CITY OF SHAVANO PARK
900 SADDLETREE COURT, SHAVANO PARK TEXAS 78231

STORM WATER MANAGEMENT PLAN

PREPARED AND SUBMITTED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AS A REQUIREMENT OF TPDES GENERAL PERMIT TXRO40000.

2016
City of Shavano Park Officials

Elected Officials Mayor

Robert Werner

Council Members

Michele Bunting Ross, Mayor Pro Tem

Alderman Alan Berrier

Alderman Bob Heintzelman

Alderwoman Mary Ann Hisel

Alderman Michael Simpson

City Staff

William Hill, City Manager

Michael Naughton, Fire Chief

Zina Tedford, City Secretary

Brandon Peterson, Public Works Director

Consultant

Chris Otto – KFW Engineers

November 2016
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<td>BMP</td>
<td>Best Management Practice</td>
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<tr>
<td>CGP</td>
<td>Construction General Permit, TXR150000</td>
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<tr>
<td>CRP</td>
<td>Clean Rivers Program</td>
</tr>
<tr>
<td>CSP</td>
<td>City of Shavano Park</td>
</tr>
<tr>
<td>CWA</td>
<td>Clean Water Act</td>
</tr>
<tr>
<td>EARZ</td>
<td>Edwards Aquifer Recharge Zone</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>GIS</td>
<td>Geographic Information Systems</td>
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<tr>
<td>MEP</td>
<td>Maximum Extent Practicable</td>
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<tr>
<td>MCM</td>
<td>Minimum Control Measure</td>
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<tr>
<td>MS4</td>
<td>Municipal Separate Storm Sewer System</td>
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<tr>
<td>MSGP</td>
<td>Multi-Sector General Permit, TXR050000</td>
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<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>P2</td>
<td>Pollution Prevention</td>
</tr>
<tr>
<td>SAWS</td>
<td>San Antonio Water System</td>
</tr>
<tr>
<td>SIC</td>
<td>Standard Industrial Classification</td>
</tr>
<tr>
<td>SSO</td>
<td>Sanitary Sewer Overflow</td>
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<tr>
<td>SWMP</td>
<td>Storm Water Management Plan</td>
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<tr>
<td>SWPP</td>
<td>Storm Water Pollution Prevention</td>
</tr>
<tr>
<td>SWP3</td>
<td>Storm Water Pollution Prevention Plan</td>
</tr>
<tr>
<td>SWQMI</td>
<td>Surface Water Quality Monitoring</td>
</tr>
<tr>
<td>TCEQ</td>
<td>Texas Commission on Environmental Quality</td>
</tr>
<tr>
<td>TPDES</td>
<td>Texas Pollutant Discharge Elimination System</td>
</tr>
</tbody>
</table>
DEFINITIONS

**Best Management Practices** – schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the pollution of waters of the United States. Best management practices also include treatment requirements, operating procedures, practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.

**Control Measure** – any best management practice or other method used to prevent or reduce the discharge of pollutants.

**Conveyance** – curbs, gutters, man-made channels and ditches, drains, pipes, and other constructed features designed or used for flood control or to otherwise transport storm water runoff.

**Discharge** – when used without a qualifier, refers to the discharge of storm water runoff or certain non-storm water discharges as allowed under the authorization of this general permit.

**Illicit Connection** – any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

**Illicit Discharge** – any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges pursuant to a National Pollutant Discharge Elimination System permit (other than the municipal separate storm sewer).

**Maximum Extent Practicable (MEP)** – technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges that were established by the Clean Water Act.

**Municipal Separate Storm Sewer System** – a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains owned or operated by the city.

**National Pollutant Discharge Elimination System** – National program for issuing, modifying, revoking and reissuing, terminating, imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA.

**Outfall** – a point source at the point where a municipal separate storm sewer discharges to waters of the United States.

**Permitting Authority** – TCEQ is agency for the purposes of this general permit.

**Redevelopment** – alterations of a property that change the footprint of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land.

**Storm Water** – storm water runoff, rainfall runoff, snow melt runoff, and surface runoff and drainage.
**Storm Water Management Plan (SWMP)** – comprehensive program to manage the quality of discharges from the municipal separate storm sewer system.

**Surface Water in the State** – lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or non-navigable, and including the beds and banks of all water-courses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the jurisdiction of the state; except that waters in treatment systems which are authorized by state or federal law, regulation, or permit, and which are created for the purpose of waste treatment are not considered to be water in the state.

**Watershed** – The region draining into a river, river system, or other body of water.

**Waters of the United States** – Waters of the United States or waters of the U.S. means:

(a) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) all interstate waters, including interstate wetlands;

(c) all other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) which are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) which are used or could be used for industrial purposes by industries in interstate commerce;

(d) all impoundments of waters otherwise defined as waters of the United States under this definition;

(e) tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) the territorial seas; and

(g) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.
PURPOSE

This Storm Water Management Plan (SWMP) is prepared to meet the Phase II Storm Water Permit requirements for small municipal separate storm sewer systems (MS4s) for the City of Shavano Park. The Plan is implemented to satisfy the general permit requirements issued by the State of Texas Commission on Environmental Quality (TCEQ).

As required by state and federal regulations the Plan must describe various activities, control measures, and “best management practices” (BMP’s) that the City will implement within the next five years to minimize pollutant discharges into the City’s storm drainage systems to the maximum extent practical.

REGULATORY OVERVIEW

In 1972, the Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), was amended to make illegal the discharge of any pollutant as a point source to any body of water in the United States without authorization by a National Pollutant Discharge Elimination System (NPDES) permit. Pollution control measures were implemented first in industrial wastewater operations and municipal sewerage systems.

In 1987, the Clean Water Act was again amended to implement a two-phased approach to the reduction of impacts from storm water discharges. The first phase was aimed at large and medium municipal separate storm water systems, industrial activities, and construction activities that disturbed 5 acres or more of land. The Phase I permitting process required these larger cities to develop and implement a storm water management plan, conduct some monitoring and submit periodic reports.

The second phase of the storm water program, promulgated on December 8, 1999, adopted the NPDES Phase II Storm Water regulations as a final rule. The Storm Water Phase II rule was the next step in the EPA’s efforts to preserve, protect, and improve the nation’s water resources from polluted storm water runoff. The Phase II program requires additional operators (small MS4s in urbanized areas), including the City of Shavano Park, to implement programs and practices to control polluted storm water runoff through the Texas Pollution Discharge Elimination System (TPDES) permit program. This program requires that the cities:

• reduce the discharge of pollutants to the maximum extent practicable (MEP);

• protect water quality;

• satisfy the appropriate water quality requirements of the Clean Water Act; and,

• manage storm water quality activities through a Storm Water Management Plan (SWMP).
Cities are required to develop a SWMP that describes specific actions that will be taken over a five-year period to reduce pollutants and protect the City’s storm water quality to the maximum extent practicable (MEP). The specific activities to be implemented are best management practices (BMP's). The SWMP must also set measurable goals and provide a schedule for the implementation of the BMP's. Various BMP's must be developed for each of the six minimum control measures (MCM's) as required by the Phase II Rule. These six MCM's are:

- Public Education and Outreach on Storm Water Impacts
- Public Participation and Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control;
- Post-Construction Runoff Control
- Pollution Prevention and Good Housekeeping

**PERMIT RESPONSIBILITIES**

- Compliance with permit conditions related to discharges from portions of the MS4 which the City owns and operates.
- Annual reporting.
- Implementation of an approved Storm Water Management program.
- Plan of action for implementing the permit requirements.

**PERMIT OBLIGATIONS**

- Prevent or prohibit the discharges of pollutants into the MS4 to the Maximum Extent Practical (MEP).
- Have approved SWMP designed to determine and described what actions must be performed by the City to comply with permit requirements.
ALLOWABLE NON-STORM WATER DISCHARGES

The following non-storm water discharges may be discharged from a City. However, the General Permit exempts the following non-storm water discharges from prohibition unless they are determined by the City or TCEQ to be a significant source of pollutants:

- Water line flushing
- Landscape irrigation
- Potable water discharges
- Diverted stream flows
- Rising ground water and springs
- Uncontaminated ground water infiltration
- Uncontaminated pumped ground water
- Foundation and footing drains
- Air condition condensation
- Water from crawl space pumps
- Individual residential vehicle washing
- Flows from wetlands and riparian habitats
- De-chlorinated swimming pool discharges
- Street wash water
- Emergency firefighting discharges

DISCHARGES TO THE EDWARDS AQUIFER RECHARGE ZONE

The City recognizes that discharges of storm water from regulated small MS4s, and other non-storm water discharges are not authorized by this general permit where those discharges are prohibited by 30 TAC Chapter 213 (relating to the Edwards Aquifer).
CITY OF SHAVANO PARK BACKGROUND INFORMATION

On the edge of the Texas Hill Country, the City of Shavano Park is located in the San Antonio metropolitan area in northwest Bexar County, approximately 12 miles north of downtown San Antonio. Shavano Park is surrounded by the City of San Antonio to the north, east, south, and west. Generally, the City's boundaries are Loop 1604 on the north, Huebner Road on the south, Lockhill-Selma on the west and Salado Creek on the east. Bexar County is the fourth largest county in the state of Texas and San Antonio is the largest city in the County and second largest city in the state. Shavano Park geographically lies in the central south Texas region at the edge of the Gulf Coastal Plains. City Size and Population (2010 estimate)

<table>
<thead>
<tr>
<th>Area</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shavano Park area</td>
<td>3.29 sq. mi.</td>
</tr>
<tr>
<td>San Antonio area</td>
<td>504 sq. mi.</td>
</tr>
<tr>
<td>Bexar County area</td>
<td>1,257 sq. mi.</td>
</tr>
</tbody>
</table>

Historical

The original Town of Shavano was established around 1881 along the Olmos Creek and served as a stagecoach and rail stop between San Antonio and Boerne. The area now occupied by the City of Shavano Park was part of the Stowers Ranch. In 1947, Wallace Rogers and Sons purchased the land for residential development starting in 1948. The City of Shavano Park was incorporated on June 19, 1956 as a general law city. According to the US Census, the population of Shavano Park was 1,448 in 1980, 1,708 in 1990 and 1,754 in 2000. The 2010 US Census put the population above 3,500 citizens.

City Organization

The City of Shavano Park is a Type “A” General Law City operating under a Council/Manager form of government consisting of five elected council members and an elected Mayor.

City Services

Today, the City maintains its own water system, provides fire and EMS services, police protection, street maintenance, public works, code enforcement, building inspections, and a municipal court. Through a franchise agreement, the City provides twice a week curbside residential garbage service, once every other week curbside recycling collection service and twice a year brush and bulky item pick-up to all its residents. Commercial customers receive service 6 days per week. Residents may also participate in the Bexar County Household Hazardous Waste Program at no cost. The home pick-up is on an on-call basis. The City also provides a Hazardous Material Spill Response, Containment and Clean-up program.
Water and Sewer Service

The City’s source of drinking water is pumped from both the Edwards and the Trinity Aquifers. Water is secured from five operational wells. Two of the three inoperable wells are being utilized by the EAA for water quality monitoring and the other by the USGS for observations.

The City’s Water Conservation Program is strictly enforced.

Water service to residential and commercial customers are provided either by the City of Shavano Park’s water utility or are served by the San Antonio Water System (SAWS). The City’s water utility provides water service to approximately 706 water customers. In addition, approximately 500 residential and commercial customers receive water service from SAWS. The City’s water utility does not provide water service outside of its corporate limits.

Shavano Park water customers are on conventional or aerobic septic systems. Residents of Shavano Creek, Bentley Manor, Willow Wood and the Huntington, including the commercial areas along 1604 and Lockhill Selma receive water and sewer service from SAWS.

Edwards Recharge Zone

The recharge zone for the aquifer stretches west and northeast of Bexar County. The recharge zone is about 4 miles wide at the north site, with Loop 1604 right in the middle. The City is located on the Edwards Aquifer Recharge Zone.

Watershed Information

Shavano Park is located in the Upper San Antonio River, Olmos and Salado Creek watersheds. Olmos and Salado Creek are usually dry, flooding during heavy rains. The mean elevation is 978 feet above sea level. The land area of the City is about 3.5 square miles. Winters are mild and summers are hot and humid. The annual average rainfall is 30 inches falling mostly April through September.

The land use in the City is a combination of agriculture, residential, commercial, office professional, public facilities, and open space. Residential land use makes up the single largest land use category of the City. The City is predominately single family residential, mostly on septic systems on lots ranging from ¼ acre to 10 acres. Commercial development concentrates along major thoroughfares. Increased commercial development is occurring along the Loop 1604 and NW Military intersection outside the city limits.

EXISTING STORM WATER CONVEYANCE SYSTEMS

The land around the intersection of Loop 1604 and NW Military Highway drains to Olmos Creek, the major watercourse of the Upper San Antonio Watershed. Upper branches of the Olmcs reach just north of Loop 1604. To the east, the Salado Creek watershed begins; to the west, the Leon Creek Watershed passes through what was once the Redland Worth Quarry.
The storm water drainage system serving most areas of Shavano Park consists of overland flow to natural drainage ways or to unlined open ditches and channels alongside public and private roads. Culverts are typically used to route storm water driveway encroachments and roadways. Most storm water runoff from within the City sheet flows into roadside drainage ditches that discharge collected storm water to various natural swales, creeks, rivers, and intermittent and perennial streams as determined by local topography.

There are curbs and gutters in some of the City's newest commercial developments and in some residential developments. Collected gutter flow either discharges into natural drainage swales, into roadside ditches, or into storm water inlets. Storm water flowing into inlets or catch basins is typically discharged through culverts to adjacent natural or man-made surface drainage channels.

The diversion channels on the north side of 1604 to alleviate flooding in the northeast quadrant of the city and to utilize the gravel pit located in the area of Loop 1604 and NW Military to be a permanent water detention pond have been constructed and alleviate storm water runoff from the north.

**APPROACH FOR DEVELOPING MANAGEMENT PLAN**

The City of Shavano Park has developed the SWMP in accordance with the requirements of the TPDES General Permit TXR040000 for obtaining authorization for storm water discharges and certain non-storm water discharges. The SWMP has been developed to facilitate the City’s efforts in reducing storm water pollutants from the City’s MS4 to the maximum extent practicable as required by the TPDES General Permit.

The City hired the firm of Young Professional Resources to update this Plan. The consultant reviewed the City’s current practices annual reports in order to update SWMP. Consistent with federal and TCEQ requirements, the City’s Storm Water Management Plan organizes proposed control measures into six specific categories. Specific programs for each MCM category are provided in Tables 1-5.

The BMP selected for each minimal control measure are based upon the following:

**MCM-1: Public Education, Outreach, and Involvement:**

Distribute educational materials and perform outreach to inform citizens about the impacts polluted storm water runoff discharges can have on water quality. An informed, knowledgeable community helps to ensure greater support and compliance and is crucial to the success of storm water management.

The BMP’s selected by the City for this MCM category are designed to inform the public about the importance of controlling pollutant discharge that will be carried into the City’s storm drain system.

To make the most efficient use of limited resources, the City plans to integrate its public outreach efforts with other existing and public education forums.
City of Shavano Park Storm Water Management Plan

- Inform residents, visitors, public service employees, businesses, commercial and industrial facilities, and construction site personnel of steps they can take to improve storm water quality and explain the impacts of non-point source pollution to storm water. Such as ensuring proper septic system maintenance, ensuring the use and disposal of landscape and garden chemicals including fertilizers and pesticides, and properly disposing of used motor oil or household hazardous wastes.

- Educate commercial, industrial, and institutional groups about the impacts of their work on the storm water quality and the steps needed to reduce these effects.

- Address the viewpoints of various economic and cultural groups in the design of the education program.
- Provide opportunities for citizens to participate in program development and implementation, including effectively publicizing public hearings and/or encouraging citizens to participate on a storm water management panel.

- Comply with any State and local public notice requirements when implementing a public involvement/participation program.

- Include the public in the development, implementation, and review of the storm water management program.

- Include input from different economic and cultural groups.

**MCM - 2: Illicit Discharge Detection and Elimination**

The Illicit Discharge Detection and Elimination control measure is designed to prevent the discharge of pollutants to receiving waters. It requires the development and implementation of a system to identify and eliminate sources of illicit discharge and illegal dumping.

- Develop and implement an ordinance making it illegal to convey non-storm water discharges through the MS4.

- Develop a comprehensive map of the storm sewer system.

- Informing the community about hazards associated with illegal discharges and improper disposal of waste.

- Develop a program for the detection and tracking of illicit discharges.

**MCM 3: Construction Site Storm Water Runoff Control**

The City is required to develop, implement, and enforce a program to ensure controls are in place that will prevent or minimize water quality impacts from storm water runoff from construction sites. The
program must apply to all construction projects that disturb greater than or equal to one acre and discharge into the City’s MS4. The major activities under this MCM are to:

- Review and update regulations to be consistent with the requirements of the permit.

- City ordinances will be developed to require erosion and sediment control and storm water control measures on all construction activities involving land disturbances greater than one acre.

- City ordinances will be developed to require construction site operators to control waste at the site such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste.

- Development of a fact sheet for distribution.

- Review of plans for all construction activities.

- Review all design plans for consistency with the City and State guidelines for erosion and sediment control.

- Sufficient level of construction inspection and enforcement to ensure that erosion and sedimentation control measures are installed and maintained properly.

- Develop an inspection checklist to assist city inspectors and contractors in compliance with the erosion and sedimentation requirements and storm water control/management practices.

**MCM 4: Post-Construction Storm Water Management in New Development and Redevelopment**

Develop, implement and enforce an erosion and sediment control program for construction activities that disturb one or more acres of land.

- Have an ordinance or other regulatory mechanism requiring the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites.

- Have procedures for site plan review of construction plans that consider potential water quality impacts.

- Have procedures for site inspection and enforcement of control measures.

- Have sanctions to ensure compliance (established in the ordinance or other regulatory mechanisms).

- Establish procedures for the receipt and consideration of information submitted by the public.

- Develop, implement, and enforce erosion and sediment control program for construction activities and a program to address discharges of post-construction storm water runoff from new development and re-development areas.
MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operations

Develop and implement a program with the goal of preventing or reducing pollutant runoff from municipal operations. The program must include municipal staff training on pollution prevention measures and techniques (e.g. regular street sweeping, reduction in the use of pesticides or street salt, or frequent catch-basin cleaning).

- A training program for pollution prevention techniques for municipal operations will be developed.
- Educate all City employees to recognize pollutant sources, prevent or reduce pollutant runoff from municipal operations, and implement erosion, sedimentation, and storm water controls to meet the requirements of the permit.
- Reduce the use of toxic and petroleum-based cleaners and solvents.
- Minimization of the use of pesticides, herbicides, and fertilizers.
- Proper storage and disposal of hazardous and other waste.
- Develop and implement a program with the goal of preventing or reducing pollutant runoff from municipal operations.
- Reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, vehicle or maintenance shops with outdoor storage areas, salt/sand storage locations, disposal areas and waste transfer stations.
- Procedures for properly disposing waste removed from the separate storm sewers.

Impaired Water Bodies and Total Maximum Daily Load (TMDL) Requirements

Discharges of the pollutant(s) of concern to impaired water bodies for which there is a TCEQ and EPA approved total maximum daily load (TMDL) are not eligible for this general permit unless they are consistent with the approved TMDL. A water body is impaired for purposes of the permit if it has been identified, pursuant to the latest TCEQ and EPA approved CWA §303(d) list, as not meeting Texas Surface Water Quality Standards. The permittee shall control the discharges of pollutant(s) of concern to impaired waters and waters with approved TMDLs as provided in sections (a) and (b) below, and shall assess the progress in controlling those pollutants.

PUBLIC REVIEW OF STORMWATER MANAGEMENT PLAN

In accordance with the general permit TXR040000, Part II, Section D, Number 12, the SWMP will be available for review at City Hall, 900 Saddletree Court, Shavano Park, Texas 78231. General Permit TXR040000 is attached to this document as Appendix A.
RECORDKEEPING AND TRACKING

In accordance with the general permit TXR040000, Part IV, Section A, the City of Shavano Park will retain all records, a copy of the TPDES general permit, and records of all data used to complete the application for the general permit and make this information available to the public if requested to do so in writing.

The City of Shavano Park will track all BMP activities, results, and changes to the SWMP through an annual report that will be submitted to the TCEQ within 90 days of the end of each permit year from the date of permit issuance) for each year of the permit term. The first report is due on November 11, 2015 and mid-November each year thereafter. The annual report will include all factors required by the general permit, including the status of the compliance with permit conditions assessments of BMP’s and any changes to the SWMP, as assessed to keep the City of Shavano Park in compliance with the general permit conditions.
TABLES OF INDIVIDUAL MINIMAL CONTROL MEASURES AND BEST MANAGEMENT PRACTICES WITH IMPLEMENTATION SCHEDULES
<table>
<thead>
<tr>
<th>BMP</th>
<th>Measurable Goal(s)</th>
<th>Responsible Party</th>
<th>Implementation Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Distribution of Informational Materials</td>
<td>Make informational brochures available to the public at City facilities. Materials will be distributed in Spanish once a year.</td>
<td>IT/Planner</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td></td>
<td>Distribute storm water brochure to construction contractors. Distribute an illicit discharge fact sheet/brochure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2 Bill Inserts</td>
<td>Distribute information to the public through bill inserts to Shavano Park customers.</td>
<td>Public Works Director</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td></td>
<td>SAWS already provide bill insert information on storm water to its customers within the city limits of Shavano Park.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3 Classroom Education</td>
<td>Currently the San Antonio Water System and City of San Antonio provides educational materials to the</td>
<td>Public Works Director</td>
<td></td>
</tr>
</tbody>
</table>
## 1.4 Use of Media

Currently the San Antonio Water System and the City of San Antonio have placed ads in newspapers, produced radio spots and television spots relating to storm water. These messages are viewed by the residents of Shavano Park.

Monitor these ads as currently provided by SAWS.

If these programs are eliminated by the agencies, the City of Shavano Park will place information in local media outlets specifically targeting City residents.

| Public Works Director | Will continue program and update as needed | update as needed |

School districts where the young people of Shavano Park attend.
<table>
<thead>
<tr>
<th>1.5</th>
<th>Encouraging Water Conservation.</th>
<th>Currently the San Antonio Water system provides water conservation information to some of the customers it serves in Shavano Park. The City of Shavano Park provides conservation messages on its bills and on its website. Water Conservation Audit. Water Conservation Ordinance is in place and enforced. Electronic meters have been installed on the CoSP system. Meters have leak detection capabilities. Additionally conservation brochures and handouts are available at City facilities.</th>
<th>The City will post conservation messages on website twice a year. The City will place a water conservation message on its bills twice a year. Water conservation literature will be placed at City owned facilities. Water conservation links and tips will be placed on website. Water conservation audits and leak detection surveys will continue. Will continue to install or replace electronic meters as needed. Continue to enforce the conservation ordinance.</th>
<th>Public Works Director</th>
<th>Will continue program and update as needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>Newsletter</td>
<td>Place articles in the City’s newsletter covering water conservation and storm water topics.</td>
<td>Articles will be placed at a minimum of twice per year. Record numbers of copies of materials and/or articles distributed.</td>
<td>Public Works Director</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td>1.7</td>
<td>Website Postings</td>
<td>Post and maintain storm water information on City web site. To include storm water quality information and links to related storm water management programs and associated BMP’s.</td>
<td>Add links to City’s website for TCEQ, EPA, SAWS and other private or public agencies who have information on storm water BMP’s. Maintain and update storm water information quarterly or more often as necessary.</td>
<td>IT/Planner</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td>1.8</td>
<td>Catalog Information</td>
<td>Develop a catalog of educational materials and resource information on relevant storm water BMP’s to make available to the public as well as internal staff.</td>
<td>Collect information and file. Make information available to the staff and public for its use. Number of requests for materials.</td>
<td>City Secretary</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td>-------</td>
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<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>----------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>1.9</td>
<td>Marquee Posting</td>
<td>Utilize the City Hall marquee to provide storm water messages and notices including: Events, “clean-up after your pet”, water conservation, general tips, volunteer days.</td>
<td>Document message and number of message days.</td>
<td>Public Works Director</td>
<td>Will continue program and update as needed</td>
</tr>
</tbody>
</table>
# Table 2

## MCM-2 Illicit Discharge Detection and Elimination

<table>
<thead>
<tr>
<th>BMP</th>
<th>Details</th>
<th>Measurable Goal(s)</th>
<th>Responsible Party</th>
<th>Implementation Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Ordinances</td>
<td>Develop Ordinances prohibiting illicit discharges into the Storm Drain Systems and ordinances to address grading, erosion, and sediment control for construction projects.</td>
<td>Focus on creating the ordinance through a public process for the first year with an ordinance approved in the second year.</td>
<td>City Manager/City Attorney</td>
<td>Will continue program and update as needed</td>
</tr>
</tbody>
</table>
| 2.2 Enforcement | Increased monitoring and enforcement for illegal dumpers. Review current illegal dumping ordinances and change as necessary. Place emphasis on monitoring and enforcement. | Number of complaints.  
Number of enforcement actions. | Code Compliance / Public Works Director | Will continue program and update as needed |
| 2.3 Hazard Disposal and Recycle Programs. | Residents are provided the opportunity to dispose of hazardous waste materials and recycle materials through the City refuge collection contract as well as through Bexar County. Information is on website as well as on bills. | Continue the program.  
Total amount of materials collected. | City Secretary | Will continue program and update as needed |
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Actions</th>
<th>Responsible Party</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4 Monitoring Wastewater Connections</td>
<td>Monitoring Wastewater Connection to drainage system is monitored by the San Antonio Water System, as they are the provider of sewer service for some of the City's residents. The City of Shavano Park will request annual reports from SAWS on their monitoring for potential interconnection of systems.</td>
<td>Receipt of annual report from SAWS. Number of violations for illegal interconnections. Disposition of violations</td>
<td>SAWS Public Works Director</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td>2.5 Inspection of for Illicit Discharges</td>
<td>Internal crews will perform monitoring along with mosquito control program.</td>
<td>Inspectors will be trained. Number of illicit connections found. Disposition of the violations.</td>
<td>Code Enforcement / Public Works Director</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td>2.6 Monitoring Sanitary Sewer Overflows</td>
<td>SAWS is the responsible party to prevent overflows from sewers. Request that SAWS provides to the City monthly reports on all sewer overflows in the CSP city limits. Report shall contain disposition of each occurrence.</td>
<td>SAWS provide monthly report. Number of overflows.</td>
<td>Public Works Director</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td>2.7 Update Maps</td>
<td>Update storm water map to reflect all outfalls, streams, drainage ways and storm drainage infrastructure.</td>
<td>Each year the map system will be updated with the goal of being fully GIS based in the fourth year of program. Continual map improvement is reflected annually.</td>
<td>Public Works Director/City Engineer</td>
<td>Year 3</td>
</tr>
</tbody>
</table>
# City of Shavano Park Storm Water Management Plan

<table>
<thead>
<tr>
<th>Section</th>
<th>Activity</th>
<th>Description</th>
<th>Monitoring</th>
<th>Responsible Official</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.9</td>
<td>Spill Response</td>
<td>The City has a written spill response plan assigned to its fire department. Will review the spill response plans for appropriate levels of resources and training.</td>
<td>Continue the program and make necessary adjustments. Number of spills reaching streams. Number of spills not reaching streams.</td>
<td>Fire Chief</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td>2.10</td>
<td>Inspection of new buildings</td>
<td>Inspection of new and existing building projects for illicit discharges during building permit inspections is currently being performed.</td>
<td>Continue Program. Number of violations.</td>
<td>Building Inspector/Fire Chief</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td>2.11</td>
<td>Brush and White Goods Pickup</td>
<td>The City currently provides brush and white good item pickup twice a year at no cost to citizens.</td>
<td>Continue Program. Tons of debris collected.</td>
<td>City Secretary</td>
<td>Will continue program and update as needed</td>
</tr>
</tbody>
</table>
| 2.12 Sanitary Sewer Systems. | a. Improvements to reduce overflows  
b. Lift station inadequacies  
c. Improve reporting of overflows  
d. Strengthen sanitary sewer use requirements to reduce blockage from fats, oil and grease (FOG) | Sanitary sewer system is operated by the San Antonio Water System (SAWS). SAWS is going to an extensive program to evaluate, assess and rehabilitate its collection and lift station system.  
Additionally SAWS has an extensive line cleaning that is ongoing to prevent overflows.  
Due to overflows SAWS has rewritten ordinances and increased inspections and enforcement for FOG related issues  
The CoSP will be monitoring the process and works with SAWS to ensure that any identified problem areas are addressed.  
SAWS assessment will be completed in 2 yrs. | Public Works Director | Will continue program and update as needed |

| 2.13 On-site sewage facilities | a. Identify and address failing systems and alert inspector  
b. Inadequate maintenance of OSSFs addressed. | The City shall respond to any complaints of failing systems and take enforcement actions on all violations. | Code Enforcement, Public Works Director and Health Inspector | Will continue program and update as needed |
## City of Shavano Park Storm Water Management Plan

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Action</th>
<th>Responsible Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.14</td>
<td>Illicit Discharges and dumping</td>
<td>Perform inspections of areas which activities are most likely to occur. Enforce ordinances</td>
<td>Inspectors will be trained. Number of illicit connection found. Disposition of the violations.</td>
</tr>
<tr>
<td>2.15</td>
<td>Animal Sources</td>
<td>Expand existing management sources to identify and target animal sources such as zoos, pet waste, and horse stables</td>
<td>City will evaluate its current ordinances on animal sources and strengthen as required.</td>
</tr>
<tr>
<td>2.16</td>
<td>Residential Education</td>
<td>Bacteria discharging from a residential site either during runoff events or directly. Fats, oils and grease clogging sanitary sewer lines and resulting overflows Decorative ponds Pet waste</td>
<td>The City will place information on the do and don’ts for these elements on its websites and other publications. Additionally SAWS provides public education through public meetings, flyers, print media and visuals ads.</td>
</tr>
</tbody>
</table>

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## Table 3

### MCM-3 Construction

#### Site Storm Water Runoff Control

<table>
<thead>
<tr>
<th>BMP</th>
<th>Details</th>
<th>Measurable Goal(s)</th>
<th>Responsible Party</th>
<th>Implementation Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Regulations Review</td>
<td>Review current regulations to make revisions as necessary to support storm water quality.</td>
<td>Go through a public process with residents to identify areas of improvements. Make recommendations for council approval.</td>
<td>Public Works Director</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td>3.2 Fact Sheets</td>
<td>Develop fact sheets for storm water quality that will be provided to engineers, contractors and developers.</td>
<td>Development of fact sheet. Number of fact sheets provided.</td>
<td>Code Compliance</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td>3.3 Plan Reviews</td>
<td>Ensure that all of the City’s reviewing authorities focus on the storm water pollution prevention methods and practices are thoroughly reviewed. Especially City Engineer and the Planning/Zoning Commission. Provide additional training for these authorities.</td>
<td>Additional training provided. Number of persons trained. Number of plans in compliance.</td>
<td>City Secretary City Manager Code Compliance</td>
<td>Will continue program and update as needed</td>
</tr>
</tbody>
</table>
| 3.4 Training | Train Building Inspectors/Code Compliance on grading, erosion and sedimentation control requirements. | Ensure that City staff is properly trained in permit issuance, plan checking, inspection and enforcement.  
Number of employees trained.  
Number of training hours. | City Manager | Will continue program and update as needed |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>3.5 Workshops</td>
<td>Conduct annual workshops for contractors and engineers to review and discuss latest grading requirements.</td>
<td>Number of participants.</td>
<td>Code Compliance</td>
<td>Will continue program and update as needed</td>
</tr>
</tbody>
</table>
| 3.6 Enforcement | Establish enforcement procedures to deal with violators. | Work with Code Compliance to clarify responsibilities necessary to ensure effective enforcement.  
Hold a public process to review recommended procedures.  
Council approves recommendations. | Code Compliance | Will continue program and update as needed |
<p>| 3.7 Inspection Checklist | Revise the current inspection checklist to include new BMP’s and applicable compliance standards as required by the general TPDES permit, local, state or federal regulations on storm water quality protection. | Continue to inspect sites for compliance using revised checklist. | Code Compliance | Will continue program and update as needed |</p>
<table>
<thead>
<tr>
<th>3.8 Complaint Investigation</th>
<th>Complaints for sediment and erosion issues at construction sites will be investigated promptly and immediate actions taken.</th>
<th>Continue to respond to complaints. Number of complaints. Time between call and response.</th>
<th>Code Compliance</th>
<th>Will continue program and update as needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.9 Builder and Contractor Awareness</td>
<td>The City shall develop a construction informational package pertaining to best management practices for storm water protection during construction. This information will be provided to any contractor or builder at the time in which they seek a permit.</td>
<td>Develop the material and start providing to targeted groups or individuals. Number of packets given out. Contractors are required to establish pollutant controls for the washing and cleaning of equipment and vehicles. Contractor at the time of permit is notified that they are prohibited from having illicit discharges from such activities as washout wastewater, fuels, oils, soaps, solvents and dewatering activities. The PW Director will make periodic inspections of sites.</td>
<td>Code Compliance/Public Works Director</td>
<td>Year 2</td>
</tr>
</tbody>
</table>
# Table 4

**MCM-4 Post-Construction Storm Water Management in New Development and Redevelopment**

<table>
<thead>
<tr>
<th>BMP</th>
<th>Details</th>
<th>Measurable Goal(s)</th>
<th>Responsible Party</th>
<th>Implementation Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Zoning Review</td>
<td>City will undertake the task of reviewing its current land use, zoning and subdivision regulations for conflicts with storm water quality and pollutant removal.</td>
<td>Review regulations and prepare proposed language.</td>
<td>City Manager</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Take through a public process.</td>
<td>Planning &amp;Zoning Commission</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>City Council approves revisions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review and make revisions based on effectiveness.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2 Staff Training</td>
<td>Train plan reviewers and inspectors on storm water BMP’s for post-construction.</td>
<td>Number of people trained.</td>
<td>City Manager</td>
<td>Will continue program and update as needed</td>
</tr>
<tr>
<td>4.3 Long Term Operation and</td>
<td>All facilities are required to be maintained by owner.</td>
<td>Number of inspections.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance of Storm water</td>
<td>All facilities constructed storm water control shall be periodically inspected by the City.</td>
<td>Inspections pass/fail.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Measures</td>
<td>City will enforce upon owners which are non-compliant.</td>
<td>Number of corrective actions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of enforcements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5

MCM-5 Pollution Prevention/Good Housekeeping for Municipal Operations

<table>
<thead>
<tr>
<th>BMP</th>
<th>Details</th>
<th>Measurable Goal(s)</th>
<th>Responsible Party</th>
<th>Implementation Year</th>
</tr>
</thead>
</table>
| 5.1 Supervisory Training and Awareness | Train supervisory level field personnel on the BMP's for storm water.  
Supervisors shall be required to provide annual awareness presentations to his/her employees. | Number of supervisors trained.                          | City Manager             | Will continue program and update as needed |
<p>| 5.2 Used oils                    | The current practice is to have used oil disposed of offsite.           | Continue the practice.                                 | City Manager             | Will continue program and update as needed |
| 5.3 Prevent and Reduce Runoff    | Prevent/reduce pollutants in runoff from municipal operations. Survey departments and facilities for activities that may contribute pollutants. Identify problem areas and corrective actions. Develop procedures for implementing BMP’s at facilities and during municipal activities. | Number of compliance issues discovered. Number of new programs implemented. | Public Works director         | Will continue program and update as needed |</p>
<table>
<thead>
<tr>
<th>5.4 Employee Awareness</th>
<th>Train new/existing employees about the impacts of storm water pollution from municipal activities.</th>
<th>Develop and implement a training program for appropriate municipal operations employees. Provide training at least annually; document training topics and attendance. Number of employees trained.</th>
<th>Human Resources</th>
<th>Will continue program and update as needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5 Hired Contractors</td>
<td>All contractors hired by the MS4 will comply with all of the rules, guidelines and requirements of the permit as if a part of the City.</td>
<td>Contractors are trained in pollutant control measures and provided awareness pamphlets. Number of pass/fail inspections. City does routine inspections of its contractors, control measures.</td>
<td>Public Works Director</td>
<td>Will continue program and update as needed</td>
</tr>
</tbody>
</table>
Section 6: Impaired Waters

The City will develop and implement Programs to address sources of pollutants within impaired water bodies that are subject to approved Total Maximum Daily Loads (TMDLs). The following Sections explain the BMPs to be implemented to meet this requirements and measures of success.

TMDL Identification

Section 303(d) of the federal Clean Water Act requires States to identify and establish a priority ranking for water bodies that do not meet applicable water quality standards (303(d) list), establish total maximum daily loads (TMDLs) for the pollutants causing impairment of these water bodies, and submit the list of impaired waters and TMDLs to the U.S. EPA. The TMDL process establishes the allowable loadings of pollutants or other quantifiable parameters for a water body based on the relationship between pollution sources and in-stream water quality conditions. The TMDL process is used by States to establish water quality based controls to reduce pollutants from point and nonpoint sources and restore and maintain the quality of the water resources in compliance with applicable standards. In addition to the 303(d) list, the federal Clean Water Act requires States to submit a report describing how well water bodies support designated uses (e.g., swimming, aquatic life support, water supply), as well as likely causes and potential sources of impairment (305(b) list). For this section, the North Carolina Assessment and Impaired Waters List (Integrated 305(b) and 303(d) Report) was used to identify the use support ratings of the water bodies in the City as well as those water bodies not meeting applicable water quality standards and requiring TMDL development.

The TMDL identified for this segment is bacteria.

Outfall Identification for Pollutants of Concern

The City maintains an existing outfall inventory system which is routinely updated. This inventory will be reviewed and a GIS coverage will be created showing existing outfalls within TMDL watershed with the potential to discharge pollutants of concern. In addition, stream walking efforts will be implemented to assess existing outfalls for potential discharges and to update outfall inventory where necessary. The City has developed a 5 year plan to assess all streams within its jurisdictional area to conduct inventory update and outfall assessment activities.

Monitoring Plan for Pollutants of Concern

The City will develop a monitoring plan for each pollutant of concern within each watershed with an approved TMDL within the City's jurisdiction. The purpose of the monitoring plan will be to guide activities for data collection and assessment of pollutants of concern as well as to evaluate the effectiveness of achieving the regulated waste load allocation (WLA) identified in the TMDL. In developing the monitoring plan, sample locations will be selected to assess water quality conditions within each TMDL watershed. Selection of sample locations may take into consideration upland land use, permitted dischargers, dry weather flows from the storm drainage system, and the possible effects
of converging tributaries. The monitoring plan will detail each sample location by written description, sample type, and frequency, as well as set forth a monitoring schedule for each pollutant of concern. The monitoring plan will also identify in-stream and/or major outfall locations deemed necessary to support assessment of activities in the Water Quality Recovery Program to address the MS4 NPDES regulated Waste Load Allocation (WLA) identified in the TMDL.

Assessment of Monitoring Data

Data collected for the Water Quality Recovery Program monitoring plan will be assessed on an annual basis to determine trends and program effectiveness. All collected data will be analyzed and compared to historical water quality data and relevant to the pollutant of concern. Data analysis reports summarizing the data will be prepared and submitted with the permit annual report.

Measurable Goals

Table 6 describes the various BMPs and the Measurable Goals for each BMP by permit term year.

BMP Summary Table

Table 6 provides information concerning the BMPs to be implemented to fulfill the Public Involvement and Participation Program requirements.
### TABLE 6 - IMPAIRED WATERS

<table>
<thead>
<tr>
<th>BMP</th>
<th>BMP DESCRIPTION</th>
<th>MEASURABLE GOALS</th>
<th>RESPONSIBLE PARTY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Public Works Director</td>
</tr>
</tbody>
</table>

6.1 Identify major outfalls with potential to discharge pollutants of concern

- Identify the locations of currently known MS4 major outfalls within watershed area of an approved TMDL with the potential of discharging the pollutant(s) of concern: to the impaired segments, to their tributaries, and to segments and tributaries within the watershed contributing to the impaired segments and develop a schedule to discover and locate other MS4 major outfalls within its jurisdictional area that may be discharging the pollutant(s) of concern: to the impaired stream segments, to their tributaries, and to segments and tributaries within the watershed contributing to the impaired segments.

- Working and Coordinating with San Antonio River Authority, San Antonio water System and City of San Antonio who have an abundance information and data.

- **YEAR 2** - Identify known major outfalls with potential to discharge pollutants of concern and develop a schedule to identify other outfall with the potential to discharge pollutants of concern.

- **YEAR 3** - Continue to update outfall inventory as additional outfalls with the potential to discharge pollutants of concern are discovered.

- **YEAR 4** - Continue to update outfall inventory as additional outfalls with the potential to discharge pollutants of concern are discovered.

- **YEAR 5** - Continue to update outfall inventory as additional outfalls with the potential to discharge pollutants of concern are discovered.
<table>
<thead>
<tr>
<th>6.2</th>
<th>Develop monitoring program for pollutants of concern</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Develop a monitoring program and plan for each pollutant of concern in the approved TMDL.</strong> The monitoring plan shall include the sample location by written description and latitude and longitude coordinates, sample type, frequency, any seasonal considerations, and a monitoring implementation schedule for each pollutant of concern. The monitoring plan shall include instream and/or major outfall monitoring at locations deemed necessary to support assessment of activities in the Water Quality Recovery Program to address the MS4 NPDES regulated Waste Load Allocation (WLA) identified in the TMDL.</td>
<td></td>
</tr>
<tr>
<td><strong>YEAR 2</strong> - Develop monitoring plans for pollutants of concern.</td>
<td></td>
</tr>
<tr>
<td><strong>YEAR 3</strong> - Complete monitoring activities specified in the plans</td>
<td></td>
</tr>
<tr>
<td><strong>YEAR 4</strong> - Update monitoring plans as necessary based on data review and assessment activities.</td>
<td></td>
</tr>
<tr>
<td><strong>YEAR 5</strong> - Update monitoring plans as necessary based on data review and assessment activities. Complete monitoring activities specified in the Plan.</td>
<td></td>
</tr>
<tr>
<td><strong>Public Works Director</strong></td>
<td></td>
</tr>
<tr>
<td>6.3</td>
<td>Assess Monitoring Data</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>YEAR 4</td>
<td>Assess monitoring data collected under the monitoring plan to determine effectiveness.</td>
</tr>
<tr>
<td>YEAR 5</td>
<td>Assess monitoring data collected under the monitoring plan to determine effectiveness</td>
</tr>
</tbody>
</table>
APPENDIX A

TCEQ Municipal General Permit
(Copy of permit will be electronically attached)
2016 Backflow Initiative

PURPOSE:
TCEQ's rules identify a *health hazard* as any substance, if introduced into the public water supply that may cause death, illness, or the spread of disease. A *non-health hazard* is any substance that constitutes a nuisance, or that would be aesthetically objectionable if introduced into the public water supply. An effective cross-connection-control program must include appropriate means to prevent backflow, often by installing mechanical backflow prevention assemblies.

At the TCEQ's CCC Subcommittee meeting on March 3, 2016, discussions were held between many of the members regarding TCEQ's classification of Landscape Irrigation Systems as non-health hazards and the lack of periodic testing. After a thorough discussion a motion was made and seconded and a vote was taken. Those in attendance overwhelmingly supported the reclassification of Landscape Irrigation Systems as health hazards requiring annual backflow testing. This reclassification will align the state of Texas and TCEQ with national standards and the approved plumbing codes used in Texas.

IMPLEMENTATION:

**PHASE 1:**
Beginning January 1, 2018 or sooner, all Landscape Irrigation Systems shall be recognized as a health hazard and the appropriate backflow assembly will be installed and tested upon installation and tested annually thereafter. [30 TAC 290.44(h)(4)]

**PHASE 2:**
Backflow-prevention assemblies are subject to failure over time. Periodic testing of installed backflow prevention assemblies ensures that they are maintained and operating properly. Licensed BPATs testing the assembly also certifies whether the backflow assembly's installation complies with manufacturer recommendations and local codes.

Therefore, all existing, gauge testable, Landscape Irrigation Systems Backflow Assemblies installed January 1, 2018 and earlier, that have not been tested in the three preceding years (January 1, 2015) are to be tested no later than August 31, 2021 and at least annually thereafter.

The testing sequence shall follow a schedule based on Postal Zip Codes of the Landscape Irrigation Systems Backflow Assemblies installation location. The results of the backflow test must be submitted by the last day of the month corresponding to the last number of the Postal Zip Codes 1 = January, 2 = February, 3 = March, 4 = April, 5 = May, 6 = June, 7 = July, 8 = August, 9 = September, 0 = October. Postal Zip Codes ending in 0, 1, and 2 must test in 2019. Postal Zip Codes ending in 3, 4, and 5 must test in 2020. Postal Zip Codes ending in 6, 7, 8, and 9 must test in 2021.

**PHASE 3:**
Any Landscape Irrigation System Backflow Assembly installed prior to January 1, 2018, not approved for protection for Health Hazards, may remain in service until such time as the assembly can no longer be repaired and pass a successful test. At such time, the assembly must be brought up to current standards and replaced with an assembly approved for the protection against Health Hazards.

CONCLUSION:
The TCEQ considers its rules to be minimum standards. If a PWS writes and adopts a plumbing ordinance, regulation, or service agreement that is more stringent than TCEQ rules and regulations, customers and contractors must follow the more stringent requirements. Similarly, if a
PWS supplies water in an area that has adopted more stringent requirements than TCEQ rules; the more stringent requirements must be followed.