormwater Management Effective August 1, 2008. Macomb County Public Works also reviews subdivisions.

All soil erosion permits are handled by Macomb County Public Works. Soil erosion permits are required by Shelby Township building department and Shelby Twp. DPW on all new residential and commercial construction. No building permits are issued until soil erosion permits are given to the township. When violations occur, Macomb County issues Shelby Twp. with stop work orders. If a stop work order is issued, Shelby Twp. will do no inspections or release any properties until a permit is reinstated. If a violation is reported, we direct calls to the appropriate agency. We also may contact the MCPW office ourselves.

Commercial properties go through an engineering pre construction meeting. A representative from the MCDPWO attends these meeting and speaks to the permits that have been issued. Some of the items addressed by their representative include proper soil erosion measures, silt bags on dewatering pipes, tracking dirt onto roads, and storm water logs.

If a piece of property is over 5 acres, a NPDES permit is required before start of any construction. These are requested during engineering review and again at preconstruction meetings. A permit to construct is not issued until all permits are supplied.

### **Post-Construction Control**

While the township's MS4 only covers township properties, the township has established several ordinances to aide in post-construction control. The township also has adopted Macomb County Standards.

The Township's Code of Ordinances (Chapter 58) regulates plan requirements for the construction and repair/replacement of sanitary sewers, water mains, storm drainage systems, and pavement facilities. The Ordinance limits runoff from proposed development equal to the runoff from undeveloped land for a ten-year storm and requires runoff calculations to be submitted with development plans. Calculations must also meet the Macomb County

Public Works Standards. The ordinance may also require the inclusion of one or more retention ponds to limit runoff from the site. Retention pond design standards are listed below.

#### Retention Pond Requirements

- 1) Totally drained within 24 hours of the storm with a maximum water depth of four feet
- 2) Side slopes shall not be steeper than 1:5
- 3) Overflow channel included to restrict erosion and to allow for controlled overtopping
- 4) Storage volume shall be computed as two inches over the site or in accordance with "A Simple Method of Retention Basin Design" by Yrjanainen & Warren .
- 5) Shall be constructed prior to any other work on the site
- 6) Outlet pipes and overflow devices shall be protected to prevent damage and avoid off-site sedimentation in the event of major storms during the construction of the development.

The Ordinance also includes specific design requirements for areas in the Township that are designated Special Drainage Districts; all drains within these districts fall under the jurisdiction of the Macomb County Drain Office. Construction within these special districts must meet 100-year storm frequency requirements and Macomb County Drain Office requirements.

The Township planning department and the Township's engineering consultant (Fazal Khan & Associates, Inc.) review all site plans. Part of the review is soil erosion and sediment control. In addition, The Township's engineering plan review checklist includes design requirements for onsite detention; onsite detention designs standards as listed below.

#### Detention Facilities

- 1) Storage capacity equal to a minimum of 0.2" of water over the site
- 2) 24 hour discharge rate
- 3) Side slopes shall not be steeper than 1:5
- 4) Overflow system shall be provided
- 5) Rip rap shall be placed on the inlet and outlet pipes

All employees of the water and sewer department are authorized to issue fines for violation of any township ordinance dealing directly or indirectly with the installation, construction, connection or use of water, sewer or storm facilities; enforcement actions may also include withholding of the Certificate of Occupancy.

#### **Pollution Prevention and Good Housekeeping Program**

Shelby Township has a Storm Water Pollution Preventive Plan that outlines all facilities, activities and materials as well as procedures to follow for spills and general good housekeeping.

#### **Total Maximum Daily Load**

Shelby Township is performing dry weather screening to assure that there are no illicit connections on their Outfall to the Clinton River.

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Shelby Township will perform a wet weather screening to observe the consistency of the flow. If there are any concerns, an investigation will take place and samples will be taken as per the procedure in the IDEP plan.

Shelby Township will continue to practice BMP while maintaining their properties to aide in the reduction of total maximum daily load in the Clinton River.

Ordinance Chapter 58 – 422

• **Sec. 58-422. - Plan requirements.**

(a)

*Requirement established.* No person shall construct, attempt to construct, repair or replace any storm drainage structure, ditch, culvert, pipe, watercourse or other drainage system without submitting plans as required under this section.

(1)

*Prior to commencing work.* All submissions required by this article shall be made prior to any work commencing on any premises.

(2)

*Concurrent with plats or site plans.* If the proposed drainage systems are in conjunction with the platting of lands under chapter 30 of the Code or an application for site plan approval under the zoning ordinance of the township, submissions under this section shall be concurrent with the requirement of those regulatory provisions.

(3)

*Exemption.* Any governmental corporation engaged in the construction of any of the drainage systems described in this section is exempt from compliance with this article to the extent allowed by law.

(4)

*Complete submission prior to review.* Complete project improvement plans shall be submitted prior to review and approval of any portion of the plans.

(b)

*Plan drawing specifications.*

(1)

*Prints.* Plans submitted shall be on 24-inch by 36-inch white prints having blue or black lines, and shall be neatly and accurately prepared. Judgment should be exercised in the design and layout and presentation of proposed improvements.

(2)

*Scale.* Detail plans shall be minimum scale of one inch equals 40 feet horizontal and one inch equals five feet vertical on profile sheets.

(3)

*Elevations.* Elevations shall be on NAVD 88 datum. If in a street right-of-way, the adjacent top of curb or edge of pavement grade, existing or proposed, must be shown on the profile. Two benchmarks for the work shall be indicated on each sheet of plans.

(4)

*Structure finish grades.* Finished grades of structures shall be indicated on the plan or profile for all structures.

(5)

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*Lines and numbers.* Street names, lot lines, lot numbers, parcel lines and county tax plate numbers shall be shown in all plans.

(6)

*Certification.* All plans submitted shall bear the seal of the registered professional engineer responsible for the design.

(c)

*Drain plan specifications.* All drains except catchbasin connections shall be shown in plan and profile. Profiles of drains shall indicate the size, invert and slope of the drain and shall indicate the existing ground and proposed grade along the route of the drain. The following information shall also be indicated on the storm drain profile:

(1)

Length of run and type of drain pipe between manholes.

(2)

Size and slope of drain between manholes. Where possible, the slope of the drains shall provide a minimum velocity of 2.5 feet per second velocity.

(3)

Top elevation of all manholes.

(d)

*General plan.* For projects having more than one sheet of plans, a general plan having a scale of one inch equals 100 feet shall be provided showing the overall project and indicating the location of all improvements shown on the detailed plans and a legal land description of the project together with a location sketch. Superimposed on this general plan shall be elevation contours of the project area at least 100 feet outside the project.

(e)

*Extension of improvements.* Improvements which are necessary to serve adjoining property as determined by the township engineer shall be extended entirely across the project at the project owner's expense.

(f)

*Plats.* If the project is in an existing or proposed subdivision, a copy of the plat shall be attached to the plan.

(Ord. No. 252, 2-6-2007)