

# Westwood Hills, Kansas Stormwater Management Plan

Effective January 1, 2021



Federal Permit No. KSR410049

Submitted in Compliance with Kansas Permit No.: M-MO39-SU01

Date: **Submittal Date February 26, 2021**

# TABLE OF CONTENTS

---

<b>Section 1</b>	<b>Introduction .....</b>	<b>1</b>
<b>Section 2</b>	<b>Six Minimum Controls/Measures .....</b>	<b>2</b>
2.1	Public Education and Outreach.....	2
2.2	Public Involvement and Participation .....	4
2.3	Illicit Discharge Detection and Elimination .....	6
2.4	Construction Site Stormwater Runoff Control .....	9
2.5	Post-Construction Stormwater Management in New Development and Redevelopment Projects.....	11
2.6	Pollution Prevention/Good Housekeeping for Municipal Operations .....	14
<b>Section 3</b>	<b>Total Maximum Daily Load (TMDL) Regulated Pollutants .....</b>	<b>16</b>
<b>Section 4</b>	<b>Water Quality Monitoring for TMDL Assessments.....</b>	<b>16</b>
<b>Section 5</b>	<b>Permit Compliance Schedule Activities and Schedules .....</b>	<b>19</b>
<b>Section 6</b>	<b>Modifications to the Stormwater Management Plan .....</b>	<b>20</b>

## Appendices

Appendix A – Map of Permitted Area

Appendix B - Tables 1-6 Planned BMPs for Permit Compliance

---

## SECTION 1: INTRODUCTION

This document is a Stormwater Management Plan (the “SMP” or the “Plan”) created to help reduce the discharge of pollutants in stormwater runoff from the Municipal Separate Storm Sewer System (MS4) within regulated areas of Westwood Hills, Kansas (the “City” or “Westwood Hills”) (Map of permitted area included in Appendix A). This SMP outlines stormwater program activities, monitoring requirements, reporting requirements, and responsible parties for implementing this work.

This plan was prepared in compliance with Kansas Permit Number M-MO39-SU01 (hereinafter the “Permit”) issued to the City by the Kansas Department of Health and Environment (KDHE) to fulfill requirements of the Clean Water Act.

Permit Effective Date: January 1, 2020

Permit Expiration Date: December 31, 2024

The SMP is designed to:

1. Reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable (MEP),
2. Implement the Six (6) Minimum Control Measures as listed in Part I Section C of the Permit,
  - a. The Six Minimum Control Measures are:
    - i. Public Education and Outreach,
    - ii. Public Participation and Involvement,
    - iii. Illicit Discharge Detection and Elimination,
    - iv. Construction Site Stormwater Runoff Control,
    - v. Post-Construction Stormwater Management in New Development and Redevelopment Projects, and,
    - vi. Pollution Prevention/Good Housekeeping for Municipal Operations.
3. Satisfy the requirements of the Permit, the Clean Water Act, and the Kansas surface water quality statutes and regulations.

Implementation of BMPs consistent with the provisions of the SMP document and the Permit constitutes compliance with the standard of reducing pollutants to the Maximum Extent Practicable.

### Staff Responsibilities

Overall responsibility for coordination of activities outlined in this Plan, for reporting, and for submitting all documents (Stormwater Management Plan [and updates] and Annual Reports) to KDHE will be by the Mayor and City Council of Westwood Hills and the City Clerk of Westwood Hills and may include assistance from the following:

- Johnson County Stormwater Management Program Staff
- City of Westwood Public Works Director and City of Westwood Police Chief
- Consolidated Fire District No. 2
- Johnson County Stormwater Management Advisory Council (SMAC)
- Mid-America Regional Council (MARC)
- Johnson County Water Quality Specialist
- Johnson County Department of Health and Environment

---

## **SECTION 2: SIX MINIMUM CONTROL MEASURES**

This section describes the six minimum water quality protection control measures that are required by all MS4 permits. They include the following:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management in New Development and Redevelopment Projects
6. Pollution Prevention/Good Housekeeping for Municipal Operations

### **2.1 MINIMUM CONTROL MEASURE 1 (MCM 1) - PUBLIC EDUCATION AND OUTREACH**

#### **Description**

MCM 1 consists of continuing to implement a public education program which includes distributing educational materials to the community or conducting equivalent outreach activities which address the impacts of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff.

#### **Benefit**

An informed public increases awareness of water quality issues in both residents and businesses, creates opportunities for the public to take direct action to improve the health and sustainability of their community, and builds support for program goals making initiatives more effective.

#### **Compliance**

Compliance with the public education and outreach minimum control measure requires implementation of BMPs in Part I., Section C.1 of the Permit for a minimum of 4 points total on an annual basis for each of calendar year 2021 and calendar year 2022. The minimum point total requirement increases to 7 points for each calendar year beginning in 2023.

A table containing the BMP summary, the measurable goal, the implementation schedule, and points per activity is included in Appendix B: Table 1.

A short description of each planned BMP is included in the table below.

#### **Table 1. Planned BMPs to meet MCM 1 requirements:**

BMP ID	BMP Summary	Measurable Goal	Lead Staff
<b>P Ed &amp; 0 – 01</b>	Maintain a stormwater webpage for the permittee.	Maintain the webpage with up-to-date information with all links effective and valid information. Check all links and update website as necessary on a minimum monthly basis. Document monthly checks in log book and indicate changes with logged summaries.	City of Westwood Hills City Clerk, with support from Mayor and City Council
<b>P Ed &amp; 0 – 02</b>	Distribute educational materials (either flyers, brochures, catalog mailings, handouts, or e-mails) addressing various pertinent stormwater public education topics.	Number of all flyers, brochures, catalog mailings, handouts, or e-mails distributed in a year shall equal or exceed the most recent U.S. Census Bureau decennial housing units value for the permit area. The applicable U.S. Census housing units value shall be documented, and the number of flyers, brochures, or e-mails distributed shall also be documented. This information and copies of the flyers, brochures, or e-mails shall be retained on file.	City of Westwood Hills City Clerk, with support from Mayor and City Council  Johnson County Stormwater Management Program staff
<b>P Ed &amp; 0 – 04</b>	Apply notification, placard, covers/hatches with message, or stencil, on stormwater inlets to provide a message similar to “No Dumping – Drains to River”	Apply this notification on at least 10% of all known stormwater inlets in the MS4. Alternately, points may be claimed in any subsequent year when an additional 5% of all known stormwater inlets in the MS4 bear the notification. Alternately, points may be claimed in any year when 50% of all known stormwater inlets in the MS4 bear the notification.	City of Westwood Hills City Clerk, with support from Mayor and City Council  Westwood Public Works Department
<b>P Ed &amp; 0 – 05</b>	Post the municipality's MS4 permit and SMP document on either the stormwater web page or the municipal webpage.	The two documents must be posted for at least six months of the year to claim one point.	City of Westwood Hills City Clerk, with support from Mayor and City Council
<b>P Ed &amp; 0 – 08</b>	Provide stormwater education for students at a school campus within K-12 (those grades present at the campus) within the permittee's jurisdiction or within 30 miles from this permit area. The training may be limited to the individual campus (local school buildings associated with a single address). This training does not need to be provided to the entire school system, e.g., USD.  Alternately, funding stormwater BMP installations and/or field trips at the school campus will qualify.	Provide or fund an educator or speaker that will reach at least 5% of the K-12 students as normally attend school in the selected school campus.  Alternately, the funding of BMPs at the school campus may provide for any of the following: -> Installation of BMPs at the school -> Stormwater related field trips -> Water quality stream sampling activities -> Construction of Rain gardens on school property -> Rain barrel workshops -> Rain garden workshops	Johnson County Stormwater Management Program staff  City of Westwood Hills Mayor and City Council
<b>P Ed &amp; 0 – 11</b>	Adopt a public education program to reduce littering.	Install and/or maintain signs to discourage littering. Signs are to be located in areas where littering has been a problem.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk

BMP ID	BMP Summary	Measurable Goal	Lead Staff
P Ed & 0 – 12	Create a stormwater information brochure to provide to the public at public meetings and/or hearings.	Have multiple copies of the brochure available during at least 10 meetings or hearings open to the public during the year. Provide the brochures to the public at no charge.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk  With assistance from JCSMP and MARC
P Ed & 0 – 15	Develop or participate in an ongoing social media program on pertinent stormwater public education topics.	Publish or share social media content on the permittee's social media accounts at least six times per year. Record post topic, the number of impressions and engagement for each post. Include link to permittee's stormwater education website.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk
P Ed & 0 – 16	Operate an information booth at a public event or hold a public event which is intended to improve public understanding of issues related to water quality. The event may be associated with any environmental related issue including but not limited to an environmental expo, earth day, world wetlands day, international day of action for rivers, world fish migration day, world biodiversity day, world oceans day, world cleanup day, world water monitoring day, world rivers day, and America recycles day.	At least an estimated 800 or more individuals must attend the event.	Johnson County Stormwater Management Program Staff

## 2.2 MINIMUM CONTROL MEASURE 2 (MCM 2) - PUBLIC INVOLVEMENT AND PARTICIPATION

### Description

MCM 2 consists of continuing to implement a public involvement and participation program to solicit public comments and recommendations regarding BMPs and measurable goals utilized by the permittee to comply with the Permit and to reduce the contamination of stormwater. This program must also comply with state and local public notice requirements.

### Benefit

The goal of the stormwater management plan is to improve water quality in local lakes and rivers, which provides benefits to the entire community. As such, the community deserves to have an opportunity to voice opinions on the content of the plan. Further, input into decisions builds support for and ownership

of outcomes. MCM 2 also provides opportunity to the community to participate in activities, such as park or stream bank clean-up events, that help to remove pollutants from the MS4.

## Compliance

Compliance with the public involvement and participation minimum control measure requires implementation of BMPs in Part I., Section C.2 of the Permit for a minimum of 3 points total on an annual basis for each of calendar year 2021 and calendar year 2022. The minimum point total requirement increases to 6 points for each calendar year beginning in 2023.

A table containing the BMP summary, the measurable goal, the implementation schedule, and points per activity is included in Appendix B: Table 2.

A short description of each planned BMP is included in the table below.

**Table 2. Planned BMPs to meet MCM 2 requirements:**

BMP ID	BMP Summary	Measurable Goal	Lead Staff
P I/P - 02	Establish a citizens advisory committee.	Host the citizens advisory committee meetings twice yearly and receive comments and guidance from the committee regarding the SMP. Retain on file copies of the attendance list and minutes of the meetings.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk
P I/P - 03	Hold park or stream bank clean-up events for public volunteers to aid municipal staff in removing trash, debris, or pollutant sources from the selected clean-up area.	Clean an area which must be equal to or greater than one acre or alternately at least 200 yards of streambank. Alternately, for municipalities with less than 500 population clean an area which must be equal to or greater than a quarter of an acre or alternately at least 100 feet of streambank.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk
P I/P - 04	Train either citizen watch groups, homeowner associations (HOAs), or public service groups to recognize illicit discharge activities and communicate observations to appropriate municipal staff.	Provide training or distribute training materials to the group participants at least once annually.	City of Westwood Hills Mayor and City Council  JCSMP
P I/P - 05	Provide at least two events for residents to engage in cleanup activities and improve water quality in the municipality.	Provide at least two events in streams, streamside parks, areas adjacent to public waterways, and/or other green infrastructure/water resources. These events can be any of the following: Environmental restoration events, stream cleanups, tree plantings, or stream monitoring.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk
P I/P - 06	Establish a program to encourage residents to install stormwater treatment best management practices on their property.	Encouragement can include funding, grants, and other financial incentives, trainings and or giveaways. Stormwater treatment BMPs can include rain barrels, rain gardens, native plantings, native trees, cisterns and vegetated swales. Record participation numbers annually.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk  JCSMP

BMP ID	BMP Summary	Measurable Goal	Lead Staff
P I/P - 07	Enact either an ordinance, a resolution, or other enforceable requirement that requires pet owners or their keepers to immediately and properly dispose of their pet's solid waste deposited at parks or rest areas owned by the permittee.	The ordinance or resolution or other enforceable measure shall be enacted, and signs posted, informing the public of their obligation at the park. The installation of a pet waste bag dispenser in the public area qualifies as adequate signage.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk
P I/P - 09	Distribute stormwater educational materials to the public within this permit area.  Alternately, the permittee may provide stormwater educational materials, e.g., brochures, flyers, or pamphlets. These materials may address various stormwater topics. For this alternative, these materials may be provided to other nearby municipalities for distribution to the public. The nearby municipalities must be within 30 miles from this permit area.	The educational materials, for each topic, which are distributed or supplied must have a value of at least \$50. Topics may be anything related to stormwater including but not limited to clean-up guidance following flooding, discouraging littering, explaining and discouraging illicit discharges to the storm sewers, guidance on constructed BMPs for homeowners (rain gardens, rain barrels, etc.) guidance on area household hazardous waste receiving centers, and guidance on area recycling programs.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk

### 2.3 MINIMUM CONTROL MEASURE 3 (MCM 3) - ILLICIT DISCHARGE DETECTION AND ELIMINATION

#### Description

This minimum control consists of developing, implementing, and enforcing a program to detect and eliminate illicit wastewater discharges or other non-stormwater discharges into the storm sewer system. KDHE requires this program to include, at a minimum:

- Developing a storm sewer system map of the permitted MS4 showing the location of all outfalls, either pipes or open channel drainage, and showing the names and locations of all streams or lakes that receive discharges from those outfalls.
- Enacting and enforcing an ordinance or resolutions to prohibit non-stormwater discharges into the storm sewer system. Westwood Hills passed pollution prevention regulations, by adopting Ordinance No. 257 on July 11, 2016, to regulate unlawful discharges into streams and the storm drain system.
- Informing public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.
- Developing and implementing a plan to detect and address prohibited non-stormwater discharges.



## Benefit

Direct discharges of waste streams can present significant localized impacts to both public health and the environment. Developing legal, technical, and educational means to eliminate illicit discharges provides direct benefits to water quality, the environment, and public health.

## Compliance

Compliance with the illicit discharge detection and elimination minimum control measure requires implementation of BMPs in Part I., Section C.3 of the Permit for a minimum of 5 points total on an annual basis for each of calendar year 2021 and calendar year 2022. The minimum point total requirement increases to 7 points for each calendar year beginning in 2023.

A table containing the BMP summary, the measurable goal, the implementation schedule, and points per activity is included in Appendix B: Table 3.

A short description of each planned BMP is included in the table below.

**Table 3. Planned BMPs to meet MCM 3 requirements:**

BMP ID	BMP Summary	Measurable Goal	Lead Staff
ID D & E - 03	Develop a spill response plan and, if appropriate, coordinate emergency response with other agencies or organizations.	The plan shall include, at a minimum, explanation of appropriate spill response activities for spills associated with vehicle accidents, at grade or above ground storage tanks, and vehicle fluids from mechanical equipment such as construction equipment, cars, or trucks. The written plan shall be maintained on file.	City of Westwood Hills Mayor and City Council  Consolidated Fire District No. 2  Westwood Chief of Police and Police Department
ID D & E - 05	Distribute a letter (or flier) and/or e-mail along with a press release from a municipal official with the intent of reaching every resident and business in the MS4 permit area. The distributed documents shall provide information on how to avoid illicit discharges to the MS4, i.e., proper disposal methods for common substances or materials often discharged illicitly. Provide a link to the municipal website where applicable ordinances and disposal guidance are posted.	The letter (or flier) and/or e-mail along with the press release shall highlight the requirements for proper disposal of wastes and disposal methods. Copies of these documents shall be retained on file along with the distribution/ mailing lists to document distribution to the target area (minimum MS4 permit area) to avoid illicit discharges to the MS4. Provide a link to the municipal website where applicable ordinances and disposal guidance are posted.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk

<b>BMP ID</b>	<b>BMP Summary</b>	<b>Measurable Goal</b>	<b>Lead Staff</b>
<b>ID D &amp; E - 06</b>	Inspect, by televising pipelines or direct visualization of open channel drainage, 2% of the MS4 system within the permit area all conducted within a 12-month period to aid in identifying illicit discharges as well as evaluate the condition of the storm sewer lines/drainage channels-ditches. If in a 12-month period 10% of the MS4 system is inspected, a higher point value may be claimed.	Generate a summary report of the inspection including the number of linear feet televised, number of linear feet visually inspected, condition comments, illicit discharges identified and the results of efforts to eliminate illicit discharges, e.g., discharge line disconnected and redirected to the sanitary sewer or discharge practice terminated.	City of Westwood Hills Mayor and City Council
<b>ID D &amp; E - 07</b>	Implement a Household Hazardous Waste Collection Program (HHWCP) or document others have implemented such a program to provide such service to all property owners or residents located within the permit area.	Document the residents and property owners within the MS4 permit area were able to dispose of such wastes at the HHWCP during a calendar year. Retain this documentation on file.	City of Westwood Hills Mayor and City Council  Johnson County Department of Health and Environment  JCSMP
<b>ID D &amp; E - 09</b>	Provide a contribution to area recycle programs or programs (such as household waste disposal facilities, e-cycle facilities, paper shred facilities, pharmaceutical disposal facilities, etc.) designed to properly dispose of types of waste or materials which have previously been discarded to or adjacent to either the MS4, streams, or lakes within or adjacent to the permittee's permit area. The area program must be within 30 miles from this permit area.	The contributions may be made to programs which take tires, automotive fluids, batteries, or other wastes for which there is any documentation such wastes have been discarded as addressed under the BMP summary. The contributions must total a minimum of \$500 in the year (\$100 in the year for alternative lower population municipalities) which points are claimed. The contributions can be monetary or can be in the form of goods and/or services with an agreed specified value. Contributions may be made to area household hazardous waste programs, private recycle/reuse facilities or civic/volunteer organizations assisting in recycle.	City of Westwood Hills Mayor and City Council
<b>ID D &amp; E - 10</b>	Inspect, 5% of the MS4 system Stormwater inlets and/or outfalls within the permit area all conducted within a 12-month period to aid in identifying illicit discharges. If in a 12-month period 15% of the MS4 system inlets and/or outfalls are inspected a higher point value may be claimed in the year the required percentage of inspections are completed.	Generate a summary report of the inspection including the number of inlets and/or outfalls visually inspected, condition comments, illicit discharges identified and the results of efforts to eliminate illicit discharges, e.g., discharge line disconnected and redirected to the sanitary sewer or discharge practice terminated.	City of Westwood Hills Mayor and City Council

---

## 2.4 MINIMUM CONTROL MEASURE 4 (MCM 4) - CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

### Description

This minimum control includes continuing to maintain a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of pollutant discharge associated with stormwater from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. KDHE requires this program to include:

- Where permittees have the authority to do so, ordinances or resolutions shall be enacted, maintained, and enforced to require erosion and sediment controls, as well as sanctions to ensure compliance. Westwood Hills passed erosion and sediment control regulations, by adopting Ordinance No. 268 on December 11, 2017, to regulate runoff pollution from active construction sites disturbing more than one acre.
- Requirements for construction site owners or operators to implement erosion and sediment control BMPs.
- Requirements for construction site owners or operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at construction sites that are likely to cause adverse impacts to water quality.
- Procedures for site plan review which incorporate consideration of potential water quality impacts.
- Procedures for receipt and consideration of information submitted by the public.
- Procedures for site inspection and enforcement of control measures.

### Benefit

If left uncontrolled, land disturbance activities can generate significant loads of sediment which can impact both adjoining properties and downstream water bodies. Fortunately, effective controls are easy and cost-effective to implement.

### Compliance

Compliance with the construction site stormwater runoff control minimum control measure requires implementation of BMPs in Part I., Section C.4 of the Permit for a minimum of 4 points total on an annual basis for each of calendar year 2021 and calendar year 2022. The minimum point total requirement increases to 6 points for each calendar year beginning in 2023.

A table containing the BMP summary, the measurable goal, the implementation schedule, and points per activity is included in Appendix B: Table 4.

A short description of each planned BMP is included in the table below.

**Table 4. Planned BMPs to meet MCM 4 requirements:**

BMP ID	BMP Summary	Measurable Goal	Lead Staff
CS SR C - 01	Implement a requirement for a Soil Erosion and Sediment Control (SESC) Plan for any land disturbance sites which are either equal to or greater than 1 acre or for which there is construction activity disturbing less than one acre which is part of a larger common plan of development or sale that in total disturbs one acre or more.	Enact a regulatory ordinance, or other enforceable measure that requires an SESC Plan for all developments disturbing sites which are either equal to or greater than 1 acre or for which there is construction activity disturbing less than one acre which is part of a larger common plan of development or sale that in total disturbs one acre or more.	City of Westwood Hills Mayor and City Council
CS SR C - 02	Develop and adopt a design manual for erosion and sediment control BMPs which are required to be used on sites which will be disturbed and are either equal to or greater than 1 acre or for which there is construction activity disturbing less than one acre which is part of a larger common plan of development or sale that in total disturbs one acre or more.	Require implementation of BMPs in compliance with the design manual on all sites which meet the disturbed area standard as specified in the BMP Summary.	City of Westwood Hills Mayor and City Council  City of Westwood Hills Building Official  JSCMP
CS SR C - 03	Provide access to at least one training class for contractors, developers or others involved with land disturbance projects which provides training on requirements for a Stormwater Pollution Prevention Plan (SWP2 Plan) and implementation of appropriate BMPs.	This training class must address all local requirements for a SWP2 Plan, requirements for implementation of BMPs, and the requirements for permits.	JSCMP
CS SR C - 04	Develop a site plan review process which considers potential water quality impacts which may occur during construction as well as post construction impacts.	Review process must have written guidance for the reviewer. Issuance of a building permit or approval to start construction may not be provided until the site plan has successfully passed the review process either based on the initial site plan submittal or site plan modified to comply with requirements identified during the review process. Measures must be included to enforce the installation of water quality BMPs included in the site plan.	City of Westwood Hills Mayor and City Council  City of Westwood Hills Building Official
CS SR C - 05	Establish effective requirements for construction sites to control wastes. Develop through	Enact ordinance or other effective means to achieve control of wastes at construction sites.	City of Westwood Hills Mayor and City Council

BMP ID	BMP Summary	Measurable Goal	Lead Staff
	ordinance or other enforceable means requirements for construction site operators or owners to control wastes. At a minimum, control shall be imposed to prevent entry into the MS4 for the following wastes: -> discarded building materials -> concrete truck washout -> chemicals -> litter, and -> sanitary waste.		
CS SR C - 06	Develop written procedures for inspection of construction sites. Develop a Stormwater Construction Site Inspection Guide for use by municipal inspectors.	The procedures document must address the administrative aspects associated with required inspections of construction sites, including the issuance of inspection reports, notices of violations, and enforcement actions. The Inspection Guide must provide inspectors guidance on how to conduct a construction site stormwater inspection; outline the required procedures; provide guidance on acceptable conditions of various BMPs employed on such sites, enforcement actions and/or reference of cases for enforcement by other municipal staff; and provide inspection checklists for use by the inspector and guidance on creating a photo log of the inspection.	City of Westwood Hills Mayor and City Council  City of Westwood Hills Building Official

## 2.5 MINIMUM CONTROL MEASURE 5 (MCM 5) - POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

### Description

This minimum control requires the continued maintenance of a program to address post-construction 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 MS4. KDHE requires the program to include:

- BMPs to prevent or minimize adverse water quality impacts.
- Strategies which include a combination of structural and/or non-structural BMPs appropriate for the municipality.
- Maintain and enforce an ordinance or resolution to address post-construction runoff from new development and redevelopment projects to the extent allowed under State and local law.
- Means to ensure adequate long-term operation and maintenance of BMPs.

KDHE has recognized that the potential of significant new development and redevelopment projects within the City is low as the City of Westwood Hills has been listed in the National Register of Historic

---

Places as a historically significant place where development and redevelopment are restricted. The potential for BMP implementation under this minimum control measure is limited, and the annual point requirements specified below are at lower levels than other MS4 permits issued in Kansas.

**Benefit**

Conversion of native landscape to developed landscape increases both the volume of runoff and pollutant loads in stormwater. The consequences can include erosion, flooding, and pollution, impacting both downstream property owners and public infrastructure. Stormwater controls included in development sites can help reduce impacts and costs to both private property owners and the public.

**Compliance**

Compliance with the post-construction stormwater management in new development and redevelopment minimum control measure requires implementation of BMPs in Part I., Section C.5 of the Permit for a minimum of 3 points total on an annual basis for each of calendar year 2021 and calendar year 2022. The minimum point total requirement increases to 4 points for each calendar year beginning in 2023.

A table containing the BMP summary, the measurable goal, the implementation schedule, and points per activity is included in Appendix B: Table 5.

A short description of each planned BMP is included in the table below.

*[Remainder of page intentionally left blank.]*

**Table 5. Planned BMPs to meet MCM 5 requirements:**

BMP ID	BMP Summary	Measurable Goal	Lead Staff
<p><b>P-C SM - 01</b></p>	<p>Develop and adopt a custom design manual for Post-Construction Stormwater Management which specifies various structural BMPs which are required for new development and re-development construction sites which are greater than 1 acre for which there is construction activity disturbing less than one acre which is part of a larger common plan of development or sale that in total disturbs one acre or more.</p> <p>Alternately, adopt and implement the APWA 5600 Stormwater Design Criteria and the MARC/APWA BMP Manual.</p>	<p>The custom design manual shall impose requirements to achieve at least one of the following standards:            -&gt; Capture, at least, the first 0.5 inches of precipitation on the development/re-development site and utilize methods to prevent discharge off-site, including but not limited to:                Retain on-site                Infiltrate                Evaporate                Transpire                Or beneficially reuse            -&gt; Through implementation of appropriate BMP(s) reduce the peak stormwater flow rate to a value equal to or less than the rate which would be experienced on the site prior to the development/re-development project based upon modeling a standard storm event, e.g., 1.0 inch-6-hour event assuming saturated soil conditions.            -&gt; Other sizing or detention standards generally accepted by design engineers as adequate for the permittee's locale.            As an alternative to a custom design manual, the APWA 5600 Stormwater Design Criteria and the MARC/APWA BMP Manual may be adopted and implemented. Measures must be included to enforce the installation of the various structural BMPs required.</p>	<p>City of Westwood Hills Mayor and City Council</p>
<p><b>P-C SM - 02</b></p>	<p>Develop a list of post-construction structural or nonstructural BMPs which are required to be incorporated in any development/redevelopment project. The list must include guidance regarding the BMPs which must be incorporated in various projects as determined appropriate by the permittee. The list is to be provided to entities involved with the design of projects prior to site plan review by the permittee.</p>	<p>Development and implementation of the list and guidance is necessary to claim points in the first year. The list of required BMPs must be enforceable through ordinance or other means.</p>	<p>City of Westwood Hills Mayor and City Council  City of Westwood Hills Building Official</p>
<p><b>P-C SM - 07</b></p>	<p>Enact either an ordinance, a resolution, or other enforceable requirement which requires the installation of pervious surfaces on property.</p>	<p>The ordinance or resolution or other enforceable requirement must specify when installation of impervious surfaces is not acceptable and what allowable pervious surfaces can be installed in lieu of impervious surfaces.</p>	<p>City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk</p>

BMP ID	BMP Summary	Measurable Goal	Lead Staff
P-C SM - 08	Implement a program to encourage residential owners to install stormwater BMPs, including but not limited to, native trees, native flower gardens, rain gardens, rain barrels, pervious surfaces, and vegetated swales.	A program which results in installation of such BMPs on 1% of the residential parcels in a year will allow two points to be claimed for that year. In a year when installation of such BMPs on 5% of the residential parcels occurs, a larger number of points may be claimed.	City of Westwood Hills Mayor and City Council  JCSMP

## 2.6 MINIMUM CONTROL MEASURE 6 (MCM 6) - POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

### Description

MCM 6 requires the permittee to continue to implement and maintain an operation and maintenance program that includes employee training to prevent and reduce stormwater pollution from municipal operations activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

### Benefit

Leading by example on public facilities and public projects provides an opportunity to demonstrate and teach proper pollution prevention and good housekeeping techniques to other landowners, and the City is able to lead by example on a routine and ongoing basis.

### Compliance

Compliance with the post-construction stormwater management in new development and redevelopment minimum control measure requires implementation of BMPs in Part I., Section C.6 of the Permit for a minimum of 4 points total on an annual basis for each of calendar year 2021 and calendar year 2022. The minimum point total requirement increases to 6 points for each calendar year beginning in 2023.

A table containing the BMP summary, the measurable goal, the implementation schedule, and points per activity is included in Appendix B: Table 6.

A short description of each planned BMP is included in the table below.

*[Remainder of page intentionally left blank.]*



**Table 6. Planned BMPs to meet MCM 6 requirements:**

BMP ID	BMP Summary	Measurable Goal	Lead Staff
P P/G H - 02	Implement a recycle and proper waste disposal program for municipal staff to reduce potential for litter, to recycle waste oil, batteries, glass containers, plastic containers, and paper products.	A log of the materials directed to recycle shall be maintained. Entries in the log shall record either weight or volume of recycle materials removed from the containers and transported to the recycle facility as well as the date of transport.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk
P P/G H - 03	Develop a guidance document for municipal staff or third-party contractors which apply pesticides. The guidance shall require any municipal staff, who apply restricted use pesticides, to have a commercial applicator certification from the Kansas Department of Agriculture if required by that Department.	Require staff which apply pesticides to use such pesticides in compliance with the guidance document. The guidance document must require use of pesticides in compliance with the label instructions.	City of Westwood Hills Mayor and City Council  City of Westwood Hills City Clerk  Westwood Public Works Director
P P/G H - 05	Implement a program for street sweeping in which the street sweepings are collected and disposed of properly or recycled/reused if possible.	All paved streets which can be swept shall be listed in the schedule for street sweeping. A log shall be maintained listing the street segments which are swept and, dates of sweeping and where the street sweepings are disposed or where the material was sent to be recycled and/or reused.  Alternatively, for municipalities with less than 500 population street sweeping can be limited to sweeping the gutters. The log which must be maintained need only indicate the street segments which were swept in the year and confirm the sweepings were properly disposed or recycled and/or reused	City of Westwood Hills Mayor and City Council
P P/G H - 06	Develop an employee training program to ensure permittee's staff understand what actions they can take in the workplace to minimize stormwater pollution.	Provide guidance documents in the form of fact sheets, flyers, or e-mails to staff to coach them in appropriate actions they can take while working to minimize stormwater pollution. Alternately, provide in-person training or videos with sign-in-sheets for signature documentation of personal or video training. Retain copies of the guidance documents and/or sign-in-sheets. A log of when the guidance was distributed, or training was provided to staff, should be maintained. Provide appropriate guidance and/or training to staff a minimum of twice per year.	City of Westwood Hills Mayor and City Council
P P/G H - 07	Implement a program to inspect stormwater inlets to identify illicit discharges and clean drop inlets of accumulated debris.	Inspect at least 5% of all inlets annually.  Additionally, if 10% of all inlets are inspected in a year, an additional point may be claimed.	City of Westwood Hills Mayor and City Council

BMP ID	BMP Summary	Measurable Goal	Lead Staff
		<p>For any inlets which have evidence of dumped paint, oil or other substances which are considered illicit discharges, follow up with efforts to educate individuals near the impacted inlet about illicit discharges.</p> <p>For inlets which have any accumulation of debris, remove the debris for proper disposal.</p>	
P P/G H - 08	Develop, implement, and keep updated an online storm sewer map accessible to the public.	Map shall cover the entire MS4 within the permit area and include all the MS4 lines both pipe and open drainage (i.e., ditches) and shall also illustrate all impaired waterways (i.e., 303(d) listed and TMDL listed streams/rivers) with an indication of the listed impairment.	<p>City of Westwood Hills City Clerk</p> <p>City of Westwood Hills Mayor and City Council</p>

### SECTION 3: Total Maximum Daily Load (TMDL) Regulated Pollutants

Part I – Section D requirements concerning TMDL Regulated Pollutants are not applicable to the Permit for the City of Westwood Hills. At this time, no action is required for TMDL Regulated Pollutants as there are no identified TMDL impacted streams within or adjacent to the City of Westwood Hills which would justify implementing actions under Part I – Section D of the Permit.

### TMDL Best Management Practices (BMPs)

Compliance with Total Maximum Daily Load (TMDL) Best Management Practices and Surface Water Monitoring is not applicable to the Permit for the City of Westwood Hills. At this time, no action is required for TMDL Best Management Practices and Surface Water Monitoring as there are no identified TMDLs impacting streams within or adjacent to the City of Westwood Hills which would justify implementing requirements under Part II of the Permit.

### SECTION 4: Water Quality Monitoring for TMDL assessments

Although the City of Westwood Hills Permit contains no requirements for monitoring TMDL regulated pollutants or conducting TMDL assessments, Westwood Hills is a municipality located within Johnson County, Kansas. As a municipality located within Watershed No. 1 in Johnson County, Westwood Hills benefits from the monitoring conducted by the Johnson County Stormwater Management Program.

Success in achieving reductions in bacteria, nutrients, and sediment will be assessed by directly monitoring in-stream concentrations and evaluating pollutant concentration trends across the permit period. The monitoring program is conducted by the Johnson County Stormwater Management Program on behalf of the cities within Johnson County.

Beginning in 2019, the Johnson County Stormwater Management Program implemented a rotational monitoring approach for all watersheds within the County with the objectives of:

1. Measuring effectiveness of BMPs implemented through the City’s Permit and Stormwater Management Plan;
2. Evaluating MS4 discharge impacts to receiving waters;
3. Investigating relative contribution of sources of specific pollutants causing designated use impairment, including nutrients, pathogens, sediment or other applicable parameters related to stormwater from areas serviced by the MS4; and
4. Gather data to inform future program decisions and prioritization of activities related to the protection of water quality.

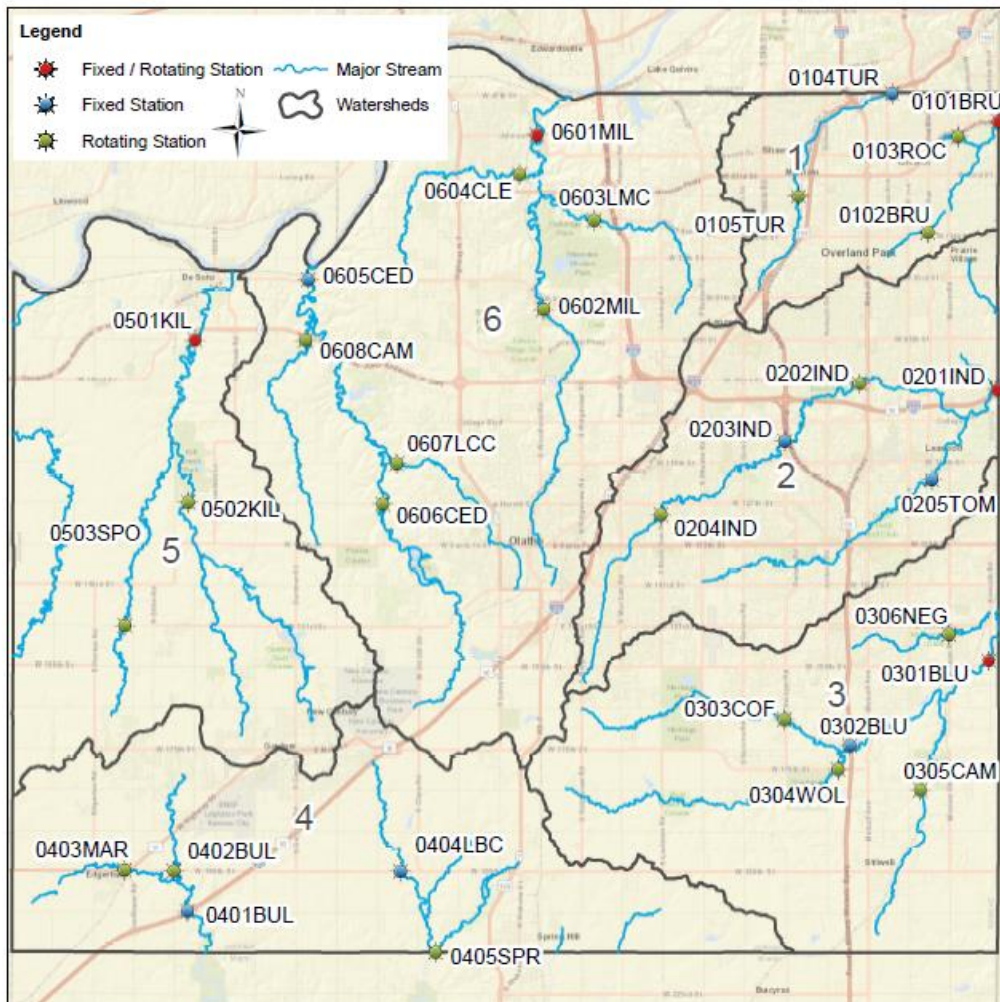
The monitoring program consists of both rotating and fixed monitoring stations (Table 8 and Figure 1). Rotating stations will be monitored within the rotational year. The rotational year occurs on a five-year recurrence interval and is basin specific. Fixed monitoring stations will be monitored on an ongoing basis independent of the rotational year.

**Table 7. Monitoring station locations and rotational monitoring year.**

Watershed Organization Grouping (Basin)	EDMR_Code	Monitoring Location	Site ID	Site Type	Rotational Monitoring Year
2	SW034A6	Indian Creek at Marty St.	0202IND	rotating	2019
2	SW035A6	Indian Creek at Switzer Rd.	0203IND	fixed	2019
2	SW036A6	Indian Creek at Blackbob Rd.	0204IND	rotating	2019
2	SW037A6	Indian Creek at State Line Rd.	0201IND	fixed	2019
2	SW038A6	Tomahawk Creek at Roe Ave.	0205TOM	fixed	2019
6	SW002A6	Camp Creek at 95th St.	0608CAM	rotating	2020
6	SW007C6	Cedar Creek at 127th St.	0606CED	rotating	2020
6	SW008A6	Cedar Creek at 83rd St.	0605CED	fixed	2020
6	SW009A6	Clear Creek at Woodland Dr.	0604CLE	rotating	2020
6	SW010A6	Little Cedar Creek at 119th St.	0607LCC	rotating	2020
6	SW011A6	Little Mill Creek at Tomahawk Golf Course	0603LMC	rotating	2020
6	SW012A6	Mill Creek at Johnson Dr.	0601MIL	fixed	2020
6	SW007A6	Mill Creek at 87th Ln.	0602MIL	rotating	2020
3	SW014A6	Blue River at Kenneth Rd.	0301BLU	fixed	2021
3	SW015A6	Camp Branch at 183rd St.	0305CAM	rotating	2021
3	SW016A6	Coffee Creek at Switzer Rd.	0303COF	rotating	2021
3	SW017A6	Negro Creek at Mission Rd.	0306NEG	rotating	2021
3	SW018A6	Wolf Creek at 179th St.	0304WOL	rotating	2021
3	SW019A6	Blue River at Hwy 69	0302BLU	fixed	2021
1	SW020A6	Brush Creek at State Line Rd.	0101BRU	fixed	2022

1	SW021A6	Brush Creek at Roe Ave.	0102BRU	rotating	2022
1	SW022A6	Rock Creek at Mission Rd.	0103ROC	rotating	2022
1	SW023A6	Turkey Creek at Lamar Ave.	0104TUR	fixed	2022
1	SW024A6	Turkey Creek at 67th St.	0105TUR	rotating	2022
4	SW025A6	Bull Creek at 199th St.	0402BUL	rotating	2023
4	SW005B6	Bull Creek at Interstate 35	0401BUL	fixed	2023
4	SW027A6	Little Bull Creek at 199th St.	0404LBC	fixed	2023
4	SW028A6	Martin Creek at Hwy 56	0403MAR	rotating	2023
4	SW029A6	Spring Creek at 215th St.	0405SPR	rotating	2023
5	SW030A6	Captain Creek at 103rd St.	0504CAP	rotating	2023
5	SW001A6	Kill Creek at 95th St.	0501KIL	fixed	2023
5	SW032A6	Kill Creek at 127th St.	0502KIL	rotating	2023
5	SW033A6	Spoon Creek at 151st St.	0503SPO	rotating	2023

Figure 1. Locations of Fixed and Rotating Monitoring Stations



---

## Water Quality Monitoring Protocol

Water quality samples will be collected from all fixed monitoring stations, as well as monitoring stations in the rotational basin, a minimum of six times per year between April and September regardless of streamflow conditions. Additionally, water quality samples will be collected from rotational basins (fixed and rotational monitoring sites) during a minimum of three storm events per year between April and September. Storm events are defined as the streamflow conditions that generally correspond to a rainfall event that is greater than or equal 0.25 inches.

Water quality samples are collected as grab samples and pH, Dissolved Oxygen, Temperature, and Specific Conductance measurements are collected in the field at the time of sampling. Other information that is collected in the field at the time of sample collection includes rainfall, streamflow, stream level, and stream velocity.

Samples are analyzed at the Johnson County Wastewater Laboratory. Samples are analyzed for Total Phosphorus as P (mg/L), Ortho-Phosphorus as P (mg/L), Total Kjeldahl Nitrogen (mg/L), Nitrate plus Nitrite as N (mg/L), Total Suspended Solids (mg/L), Turbidity (NTU), and E. Coli bacteria (MPN).

Johnson County shall report data for water quality monitoring annually to KDHE, and an annual report describing water quality conditions and including all data collected will be provided to the City.

## SECTION 5: Permit Compliance Activities and Schedules

### Year 2019:

- Annual report for calendar year 2018 submitted to KDHE by February 28, 2019

### Year 2020:

- Annual report for calendar year 2019 submitted to KDHE by February 28, 2020

### Year 2021:

- Updated Stormwater Management Plan submitted to KDHE by February 28, 2021
- Annual report for calendar year 2020 submitted to KDHE by February 28, 2021
- The City must implement sufficient listed BMPs to achieve minimum point requirements for 2021.

### Year 2022:

- Annual report for calendar year 2021 submitted to KDHE by February 28, 2022
- The City must implement sufficient listed BMPs to achieve minimum point requirements for 2022.

### Year 2023:

- Annual report for calendar year 2022 submitted to KDHE by February 28, 2023

- 
- Provide report (in PDF format) on effectiveness of source controls and structural BMPs to attenuate pollutant discharge and achieve the measurable goals. The report must be submitted to KDHE with the 2022 Annual Report by February 28, 2023.
  - The City must implement sufficient listed BMPs to achieve minimum point requirements for 2023. The point total requirements increase this year (2023).

**Year 2024:**

- Annual report for calendar year 2023 submitted to KDHE by February 28, 2024
- The City must implement sufficient listed BMPs to achieve minimum point requirements for 2023.

## **SECTION 6: Modifications to the Stormwater Management Plan**

This SMP will be evaluated annually, and modifications to the Plan, if any, will be submitted with the annual report.

For minor BMPs modifications/replacement: Within 60 days of a determination by the permittee or date of written notification from KDHE, the permittee shall modify the BMP if modifications are needed to maintain a program in compliance with this Permit.

For major BMP modifications/replacement: These major modifications are defined as ones which normally take more than 60 days to construct and/or implement. Within 60 days of a determination by the permittee or date of notification from KDHE, the permittee shall provide a plan and schedule for the update/replacement of the BMP. The plan and schedule are subject to KDHE approval.