



City of Lenexa

NPDES Phase II

Storm Water Management Plan

Revised July 2007

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CITY OF LENEXA NPDES PERMIT

Appendix B
JOHNSON COUNTY STORMWATER MANAGEMENT PLAN

Appendix C
MAP OF THE PERMIT AREA

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Section 1

BACKGROUND

In March 2001, the City of Lenexa adopted a Storm Water and Watershed Management Master Plan as part of the City's Comprehensive Plan. The storm water master plan was developed to manage storm water and control flooding while protecting the existing natural systems. It also looked at developing methods of protecting the quality of the water and the perceived quality of life.

The Storm Water and Watershed Management Master Plan discussed the necessity to incorporate future regulatory compliance in building the storm water program. On October 1, 2004, the City was issued the National Pollutant Discharge Elimination System (NPDES) Phase II permit (Appendix A) which will regulate discharge to the municipal separate storm sewers (MS4). This permit will be due for renewal in September 2009.

The City of Lenexa, as an operator of a small MS4, will be required to reduce the discharge of pollutants to waters of the State and the United States to the "maximum extent practicable" to protect water quality. At a minimum, the permit requires a Stormwater Management Plan (SMP) that includes the following:

- The best management practices (BMPs) that will be implemented by the City in each of the program areas;
- the measurable goals for each of the BMPs;
- the entity responsible for implementing each of the program areas; and
- a map illustrating the permit area.

Section 2

SUMMARY OF PERMIT REQUIREMENTS

The City must develop a SMP that describes the BMPs they will develop and implement to minimize the discharge of pollutants from the MS4 to the maximum extent practicable. The six minimum control measures (MCMs) as defined in the NPDES Phase II permit are as follows:

- **Public Education and Outreach** - The City is required to develop and implement a Public Education Program, or equivalent outreach activities, to distribute information to the community about impacts of stormwater discharges on water bodies and steps the public can take to reduce pollutants in stormwater runoff.

- Public Involvement and Participation - The City is required to, at a minimum, comply with State/Local notice requirements and is recommended to include the public in developing/implementing/reviewing the SMP.
- Illicit Discharge Detection and Elimination – The City must develop, implement, and enforce a program to detect and eliminate illicit discharges. As part of this program, the City must develop a storm sewer system map with locations of all outfalls, establish an ordinance (or other regulatory mechanism) prohibiting illicit discharges, establish enforcement procedures and actions, detect and address illicit discharges (including illegal dumping), and inform employees, businesses and general public of the program.
- Control of Construction Site Runoff – The City is required to develop, implement, and enforce a program to reduce pollutants in runoff from construction activities disturbing greater than or equal to one acre (including smaller sites that are part of a greater common plan of development), with an ordinance (or other regulatory mechanism), sanctions, and procedures. The City must also require construction site operators to implement erosion and sediment control BMPs and to control waste.
- Post-construction Stormwater Management – The City is required to develop, implement, and enforce a program for stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre (including smaller sites that are part of a greater common plan of development), with an ordinance (or other regulatory mechanism) to address post-construction runoff, structural and non-structural BMPs appropriate to the community, and ensure adequate long-term operation and maintenance.
- Pollution Prevention and Good Housekeeping – The City is required to develop and implement an operation and maintenance program that has the goal of preventing/reducing pollutant runoff from municipal operations and has an employee training component.

The City is also required to implement BMPs to attenuate identified total maximum daily loads (TMDLs) in Mill Creek, Little Mill Creek and Cedar Creek.

The City of Lenexa is uniquely positioned to implement the stormwater management program due to existing personnel and resources available in various City departments. The Watershed Management Division of the Public Works Department will take the lead on implementation of the SMP. The City intends to engage in partnerships with other municipal, County, and regional organizations when possible to jointly achieve the goals of the permit. Any activity that is completed by another entity as part of such partnerships and that applies to the permit area will be counted toward the City's compliance with the permit. In particular, it is anticipated that significant cooperation will be conducted with the Johnson County Stormwater Management Program (JCSMP), as noted in the plan. Voluntary activities, considered to be over and above the

requirements outlined in the City's permit, will be noted separately following each minimum control measure.

The Johnson County Stormwater Management Program is the lead on a number of best management practices, particularly in the area of Public Education and Outreach. The Johnson County Stormwater Management Plan is attached (Appendix B) and hereby incorporated as a part of the City of Lenexa Stormwater Management Plan.

Section 3

MINIMUM CONTROL MEASURES

3.1 PUBLIC EDUCATION AND OUTREACH

Public education and outreach is key to the success of a SMP. Through public education, residents gain an understanding of how their actions affect stormwater quality and become more informed about stormwater quality issues in their community. When citizens understand that poor water quality can result from common everyday activities, major sources of pollutants in stormwater can be voluntarily eliminated. Perhaps more important, an educated public can be a broad base of support for a SMP. The objectives of a public education program should be to promote a clear identification and understanding of the problem and solutions and to promote community ownership of the problems and solutions.

The City is dedicated to educating the Lenexa community on how to prevent stormwater pollution. In this regard, the City will provide educational information to the Lenexa community in collaboration with organizations like Mid America Regional Council (MARC), and Johnson County Stormwater Management Program (JCSMP).

BMP and Measurable Goal Summary for Public Education and Outreach

BMP	MEASURABLE GOAL	RESPONSIBLE ENTITY	PERMIT YEAR				
			1	2	3	4	5
Waterfest**	Annual event	City of Lenexa	X	X	X	X	X
Watershed Education booths at other festivals**	2 per year	City of Lenexa	X	X	X	X	X
Watershed Web Page	Maintain and update	City of Lenexa	X	X	X	X	X
MARC campaign	Annual participation	City of Lenexa	X	X	X	X	X
Town Talk	2 articles/year # of residents reached	City of Lenexa	X	X	X	X	X
Presentations to neighborhood or civic organizations**	2 per year	City of Lenexa	X	X	X	X	X
<i>Newsletter in Wastewater Utility Bill</i>	<i>(See JCSMP)*</i>	<i>JCSMP</i>		X	X	X	X
<i>Support for Water Quality Initiatives for Schools and Community</i>	<i>(See JCSMP)*</i>	<i>JCSMP</i>		X	X	X	X
<i>Education and Outreach in Second Language</i>	<i>(See JCSMP)*</i>	<i>JCSMP</i>		X	X	X	X
Annual Program Review**	Annual Report and revised SMP (if required)	City of Lenexa	X	X	X	X	X

*Johnson County Storm Water Management Plan (attached)

** Voluntary activities, considered to be over and above the requirements outlined in the City's permit.

1. Waterfest

This annual event provides a forum for a variety of groups to provide environmental education in a fun and informative venue. The City’s Watershed Division and Parks and Recreation Department organize and sponsor this event.

Measurable Goals

- Sponsor one event per year

Implementation Schedule

Year 1 and annually thereafter.

2. Watershed Education Booths at Other City Festivals

The City sponsors a variety of festivals and events throughout the year, including Earth Day, Spinach Festival, and a Puppy Swim to name a few. The City also participates in a variety of national and regional conferences where the Rain to Recreation program will be highlighted.

Measurable Goals

- participate in a minimum of 2 events per year

Implementation Schedule

Year 1 and annually thereafter.

3. Watershed Web Page

The Watershed Division has established it’s own website (linked through the City’s website), known by the program name “Rain to Recreation.” Through this website, the community can obtain information on current and completed watershed projects as well information on how best management practices that they can implement at home. The site also provides information on ordinances and policies regarding stormwater. In addition, the watershed division provides online newsletters for those interested in receiving educational information on clean water and environmental issues.

Measurable Goals

- Documentation of number of “hits” to site

Implementation Schedule

Year 1 and annually thereafter

4. MARC Campaign

Participate in and provide funding for Kansas City metropolitan regional public education and outreach effort “Good Neighbors Care About Clean Water”. This planned regional effort includes use of radio advertising, print media, internet and support of regional initiatives focused on public education and involvement for water quality issues.

Measurable Goals

- funds provided
- number of distributions made (e.g. one in spring and one in summer is two distributions)

Implementation Schedule

Year 1 and annually thereafter

5. Submittals to Town Talk

The City of Lenexa publishes the Town Talk newsletter six times per year and mails it to all residents. The Rain to Recreation program provides articles that update citizens on current stormwater projects. Additionally, an article that speaks to a seasonal topic such as lawn care, picking up after your pet, car washing, etc., with tips for good stewardship included.

Measurable Goal

- Number of articles submitted (Minimum of 2)
- Number of newsletters distributed.

Implementation Schedule

Year 1 and annually thereafter.

6. Presentations to Neighborhood or Civic Organizations.

The Watershed Division will meet with groups to provide information on current projects including wetlands and native plantings. A key component in these presentations is to bring a greater understanding of how these projects will help to control stormwater runoff as well as providing mechanisms to restore our streams and habitat.

Measurable Goal

- Minimum of 2 presentations

Implementation Schedule

Year 1 and annually thereafter.

7. Annual Program Review

Review the public education activities completed during the year and planned for the remaining years of the permit. Revise the Stormwater Management Plan as required.

Measurable Goal

- Prepare and submit Stormwater Management Plan
- Annual Report submitted
- Stormwater Management Plan reviewed and revised as required.

Implementation Schedule

Submit Stormwater Management Plan in Year 1 and revise annually thereafter

3.2 PUBLIC INVOLVEMENT AND PARTICIPATION

Public involvement/participation is important for the development of the SMP. Involving the public goes hand in hand with a local government’s public education efforts and can help accomplish some of the same goals. By encouraging input from diverse economic and cultural groups, there can be beneficial effects on the development of the program. One such benefit is that early and frequent public input can lead to a shorter implementation schedule and greater support for the program. Public involvement and participation can also create more opportunities to gain expertise from interested individuals and other organizations or governmental entities. These added resources could improve the success of the program.

BMP and Measurable Goal Summary for Public Involvement and Participation

BMP	MEASURABLE GOAL	RESPONSIBLE ENTITY	PERMIT YEAR				
			1	2	3	4	5
Promote Community Involvement	Sponsor events Track involvement (also see JCSMP)*	City of Lenexa/ JCSMP	X	X	X	X	X
Comply with Public Notice Provisions	Post SMP on web Address comments (also see JCSMP)*	City of Lenexa/ JCSMP	X	X	X	X	X
Hold Public and Neighborhood meetings**	Number of meetings Description of topic	City of Lenexa	X	X	X	X	X
Identify and Sponsor Stream Team**	Fund efforts Provide opportunities	City of Lenexa			X	X	X
<i>Mechanism for Citizen Participation</i>	<i>(See JCSMP)*</i>	<i>JCSMP</i>					
Annual Program Review**	Annual Report and revised SMP (if required)	City of Lenexa	X	X	X	X	X

*Johnson County Storm Water Management Plan (attached)

** Voluntary activities, considered to be over and above the requirements outlined in the City’s permit.

1. Promote Community Involvement in Rain to Recreation Program

Promotion of water festivals, cleanups, or other events focused on stormwater quality or watershed stewardship.

Measurable Goal

- Number of events advertised and held
- Number of participants

Implementation Schedule

Year 1 and annually thereafter.

2. Comply with Public Notice Provisions

Post the SMP on the website for comments and advertise annual revisions to the Stormwater Management Plan. Provide feedback to public comments.

Measurable Goals

- Revisions advertised
- Comments addressed.

Implementation Schedule

Year 1 and annually thereafter

3. Hold Public/Neighborhood Meetings

Educate and inform the public regarding ongoing stormwater projects. Elicit community input and support in identifying areas of concern and recommendations for BMPs.

Measurable Goals

- Description and number of meetings held
- Number of participants

Implementation Schedule

Year 1 and annually thereafter

4. Identification and Sponsorship of Potential Stream Teams

Begin outreach to local community for participation in stream team program. Provide funding for non-profit group to develop and lead team.

Measurable Goals

- Description of outreach efforts
- Number of participants

Implementation Schedule

Years 3-5

5. Annual Program Review

Review the public involvement activities completed each year and plan the activities for the remaining years of the permit as part of the development of the Stormwater Management Plan.

Measurable Goals

- Stormwater Management Plan developed
- Annual Report submitted
- Stormwater Management Plan reviewed and revised as required.

Implementation Schedule

Year 1 and annually thereafter

3.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION

The illicit discharge detection and elimination (IDDE) minimum control measure is intended to reduce improper waste management practices. To eliminate illicit discharges into the public storm sewer system, the City will be required to develop a strategy to detect and eliminate such discharges. An illicit discharge has been defined by the EPA as “any discharge into a separate storm sewer system that is not composed entirely of storm water.” It is believed that most of the flow during dry weather conditions is due to illicit and/or inappropriate discharges and connections to the MS4 such as mistaken or deliberate connections of wastewater lines to the MS4. The MS4 may also receive the illicit discharge through an indirect connection such as infiltration into the MS4 or spills flowing into storm drains.

Local governments can work toward eliminating illicit discharges to their storm system by educating citizens and businesses, updating or developing storm sewer maps, establishing local ordinances that bar the improper discharge of pollutants into the stormwater system, developing specific plans to detect and address illicit discharges, and perhaps targeting specific businesses.

BMP and Measurable Goal Summary for Illicit Discharge Detection and Elimination

BMP	MEASURABLE GOAL	RESPONSIBLE ENTITY	PERMIT YEAR				
			1	2	3	4	5
Storm Sewer Map	Map prepared	City of Lenexa	X				
	Update annually			X	X	X	X
Develop and Adopt Illicit Discharge Ordinance	Ordinance Adopted	City of Lenexa		X			
Sponsor Dumpster Days and Spring Cleanup**	3 events	City of Lenexa	X	X	X	X	X
Prepare and implement IDDE Plan	Program prepared	City of Lenexa		X			
	Program implemented				X	X	X
Educational Outreach	Materials distributed	City of Lenexa			X	X	X
Employee Training	Program developed	City of Lenexa		X			
	No. of employees trained				X	X	X
Household Hazardous Waste (HHW) Program	(See JCSMP)*	JCSMP		X	X	X	X
On-Site Sewer System Inspection at Resale	(See JCSMP)*	JCSMP	X	X	X	X	X
Annual Restaurant Inspection for Proper Waste Grease Management	(See JCSMP)*	JCSMP		X	X	X	X
Annual Program Review**	Annual Report and revised SMP (if required)	City of Lenexa		X	X	X	X

*Johnson County Storm Water Management Plan (attached)

** Voluntary activities, considered to be over and above the requirements outlined in the City’s permit.

1. Storm Sewer System Map

Develop storm sewer map showing location of City of Lenexa outfalls and names and location of all waters of the United States that receive discharges from outfalls. Update map as required.

Measurable Goals

- Map prepared and submitted
- Map revised as needed.

Implementation Schedule

Map prepared and submitted in Year 1. Map revised as needed annually.

2. Illicit Discharge Ordinance or Regulatory Mechanism

Prepare and adopt an ordinance or other regulatory mechanism to prohibit non-storm water discharges into the storm sewer system, including appropriate enforcement procedures and actions.

Measurable Goals

- Illicit Discharge Detection Ordinance adopted

Implementation Schedule

Ordinance prepared and adopted in Year 2.

3. City Wide Spring Cleanup and Dumpster Days

The City will sponsor events for citizens to dispose of bulky items including brush and lumber. Spring Cleanup includes curbside pickup while Dumpster Days allow citizens to bring their loads to a designated site for disposal.

Measurable Goals

- Number of events held

Implementation Schedule

Annually during permit period.

4. Plan to Detect and Eliminate Illicit/Non-Stormwater Discharges to the MS4

Develop a plan to detect, identify the source and eliminate non-stormwater discharges to the stormwater system, including illegal dumping

Measurable Goals

- Program developed, program copy or summary included with annual report
- Program implemented with specific performance measures to be reported annually.

Implementation Schedule

Program developed in Year 2. Implementation in Year 3-5.

5. Educational Outreach

Distribute materials to educate public employees, business, and general public on hazards of improper waste disposal and how to conduct proper disposal.

Measurable Goals

- Number of informational materials printed and distributed tracked and reported.

Implementation Schedule

Permit Years 3-5

6. Employee Detection Training

Provide training for all relevant employees in the identification and detection of illicit discharges.

Measurable Goals

- Training program developed
- Number of employees trained

Implementation Schedule

Program developed in Year 2. Training in years 3-5.

7. Annual Program Review

Review the illicit discharge detection and elimination activities completed in prior year and planned for the remaining years of the permit. Revise the Stormwater Management Plan as required.

Measurable Goals

- Stormwater Management Plan reviewed and revised as required.

Implementation Schedule

Annually beginning with Year 2.

3.4 CONTROL OF CONSTRUCTION SITE RUNOFF

Construction site stormwater runoff control is a MCM designed to address the pollution of stormwater runoff from construction sites. During construction activity, vegetation and topsoil can be stripped away, making the area especially vulnerable to erosion and additional sediment in local water. Activities that are performed on construction sites usually disturb a large amount of land and generate large amounts of waste. This has generally been found to lead to high levels of sediment, phosphorus, nitrogen, pesticides, petroleum derivatives, construction chemicals, and solid wastes in receiving streams nationwide.

Several actions must be taken under this MCM to deal with these pollutants. First, construction sites must be required, through ordinances and procedures, to establish erosion and sediment controls (in compliance with the Stormwater Construction general permit). To reduce construction runoff, local governments can develop ordinances for control of erosion and sediment, educate construction site operators about erosion and waste control practices, and inspect sites to ensure the appropriate management practices are followed. A mechanism to enforce compliance must also be established with the regulation or ordinance to ensure that the necessary controls are implemented. Finally, the MS4 must establish procedures for site plan review and receipt and consideration of public input. In review of construction site plans, City staff can look for potential problems, and they can perform inspections to ensure construction site operators are complying with local ordinance provisions.

BMP and Measurable Goal Summary for Construction Site Runoff

BMP	MEASURABLE GOAL	RESPONSIBLE ENTITY	PERMIT YEAR				
			1	2	3	4	5
Adopt Erosion and Sediment Control Ordinance	Ordinance Adopted	City of Lenexa	X				
Sediment and Erosion Control Design Criteria	Design Criteria Adopted	City of Lenexa	X				
Good Housekeeping at Construction Sites	Good Housekeeping requirements at construction sites adopted	City of Lenexa			X		
Site Plan Review Procedure	Procedures adopted	City of Lenexa	X				
Site Inspection and Enforcement	Procedures adopted Tracking violations	City of Lenexa	X				
				X	X	X	X
Receipt of Public Information on Construction Site Compliance	Procedures adopted	City of Lenexa			X		
	Log of complaints and actions taken				X	X	X
Annual Program Review**	Annual Report and revised SMP (if required)	City of Lenexa		X	X	X	X

** Voluntary activities, considered to be over and above the requirements outlined in the City's permit.

1. Sediment and Erosion Control Ordinance/ Regulatory Mechanism

Adopt an ordinance or other regulatory mechanism to require erosion and sediment controls, with sanctions to ensure compliance, for new development and redevelopment projects of one acre or greater.

Measurable Goals

- Ordinance or other regulatory mechanism adopted or implemented

Implementation Schedule

Ordinance already adopted and implemented (adopted 7/1/2001)

2. Sediment and Erosion Control Design Criteria

Adopt sediment and erosion design criteria, such as APWA 5100 uniform engineering standards, specifications, and performance based design criteria for land-disturbance activities, or some equivalent measure.

Measurable Goals

- Sediment and erosion design criteria adopted.

Implementation Schedule

APWA 5100 standards adopted in Year 1.

3. Good Housekeeping at Construction Sites

Adopt 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.

Measurable Goals

- Requirements for good housekeeping practices at construction sites adopted; summary provided in annual report

Implementation Schedule

Requirements adopted in Year 3

4. Site Plan Review Procedures

Adopt procedures for site plan review which consider water quality impacts.

Measurable Goals

- Procedures adopted
- Summary provided in annual report

Implementations Schedule

Procedures for site plan review already adopted and in place.

5. Site Inspection and Enforcement

Adopt procedures for construction site inspection and enforcement of control measures for sediment and erosion control. Track construction site inspections, violations and enforcement measures

Measurable Goals

- Site inspection and enforcement procedure adopted
- Number of inspections, violations, and enforcement measures.

Implementations Schedule

Procedures in place Year 1. Tracking in place Year 2.

6. Receipt of Public Information on Construction Site Compliance

Adopt procedures for receipt and consideration for information submitted by the public regarding construction site compliance.

Measurable Goals

- Procedures adopted; summary provided in annual report
- Log of complaints, action taken

Implementations Schedule

Procedures in place Year 3. Tracking Years 3-5.

7. Annual Program Review

Review the construction site runoff control best management practices completed in prior year and planned for the remaining years of the permit. Revise the Stormwater Management Plan as required.

Measurable Goals

- Stormwater Management Plan reviewed and revised as required.

Implementation Schedule

Annually during permit term

3.5 POST-CONSTRUCTION STORMWATER MANAGEMENT

Post-construction stormwater management in new development and redevelopment focuses on implementation of controls to maintain good water quality conditions after an area has been developed. New development can also have a significant effect on water quality because during the course of development, natural landscapes are often replaced by impermeable roads, parking lots, sidewalks and other paved surfaces that lead to increases in both the volume of stormwater runoff and the accompanying pollutants that reach local water bodies.

The MS4s are required to 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 to the small MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. Studies have shown that it is much easier and more cost-effective to control pollution at its source rather than after it enters into an MS4. It is important to consider BMPs that may be needed for post-construction pollution control prior to the construction. Strategies should include a combination of structural and non-structural BMPs appropriate for the community.

Structural controls include use of storage, infiltration, and vegetative practices. Local governments can use preventative practices such as buffer zones, zoning, or requirements that new development implement specific structural BMPs. Buffer zones are areas along water bodies where development is restricted or prohibited. They separate water bodies from development, making it more difficult for polluted stormwater to reach the body of water. The natural terrain of the buffer zone can also absorb excess runoff and cleanse pollutants as runoff moves through it. Local ordinances can require developers to use porous pavement or swales and can grant local governments the authority to inspect development and sites and enforce ordinances.

Non-structural controls include planning and procedures and site-based local controls. Zoning ordinances can prevent development in sensitive areas, and promote development in areas that can better accommodate development. Minimization of impervious areas wetland protection, and vegetated drainage ways are some of the non-structural controls that may be considered for use during the design of a new development or redevelopment project.

The chosen BMPs should be appropriate for the community served, minimize water quality impacts, and try to maintain pre-development runoff conditions. Regulations and ordinances will be created to establish requirements for post-construction runoff from new development and redevelopment projects. The MS4 needs to develop a mechanism to ensure that there is long-term operation and maintenance of the BMPs.

BMP and Measurable Goal Summary for Post Construction Stormwater Management

BMP	MEASURABLE GOAL	RESPONSIBLE ENTITY	PERMIT YEAR				
			1	2	3	4	5
Adopt an Ordinance requiring control of storm water runoff from new development and redevelopment	Ordinance adopted	City of Lenexa			X		
Enact SOPs for site plan review and inspection; adopt a tracking system	SOPs adopted Tracking system adopted	City of Lenexa			X	X	X
Participate in regional stormwater BMP efforts**	Participation on committee	City of Lenexa		X	X	X	X
BMP Manual adopted**	Manual adopted	City of Lenexa			X		
Adopt Design standards for stormwater drainage**	Adopt APWA 5600	City of Lenexa		X	X	X	X
Implement an inspection and enforcement program for BMPs that addresses maintenance					X		
	Summary of inspections and actions taken	City of Lenexa			X	X	X
Annual Program Review**	Annual Report and revised SMP (if required)	City of Lenexa		X	X	X	X

**Voluntary activities, considered to be over and above the requirements outlined in the City's permit.

1. Adopt Stormwater Runoff Ordinance/Regulatory Mechanism

Adopt an ordinance or other regulatory mechanism requiring control of storm water runoff from new development and redevelopment projects that disturb one acre or greater, and requirements for long-term maintenance of structural controls.

Measurable Goals

- Ordinance adopted

Implementation Schedule

Permit Year 3

2. Site Plan Review

Enact standard operating procedures (SOPs) for site plan review, inspection and monitoring of storm water facilities for compliance with regulatory mechanism; design a tracking system.

Measurable Goals

- Standard Operating Procedures and tracking system developed

Implementation Schedule

Permit Year 3

3. Best Management Practices for Stormwater Runoff Control

Participate in the review and update of the regional Best Management Practices manual for stormwater management that provides information on the appropriate use and design of structural and non-structural BMPs for local conditions towards minimizing water quality impacts.

Measurable Goals

- Participation on committee that reviews and makes recommendations for revisions

Implementation Schedule

Annually during permit term

4. Design Standards for Stormwater Drainage

Participate in the review and update of the APWA 5600 local design criteria that incorporates stormwater management requirements. Adopt APWA 5600 design criteria.

Measurable Goals

- Participation on committee that reviews and updates criteria
- APWA 5600 adopted

Implementation Schedule

Permit Year 1 and thereafter.

5. Adopt BMP Manual

Adopt BMP manual or equivalent document for stormwater management that provides information on the appropriate use and design of structural and non-structural BMPs for local conditions.

Measurable Goals

- BMP manual adopted

Implementation Schedule

Adopted.

6. Inspection for Long Term Maintenance

Implement an inspection and enforcement program for BMPs installed to manage stormwater runoff that address maintenance requirements

Measurable Goals

- Summary of tracking system, inspections and enforcement actions

Implementation Schedule

Permit Years 3-5

7. Annual Program Review

Review the post-construction site runoff control best management practices completed in prior year and planned for the remaining years of the permit. Revise the Stormwater Management Plan as required.

Measurable Goals

- Stormwater Management Plan reviewed and revised as required.

Implementation Schedule

Annually during permit term.

3.6 POLLUTION PREVENTION AND GOOD HOUSEKEEPING

Many opportunities for preventing stormwater pollution can be found within a local government’s own operations. This MCM emphasizes the operation and maintenance of MS4s and proper training of municipal employees. Altering daily operations that have the potential to contribute pollutants to stormwater and establishing schedules for cleaning and maintaining infrastructure can have positive effects on water quality. When local governments take advantage of pollution prevention opportunities within their own operations, results are often swift because improvements do not have to rely on gradual changes in citizen behavior. Typical affected municipal operations include parks, open space maintenance, road and right-of-way maintenance, fleet maintenance, city construction projects, and stormwater system maintenance. The following items should be considered:

- Maintenance activities and schedules
- Long-term inspection procedures for structural and non-structural stormwater controls
- Controls for reducing/eliminating discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops, sand storage locations, and waste transfer and disposal facilities.
- Procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris)

BMP and Measurable Goal Summary for Pollution Prevention and Good Housekeeping

BMP	MEASURABLE GOAL	RESPONSIBLE ENTITY	PERMIT YEAR				
			1	2	3	4	5
Develop and Implement an Operation and Maintenance Program	Conduct Survey	JCSMP*/City of Lenexa		X			
	Develop Plan	JCSMP*/City of Lenexa		X			
	% of audits performed	City of Lenexa			X	X	X
<i>Develop model training program and manual</i>	<i>Program and manual developed</i>	JCSMP*		X			
Implement Employee Training Program	Training records	City of Lenexa			X	X	X
Annual Program Review**	Annual Report and revised SMP (if required)	City of Lenexa		X	X	X	X

*Johnson County Storm Water Management Plan (attached)

**Voluntary activities, considered to be over and above the requirements outlined in the City's permit.

1. Develop and Implement an Operation and Maintenance Program to Reduce Pollutant Runoff from Municipal Operations to the Municipal Separate Storm Sewer System

Conduct an internal survey to determine the pollution prevention activities and needs for pollution prevention plans for City operations. Include in the survey an initial inventory of: facility types whose activities impact storm water quality, best management practices currently employed, employee training programs to prevent and reduce storm water pollution from municipal activities, standard operating procedures that could affect storm water quality, existing stormwater pollution prevention plans.

Measurable Goals

- Survey results summarized
- Operation and Maintenance plan developed and in place
- Audit 33% of municipal owned facilities each year

Implementation Schedule

Survey conducted and completed in Year 2. Operation and Maintenance plan developed and in place Year 2. Audits in Years 3-5.

2. Employee Training

Develop and implement a training program for employees that addresses how to prevent and reduce storm water impacts.

Measurable Goals

- Training program developed
- Type of training and number of employees trained recorded

Implementation Schedule

Permit years 3-5.

3. Annual Review

Review the pollution prevention/good housekeeping for municipal operations activities completed in prior years and planned for the remaining years of the permit. Revise the Stormwater Management Plan as required.

Measurable Goals

- Stormwater Management Plan reviewed and revised as required

Implementation Schedule

Annually during permit term.

Section 4

TOTAL MAXIMUM DAILY LOADS

On July 1, 1999, the Kansas Department of Health and Environment (KDHE) submitted to the US EPA, proposed water quality rules. These rules are commonly known as Total Maximum Daily Loads or TMDLs.

The TMDL is a tool for establishing water quality standards and is based on the relationship between pollution sources and in-stream water quality conditions. In short, the TMDL is the maximum allowable quantity of a pollutant that can be discharged to a stream system while not exceeding water quality criteria in the stream.

The City is required to implement best management practices (BMPs) to attenuate the discharge of Fecal Coliform Bacteria in Mill Creek, Little Mill Creek and Cedar Creek. These BMPs are required wherever stormwater drains to the impacted stream.

In order to develop an overall management strategy, the city is participating with the Johnson County Stormwater Management Program in the U.S. Geological Survey's five year study to evaluate water quality and identify potential source areas.

See the attached JCSMP for details.

Appendix A

CITY OF LENEXA NPDES PERMIT

Appendix B

JOHNSON COUNTY STORMWATER MANAGEMENT PLAN

Appendix C

MAP OF THE PERMIT AREA