

Michigan Municipal Separate Storm Sewer System (MS4) Permit Discharge Point Location and General Mapping

The Watershed and Jurisdictional General MS4 permits define discharge points as:

“Any location on the MS4 owned or operated by the permittee that discharges directly to a surface water of the state, or any location on the MS4 owned or operated by the permittee that discharges to any other separate storm sewer system before discharging to a surface water of the state.”

Both the Watershed General Permit, Part I.A.1.b. and I.A.2., page 4, and Jurisdictional General Permit, Part I.A.1.b. and I.A.2., page 4, require permittees to submit location data for discharge points in order to obtain and maintain authorization to discharge storm water from those points.

Requirements and recommendations related to collection and management of discharge point data are provided below:

SECTION I. MS4 Discharge Point Location Data

A. Discharge Point Data Required in the Permit Application

Actual Location of Discharge Points

The MS4 permit applications require applicants to identify the locations of discharge points in the permit application. *A spreadsheet (or shapefile) that includes all the discharge points, the latitude and longitude, identification code and receiving water name, along with a paper map, is the format preferred by the Department of Natural Resources and Environment (the Department) for this submittal.*

Categorical Location of Discharge Points

Alternatively, if specific location information has not yet been determined for discharge points, applicants are able to provide an estimate of the number of discharge points by category.

B. Follow-Up Steps for Categorically Authorized Discharge Points

Permittees that have obtained categorical coverage for discharge points where specific location information is unknown are required to make reasonable and regular progress in the identification of discharge points. This progress shall be documented in the progress reports required under the Watershed and Jurisdictional General Permits.

What is reasonable and regular progress?

For permittees with 1500 discharge points, the permit allows up to one permit cycle for acquiring location information; therefore 1500 discharge points divided by five years would be 300 discharge points identified per year.

For permittees with 10,000 discharge points, the permit allows two permit cycles for acquiring location information; therefore 10,000 discharge points divided by ten years would be 1000 discharge points identified per year.



Location information for all discharge points shall be obtained and submitted to the Department by the date listed in the permittee's COC. For each discharge point identified, the permittee shall include in the progress report: a specific discharge location, a unique identification code or number, and the receiving surface water of the state. *A spreadsheet (or shapefile) that includes all the discharge points, the latitude and longitude, identification code and receiving water name, along with a paper map, is the preferred format for this submittal.*

C. Obtaining Discharge Authorization for Additional Discharge Points

Submittal of discharge point location information is required to obtain authorization to discharge storm water from those discharge points. If new discharge points are discovered or installed that have not been authorized, please obtain authorization as detailed below.

Discharge Points Identified after Application Submittal, Not Categorically Covered

For discharge points identified after submittal of the application, except for those identified categorically in the application, the Watershed General Permit, Part I.A.2.a.1), page 4, and Jurisdictional General Permit, Part I.A.2.a.1), page 4, require the permittee to provide an updated map which clearly shows the discharge point location, the unique identification code or number assigned to the discharge point, and the receiving surface waters of the state. Latitude and longitude of the discharge points are also required under the Jurisdictional General Permit, and are strongly recommended under the Watershed General Permit. *A spreadsheet (or shapefile) that includes all the discharge points, the latitude and longitude, identification code and receiving water name, along with a paper map, is the preferred format for this submittal.*

Discharge Points Constructed or Installed After Application Submittal

For discharge points constructed or installed after submittal of the application, the Watershed General Permit, Part I.A.2.a.3), page 5, and Jurisdictional General Permit Part 1.A.2.a.1), page 4, require the permittee to provide an updated map clearly showing the location of the discharge point, the unique identification code or number assigned to the discharge point, the latitude and longitude of the discharge point, and the receiving surface waters of the state. *A spreadsheet (or shapefile) that includes all the discharge points, the latitude and longitude, identification code and receiving water name, along with a paper map, is the preferred format for this submittal.*

D. Discharge Point Data Submittal Instructions

All discharge point location data shall be submitted by the official storm water program manager designated on the application for the permit, to the Chief of the Permits Section, Water Resource Division, Michigan Department of Natural Resources and Environment, P.O. Box 30273, Lansing, Michigan 48909-7773.

E. Labeling of Discharge Points in the Field

Under the Jurisdictional General Permit, Part 1.A.2.b., page 5, the permittee is required to provide permanent identification (e.g., label, color coding, stencil or other identifying characteristic as long as the permanent identification is maintained) for any discharge point structure that the permittee constructs or installs after March 10, 2004, that discharges storm water to surface waters of the state. Following the addition of permanent identification, the primary operator of the MS4 shall be readily identifiable by observation of the discharge point.

Permanent identification for discharge points is not required under the Watershed General Permit.

F. Discharge Point Data Format, Acquisition, and Submittal Tips

The Department highly recommends that the permittee identify the latitude and longitude of each storm water discharge point from the MS4 it owns or operates, and submit the information in electronic list format, either as a spreadsheet or as a Geographic Information System (GIS) shapefile, along with a paper copy of the map.

Acquiring Latitude/Longitude Data

Many inexpensive and/or free means are available to acquire approximate latitude and longitude data. It is not necessary to have a GIS to acquire this data. Options for acquiring the data include:

- Work in the office using free desktop computer software including Google Earth
- Work in the office using ESRI GIS software
- Work in the field using a global positioning system (GPS) unit (handheld units are sufficient)

Tips for use of Google Earth

Google Earth can be downloaded for free at earth.google.com. Permittees can use the free software on individual computers to zoom into the area for which the latitude and longitude is needed, then choose “add” and “placemark.” The new placemark can be moved to the discharge point, named, and its coordinates can be obtained under the “Properties” tab. Google Earth allows the user to save the placemarks for future reference.

The Department recommends that permittees set the coordinates to decimal degrees. To do this, go to the “Tools” menu, select “options,” select the “3-d view” tab, go to the “show lat/long” section, and select “degrees” as the units. WGS84 is the datum used by Google Earth.

Determining the Receiving Water

The name of the receiving water for a discharge point should be obtained by determining which NAMED perennial (solid blue line) stream on a USGS 1:24,000 topographic map the discharge point would directly or eventually discharge into. Permittees may want to access the Department’s interactive map-based program called Michigan Surface Water Information Management System (MiSWIM) to determine the receiving water name. Go to www.michigan.gov/dnrewater. Click on “Water Quality Monitoring” on the left side of the screen, then on “MiSWIM Information Management System” in the center of the page.

G. Attribute Data to Include with Discharge Point Location Data

Discharge Point Attribute Data Recommendations

The following additional data should be provided for each storm water discharge point that the permittee owns or operates, in either spreadsheet or shapefile format:

- MS4 designated name
- MS4 certificate of coverage (COC) number
- Numeric label or name for the discharge point
- Latitude of discharge point. Please provide latitude in decimal degrees
- Longitude of discharge point. Please provide longitude in decimal degrees
- Datum of point
- General Source Code
- Receiving water name

Address Attribute Data Recommendations

If a permittee submits address data, rather than latitude/longitude data, it is recommended that address data be provided in spreadsheet format. When address data are submitted, the following attributes are recommended. Please do not use any abbreviations or punctuation in any of the address data. Address data should only be provided when an address has been assigned to a property, and may not be applicable for all properties. Please leave the address fields blank if an address is not available.

- MS4 designated name
- MS4 COC number
- Address1 – List the street number and full street name
- Address2 - List other required delivery information such as suite number, floor number, etc.
- City – List the full city name
- State – List Michigan
- Zip5 – List the five-digit zip code. Please do not include any spaces
- Receiving water name

SECTION II. Municipal Property and Structural Control Related Mapping Requirements

A. Permit Requirement

The permittee shall include in the Storm Water Pollution Prevention Initiative or Storm Water Management Program a summary list of municipal properties and an estimate of the structural storm water controls owned or operated by the permittee. The list shall include the type and number of municipal properties and structural storm water controls. The permittee shall have location information for all municipal properties and structural storm water controls by the date specified in the COC for the submittal of the first progress report. The location information shall be updated whenever new municipal properties and structural storm water controls are added. The location information shall be retained by the permittee and, upon request, provided to the Department for review.

Municipal properties include: police or fire stations, libraries, administration buildings (e.g., city or township hall), public works facilities such as maintenance garages or storage yards, parks, cemeteries, waste disposal areas or unregulated landfills/dumps, open or vacant land, or any other type (describe) of property maintained by the permittee.

Structural Storm Water Controls include, but are not limited to, vegetated swales; infiltration, sedimentation, and bioretention facilities; storm water devices (e.g., catch basins and oil/water separators); and any controls installed or operated by the permittee to remove pollutants from storm water.

B. Detailed Location Data for Municipal Properties and Structural Storm Water Controls

By the first progress report due date, the permittee is required to have location information for all municipal properties and structural storm water controls owned or operated by the permittee. This information may be included on the maps maintained for the Illicit Discharge Elimination Program/Plan.

Property location data may be organized by property address or as a polygon GIS shapefile. *A spreadsheet (or shapefile) that includes the municipal properties and structural storm water controls, the latitude and longitude, identification code and receiving water name, along with a paper map and list, is the preferred format.*

C. Attribute Data Recommendations for Municipal Property and Structural Storm Water Control Location Data

Structural Storm Water Control Attribute Data Recommendations

The permittee is required to retain location information for structural storm water controls that the permit owns or operates. It is recommended that the following data be collected for each structural storm water control that the permittee owns or operates in either spreadsheet or shapefile format:

- MS4 designated name
- MS4 COC number
- Type of structural storm water control
- Latitude of structural storm water control outlet or center point (if no outlet). Please provide latitude in decimal degrees
- Longitude of structural storm water control outlet or center point (if no outlet). Please provide longitude in decimal degrees
- Datum of outlet or center point
- General Source Code
- Address 1
- Address 2
- City
- State
- Zip5
- Receiving water

Municipal Property Attribute Data Recommendations

The permittee is required to retain location information for municipal properties that the permittee owns or operates. It is recommended that the following data be collected for each municipal property that the permittee owns or operates in either spreadsheet or shapefile format:

- MS4 designated name
- MS4 COC number
- Type of municipal property
- Municipal property name – provide if applicable
- Latitude of property center point. Please provide latitude in decimal degrees
- Longitude of property center point. Please provide longitude in decimal degrees
- Datum of center point
- General Source Code
- Numeric code or name of the discharge point where the structure discharges
- Address 1
- Address 2
- City
- State
- Zip5
- Receiving Water name

SECTION III. Submission of Electronic Data

A. Spreadsheet Submittal Recommendations

Attribute data may be submitted either in spreadsheet format or ESRI shapefile format. If the permittee opts to submit data in spreadsheet format, the Department prefers that the data be submitted in Microsoft Excel 2000 or XP format. Many software programs can export a file to an Excel format, if Excel is unavailable. Please ensure that formatting such as cell merges, text wrapping, is used.

B. Shapefile Submittal Recommendations

Please submit all GIS files in the ESRI shapefile format. Please submit the shapefiles in the Michigan GeoRef coordinate system, North American Datum 1983 (NAD 1983), in meters. For more information on the Michigan GeoRef coordinate system, go to www.michigan.gov/dnre and type in Michigan GeoRef. Click on the .pdf document titled "Michigan Department of Natural Resources: GIS and GPS Education" or go to www.michigan.gov/documents/DNR_Map_Proj_and_MI_Georef_Info_20889_7.pdf.

If the data must be submitted in a coordinate system other than Michigan GeoRef, supply the coordinate system name, datum, units, and another accessory information that will accurately describe the coordinate system (zones if UTM or State Plane).

C. Transmission of Electronic Submittals

The electronic data can be transmitted to the Department in the following formats:

- 1) CD ROM (CD-R)
- 2) Compressed or uncompressed e-mail attachments (15 MB size limit)
- 3) Department FTP site. Instructions will be sent as/if needed
- 4) DVD-R (DVD-R or DVD+R)

SECTION IV. Additional Recommendations on Select Attribute Data

A. Source of the Location Data

The General Source Code is a description of the method used to derive the latitude and longitude values. A General Source Code should be provided with all latitude/longitude data. This helps with assessment of the accuracy of the data.

It is recommended that one of the following General Source Codes be provided with all latitude/longitude data:

1. Address Matching
2. Census Block
3. GPS
4. Interpolation
5. Loran C
6. Public Land Survey
7. Classical Surveying Techniques
8. Zip Code

For more information about these General Source Codes, please see the Environmental Data Standards Council Latitude/Longitude Standard Document, Appendix B, located at the following Web address: www.epa.gov/edr/LatLongStandard_08112006.pdf

B. Datum

Datum should be provided with all latitude/longitude data and all shapefiles. We recommend that data be provided in a datum of either NAD83 or WGS84.

Questions

For further information about these standards, please contact your Department district staff person.

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