

CITY OF SHAWNEE
Public Works Department
Comprehensive Stormwater Management Program
Updated March 1, 2007

Introduction

In August of 2000, the City Council adopted a Comprehensive Stormwater Management Program (CSMP) for the City of Shawnee. The intent of the CSMP was to create a guide for the City to increase the scope of activities and funding for this important area of concern to the citizens of Shawnee.

Since the adoption of the CSMP the City has responded to citizen concerns by initiating and continuing two new funding sources, in addition to general funds, dedicated to the stormwater management goals as outlined in the 2000 CSMP:

- 50% of the Parks and Pipes Fund (1/8th Cent Sales Tax initiated in 2001 and renewed for a 10 year period in 2006) used to provide SMAC matching funds and City costs related to capital storm drainage improvements.
- Stormwater Utility Fund (established for the funding year 2006) used to
 - Provide solutions to small drainage problems not addressed by SMAC
 - Increase the drainage system maintenance goals of the 2000 CSMP
 - Enhance water quality by maintaining regulatory compliance with our Kansas Water Pollution Control Permit under the EPA's National Pollutant Elimination System Ph. II Requirements

By adopting a Comprehensive Stormwater Management Program, the City of Shawnee has made a commitment to improve and increase stormwater management activities enhancing the quality of life for all its citizens. The CSMP goals address the responsibilities of the City and gives direction for the future stormwater management program. The program goals not only cover the issues of flood prevention, but also include increased routine maintenance of the drainage system, improving the development regulations of the City to providing more flood protection along creeks and channels and providing protection of the natural channels located in the City. These program goals also provide compliance with the regulatory requirements of the City's Kansas Water Pollution Control Permit (EPA's National Pollutant Discharge Elimination System (NPDES) Phase II requirements) that became effective in 2003.

The stormwater management activities of the City cover a broad range of responsibilities involving the governing body and almost every department of the City. The City Council approves budgets, ordinances and policies to provide direction for the stormwater program. City departments must manage stormwater runoff in every development and construction project considered in the City. Each project must be designed to follow stormwater design criteria and provide flood protection during large rainfall events. Maintenance is provided to ensure the drainage system performs properly at all times. Water quality issues are considered during all phases of construction and maintenance of the system. Public agencies must be consulted and a permit obtained when any work is done that involves the City's stormwater drainage system. The joint efforts of council and staff provide, to the residents of Shawnee, greater protection from future flooding, a safer and cleaner environment to live in, and a program to replace inadequate or deteriorated drainage systems where needed.

CITY OF SHAWNEE
Public Works Department
Comprehensive Stormwater Management Program
Updated March 1, 2007

Mission Statement

The mission of the CSMP is to develop and maintain a comprehensive watershed and stormwater infrastructure management program to protect property, health and safety; to enhance the quality of life; to preserve and improve the environment for the benefit of the public and to be responsive and sensitive to the needs of residents, property owners and public partners.

Organizational Structure and Public Participation

To meet the goals of the City's Comprehensive Stormwater Management Program 15 employees have been assigned to perform the management, planning, engineering and maintenance activities related to the stormwater management program. At least a dozen other employees address stormwater issues throughout the year.

- Stormwater Manager (1 person)
- Stormwater Project Engineer (1 person)
- Stormwater Technicians (2 personnel)
- Stormwater Maintenance Crews
(3 crews composed of 11 personnel, including a mechanic)

To increase public participation during the development and implementation of major stormwater program goals the City will rely on newspaper articles, City website information and the Cityline Newsletter to communicate the issues and responsibilities of the community concerning stormwater management and water quality.

The City will also hold public information meetings and when necessary form informal Ad Hoc committees or Stakeholders meetings of interested members of the community to gather public opinion and input when the development of new ordinances and policies is being considered. Public survey information is available for our region concerning general stormwater issues which is used to help in understanding the attitudes and expectations of our community as a whole. Informing interested citizens and those most affected by particular stormwater issues and encouraging their input will help ensure that the goals of the program will successfully be implemented.

CITY OF SHAWNEE
Public Works Department
Comprehensive Stormwater Management Program
Updated March 1, 2007

Program Goals

The City has identified five primary goals to address the future stormwater needs of Shawnee. These goals should be reviewed and revised at least every five years. The five goals of the CSMP are listed below.

- 1) Address flood problems with drainage improvement projects to reduce the occurrence of property flood damage
- 2) Review, enact and enforce ordinances and policies as needed to manage the floodplain, and prevent future flooding in or downstream of development.
- 3) Perform routine maintenance of the City's drainage system to maintain its intended capacity and condition.
- 4) Enhance water quality to preserve the natural environment while maintaining regulatory compliance with the City's Kansas Water Pollution Control Permit under EPA's National Pollutant Discharge Elimination System (NPDES) Phase II requirements.
- 5) Provide adequate funding for the Comprehensive Stormwater Management Program.

Program Goal Activities

The City has established many activities to achieve the five goals of the Comprehensive Stormwater Management Program. The following is a list of the major activities for each of the program goals.

Goal 1: Address flood problems with drainage improvement projects to reduce the occurrence of property flood damage

The City can address existing flood problems in the following ways.

1. Identify drainage improvement projects eligible for Johnson County Stormwater Management Program (JCSMP) matching funds and pursue JCSMP funding for Preliminary Engineering Studies, which qualifies these projects to be on the JCSMP eligible list.
2. Schedule the design and construction of JCSMP eligible projects on the City's 5-Year CIP plan.
3. Identify, design and construct smaller drainage improvement projects ineligible for outside funding using Stormwater Utility funding.
4. Provide routine maintenance of the City's existing storm drainage system which allows the system to handle stormwater runoff to its designed capacity.
5. Ensure drainage improvements are provided for in the design and construction of the City's street, bridge and stormwater drainage facility improvements and for both private and public development.

CITY OF SHAWNEE
Public Works Department
Comprehensive Stormwater Management Program
Updated March 1, 2007

Goal 2: Review, enact and enforce ordinances, policies and design criteria as needed to manage the floodplain, and prevent future flooding in or downstream of development.

The City's Public Works Department will continue to manage development in the floodplain by doing the following.

1. Review and refine policies requiring stream way set-backs to provide both increased flood protection, recreation and water quality benefits.
2. Participate in regional efforts to develop and implement new standards and design criteria related to stormwater management.
3. Require floodplain studies for new development to use new standards and data developed during the county-wide watershed studies provided through the JCSMP. While floodplain studies have always been required for new development; new regional floodplain studies, provided by the JCSMP, have made individual studies more comprehensive, providing better flood protection.
4. Provide comprehensive watershed analysis to allow better decisions to be made about stream way setbacks, regional and local detention requirements, zoning designations, and post-construction planning for recreation and water quality benefits.
5. Maintain the existing Class Rating of the City in the Community Rating System of FEMA's National Flood Insurance Program providing discounts on flood insurance for property owners in Shawnee.
6. Review and consider increasing the current level 8 Class Rating of the City in the Community Rate System of FEMA's National Flood Insurance Program (NFIP). This would provide a greater discount on flood insurance for the property owners in Shawnee and show that the City has attained a higher level of activities and standards providing flood protection for its citizens.
7. Maintain the most recent FEMA NFIP Floodplain maps and supplement them with the most current floodplain studies provided with all new development.
8. Use the City's website to provide information to educate the public about stormwater management in the City of Shawnee as a part of maintaining compliance with the City's water quality related ordinances.
9. Develop and maintain a comprehensive flood warning system with mapping of potential flood locations and use of new technology for an advance warning system.

CITY OF SHAWNEE
Public Works Department
Comprehensive Stormwater Management Program
Updated March 1, 2007

Goal 3: Perform routine maintenance of the City's drainage system to maintain its intended capacity and condition.

1. Maintain a 10-year cycle of inspection of the City's storm drainage system to identify and define the parts of the system needing repairs and maintenance to proactively provide the amount of flood protection the system was designed to perform. Some important activities needed to provide the level of inspection required include:
 - a. Maintain mapping of the City's stormwater drainage system to provide the City a tool to analyze and track the inspection of over 9300 drainage structures and 125 miles of pipe and other portions of the stormwater drainage system.
 - b. Implement a 10-year cycle of inspection utilizing existing staff and outside consultants to identify locations needing repairs or removal of debris to keep the City's stormwater drainage system functioning properly.
 - c. Implement a systematic video inspection program to inspect the existing drainage system and new portions of the drainage system during the warranty period to ensure prompt repairs before the system fails.
2. Perform routine maintenance to systematically address drainage problems in a timely manner with the three assigned stormwater maintenance crews.
3. Use outside contractors, in addition to City forces, to ensure timely replacement and repairs to the existing deteriorated or inadequate stormwater drainage facilities identified through the inspection program described in item 1b.
4. Maintain equipment and training needed for our stormwater maintenance crews to work efficiently and effectively.

Goal 4: Enhance water quality to preserve the natural environment while maintaining regulatory compliance with the City's Kansas Water Pollution Control Permit under EPA's National Pollutant Discharge Elimination System (NPDES) Phase II requirements.

This goal has been shaped by the requirements of the City's Kansas Water Pollution Permit requirements fulfilling EPA's NPDES Phase II regulations. These regulations require that six minimum control measures be fulfilled by implementing specific best management practices (BMPs) to be used for controlling pollution. The following activities keep the City remain in compliance with these regulations.

CITY OF SHAWNEE
Public Works Department
Comprehensive Stormwater Management Program
Updated March 1, 2007

1. Comply with the requirements of the City of Shawnee's Kansas Water Pollution Permit No. M-KS68-SU01 and authorization to discharge under the NPDES. Compliance with the City's Permit is made possible by the following activities.
 - a. Implement a comprehensive stormwater management program addressing water quality issues.
 - b. Provide staff and equipment to increase street sweeping to remove pollutants before they are washed into the drainage system.
 - c. Maintain a stormwater drainage system map to help monitor points where the system discharges into the lakes and streams in Shawnee.
 - d. Inspect the stormwater drainage system to find and remove illegal connections that discharge pollutants into the City's streams and lakes.
 - e. Provide public information on environmental concerns by working with other local agencies and distributing information through various means.
 - f. Enforce the City's Stormwater Pollution Prevention ordinance prohibiting the polluting of Shawnee's stormwater drainage system.
 - g. Develop and Implement an Erosion and Sediment Control ordinance.
 - h. Train City staff on and implement pollution prevention BMPs for all City facilities and work assignments.
2. Participate with other local agencies to provide BMPs associated with attenuating the discharge of pollution related to the Total Maximum Daily Loads (TMDL) requirements of the City's Kansas Water Pollution Permit.
3. Provide comprehensive watershed analysis and planning to allow better decisions to be made about streamway setbacks and open space policies, regional detention requirements, and post-construction planning for new development addressing flood protection, recreation and water quality benefits.
4. Engage in partnerships with other municipal, county and regional organizations when possible to jointly accomplish portions of the City's Kansas Water Pollution Permit requirements. Any activity which is completed by another entity as part of such partnerships and which applies to our population and jurisdiction is counted towards our permit compliance. Two such organizations are:
 - a. Johnson County Government, including the
 - i. Johnson County Stormwater Management Program (JCSMP) and the
 - ii. Johnson County Environmental Division (JCED)
 - b. Mid-America Regional Council (MARC)

CITY OF SHAWNEE
Public Works Department
Comprehensive Stormwater Management Program
Updated March 1, 2007

Goal 5: Provide Adequate Funding For The Comprehensive Stormwater Management Program.

Several funding sources are used to support stormwater program activities which enable the City to achieve its stormwater management program goals. Funding for the City's stormwater management program comes from

- The City's general fund, which includes developer's fees in the form of stormwater detention fees.
- Parks and Pipes funds, (1/8th Cent Sales Tax with 50% dedicated to Stormwater Management),
- Outside matching funding from JCSMP (SMAC), CDBG, other Federal grants, and a
- Stormwater Utility with an annual service fee charged to property owners of all developed property in the City.

The city should continue to use these funding sources to maintain adequate funding for the CSMP. If future annual budgets do not keep up with program requirements, the Stormwater Utility revenue levels and fee structure should be reviewed for possible modifications or revisions to maintain adequate funding.

Conclusion:

The City of Shawnee's Comprehensive Stormwater Management Program addresses many stormwater management issues important to Shawnee's residents. The goals stated in the CSMP will improve both stormwater management and water quality throughout the City. Achieving these goals will contribute to the overall mission of the City to make Shawnee a better place to Live, Work and Grow.