

City of Madisonville 2018 Stormwater Quality Management Plan

Third Program Term
2018 to 2023



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“The SWQMP is an implementation plan to be utilized as a tool by the Permittee to facilitate compliance with the six program elements outlined in this permit.”

Source: Permit KYG200000, Section 2.3.4, page 16

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PREFACE – STORMWATER QUALITY MANAGEMENT PLAN (SWQMP)

Madisonville and all regulated Municipal Separate Storm Sewer Systems (MS4) within Kentucky, must prepare and publish its plan include best management practices (BMPs) to address minimum requirements and performance standards. The overall goal of the SWQMP is to reduce the discharge of pollutants to the maximum extent practical (MEP).

As required, the SWQMP describes the activities Madisonville will conduct in the implementation of its stormwater quality management program within the following outline.

This plan was originally submitted in September 2018 as required by the current Phase II permit. However, following an KDOW Audit inspection in September 2018 and changes to the City’s MS4 staff in early 2019 the City has re-evaluated their current stormwater program. This document has been updated to reflect revisions to the SWQMP BMP tables that provide Madisonville with a compliant program that meets the City’s objectives.

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I. Community Background

The 2018 Stormwater Quality Management Plan (SWQMP) is required by the Kentucky Department of Environmental Protection, Division of Water (KDOW) for all permitted small municipal separate storm sewer systems (MS4) in the state of Kentucky.

The KDOW submitted the “Phase II Storm Water Quality Management Plan Preparation Guidance” in June 2017.

The format and contents of this SWQMP are consistent with KDOW recommendations from the June 2017 guidance document provided by the KDOW. This SWQMP provides activities and programs that the City of Madisonville plans to implement over the next five year permit cycle. At this time, the City considers this SWQMP to be practicable and achievable for the 2018-2023 permit term. As the City’s stormwater program progresses, the City anticipates that there will be changes in the program, including modifications to program activities and measurable goals outlined in the SWQMP.

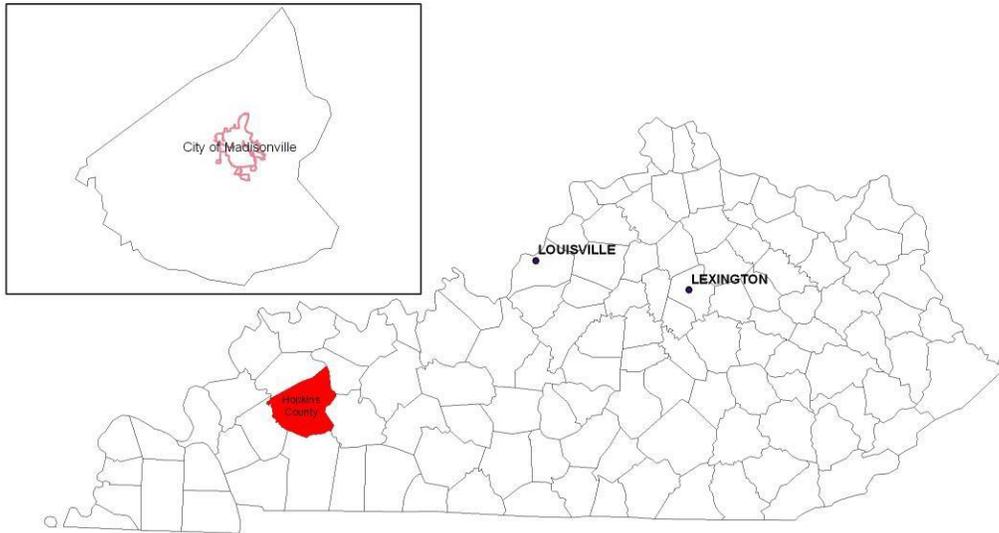
i. MS4 Community

The City of Madisonville was designated as a Phase II MS4 community in 2003 due to its classification as a high profile city according to population. High profile cities are classified as having populations over 10,000 and population densities over 1,000 persons per square mile. From the 2010 Federal Census, Madisonville’s population was 19,591 and population density was 1,096 persons per square mile. Madisonville’s MS4 program operates under KPDES permit number KYG200022.

ii. Community Location, Nearby Communities, and County Seat

The City of Madisonville is the seat of Hopkins County, located in western Kentucky. The City is located approximately 50 miles south of Evansville, IN, 105 miles northwest of Nashville, TN, and 155 miles southwest of Louisville, KY (see map below).

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iii. Transportation

The City vehicle transportation needs are met principally by I-69, US Highways 41 and 41A, Western Kentucky Parkway, and Kentucky Highways 70 and 85, making it easily accessible to travelers. I-69 provides a vital land link for commerce between the northern and southern regions of the United States. CSX Railway is found throughout the City.

iv. Land Uses

The City contains a mixture of land uses. Its total land area, according to the US census data, is 18.5 square miles, of which 17.8 square miles is land and 0.7 square miles is water. The City is a regional resource, and contains shopping, dining, cultural events, education, professional services and healthcare. In addition, recreation takes place in several public parks and open spaces. The City is home to a 262 acre city park called the Madisonville City Park as well as a newly added 265 acre park called Mahr Park. The community is historically influenced by coal production, but also includes industrial and manufacturing sectors. The region's land uses are primarily influenced by manufacturing, agriculture, and railroads.



v. Applicable History or Trends

Beginning in the 1920s population growth in Hopkins County, including the City of Madisonville, was tied to increased coal production. The surge in production in the 1970s coincided with the largest population surge for the region. According to the Kentucky State Data Center, the population of Madisonville in 2010 was 19,591. Currently, only a modest increase in population is projected over the

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next 15 years.



**Hopkins County Courthouse,
Madisonville, Kentucky**

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II. Local Water Resources

i. Water Quality Conditions

In 2007, the City developed locations in each of the four major watersheds to examine water quality. Water quality samples were collected and analyzed at each of the locations.

Every two years the KDOW prepares a 305(b) Report describing the water quality throughout the Commonwealth. The 303(d) list, which is a subset of the 305(b) list, only includes those waterbodies in category 5, has 2,788 pollutant waterbody combinations (PWC).

The 2016 report has been submitted to EPA and is pending approval. Within the 305(b) report is the 303(d) list, identifying waters that are not meeting their use designation, the pollutant(s) of concern, and suspected pollutant sources. Once a water body is on the 303(d) list, the KDOW is to develop a total maximum daily load (TMDL) to help restore the water body back to its use designation.

➤ *Approved Total Maximum Daily Loads (TMDLs)*

There are currently five TMDLs that have been approved in Hopkins County, as shown below. These waters receive drainage from the City of Madisonville and their statuses are subject to change.

Stream Section	Impairment	Year of Approval
Cane Run of Caney Creek	pH	2003
Craborchard Creek of Drakes Creek	pH	2003
Drakes Creek of Pond River	pH	2006
Pleasant Run of Drakes Creek	pH	2003
Sugar Creek Watershed of Clear Creek	pH	2003

➤ *Total Maximum Daily Loads (TMDLs) Under Development*

Based on the 2008 draft 305(b) report, there is currently one TMDL in Hopkins County that is in the draft stage, as shown below. These waters receive drainage from the City of Madisonville and their statuses are subject to change.

Stream Name	River Miles	Pollutant
Flat Creek into Pond River	0.0 to 10.9	pH

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In addition, the 2008 draft 305(b) report indicates there are TMDLs planned to be prepared in 2009, as shown below. These waters receive drainage from the City of Madisonville and their statuses are subject to change.

Stream Name	River Miles	Pollutant
Caney Creek into Tradewater River	0.0 to 8.2	specific conductance, TDS, pH
Fox Run into Caney Creek	0.0 to 1.1	specific conductance, TDS, pH
Copperas Creek into Caney Creek	0.0 to 3.6	Specific conductance, TDS, pH, iron, cadmium, zinc, nickel
Unnamed tributary to Copperas Creek into Copperas Cr.	0.0 to 0.9	pH, iron, cadmium, zinc, specific conductance, TDS
Copper Creek into Richland Creek	0.0 to 2.7	pH, iron, zinc, TDS, specific conductance
Unnamed tributary to Copper Creek into Copper Creek	0.0 to 1.1	Specific conductance and TDS
Hurricane Creek into Tradewater River	0.0 to 1.8	Iron, TDS, zinc, pH, specific conductance
E. Fork Hurricane Cr. Into Hurricane Cr.	0.0 to 2.2	Specific conductance and TDS

- *Impaired Waterbodies and Specific Pollutants of Concern Causing Impairment*
The following waterbodies are identified in the 2008 draft 305(b) report as partially supporting its designated use. These waters receive drainage from the City of Madisonville and their statuses are subject to change.

Stream Name	River Miles	Pollutant
Pond River	1.0 to 20.8	Iron, sedimentation/siltation, TDS
Unnamed tributary to Drakes Creek	0.0 to 2.2	Nutrient/eutrophication biological indicators, sedimentation/siltation
Unnamed tributary to Elk Creek	0.0 to 2.6	Nutrient/eutrophication biological indicators, sedimentation/siltation, TDS



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➤ *Unimpaired Waterbodies and Special Use Waters*

The following waterbodies are identified in the 2008 draft 305(b) report data table as having an assessment category of one (1) or two (2), therefore being classified as un-impaired in Hopkins County. These waters receive drainage from the City of Madisonville and their statuses are subject to change.

Waterbody & Segment	Total Size	Warmwater/ Coldwater Aquatic Habitat (WAH/CAH) Use Support	Primary Contact Recreation (PCR) Use Support	Secondary Contact Recreation (SCR) Use Support	Fish Consumption (FC) Use Support	Designated Uses	Assess- ment Category
Brooks Creek 0.0 to 4.9	4.9 miles	2 – Fully Supporting	3 - Partial	3 - Partial	3 - Partial	WAH, FC, PCR, SCR	2
Grapevine Lake	50 acres	2 – Fully Supporting	3 – Partial	2 – Fully Supporting	3 - Partial	WAH, FC, PCR, SCR	2
Lake Peewee	360 acres	2 – Fully Supporting	3 – Partial	2 – Fully Supporting	2 – Fully Supporting	WAH, FC, PCR, SCR, DWS	2
Loch Mary	135 acres	2 – Fully Supporting	3 – Partial	2 – Fully Supporting	2 – Fully Supporting	WAH, FC, PCR, SCR, DWS	2
Nortonville Lake	27.4 acres	3 – Partial	3 – Partial	3 - Partial	3 - Partial	WAH, FC, PCR, SCR	2
Pogue Creek 0.0 to 4.9	4.9 miles	2 – Fully Supporting	3 – Partial	3 - Partial	3 - Partial	WAH, FC, PCR, SCR	2
Pond River 0.0 to 1.0	1 miles	3 – Partial	2 – Fully Supporting	3 - Partial	3 - Partial	WAH, FC, PCR, SCR	2
Tradewater River 96.7 to 98.5	1.8 miles	2 – Fully Supporting	3 – Partial	3 - Partial	3 - Partial	WAH, FC, PCR, SCR	2

According to the KDOW, special use waters are rivers, streams and lakes listed in Kentucky Administrative Regulations (KAR, Chapter 5) that are worthy of additional protection. These special uses include cold water aquatic habitat, exceptional waters, reference reach waters, outstanding state resource waters, outstanding national resource waters, state wild rivers and federal wild and scenic rivers.

Special use waters do not include waterbodies designated by default as warm water aquatic habitat, primary contact recreation and secondary contact recreation. Per this definition and the stream designation list (KAR 5:026), special use waters for Hopkins County include the following. These waters receive drainage from the City of Madisonville and their statuses are subject to change.

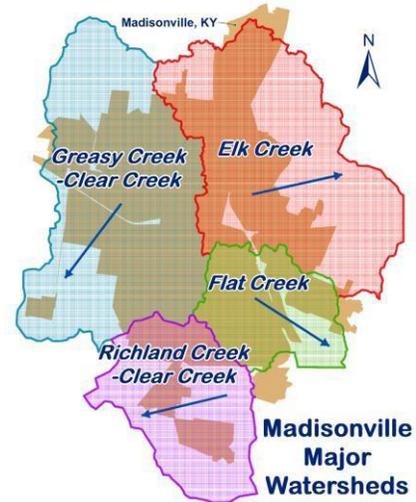
Waterbody Name	Basin	Zone	Special Use
McFarland Creek	Green	Grays Branch to Unidentified Tributary	Exceptional Waters, Reference Reach Stream
Tradewater River	Tradewater	Drippings Springs Branch to Buntin Lake Dam	Exceptional Waters, Reference Reach Stream

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ii. Water Quantity Issues

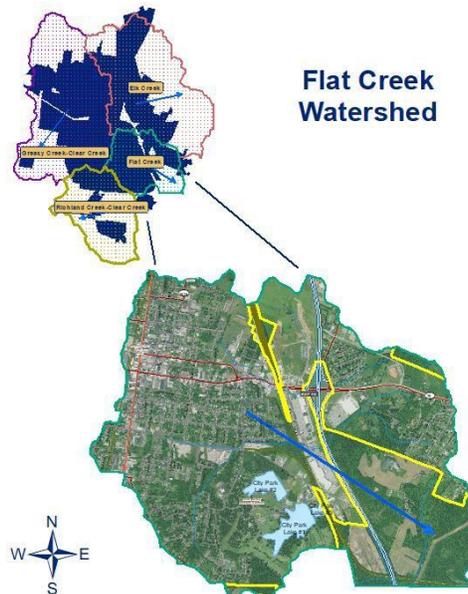
Within the Madisonville city limits there are four watersheds: Flat Creek, Clear Creek, Elk Creek, and Greasy Creek watersheds. Each watershed exhibits unique characteristics related to stormwater runoff and flooding. These characteristics are defined by the watershed soils, development history, industry, topography, and size.

The City does contain flood prone areas. FEMA has completed a county-wide flood insurance study in Hopkins County with an effective date of May 16, 2008. Flood Insurance Rate Maps developed through this study are available through the FEMA Map Service Center at <http://msc.fema.gov>. According to the flood insurance study, floods occur primarily during the winter and spring in low lying areas along Flat Creek.



**Major Watersheds within the
City of Madisonville**

The **Flat Creek** watershed is the most developed of the four watersheds within the City, and is comprised of historic downtown Madisonville, located in the northern portion of the watershed. I-69 runs north to south through the center causing a man-made hydraulic break.



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Flooding in Flat Creek Watershed

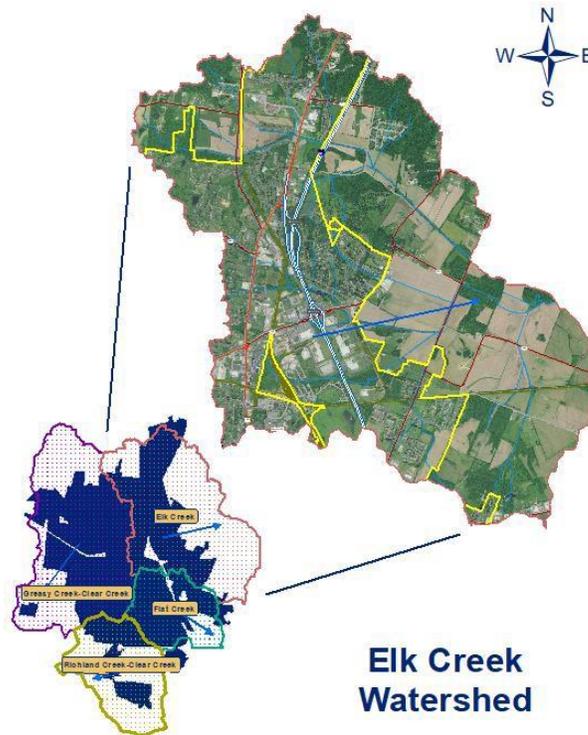
The **Greasy-Clear Creek** watershed covers the western and southern portion of the City. The entire watershed does not lay within the City limits, as shown in the watershed map. The primary highly developed areas are in the southeastern portion of the watershed. Much of the remaining area is agricultural or large-tract residential land. Lake Peewee, the largest water feature in the county, receives the majority of stormwater runoff from the northern portion of the watershed.

The lower portion of the Greasy Creek watershed also covers the lower portion of the City and the City's footprint in this watershed is the smallest of the four. Greasy Creek has had historical issues with surface mine runoff and fecal coliform, though it is believed that the fecal coliform issue has been addressed with the construction of the South Main Street Sewer Project. The City is waiting for confirmation regarding this in the next round of stream testing by DOW.



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The **Elk Creek** watershed comprises the northeastern portion of the city. Like Clear Creek, the watershed does not lay entirely within the city limits. 1-69 runs north to south in the upper portion of the basin. Due to the location of the interstate, future development potential is higher in this watershed than any other. The central western area currently exhibits signs of this potential. Large tracts of agricultural and large-tract residential land cover the majority of this watershed.



iii. Unique Water Features

The City has a water reservoir called Lake Peewee, with a surface elevation 430 MSL

There are three other lakes that have been used as supply reservoirs by the City, namely City Park Lake 1, City Park Lake 2 and Grapevine Lake. They have not been used to supply raw water for treatment to potable water since 1960s.

Like most municipalities, many of the streams within the City limits have been altered to conform to the surrounding land uses.

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iv. Drinking Water Intakes and KPDES Permitted Facilities

The City uses surface water as their drinking water source. There is one drinking water intake found within the city limits of Madisonville, which is owned by the City. Lake Peewee is the drinking water source for the City. Lake Peewee's supply is supplemented during low rainfall periods by pumping water from the Green River into the Lake. The pump and water intake is located on the Green River at river mile 54.0. Former water sources that are no longer in service include Grapevine Lake and the two City Park Lakes.



**Madisonville Water Treatment
Plant, Lake Peewee with
supplemental intake from the
Green River**

v. Report of Restoration Activities

The City has identified potential locations for stream restoration and capital improvement projects to improve water quantity and quality. The City developed a Flat Creek Stormwater Master Plan to evaluate capital improvement projects, including water quality best management practices. In past years, Flat Creek was straightened according to the traditional practices of the time and piped, eliminating natural floodwater storage in the adjacent floodplain areas.

To address these concerns, the City developed a conceptual design for a stream restoration project on Flat Creek, adjacent to I-69 and community shopping areas. The City has not pursued further design and implementation due to budgetary constraints.

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III. Minimum Control Measures

The objective of the Madisonville's MS4 program is to maintain or improve the quality of the waters of the Commonwealth of Kentucky to the Maximum Extent Practicable (MEP). To accomplish this objective, several goals were established to serve as a fundamental basis for the stormwater management programs. The goals include:

- Develop and maintain program activities and focus new endeavors to benefit and protect the City of Madisonville's stormwater resources.
- Emphasize public and staff education, awareness and reporting as the primary management practices.
- Develop cost effective resources and programs to address the requirements of the MS4 program.
- Enforce erosion prevention and sediment control (EPSC) practices and programs pursuant to the City's ordinance.
- Promote effective use of appropriate structural and non-structural stormwater management practices for new development.

This Stormwater Quality Management Plan (SWQMP) will outline programs and measures that the City will implement in the 2018-2023 permit cycle. In the previous permit cycles, the City had accomplishments and encountered challenges and issues that have shaped their program, as described here:

Accomplishments that are attributable to the City's MS4 program are:

- Development and passage of illicit discharge and erosion prevention and sediment control ordinances to reduce stormwater pollution.
- Regular participation in the Kentucky Stormwater Association related meetings.
 - Public education and involvement presentations at schools and community events to raise awareness of what individuals can do to improve water quality through small changes in their behavior.
 - Publication of television and radio public service announcements developed by the Commonwealth Water Education Project (CWEP) on local radio and television stations.
 - Publication service announcements regarding stormwater as previews at the local movie theater.
 - Leaf and debris collection, catch basin cleaning, street sweeping and other municipal services document measurable quantities to quantify impact on local receiving waters.
 - Staff and local construction industry participation in the Kentucky Erosion Prevention and Sediment Control (KEPSC) qualified Inspector course.

A primary challenge the City faces with regard to the MS4 program is funding. To address this, the City had given preliminary consideration of a stormwater utility, but chose not to pursue this option.

With reductions in funding, the City is required to accomplish its stormwater permit

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requirements using limited staff and resources. The City, however, remains committed to meeting permit requirements, and has established strategies to meet program challenges. These include:

- Educating the members of the Kentucky legislature and local elected officials about the MS4 program and the impact of this program on the City.
- Rely on formal and informal cooperative efforts with KYTC and other Kentucky MS4 communities to establish and implement cost effective activities, including public education campaigns.

Issues that the City is currently facing include:

- Educating the members of the Kentucky legislature about the MS4 program and the impact of this program on the City and other regulated municipalities;
- Construction site activities impacting the MS4 program through the expiration of the KYR10 stormwater permit for construction.

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MCM 1: Public Education and Outreach

Summary

According to KDOW's Phase II Stormwater Quality Management Plan Preparation Guidance document, the following items are required for the public education and outreach minimum control measure:

- 1) Implement a public education program to raise awareness about the impacts of stormwater discharges on local waterbodies and the steps that can be taken to reduce stormwater pollution.
- 2) Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

The City has engaged in several activities to educate the general public and target audiences of stormwater quality impacts. The City's public education campaign has and will continue to include:

- Developing and implementing the City's public outreach strategy
- Incorporating materials into City's public education and outreach strategy
- Providing educational and training opportunities for City Staff and the local community

Best Management Practices (BMPs)

Task 1.A.1 Website

The City will update its website (*new page currently under development*) to communicate stormwater education messages and programs to residents. The web page will contain education material for target groups such as the general public, schoolchildren, and developers. The City will enhance and update the website as necessary with stormwater facts, program documents, contact information, etc.

Task 1.A.2 Status Updates on Stormwater Related Issues to Elected Officials

The City Engineer will provide stormwater related information and updates to the City Council and/or the City Water, Wastewater, Stormwater, and Engineering committee group to educate them about the MS4 regulations and program implementation on an as needed basis.

Tasks 1.A.3 Provide Stormwater Related Updates at Monthly Department Head Meetings

As needed the City Engineer will provide stormwater related updates to the Mayor and City Department Heads at monthly meetings.

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Tasks 1.A.4 Stormwater Questionnaire

Throughout the permit term the City will develop and distribute a stormwater questionnaire(s) at a local event, meeting, or through social media to measure the understanding of the public on water quality issues and steps the public can take to improve local water quality.

Tasks 1.A.5 MS4 Employee Training

One designated MS4 Staff member will receive at least 12 hours of related documented stormwater training per year.

Tasks 1.A.6 Develop and Install Watershed Signage

With the goal of educating the public on what watershed they live, travel or work in and to provide a spill response telephone number to notify of a spill or concern within a certain watershed, the City will install watershed signs throughout the service area.

Tasks 1.A.7 Provide Stormwater Educational Information and Materials

Utilizing the City's social media outlets and available stormwater brochures and pamphlets the City will select and distribute appropriate stormwater information. The content of the material will be prioritized to focus on pollutants impairing or threatening local waterways, how citizens can help improve water quality, and other stormwater related topics.

Tasks 1.B.1 Coordinate with Hopkins County Ag Extension Agency

The City will continue to promote Ag Extension Agency events and incorporate assistance provided by the Ag Extension Agency into public outreach strategy documents.

Measurable Goals

The City will review the stormwater website content on an annual basis and update the stormwater website as needed with new and current information.

The City Engineer will make presentations to City Council and other City departments regarding stormwater issues on an as needed basis. The number of meetings and information presented will be tracked.

The City Engineer will make presentations to the Mayor and City Department Heads at the monthly meetings regarding stormwater issues as needed basis.

The City will track the number of survey respondents received and review changes to the survey responses throughout the permit term.

The City Engineer will maintain appropriate documentation for the 12 hours of stormwater related training.

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The City will document the installation and placement of watershed signs.

The City will document the quantity of brochures and pamphlets distributed along with the number of social media posts, including “likes” and “shares” of stormwater content.

The City will document the coordination activities and efforts with the Ag Extension.

The SWQMP table summarizing all of the BMPs and measurable goals can be found at the end of this document.

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MCM 2: Public Involvement and Participation

Summary

According to KDOW's *Phase II Stormwater Quality Management Plan Preparation Guidance* document, the following items are required for the public involvement / participation minimum control measure:

- 3) Implement a public involvement/participation program that complies with the applicable Kentucky and local public notice requirements.
- 4) Provide public notice of program participation opportunities by methods designed to reach the intended audience.

The City encourages public involvement and participation in the MS4 program. The City has encouraged citizens to protect local waterways including the use of signs on Lake Pee Wee, watersheds, and prohibiting illicit discharges.

The City will continue to receive and route calls pertaining to stormwater issues. The local community can contact the City Engineer directly or through the GoMadisonville links on the City's website. Contact information will be available to the public via the City's stormwater website to report incidents of stormwater pollution.

Best Management Practices (BMPs)

Task 2.A.1 Public Notice Requirements

The City will comply with all state and local public notice requirements with promoting stormwater related events and information.

Task 2.A.2 Stormwater Complaint Log

Phone calls pertaining to erosion and sediment control and general stormwater requests are routed to the City Engineering Department. The City contact information available to citizens through their website (*currently being updated*). The City will continue to maintain a phone hotline (270-824-2187) and update the website as needed for residents to identify water quality problems and/or concerns. Calls received will be tracked through a database to document information received from the public. Citizens can also use the City's GoMadisonville program online to document and submit stormwater related issues.

Tasks 2.A.3 Coordinate with Other Group Agencies for Public Involvement

The City will continue to find opportunities to partner with the Ag Extension Agency, Kiwanis Club, and others to promote public involvement / participation on stormwater topics.

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Tasks 2.A.4 Promote Stormwater Related Events

The City will add and promote stormwater related events on the City's online activities calendar.

Tasks 2.A.5 Community Watershed/Neighborhood Cleanup

The City will support and promote local cleanup days organized by the Board of Realtors.

Measurable Goals

The City will comply with public notice requirements.

The City will continue to receive and track calls from residents when identifying water quality problems and/or concerns. The City will track this information to a database and track phone calls received with stormwater program concerns. The City will also track and document the stormwater related complaints received through the GoMadisonville website.

When coordinating with other agencies for stormwater related public involvement events, the City will document the date of the event, the partner agency, and the number of participants.

The City will track the number of stormwater related events posted on the City's activities calendar each year.

For each community cleanup activity the City will document the number of participants and the amount of debris collected.

The SWQMP table summarizing all of the BMPs and measurable goals can be found at the end of this document.

###

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MCM 3: Illicit Discharge Detection and Elimination

Summary

According to KDOW's *Phase II Stormwater Quality Management Plan Preparation Guidance* document, the following items are required for the illicit discharge detection and elimination minimum control measure:

- 1) Continue to implement and enforce an ordinance or other regulatory mechanism that prohibits illicit discharge to the small MS4.
- 2) Develop and maintain a storm sewer system map showing the location of all known major outfalls and the names and locations of all surface waters that receive discharges from those outfalls.
 - a. The storm sewer system wide map shall also include the permittee's small MS4 system, including catch basins, pipes, ditches, flood control facilities (retention/detention ponds), post-construction water quality BMPs. Depict stormwater infrastructures such as inlets, outfalls, conveyance, detention basins, retrofits, etc. Include citations and references for all data shown on the map.
 - b. Map Format: If mapping is completed using GIS or CAD software, provide at a minimum the MS4 boundary and the mapped storm sewer infrastructure (please consult DOW about an acceptable format for maps.)
- 3) Develop and implement a written plan to address illicit discharges including illegal dumping to the MS4.

The City adopted an illicit discharge detection and elimination (IDDE) ordinance on July 16, 2007 and continues to pursue the elimination of illicit discharges through implementation of the ordinance.

During the first and second permit cycle, the City compiled data for their base map and plan to continue compiling existing stormwater system infrastructure data to complete the required mapping.

To date, the City:

- The City has made stormwater materials available to the public, as well as to City employees;
- Cross-trained various departments to identify illicit discharges while conducting daily operations;

Best Management Practices (BMPs)

Task 3.A.1 Illicit Discharge Detection and Elimination Ordinance Update

The City will continue to implement and enforce the illicit discharge detection and elimination ordinance.

Task 3.A.2 Stormwater Outfall and Infrastructure Mapping

The City will continue to update the storm sewer system mapping each year

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based on new and redevelopment, field observations, and other sources. The City will encourage that new storm sewer infrastructure locations and as-builts are provided to the City electronically to facilitate maintenance of the storm sewer system map and to reduce the need for re-mapping activities.

Task 3.A.3 IDDE Plan

The City developed an IDDE Plan to document dry weather screening protocol and procedures for outfall inspections. The City will utilize this plan to implement an effective outfall screening and inspection program.

Task 3.A.4 Dry Weather Screening Of Major Outfalls

The City has developed and will implement a dry weather screening plan to monitor and inspect 20% of their major outfalls each year.

Task 3.A.5 Address Identified Illicit Discharges

The City will continue to encourage reporting of illicit discharges from cross trained City staff and through the stormwater hotline. The City will address suspected illicit discharges that are identified or brought to the attention of the City by following the procedures and enforcement actions outlined in the City's IDDE plan and ordinance.

Tasks 3.A.6 Illicit Discharge Education Efforts

The City will provide illicit discharge focused education materials through the education and outreach efforts outlined in MCM 1 (i.e., social media, brochures, etc.).

Task 3.A.7 Public Awareness and Reporting

The City used their stormwater complaint database to track hotline calls and GoMadisonville online complaints associated with illicit discharges. The Watershed Signs (discussed in MCM 2), will have a phone number listed for citizens to call and report a suspected illicit discharge.

Task 3.A.8 City Staff Training

The City will also continue to train city staff to identify illicit discharges and connections annually. The City will maintain sign-in sheets of trainings.

Task 3.B.1 IDDE Coordination with KYTC

The City will continue implementing mechanisms to allow for public reporting of spills and other discharges. Options for reporting include a phone helpline and the GoMadisonville website for public reporting of illicit discharges and illegal dumping.

Task 3.B.2 Sanitary Sewer Discharges

The City will report to KDOW any illicit discharges that result from a sanitary sewer line failure or defect. They will remediate the discharge if the City is the responsible entity

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Measurable Goals

The City will continue to implement it's IDDE ordinance and track the number of illicit identified each year and the number of notice of violations and enforcement actions.

The City will continue updating and improving their storm system mapping. The infrastructure added to the mapping will be tracked annually.

Utilizing the IDDE plan the City will perform dry weather field screening on 20% of the major outfalls each year. Data tracking will include the number of outfalls inspected and observations. The City will address illicit discharges as they are identified and track the outcome of each instance.

The City will utilize efforts and materials within MCM 1 to provide educational opportunities for the public regarding illicit discharges.

The City will utilize its stormwater hotline and the GoMadisonville website to track calls and document calls related to illicit discharge issues through the database.

The City will train staff to identify illicit discharges. Documentation for this activity will include sign-in sheets and number of employees who received training.

The City will report illicit discharges, as a results of sanitary sewer overflows, to KDOW. If the City is responsible they will remediate the issue. The City will track and document SSO related illicit discharge issues.

The SWQMP table summarizing all of the BMPs and measurable goas can be found at the end of this document.

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**MCM 4: Construction Site Stormwater Runoff Control
Summary**

According to KDOW's *Phase II Stormwater Quality Management Plan Preparation Guidance* document, the following items are required for the construction site runoff control minimum control measure:

- 1) Enforcement of an ordinance or other regulatory mechanism to require erosion and sediment controls and sanctions to ensure compliance. Include a copy of the regulatory mechanism used to require the implementation of sediment and erosion controls on a construction site.
- 2) Requirements for construction site operators to implement erosion and sediment control best management practices (BMPs) that shall be as protective as Kentucky's General Permit for Stormwater Discharges Associated with Construction Activities (KYR100000).
- 3) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.
- 4) Establishment of authority for site-plan review which incorporates consideration of potential water-quality impacts.
- 5) Establishment of authority for receipt and consideration of information submitted by the public.
- 6) Establishment of authority for site inspections and enforcement of control measures.

The City adopted an Erosion Prevention and Sediment Control Ordinance to address construction site water quality on December 4, 2006. The City continues to enforce this ordinance. The ordinance allows for stop work orders and penalties of up to \$250 for the first offense and \$500 for each subsequent offense.

Historically, the City has promoted and supported an employee training program developed in coordination with the KDOW and KYTC. The program provided training to educate construction contractors, designers, planners and developers on EPSC BMPs and distributed the Kentucky EPSC Field Guide. In addition, the City hosted three trainings programs during the first permit cycle. The City will continue to provide EPSC training opportunities.

The City utilizes its Best Management Practices (BMP) Manual to guide the development community on proper Erosion Prevention and Sediment Control (EPSC) practices. The Manual provides design specifications and selection guidance for BMPs in fact sheet format. The BMP Manual is available on the City's website and available

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on CD by request. In addition, the City developed a BMP checklist and *Final Stabilization Termination Checklist and Certification by the Developer* that verifies that construction is complete, temporary BMPs have been removed and permanent cover has been established.

Earlier, the City Engineers' Office developed the *Phase II-EPSC Binder for Contractor Records*. This binder is a guidance tool for contractors for tracking permit process and record keeping requirements. The binder contains information regarding local and state requirements for protecting against erosion caused by stormwater run-off on construction sites and allows the contractor to keep all related documents organized.

The City reviews water quality in conjunction with its existing plan review and requires water quality improvements where necessary. Flow charts were developed to assist the permit application and plan review process. The City also issues grading permits as part of the development process.

Best Management Practices

Task 4.A.1 Construction Stormwater Ordinance Update

The City will continue to implement its EPSC Ordinance and will review/modify the ordinance as needed to meet permit requirements.

Tasks 4.A.2 Track Construction Projects

The City has developed a tracking spreadsheet tool to track construction projects, City inspections, City inspection findings, citizen complaints, and City enforcement actions. City staff will be trained on how to populate and review the database.

Task 4.A.3 Review BMP Plans

The City will continue to review the BMP plans submitted and will use the tracking database to document the review of the BMP plan and the status of the review.

Task 4.A.4 Project Inventory and Inspections

The City has recently developed and will continue to maintain a spreadsheet tracking tool to identify and prioritize projects requiring inspections, document inspection frequency, findings, and follow-up or enforcement actions.

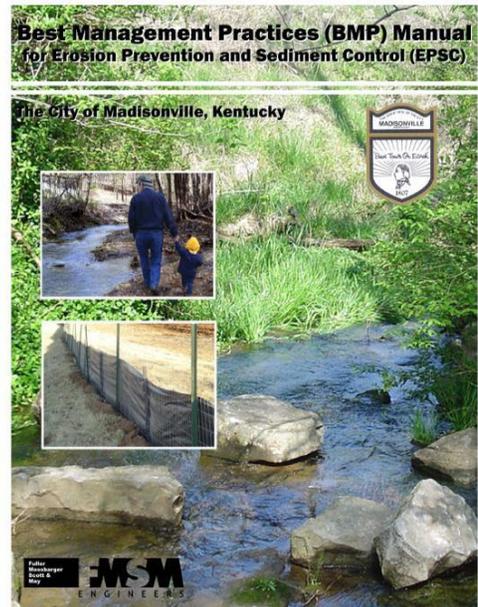
Task 4.A.5 EPSC Training for MS4 Staff

The City will continue to provide training sessions for MS4 staff on the fundamentals of EPSC.

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Task 4.B.1 Training program for local construction contractors, designers, planners and/or developers

The City has strived to assist the development community with information to prevent erosion into local waterways, including the EPSC BMP Manual. The City will continue to provide guidance to contractors, designers, planners and developers through sponsoring or conducting at least one training session per permit cycle to support the education of the design and development community to comply with the local and state run-off control requirements.



Measurable Goals

The City will continue to implement and update the EPSC ordinance and track the number of construction site inspections performed each year and the number of notice of violations and enforcement actions.

The City will continue to utilize and train staff on the use of the construction site tracking spreadsheet. The spreadsheet will be used to document consistent and routine construction site inspection occurrences along with findings, outcomes, and enforcement actions for each visit.

The City will document how many site plans were reviewed each year, the findings of the reviews and the status of any reviews within their tracking database.

The City will provide EPSC training to appropriate MS4 staff throughout the permit term as needed. Documentation on the training, the training date and the staff who received training will be maintained for reporting purposes.

The City will provide EPSC training to local contractors, developers, engineers, etc. at least once during the permit term. Documentation on the training, the training date and the individuals who received training will be maintained for reporting purposes.

The SWQMP table summarizing all of the BMPs and measurable goals can be found at the end of this document.

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MCM 5: Post-Construction Stormwater Management in New Development and Redevelopment

Summary

According to KDOW's *Phase II Stormwater Quality Management Plan Preparation Guidance* document, the following items are required for the post-construction management in new development and redevelopment minimum control measure:

- 1) Small MS4s shall develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the small MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts.
- 2) Post-Construction Stormwater Management refers to the practices implemented to control runoff from the site after construction is complete, and includes structural and non-structural BMPs to obtain permanent stormwater management over the life of the property's use, with the goal of minimizing water quality impacts by attempting to maintain stream stability and pre-development runoff conditions. Additionally, adherence to design specifications, proper operation and maintenance of BMPs, and enforcement procedures are integral parts of stormwater management. The post-construction BMPs chosen should be site specific and take into consideration the condition of the receiving waterbody, and designed to contribute to the goal of minimizing the impact of stormwater discharges on the water quality and stability of local receiving streams.
- 3) The permittee should develop and implement project review, approval, and enforcement procedures for new development and redevelopment projects that disturb greater than one acre, and projects less than one acre that are part of a larger common plan of development or sale.

The City's post-construction ordinance is currently under development. Once the ordinance is adopted, the City will provide training to educate the development community on post- construction stormwater management issues including basic stormwater management concepts, long-term maintenance, local plan submittal and application process, site management and design, and example case studies. The City is working to document the location of existing post-construction BMPs throughout the City and has recently developed a BMP maintenance agreement for use on new development and redevelopment projects.

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Best Management Practices (BMPs)

Task 5.A.1 Post-Construction Stormwater Management Ordinance

The City is working to develop and adopt an ordinance or regulatory mechanism to require new and redevelopment to address long-term water quality with appropriate enforcement mechanisms to ensure compliance.

Task 5.A.2 Track Post-Construction Facilities

The City will develop a database to inventory post-construction facilities, maintenance, and City enforcement actions. The staff will be trained on how to populate the database. The City is currently tracking locations of known post-construction BMPs in their GIS database.

Task 5.A.3-4 Post-Construction BMP Plan Checklist and Review

The City will develop a checklist covering post-construction considerations and requirements. The Checklist requirements can be used to conduct a review of plans for post-construction compliance.

Task 5.A.5 Inspect Post-Construction BMPs

The City will develop a tracking spreadsheet to identify projects requiring inspections, inspection timeframes, and inspection follow-up and enforcement actions. The City will use an inspection checklist to guide the inspection and document inspection findings. The City will inspect all post-construction at least once per permit cycle.

Task 5.A.6 BMP Maintenance Agreement

The City has developed a BMP Maintenance Agreement and will require all new and redevelopment projects to enter into a BMP maintenance agreement.

Task 5.B.1 Post-Construction BMP Training

The City will conduct a post-construction BMP training course through collaboration with the Kentucky Stormwater Association or through a City training workshop for BMP Plan developers and reviewers.

Measurable Goals

The City will adopt and implement a post-construction ordinance and track the number of post-construction BMPs implemented each year and the number of notice of violations and enforcement actions.

The City will develop a database to track post-construction facilities and inspections. The spreadsheet will be used to document post-construction BMP I

locations, schedule inspection dates, and outcomes and enforcement actions for each inspection.

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The City will develop a post-construction BMP plan review checklist and utilize the checklist to perform BMP plan reviews for new and redevelopment projects within the City. The City will track the number of plan reviews and the status of reviews within a tracking database.

The City will develop a post-construction BMP tracking spreadsheet that documents BMP locations, inspection frequencies, and findings and follow-up enforcement actions from inspections. As part of this the City will establish a post-construction BMP inspection checklist to document each inspection. The City will inspect all post-construction BMPs within the permit cycle.

The City will require and execute a BMP Maintenance Agreement for post-construction BMPs for new and redevelopment projects.

The City will provide post-construction BMP training for plan developers and reviewers. Documentation on the training, the training date and the individuals who received training will be maintained for reporting purposes.

The SWQMP table summarizing all of the BMPs and measurable goals can be found at the end of this document.

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MCM 6: Pollution Prevention and Good Housekeeping for Municipal Operations

Summary

According to KDOW's *Phase II Stormwater Quality Management Plan Preparation Guidance* document, the following items are required for the pollution prevention / good housekeeping for municipal operations minimum control measure:

- 1) Develop and implement a written operation and maintenance plan that shall include an inventory of municipally-owned facilities with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm sewer system.
- 2) Using training materials available from the EPA, the Division, or other organizations, the operation and maintenance program should include employee training to prevent and reduce stormwater pollution resulting from activities such as parks and open space maintenance, fleet and building maintenance, new construction and land disturbances, stormwater system maintenance, and green infrastructure maintenance.

The purpose of this MCM is to develop and maintain practices that bring the City of Madisonville's municipal facilities into compliance with the KDOW Phase II NPDES Stormwater permit. This stormwater strategy has the ultimate goal of preventing or reducing pollutant run-off from Municipal Operations. Previous steps taken toward this goal include:

- Internal stormwater training session for Wastewater Collection Department Staff, Public Works Staff, Wastewater Treatment Staff, and Park Department Staff;
- External stormwater meetings including the Kentucky Stormwater Association and supplemental training;
- Compliance with the stormwater ordinances by City Departments;
- Stormwater system maintenance; and
- Regular street sweeping.

Best Management Practices (BMPs)

Task 6.A.1 Operation and Maintenance Plan

The City will develop and implement a written Operation and Maintenance Plan with the goal of preventing or reducing pollutant runoff from municipal operations. The plan will include an inventory of municipal facilities, maintenance activities and schedules, and ongoing inspection procedures for structural and non-structural BMPs including disposal of wastes. As part of this effort the City will develop and implement individual SWPPPs for applicable municipal facilities.

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Task 6.A.2 Herbicide and Pesticide Application Training

The City will continue to have the appropriate employees trained and/or tested as required by the Kentucky Department of Agriculture for herbicide and pesticide application.

Task 6.A.3 MS4 and Stormwater Management Training

As with past permit cycles the City will continue to promote and provide educational training for employees on preventing and reducing stormwater pollution resulting from activities such as parks and open space maintenance, fleet and building maintenance, new construction and land disturbances, stormwater system maintenance, and green infrastructure maintenance at least once per permit cycle.

Measurable Goals

The City will develop and implement an operation and maintenance plan for stormwater management practices on municipal facilities.

The City will document the type of training, the date, and the individuals who received herbicide and pesticide application training.

The City will provide good housekeeping and pollution prevention training for City staff. Documentation on the training topics, the training date and the individuals who received training will be maintained for reporting purposes.

The SWQMP table summarizing all of the BMPs and measurable goals can be found at the end of this document.

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III. Reporting and Records Retention

Summary

The City has proposed the following schedule for reporting requirements associated with this SWQMP. The reporting schedule is anticipated to allow four months following the program year and one month following the co-permittee report submittal for the City to report its activities to the KDOW. The City also acknowledges previous statements by the KDOW confirming that reports will be required in Program Years 1, 3, and 5.

Program Year	Calendar Term/Reporting Period	Madisonville Report Submittal
1	January 1, 2018 – December 31, 2019	April 15 of previous reporting period
2	January 1, 2019 – December 31, 2020	April 15 of previous reporting period
3	January 1, 2020 – December 31, 2021	April 15 of previous reporting period
4	January 1, 2021 – December 31, 2022	April 15 of previous reporting period
5	January 1, 2022 – December 31, 2023	April 15 of previous reporting period

The City will post the most recent annual report on the City’s stormwater website and keep a hard copy available at the City Engineer’s office.

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Acronyms

<i>SWQMP</i>	<i>Stormwater Quality Management Program</i>
<i>MS4</i>	<i>Municipal Separate Stormwater Sewer System</i>
<i>BMP</i>	<i>Best Management Practices</i>
<i>MEP</i>	<i>Maximum Extent Practical</i>
<i>KPDES</i>	<i>Kentucky Pollution Discharge Elimination System</i>
<i>GIS</i>	<i>Geographic Information System</i>
<i>KDOW</i>	<i>Kentucky Division of Water</i>
<i>TMDL</i>	<i>Total Maximum Daily Load</i>

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