

City of Round Rock

Storm Water Management Program

2019 – 2023



TXR040253



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Introduction

Overview

The City of Round Rock (City) storm water team in collaboration with staff from multiple City departments prepared this Storm Water Management Program (SWMP) which documents a comprehensive plan to manage the quality of the discharges from the Municipal Separate Storm Sewer System (MS4) and ultimately protect and improve water quality in our creeks and waterways.

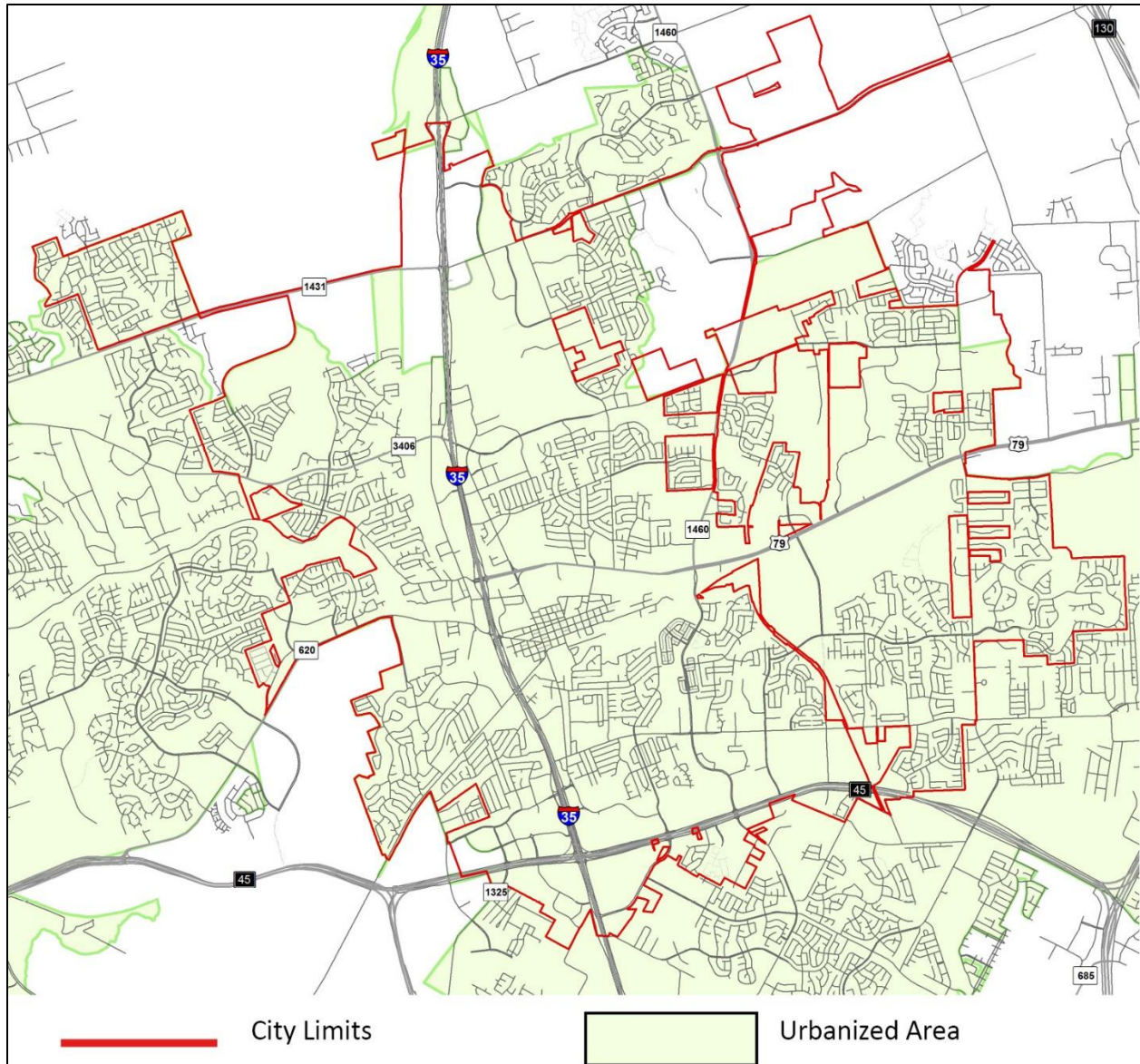
The City is required under the Texas Pollutant Discharge Elimination System (TPDES) to obtain permit coverage from the Texas Commission on Environmental Quality (TCEQ) for discharges from its MS4. The SWMP describes the five Minimum Control Measures (MCMs) and Best Management Practices (BMPs) that the City will implement over a five-year period. The City will enhance existing activities that are designed to protect the environment and water quality and supplement those activities with new BMPs. The BMPs were selected based on the requirements of the TCEQ general permit, a general assessment of their effectiveness, applicability to the City, and implementation cost.

The City's SWMP follows many of the recommendations in the U.S. Environmental Protection Agency's (EPA) MS4 Permit Improvement Guide especially where those recommendations align with community goals. Particularly, the Guide emphasizes a focused education program to help the public "gain a greater understanding of stormwater management...which is likely to gain more support for the SWMP and increased compliance" with the associated regulations. The City's SWMP emphasizes education and proactive BMPs to facilitate voluntary compliance and minimize the amount of enforcement required to meet goals.

The Guide further recommends that the "public education and outreach program be tailored and targeted to specific water quality issues of concern in the relevant community". The SWMP focuses on the 'Big 3' – bacteria, floatables, and fertilizers. These three areas of emphasis were chosen based on our unique community profile while considering our most sensitive areas, our current water quality opportunities and associated challenges.

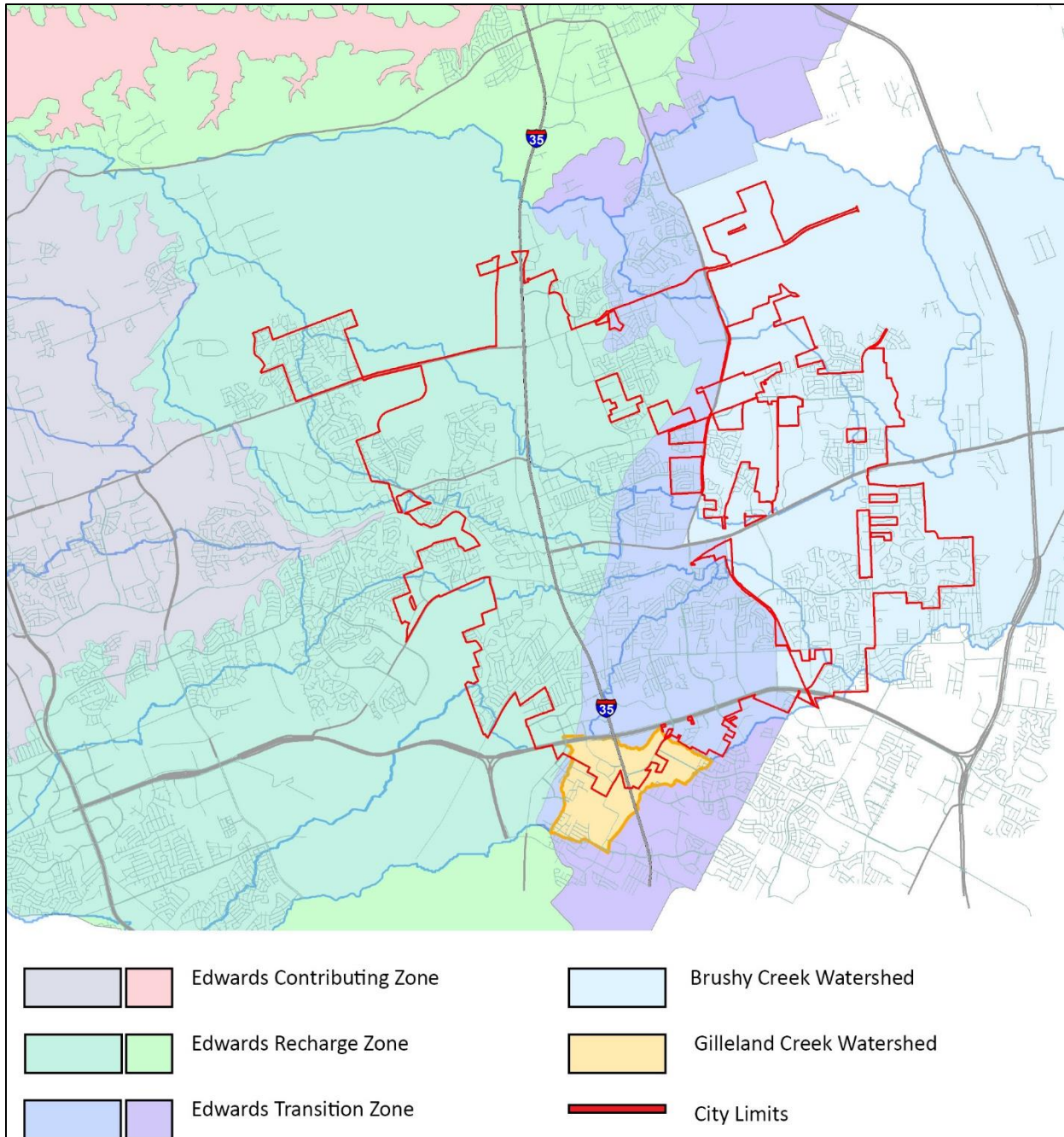
City Limits and 2010 Census Urbanized Area

The SWMP and associated Notice of Intent demonstrate the City's eligibility for small MS4 permit coverage per the TPDES General Permit TXR040000. With a 2010 census population of fewer than 100,000, the City is categorized as a Phase II Level 3 MS4 operator. The General Permit provides coverage for MS4 discharges.



City of Round Rock Watersheds and Edwards Aquifer

The City is located approximately 20 miles north of Austin primarily within Williamson County with just a small area in Travis County to the south along Interstate Highway 35. The overwhelming majority of the City (98%) drains to classified segments of Brushy Creek in the Brazos River Basin. The remainder of the City (2%) drains to Gilleland Creek which is in the Colorado River Basin.



Often referred to as the Central Texas hill country, the City straddles both sides of the Balcones Escarpment and the abutting Balcones Fault Zone. Areas east of the escarpment are generally characterized as having black, fertile soils of the Blackland Prairie; while areas west of the escarpment generally consist of hilly, karst-like terrain with little topsoil. The western portion of the City is over the Edwards Aquifer Recharge Zone (EARZ) which is composed of karstic groundwater reservoirs.

The EARZ is an environmentally sensitive area that is regulated by the TCEQ according to the Edwards Aquifer Rule (EAR). The Rule and its requirements are in addition to the requirements of the MS4 General Permit. In compliance with the Rule, the City files Water Pollution Abatement Plans (WPAPs) for TCEQ approval and implements those WPAPs as directed. The City installs and maintains permanent structural and non-structural BMPs to meet the Rule requirements for reduction of suspended solids. Additionally, the City selected targeted BMPs within the SWMP to ensure protection of both surface and subsurface waters.

Endangered Species

The City of Round Rock acknowledges the presence of the endangered species listed below both within the Brazos River Basin and Williamson County. Any discharges that would adversely affect the listed endangered species are not authorized by the MS4 Permit. If any adverse impact on these species is detected, the City of Round Rock will coordinate with TCEQ to take corrective action and make necessary modifications to the City’s MS4 Permit.

| Species | Waterbody and County Containing Species |
|--|--|
| Coffin Cave mold beetle (<i>Batrisodes texanus</i>) | Brazos River Basin Williamson County |
| Tooth Cave ground beetle (<i>Rhadine persephone</i>) | |
| Bone Cave harvestman (<i>Texella reyesi</i>) | |
| Bee Creek Cave harvestman (<i>Texella reddelli</i>) | |
| Navasota Ladies'-Tresses (<i>Spiranthes parksii</i>) | |

Legal Authority

The City regulates stormwater discharges from all development and redevelopment projects. To minimize erosion impacts and protect water quality, the City regulates the flow rate of smaller more frequent storms (2-year) and the discharge and in-stream velocities. For flood protection, the City requires projects to detain flows from larger storms (10 and 25-year) to pre-developed rates; regulations do allow for limited participation in a regional detention 'fee-in-lieu' program. Program participation requests must be supported by an engineering analysis that demonstrates and certifies to "no identifiable adverse impacts". Additionally, the City protects its most sensitive streams and watersheds by supporting the TCEQ in its implementation and enforcement of the Edwards Aquifer Rule which requires installation of permanent structural and non-structural BMPs on projects. During the permit term, the City will amend regulations as necessary for compliance with the updated permit.

TMDL and Impaired Waterways

Introduction

Section 303(d) of the federal Clean Water Act requires States to identify waters that do not meet, or are not expected to meet, applicable water quality standards. For Texas, the standards for water quality are defined in the Texas Water Quality Standards (Chapter 307 of the Texas Administrative Code). TCEQ publishes a list of impaired waterways every two years; the list identifies which stream segments are impaired and identifies the pollutant of concern (POC). TCEQ coordinates Total Maximum Daily Loads (TMDLs) for impaired surface waters. Approval of the TMDL is followed by the development of an Implementation Plan (I-Plan) that includes control measures to reduce the POC.

The 2013 Phase II MS4 General Permit requires targeted BMPs when an MS4 drains to an impaired waterway. For bacteria impairment, the permit gives specific direction regarding those BMPs. Specifically, page 19 of the permit requires that “where the impairment is for bacteria, the permittee shall identify potential significant sources and develop and implement focused BMP for those sources. The permittee may implement the BMPs listed in Part II.D.4 (a) (5) or proposed alternative BMPs as appropriate.” Like most Texas water bodies, the classified segments that the City discharges to are impaired for bacteria.

For convenience, a summary of those targeted BMPs is listed below along with a reference to the full BMP description in the SWMP.

Bacteria Impairment – Perspective

In 2000, Texas adopted new bacteria criteria in the Surface Water Quality Standards for primary contact recreation use based on criteria developed by the US EPA in 1986 using epidemiological studies at public swimming beaches in lakes and on the coast. These criteria were designed to be protective of the swimming use, as part of a national effort to make our waters “fishable and swimmable”.

According to the 2010 Water Quality Assessment, approximately 300 water bodies were identified by the TCEQ as failing to support primary contact recreation because of high bacteria levels; however, much of the data indicating impairment was collected during high-flows when swimming is not safe and many of the water bodies listed either do not or cannot support primary contact recreation. Consequently, there is little confidence that the list indicates actual water quality impairments in need of corrective action.

The Draft 2010 Texas Surface Water Quality Standards included a proposal to raise the *E. coli* geometric mean criteria from 126 colonies/100ml to 206 colonies/100ml for primary contact recreation. Although the EPA was willing to approve 206 colonies, ultimately the TCEQ choose to retain the geometric mean criteria at 126. If the criteria are revised in the future, there is a strong likelihood that Brushy Creek segments 1244_03 and 1244_04 would no longer be considered impaired and would be removed from the 303(d) list.

Brushy Creek – Bacteria Impairment

The overwhelming majority of the City (98%) drains to Segments 1244_03 and 1244_04 in Brushy Creek which are impaired for bacteria. TCEQ first identified the impairment for Brushy Creek in the *2006 Texas Water Quality Inventory and 303(d) List*. Data the TCEQ analyzed from the assessment period from 1999-2004 showed slightly higher concentrations of *E. coli* and fecal coliform bacteria. Since 2004, *E. coli* bacteria levels in Brushy Creek have remained relatively stable (under 206 colonies/100ml) despite the City's rapid urbanization.

Selected Bacteria Impairment BMPs

As required by the TPDES General Permit, the City has selected the following BMPs to specifically target bacteria loading reductions.

Sanitary Sewer Systems

Overflows from sanitary collection systems are infrequent, but when they occur, they can be a significant source of *E. coli* bacteria. Aging infrastructure in need of repair can also contribute to bacteria loadings. The City routinely inspects and repairs the sanitary sewer system in our most sensitive areas which are over the Edwards Aquifer. Other areas of the cities are inspected and repaired as necessary.

On-Site Sewage Facilities

On-Site Sewage Facilities (OSSFs) can be potential sources of *E. coli* bacteria. There are very few OSSFs within the City because population growth primarily began in the mid-1970s and new users are required to connect to the City's wastewater collection system. The Williamson County and Cities Health District (WCCHD) is the designated agent of the TCEQ overseeing OSSFs in our area. The City's role in monitoring these facilities is limited to enforcement of the Illicit Discharge ordinance. In the event the City receives a complaint or observes a problem with an OSSF, staff will coordinate with the WCCHD.

Illicit Discharges and Dumping

The public can be our greatest ally in preventing illicit discharges, including sanitary sewer overflows, which can contribute to increased *E. coli* bacteria levels in the City's waterways. Educating the public on the proper disposal of fats, oils, and grease can reduce the potential for overflows. Providing a financial incentive to businesses can assist in amending long held company policies.

Animal Sources

Animals can be potential sources of *E. coli* bacteria. From March through November of each year, the City is home to a population of Mexican free-tailed bats who reside under the TxDOT operated IH-35 bridge at McNeil Road. Other species native to the Round Rock area are feral hogs, ducks, opossums, raccoons, turtles, etc.

There are no zoos within the City and there is minimal agricultural activity. Household pets are present in numbers consistent with a primarily urban landscape. During the previous permit term, pet waste stations were installed throughout city parks.

Gilleland Creek – TMDL and I-Plan

Less than 2% of the City (the southernmost portion located in Travis County) drains to Gilleland Creek Segment 1428C. The TCEQ first identified the Gilleland Creek impairment for primary contact recreation use in the *2004 Texas Water Quality Inventory and 303(d) List*. Data the TCEQ analyzed from the assessment period of March 1, 1998 through February 28, 2003 showed high concentrations of *E. coli* and fecal coliform bacteria.

Since then, a TMDL and I-Plan were approved. Only point sources were allotted an individual waste load allocation (WLA) in the I-Plan; thus, the City is part of an aggregate WLA. The small drainage area in Round Rock that drains to the Gilleland watershed is above the headwaters. The City will utilize monitoring data from the LCRA for the SWMP annual reports. The City was and will contribute to be a participant in the I-Plan.

Selected TMDL BMPs

As required by the TPDES General Permit, the City has selected the following BMPs to specifically target bacteria loading reductions.

Sanitary Sewer Systems

Overflows from sanitary collection systems are infrequent, but when they occur, they can be a significant source of *E. coli* bacteria. Aging infrastructure in need of repair can also contribute to bacteria loadings. Although not a component of the I-Plan, the City will proactively inspect and make any necessary repairs to the sanitary sewer in the Gilleland watershed this permit term.

On-Site Sewage Facilities

On-Site Sewage Facilities (OSSFs) can be potential sources of *E. coli* bacteria. There are very few OSSFs within the City because population growth primarily began in the mid-1970s and new users are required to connect to the City's wastewater collection system. The Transportation and Natural Resources department of Travis County and the City of Austin are the designated agents of the TCEQ overseeing OSSFs in the Gilleland Creek Watershed. As part of the I-Plan, Travis County has held several workshops to educate owners on the proper maintenance and inspection of OSSFs. The City's role in monitoring these facilities is limited to enforcement of the illicit Discharge ordinance. In the event the City receives a complaint or observes a problem with an OSSF, staff will coordinate with Travis County.

Illicit Discharges and Dumping

The public can be our greatest ally in preventing illicit discharges, including sanitary sewer overflows, which can contribute to increased bacteria levels in the City's waterways. Educating the public on the proper disposal of fats, oils, and grease (FOG) can reduce the potential for overflows. Providing a financial incentive to businesses can assist in amending long held company policies.

Animal Sources

Animals can be potential sources of *E. coli* bacteria. From March through November of each year, the City is home to a population of Mexican free-tailed bats who reside under the TxDOT operated IH-35 bridge at McNeil Road. Other species native to the Round Rock area are feral hogs, ducks, opossums, raccoons, turtles, etc.

There are no zoos within the City and there is minimal agricultural activity. Household pets are present in numbers consistent with a primarily urban landscape. During the previous permit term, pet waste stations were installed throughout city parks. One of the components of the I-Plan targets pet waste education and reduction.

Annual Reporting and Adaptive Management

As outlined in 40 CFR 122.34(g)(3), the SWMP includes measurable goals which assist in evaluating progress toward achieving goals and the appropriateness of selected control measures. The City has selected the fiscal year (October 1 to September 30) option for annual reporting since staff are already assessing programs and preparing reports for other purposes. Each annual report will be due on December 29th.

Comprehensive reporting provides an opportunity to evaluate the program and BMP effectiveness which informs the adaptive management process. Adaptive management is an iterative process that helps reduce uncertainty in natural resource management by incorporating new information into flexible management plans. The basic foundation of the adaptive management concept is the *'learn by doing'* experimentation process that allows managers to learn more about the complex environmental systems they are charged to protect. Walters (1986) described an approach to the adaptive management process as beginning "with the central tenet that management involves a continual learning process that cannot conveniently be separated into functions like 'research' and 'ongoing regulatory activities', and probably never converges to a state of blissful equilibrium involving full knowledge and optimum productivity".

City staff will continue to adjust, refocus, modify, and replace control measures as necessary to ensure the program is effectively and efficiently moving toward the overall goal of protecting and improving water quality.

MCM #1

Public Education Outreach and Involvement

Introduction

The Phase II Regulations require MS4 permittees to develop programs to educate the public about the impact of stormwater discharges on local waterways and the steps that citizens, businesses, and other organizations can take to reduce the contamination of stormwater. As the public gains a greater understanding of the benefits of stormwater management, an MS4 is likely to gain more support for the SWMP and increased compliance with the applicable regulatory requirements as the public understands how their actions influences water quality. Education and awareness programs help change human behavior with respect to reducing the amount of pollution generated from stormwater sources within the MS4 system. In addition to education, encouraging public participation in local stormwater programs can lead to program improvement as well as enabling people to identify and report a pollution-causing activity, such as spotting an illicit discharge.

Summary

During the previous permit term, the City began educating the public about stormwater quality issues using a variety of methods such as brochures, website information, blogs, printed materials, and PSAs. During the new permit term, the City will continue outreach and involvement efforts by developing a comprehensive outreach campaign targeting our Big 3 – Bacteria, Floatables, and Fertilizer. Public employee and construction community education are addressed under Good Housekeeping and Construction and Post Construction BMPs, respectively.

Public Notice for SWMP Development

Primary Department: Stormwater

Supporting Department(s): Communications

The City will comply with public notice requirements when implementing the SWMP. These requirements will be met through local newspaper and the City's website.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|---|-----------------|
| 1 | Publish public notice as required upon notification from TCEQ (N/A if notice from TCEQ is not yet received). | Publish public notice on the City's website with copy of SWMP. Retain records of newspaper publication. | Sept 2023 |
| 2 | Publish public notice as required upon notification from TCEQ (N/A if notice from TCEQ is not yet received). | Publish public notice on the City's website with copy of SWMP. Retain records of newspaper publication. | Sept 2023 |
| 3 | Publish public notice as required upon notification from TCEQ (N/A if notice from TCEQ is not yet received). | Publish public notice on the City's website with copy of SWMP. Retain records of newspaper publication. | Sept 2023 |
| 4 | Publish public notice as required upon notification from TCEQ (N/A if notice from TCEQ is not yet received). | Publish public notice on the City's website with copy of SWMP. Retain records of newspaper publication. | Sept 2023 |
| 5 | Publish public notice as required upon notification from TCEQ (N/A if notice from TCEQ is not yet received). | Publish public notice on the City's website with copy of SWMP. Retain records of newspaper publication. | Sept 2023 |

Attitude Survey

Primary Department: Stormwater

Supporting Department(s): Communications

Surveys of how the public perceives stormwater management can foster better planning and management of programs. The results of these attitude surveys can enlighten both managers and the public on pollution sources, stormwater effects and control options. Public attitude surveys can also reveal issues important to stakeholders and provide data to program managers about appropriate steps to take and misconception to dispel.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|---|-----------------|
| 1 | Create attitude survey to assess the public's present knowledge on stormwater. | Create attitude survey within a year. | Sept 2019 |
| 2 | Conduct attitude survey to assess the public's present knowledge. | Distribute one attitude survey to the public. Keep record of results. | Sept 2020 |
| 3 | Review survey results and update or modify next survey as needed. | No goals for this year. Updating survey. | N/A |
| 4 | Conduct attitude survey to assess the public's present knowledge. | Distribute one attitude survey to the public. Keep record of results. | Sept 2022 |
| 5 | Review survey results and update or modify next survey as needed. | No goals for this year. Updating survey. | N/A |

Public Outreach and Education Campaign Development

Primary Department: Stormwater

Supporting Department(s): Communications

Determine high priority stormwater issues for the city's residents. Enhanced community awareness of the high priority issues will educate residents on reducing the more prevalent pollutants. This will also better direct the city's efforts in maintaining good water quality.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|--|-----------------|
| 1 | Create attitude survey based on the results of previous surveys. | No goals for this year. Creating survey. | N/A |
| 2 | Conduct attitude survey to assess the public's present knowledge. | Distribute one attitude survey to the public. Keep record of results. | Sept 2020 |
| 3 | Prioritize education topics based on survey results. Develop education campaign. | No goals for this year. Developing education campaign. | N/A |
| 4 | Implement educational campaign based on priority topics. Provide educational materials on city website. | Create educational materials for distribution and publish materials on city website within a year. | Sept 2022 |
| 5 | Continue educational campaign. | No goals for this year. Maintaining educational materials on city website. | N/A |

Pet Waste Education Campaign – Bacteria Impairment

Primary Department: Parks and Recreation

Supporting Department(s): Stormwater

Many of the city parks include waterways that drain into Brushy Creek. A public education campaign regarding pet waste will be developed and implemented to reduce any bacteria loading from pet waste. Additionally, pet waste stations will be provided at city parks to encourage proper pet waste disposal.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Encourage proper pet waste disposal by providing and maintaining pet waste stations in city parks. | Service 80% of pet waste stations on a weekly basis. | Sept 2019 |
| 2 | Encourage proper pet waste disposal by providing and maintaining pet waste stations in city parks. | Service 80% of pet waste stations on a weekly basis. | Sept 2020 |
| 3 | Encourage proper pet waste disposal by providing and maintaining pet waste stations in city parks. | Service 80% of pet waste stations on a weekly basis. | Sept 2021 |
| 4 | Encourage proper pet waste disposal by providing and maintaining pet waste stations in city parks. | Service 80% of pet waste stations on a weekly basis. | Sept 2022 |
| 5 | Encourage proper pet waste disposal by providing and maintaining pet waste stations in city parks. | Service 80% of pet waste stations on a weekly basis. | Sept 2023 |

Cease the Grease – Bacteria Impairment

Primary Department: Pretreatment

Supporting Department(s):

A Public Education Outreach and Involvement campaign will be developed and implemented to reduce any bacteria loading from sanitary overflows. Educating customers on the proper disposal of fats, oils, and grease can lead to behavioral changes and eliminate one of the greatest causes of sewer backups.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Educate businesses and restaurants that fail to comply with regulatory standards for grease levels in the wastewater they produce. | Distribute educational material to 100 percent of customers that incur a surcharge for grease in their wastewater. | Sept 2019 |
| 2 | Educate businesses and restaurants that fail to comply with regulatory standards for grease levels in the wastewater they produce. | Distribute educational material to 100 percent of customers that incur a surcharge for grease in their wastewater. | Sept 2020 |
| 3 | Educate businesses and restaurants that fail to comply with regulatory standards for grease levels in the wastewater they produce. | Distribute educational material to 100 percent of customers that incur a surcharge for grease in their wastewater. | Sept 2021 |
| 4 | Educate businesses and restaurants that fail to comply with regulatory standards for grease levels in the wastewater they produce. | Distribute educational material to 100 percent of customers that incur a surcharge for grease in their wastewater. | Sept 2022 |
| 5 | Educate businesses and restaurants that fail to comply with regulatory standards for grease levels in the wastewater they produce. | Distribute educational material to 100 percent of customers that incur a surcharge for grease in their wastewater. | Sept 2023 |

Event Participation

Primary Department: Stormwater

Supporting Department(s): Parks and Recreation, Community Development, Water Conservation, Solid Waste and Recycling Services

The City will continue to sponsor or co-sponsor special events such as Earth Day, Arbor Day, Neighborhood Clean Ups, HHW collection day and Park Clean Ups. These programs provide opportunities for various resident and business groups to volunteer and learn how to enhance and protect environmental resources. Stormwater will continue to provide supplemental materials as appropriate to make the connection between these events and water quality.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Sponsor or co-sponsor special events that encourage public education on environmental quality. | Sponsor or co-sponsor 1 event per quarter (4 events per year). | Sept 2019 |
| 2 | Sponsor or co-sponsor special events that encourage public education on environmental quality. | Sponsor or co-sponsor 1 event per quarter (4 events per year). | Sept 2020 |
| 3 | Sponsor or co-sponsor special events that encourage public education on environmental quality. | Sponsor or co-sponsor 1 event per quarter (4 events per year). | Sept 2021 |
| 4 | Sponsor or co-sponsor special events that encourage public education on environmental quality. | Sponsor or co-sponsor 1 event per quarter (4 events per year). | Sept 2022 |
| 5 | Sponsor or co-sponsor special events that encourage public education on environmental quality. | Sponsor or co-sponsor 1 event per quarter (4 events per year). | Sept 2023 |

Inlet Markers

Primary Department: Stormwater Operations

Supporting Department(s): Stormwater

The City installs inlet markers with “Drains to Creek” to promote citizen’s awareness of the storm drain system. Volunteers can also install inlet markers as service projects involving the community in stormwater activities.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|----------------------------|-----------------|
| 1 | Install inlet markers throughout the city and update GIS layer as appropriate. | Install 150 inlet markers. | Sept 2019 |
| 2 | Install inlet markers throughout the city and update GIS layer as appropriate. | Install 150 inlet markers. | Sept 2020 |
| 3 | Install inlet markers throughout the city and update GIS layer as appropriate. | Install 150 inlet markers. | Sept 2021 |
| 4 | Install inlet markers throughout the city and update GIS layer as appropriate. | Install 150 inlet markers. | Sept 2022 |
| 5 | Install inlet markers throughout the city and update GIS layer as appropriate. | Install 150 inlet markers. | Sept 2023 |

Household Hazardous Waste Collection

Primary Department: Solid Waste and Recycling Services

Supporting Department(s):

The City collects pesticides, herbicides, fertilizers, poisons, pool chemicals, cleaners, paint, polishes, varnishes, solvents, mercury, and automotive products in residential quantities from Round Rock residents. Collection events encourage proper disposal, keep materials from entering waterways, and get residents involved in water quality efforts.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|---|-----------------|
| 1 | Collect household hazardous waste from residents on designated dates. Post advertisements for these events. | Have an average of 300 residents participate in household hazardous waste events. | Sept 2019 |
| 2 | Collect household hazardous waste from residents on designated dates. Post advertisements for these events. | Have an average of 300 residents participate in household hazardous waste events. | Sept 2020 |
| 3 | Collect household hazardous waste from residents on designated dates. Post advertisements for these events. | Have an average of 300 residents participate in household hazardous waste events. | Sept 2021 |
| 4 | Collect household hazardous waste from residents on designated dates. Post advertisements for these events. | Have an average of 300 residents participate in household hazardous waste events. | Sept 2022 |
| 5 | Collect household hazardous waste from residents on designated dates. Post advertisements for these events. | Have an average of 300 residents participate in household hazardous waste events. | Sept 2023 |

Brush Recycling and Mulch Program

Primary Department: Forestry

Supporting Department(s): Parks and Recreation

Brushy recycling program encourages the proper disposal of tree and shrubbery waste keeping the materials from entering the waterways. The brush is then recycled into mulch which is provided to residents for landscaping areas which reduces erosion and increases infiltration.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Provide opportunities for resident to recycle their brush. Advertise collection dates and information on city website. | Have 1,500 participants in the curbside brush recycling program. | Sept 2019 |
| 2 | Provide opportunities for resident to recycle their brush. Advertise collection dates and information on city website. | Have 1,500 participants in the curbside brush recycling program. | Sept 2020 |
| 3 | Provide opportunities for resident to recycle their brush. Advertise collection dates and information on city website. | Have 1,500 participants in the curbside brush recycling program. | Sept 2021 |
| 4 | Provide opportunities for resident to recycle their brush. Advertise collection dates and information on city website. | Have 1,500 participants in the curbside brush recycling program. | Sept 2022 |
| 5 | Provide opportunities for resident to recycle their brush. Advertise collection dates and information on city website. | Have 1,500 participants in the curbside brush recycling program. | Sept 2023 |

MCM #2

Illicit Discharge, Detection, and Elimination

Introduction

Phase II stormwater management programs are required to address illicit discharges into the MS4 system. An illicit discharge is defined as any discharge to a municipal separate storm sewer system that is not composed entirely of stormwater, except allowable discharges pursuant to the TPDES general permit. In addition to requiring permittee to have the legal authority to prohibit non-stormwater and discharges from entering storm drains, MS4 permits must also require the development of an Illicit Discharge Detection Elimination (IDDE) program.

In order to trace the origin of a suspected illicit discharge or connection, the permittee must have an updated map of the storm drain system and a formal plan of how to locate illicit discharges and how to respond to them once they are located or reported. The permittee must provide a mechanism for public reporting of illicit discharges and spills. Proper investigation and enforcement procedures must be in place to eliminate the sources of the discharges as well. In order for the permittee to adequately detect and eliminate sources of illicit discharges, field staff must be properly trained to recognize and report the discharges to the appropriate parties.

OSSF

On-Site Sewage Facilities (OSSFs) can be potential sources of *E. coli* bacteria. There are very few OSSFs within the City because population growth primarily began in the mid-1970s and new users are required to connect to the City's wastewater collection system. The Williamson County and Cities Health District (WCCHD) is the designated agent of the TCEQ overseeing OSSFs in our area. The City's role in monitoring these facilities is limited to enforcement of the Illicit Discharge ordinance. In the event the City receives a complaint or observes a problem with an OSSF, staff will coordinate with the WCCHD.

Summary

During the previous permit term, the City adopted an Illicit Discharge ordinance, set up a reporting hotline, and began training employees and responding to complaints. During this permit term, the City will document and revise, as necessary, the processes and procedures for illicit discharges including investigation and enforcement, implement the follow-up investigation for illicit discharges, and continue training employees.

Illicit Discharge Ordinance Review

Primary Department: Stormwater

Supporting Department(s):

The City has adopted an illicit discharge ordinance in order to be in compliance with the TCEQ's MS4 General Permit and to protect local water quality.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Enforce illicit discharge ordinance. | No goals for this year. | N/A |
| 2 | Review and update illicit discharge ordinance and make amendments when applicable. | Review 100% of the existing ordinance to ensure compliance with TCEQ requirements. | Sept 2020 |
| 3 | Enforce illicit discharge ordinance. | No goals for this year. | N/A |
| 4 | Review and update illicit discharge ordinance and make amendments when applicable. | Review 100% of the existing ordinance to ensure compliance with TCEQ requirements. | Sept 2022 |
| 5 | Enforce illicit discharge ordinance. | No goals for this year. | N/A |

IDDE Procedures

Primary Department: Stormwater

Supporting Department(s):

The City will document and revise as necessary its procedures for responding to illicit discharges and spills.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|---|-----------------|
| 1 | Implement documented procedures for illicit discharges and spills. | No goals for this year. | N/A |
| 2 | Implement documented procedures for illicit discharges and spills. | No goals for this year. | N/A |
| 3 | Implement documented procedures for illicit discharges and spills. | No goals for this year. | N/A |
| 4 | Implement documented procedures for illicit discharges and spills. | No goals for this year. | N/A |
| 5 | Review and update documented procedures for illicit discharges and spills. | Review 100% of documented illicit discharge and spill procedures. | Sept 2023 |

IDDE – Reporting Hotline

Primary Department: Stormwater

Supporting Department(s):

Continue refinement and enhancement of IDDE procedures including: citizen complaint hotline, investigation, and resolution.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Document resolutions when receiving complaints/reports from the citizen hotline. | Resolve 80 percent of the hotline complaints/reports received. | Sept 2019 |
| 2 | Document resolutions when receiving complaints/reports from the citizen hotline. | Resolve 80 percent of the hotline complaints/reports received. | Sept 2020 |
| 3 | Document resolutions when receiving complaints/reports from the citizen hotline. | Resolve 80 percent of the hotline complaints/reports received. | Sept 2021 |
| 4 | Document resolutions when receiving complaints/reports from the citizen hotline. | Resolve 80 percent of the hotline complaints/reports received. | Sept 2022 |
| 5 | Document resolutions when receiving complaints/reports from the citizen hotline. | Resolve 80 percent of the hotline complaints/reports received. | Sept 2023 |

IDDE – Staff Training

Primary Department: Stormwater

Supporting Department(s): Water/Wastewater Line Maintenance, Stormwater Operations, Parks and Recreation, General Services

Ensure operations and maintenance staff is trained on recognizing and reporting illicit discharges.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Update employee training modules for illicit discharge detection and spill response procedures. | No goals for this year. Updating training materials. | N/A |
| 2 | Train operations and maintenance employees on illicit discharge detection and spill response procedures. | Host 2 training sessions for operations and maintenance employees. | Sept 2020 |
| 3 | Update employee training modules for illicit discharge detection and spill response procedures. | No goals for this year. Updating training materials. | N/A |
| 4 | Train operations and maintenance employees on illicit discharge detection and spill response procedures. | Host 2 training sessions for operations and maintenance employees. | Sept 2022 |
| 5 | Update employee training modules for illicit discharge detection and spill response procedures. | No goals for this year. Updating training materials. | N/A |

MS4 Mapping

Primary Department: Stormwater

Supporting Department(s):

The City has developed and maintains a map of the storm drainage system including the location of all outfalls and surface waters that receive discharges from the outfalls.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|---|-----------------|
| 1 | Update the City's storm drain map with new, altered, and newly discovered storm drain features. | Update 100% of any new, altered, or newly discovered storm drain features on the MS4 map. | Sept 2019 |
| 2 | Update the City's storm drain map with new, altered, and newly discovered storm drain features. | Update 100% of any new, altered, or newly discovered storm drain features on the MS4 map. | Sept 2020 |
| 3 | Update the City's storm drain map with new, altered, and newly discovered storm drain features. | Update 100% of any new, altered, or newly discovered storm drain features on the MS4 map. | Sept 2021 |
| 4 | Update the City's storm drain map with new, altered, and newly discovered storm drain features. | Update 100% of any new, altered, or newly discovered storm drain features on the MS4 map. | Sept 2022 |
| 5 | Update the City's storm drain map with new, altered, and newly discovered storm drain features. | Update 100% of any new, altered, or newly discovered storm drain features on the MS4 map. | Sept 2023 |

Gilleland Sewer Leak Detection - TMDL

Primary Department: Inflow and Infiltration

Supporting Department(s): Wastewater Line Maintenance

Identify and eliminate any sanitary sewer leaks within the Gilleland Creek drainage basin to reduce the potential for *E.coli* bacteria discharge.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|---|-----------------|
| 1 | Identify and eliminate sanitary sewer leaks in wastewater lines within Gilleland Creek drainage basin. | Inspect wastewater lines and repair leaks as identified for 100 percent of the lines in the Gilleland Creek drainage basin. | Sept 2019 |
| 2 | Wastewater lines within the Gilleland Creek drainage basin are not within inspection rotation. | No goals this year. Wastewater lines not in rotation. | N/A |
| 3 | Identify and eliminate sanitary sewer leaks in wastewater lines within Gilleland Creek drainage basin. | Inspect wastewater lines and repair leaks as identified for 100 percent of the lines in the Gilleland Creek drainage basin. | Sept 2021 |
| 4 | Wastewater lines within the Gilleland Creek drainage basin are not | No goals this year. Wastewater lines not in rotation. | N/A |
| 5 | Identify and eliminate sanitary sewer leaks in wastewater lines within Gilleland Creek drainage basin. | Inspect wastewater lines and repair leaks as identified for 100 percent of the lines in the Gilleland Creek drainage basin. | Sept 2023 |

Edwards Aquifer Recharge Zone Leak Detection

Primary Department: Inflow and Infiltration

Supporting Department(s): Wastewater Line Maintenance

Identify and eliminate any sanitary sewer leaks within the most sensitive areas (EARZ) to reduce the potential for bacteria discharge. Sanitary sewer lines within the EARZ will be evaluated every 5 years.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Identify and eliminate sanitary sewer leaks in wastewater lines within the EARZ. | Inspect wastewater lines and repair leaks as identified for 20 percent of the lines in the EARZ. | Sept 2019 |
| 2 | Identify and eliminate sanitary sewer leaks in wastewater lines within the EARZ. | Inspect wastewater lines and repair leaks as identified for 20 percent of the lines in the EARZ. | Sept 2020 |
| 3 | Identify and eliminate sanitary sewer leaks in wastewater lines within the EARZ. | Inspect wastewater lines and repair leaks as identified for 20 percent of the lines in the EARZ. | Sept 2021 |
| 4 | Identify and eliminate sanitary sewer leaks in wastewater lines within the EARZ. | Inspect wastewater lines and repair leaks as identified for 20 percent of the lines in the EARZ. | Sept 2022 |
| 5 | Identify and eliminate sanitary sewer leaks in wastewater lines within the EARZ. | Inspect wastewater lines and repair leaks as identified for 20 percent of the lines in the EARZ. | Sept 2023 |

Grease Surcharge Program – TMDL/Bacteria Impairment

Primary Department: Pretreatment

Supporting Department(s):

Continue inspections, education, monitoring and enforcement targeted at reducing the level of fats, oils, and grease that enter the City's sanitary sewer system to minimize *E.coli* bacteria levels in area waterways from sanitary overflows. The City monitors all non-residential user's wastewater discharges. Users whose wastewater exceeds standards receive a surcharge. Educational material is available from the City on how to reduce these levels and reduce their fee. This program provides a financial incentive to use best practices to prevent overflows.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|---|-----------------|
| 1 | Monitor wastewater discharge from businesses and distribute educational material to businesses that incur a surcharge from illicit discharges. | Monitor 100 percent of customer facilities for their discharged wastewater. | Sept 2019 |
| 2 | Monitor wastewater discharge from businesses and distribute educational material to businesses that incur a surcharge from illicit discharges. | Monitor 100 percent of customer facilities for their discharged wastewater. | Sept 2020 |
| 3 | Monitor wastewater discharge from businesses and distribute educational material to businesses that incur a surcharge from illicit discharges. | Monitor 100 percent of customer facilities for their discharged wastewater. | Sept 2021 |
| 4 | Monitor wastewater discharge from businesses and distribute educational material to businesses that incur a surcharge from illicit discharges. | Monitor 100 percent of customer facilities for their discharged wastewater. | Sept 2022 |
| 5 | Monitor wastewater discharge from businesses and distribute educational material to businesses that incur a surcharge from illicit discharges. | Monitor 100 percent of customer facilities for their discharged wastewater. | Sept 2023 |

Household Hazardous Waste Collection

Primary Department: Solid Waste and Recycling Services

Supporting Department(s):

The City collects pesticides, herbicides, fertilizers, poisons, pool chemicals, cleaners, paint, polishes, varnishes, solvents, mercury, and automotive products in residential quantities from Round Rock residents providing proper disposal opportunities for residents.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|--|-----------------|
| 1 | Collect household hazardous waste from residents on designated dates. | Recycle 70 percent of collected materials at Household Hazardous Waste events. | Sept 2019 |
| 2 | Collect household hazardous waste from residents on designated dates. | Recycle 70 percent of collected materials at Household Hazardous Waste events. | Sept 2020 |
| 3 | Collect household hazardous waste from residents on designated dates. | Recycle 70 percent of collected materials at Household Hazardous Waste events. | Sept 2021 |
| 4 | Collect household hazardous waste from residents on designated dates. | Recycle 70 percent of collected materials at Household Hazardous Waste events. | Sept 2022 |
| 5 | Collect household hazardous waste from residents on designated dates. | Recycle 70 percent of collected materials at Household Hazardous Waste events. | Sept 2023 |

Brushy Recycling and Mulch Program

Primary Department: Forestry

Supporting Department(s): Parks and Recreation

Brushy recycling program encourages the proper disposal of tree and shrubbery waste keeping the materials from entering the waterways. The brush is then recycled into mulch which is provided to residents for landscaping areas which reduces erosion and increases infiltration.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|---|-----------------|
| 1 | Provide opportunities for residents to recycle their brush and shrub waste with the City. | Recycle 90 percent of brush collected from residents. | Sept 2019 |
| 2 | Provide opportunities for residents to recycle their brush and shrub waste with the City. | Recycle 90 percent of brush collected from residents. | Sept 2020 |
| 3 | Provide opportunities for residents to recycle their brush and shrub waste with the City. | Recycle 90 percent of brush collected from residents. | Sept 2021 |
| 4 | Provide opportunities for residents to recycle their brush and shrub waste with the City. | Recycle 90 percent of brush collected from residents. | Sept 2022 |
| 5 | Provide opportunities for residents to recycle their brush and shrub waste with the City. | Recycle 90 percent of brush collected from residents. | Sept 2023 |

Oil Recycling Stations

Primary Department: Solid Waste and Recycling Services

Supporting Department(s):

The City collects used oil from Round Rock residents at several locations throughout the City providing proper disposal opportunities for residents.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|--|-----------------|
| 1 | Provide multiple locations for residents to properly dispose of their used oil to be collected by the City. | Recycle 90 percent of used oil collected from residents. | Sept 2019 |
| 2 | Provide multiple locations for residents to properly dispose of their used oil to be collected by the City. | Recycle 90 percent of used oil collected from residents. | Sept 2020 |
| 3 | Provide multiple locations for residents to properly dispose of their used oil to be collected by the City. | Recycle 90 percent of used oil collected from residents. | Sept 2021 |
| 4 | Provide multiple locations for residents to properly dispose of their used oil to be collected by the City. | Recycle 90 percent of used oil collected from residents. | Sept 2022 |
| 5 | Provide multiple locations for residents to properly dispose of their used oil to be collected by the City. | Recycle 90 percent of used oil collected from residents. | Sept 2023 |

Recycling

Primary Department: Solid Waste and Recycling Services

Supporting Department(s):

The City operates a drop off recycling center and offers curbside recycling providing proper disposal opportunities for residents.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|---|-----------------|
| 1 | Provide opportunities for residents to drop off or dispose of their recyclable materials to be recycled by the City. | Recycle 90 percent of collected material from residents. Including paper, metal, and plastic. | Sept 2019 |
| 2 | Provide opportunities for residents to drop off or dispose of their recyclable materials to be recycled by the City. | Recycle 90 percent of collected material from residents. Including paper, metal, and plastic. | Sept 2020 |
| 3 | Provide opportunities for residents to drop off or dispose of their recyclable materials to be recycled by the City. | Recycle 90 percent of collected material from residents. Including paper, metal, and plastic. | Sept 2021 |
| 4 | Provide opportunities for residents to drop off or dispose of their recyclable materials to be recycled by the City. | Recycle 90 percent of collected material from residents. Including paper, metal, and plastic. | Sept 2022 |
| 5 | Provide opportunities for residents to drop off or dispose of their recyclable materials to be recycled by the City. | Recycle 90 percent of collected material from residents. Including paper, metal, and plastic. | Sept 2023 |

Dry Weather Field Screening

Primary Department: Stormwater

Supporting Department(s):

The City monitors both Brushy Creek and Lake Creek at six predetermined sites. The parameters are pH, temperature, conductivity, dissolved oxygen, and *E. Coli* levels. These data points are collected on a monthly basis. This provides data on the overall health of the creeks and waterways in Round Rock. Additionally, the multiple site locations allow the City to detect any ongoing illicit discharges into the MS4.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Develop a creek monitoring program to collect data on the general health of the City's waterways. | No goals for this year. Planning stage of creek monitoring program. | N/A |
| 2 | Develop a creek monitoring program to collect data on the general health of the City's waterways. | Implement creek monitoring program and begin collecting data by the end of the year. | Sept 2020 |
| 3 | Monitor Brushy Creek and Lake Creek for pH, temperature, dissolved oxygen, specific conductivity, and bacteria levels. | Record one data point per month for each of the parameters being tested. | Sept 2021 |
| 4 | Monitor Brushy Creek and Lake Creek for pH, temperature, dissolved oxygen, specific conductivity, and bacteria levels. | Record one data point per month for each of the parameters being tested. | Sept 2022 |
| 5 | Monitor Brushy Creek and Lake Creek for pH, temperature, dissolved oxygen, specific conductivity, and bacteria levels. | Record one data point per month for each of the parameters being tested. | Sept 2023 |

MCM #3

Construction Site Stormwater Runoff Control

Introduction

MS4 permittees must ensure that construction site operators select and implement appropriate erosion and sediment control measures to reduce or eliminate the impacts to receiving waters. The permit can require that permittees develop their own standards and specifications, but often it is preferable to require the permittees to utilize existing guidance that is approved by the permitting authority.

The permittee must establish review procedures for construction site plans to determine potential water quality impacts and ensure the proposed controls are adequate. These procedures must include the review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. In addition, the permit must include requirements for inspection and enforcement of erosion and sediment control measures once construction begins. Educational materials for construction site operators can be useful in achieving cooperative compliance and minimize the necessity for enforcement actions.

Summary

During the previous permit term, the City amended its Temporary Erosion Control Standard Construction Details, adopted an Illicit Discharge Ordinance, updated plan review and inspection procedures, trained inspectors, and developed educational material for site operators. During this permit term, previous program elements will be continued and enhanced, an inventory will be established, and procedures documented and revised as necessary.

Construction Site Compliant Hotline

Primary Department: Stormwater

Supporting Department(s): Development Services

City will continue the citizen complaint hotline for construction sites. City will continue to investigate complaints, record findings and any follow up actions.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|--|-----------------|
| 1 | Provide opportunities for residents to report illicit discharges/activities at construction sites. Investigate complaints as they are received. | Resolve 80 percent of construction site complaints received. | Sept 2019 |
| 2 | Provide opportunities for residents to report illicit discharges/activities at construction sites. Investigate complaints as they are received. | Resolve 80 percent of construction site complaints received. | Sept 2020 |
| 3 | Provide opportunities for residents to report illicit discharges/activities at construction sites. Investigate complaints as they are received. | Resolve 80 percent of construction site complaints received. | Sept 2021 |
| 4 | Provide opportunities for residents to report illicit discharges/activities at construction sites. Investigate complaints as they are received. | Resolve 80 percent of construction site complaints received. | Sept 2022 |
| 5 | Provide opportunities for residents to report illicit discharges/activities at construction sites. Investigate complaints as they are received. | Resolve 80 percent of construction site complaints received. | Sept 2023 |

Plan Review and Site Inventory – Development

Primary Department: Development Services

Supporting Department(s):

Review development and redevelopment projects to ensure designs are compliant with CGP, the EAR, and City ordinances. Maintain inventory of all active projects within the City limits.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|---|-----------------|
| 1 | Ensure CGP and EAR compliance and document inventory for all development and redevelopment projects. | Review and document site inventory for 100 percent of development and redevelopment projects. | Sept 2019 |
| 2 | Ensure CGP and EAR compliance and document inventory for all development and redevelopment projects. | Review and document site inventory for 100 percent of development and redevelopment projects. | Sept 2020 |
| 3 | Ensure CGP and EAR compliance and document inventory for all development and redevelopment projects. | Review and document site inventory for 100 percent of development and redevelopment projects. | Sept 2021 |
| 4 | Ensure CGP and EAR compliance and document inventory for all development and redevelopment projects. | Review and document site inventory for 100 percent of development and redevelopment projects. | Sept 2022 |
| 5 | Ensure CGP and EAR compliance and document inventory for all development and redevelopment projects. | Review and document site inventory for 100 percent of development and redevelopment projects. | Sept 2023 |

Construction Site Inspection – Development

Primary Department: Development Services

Supporting Department(s):

Inspect construction site BMPs for compliance with CGP and City ordinances, report findings to site operator and verify recommendations are implemented to minimize release of pollutants to the MS4. Document all project inspections and compliance activities.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|--|-----------------|
| 1 | Inspect site BMPs and report inspection activities. Ensure compliance with CGP and city ordinances. | Inspect 100 percent of construction sites with construction general permits. | Sept 2019 |
| 2 | Inspect site BMPs and report inspection activities. Ensure compliance with CGP and city ordinances. | Inspect 100 percent of construction sites with construction general permits. | Sept 2020 |
| 3 | Inspect site BMPs and report inspection activities. Ensure compliance with CGP and city ordinances. | Inspect 100 percent of construction sites with construction general permits. | Sept 2021 |
| 4 | Inspect site BMPs and report inspection activities. Ensure compliance with CGP and city ordinances. | Inspect 100 percent of construction sites with construction general permits. | Sept 2022 |
| 5 | Inspect site BMPs and report inspection activities. Ensure compliance with CGP and city ordinances. | Inspect 100 percent of construction sites with construction general permits. | Sept 2023 |

Staff Training – Development

Primary Department: Development Services

Supporting Department(s): Stormwater

Ensure staff is trained regularly on the CGP, City ordinances, and associated procedures required for construction sites to minimize release of pollutants to the MS4.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|---|-----------------|
| 1 | Organize training sessions with city staff to educate on requirements and BMPs for the CGP and city ordinances. | Host 1 training session for city project managers. | Sept 2019 |
| 2 | Update employee training modules on requirements and BMPs for the CGP and city ordinances. | No goals for this year. Updating training material. | N/A |
| 3 | Organize training sessions with city staff to educate on requirements and BMPs for the CGP and city ordinances. | Host 1 training session for city project managers. | Sept 2021 |
| 4 | Update employee training modules on requirements and BMPs for the CGP and city ordinances. | No goals for this year. Updating training material. | N/A |
| 5 | Organize training sessions with city staff to educate on requirements and BMPs for the CGP and city ordinances. | Host 1 training session for city project managers. | Sept 2023 |

Plan Review and Site Inventory – Capital Improvement Program

Primary Departments: Utilities and Environmental Services, Transportation, Parks and Recreation, General Services

Supporting Department(s):

Review CIP projects to ensure designs are compliant with the CGP, the EAR, and City ordinance. Maintain CIP inventory of all active projects within the City limits.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|---|-----------------|
| 1 | Ensure CGP and EAR compliance and document inventory for all CIP projects. | Review and document site inventory for 100 percent of CIP projects. | Sept 2019 |
| 2 | Ensure CGP and EAR compliance and document inventory for all CIP projects. | Review and document site inventory for 100 percent of CIP projects. | Sept 2020 |
| 3 | Ensure CGP and EAR compliance and document inventory for all CIP projects. | Review and document site inventory for 100 percent of CIP projects. | Sept 2021 |
| 4 | Ensure CGP and EAR compliance and document inventory for all CIP projects. | Review and document site inventory for 100 percent of CIP projects. | Sept 2022 |
| 5 | Ensure CGP and EAR compliance and document inventory for all CIP projects. | Review and document site inventory for 100 percent of CIP projects. | Sept 2023 |

Construction Site Inspection – Capital Improvement Program

Primary Departments: Utilities and Environmental Services, Transportation, Parks and Recreation, General Services

Supporting Department(s):

Inspect construction site BMPs for compliance with the CGP and City ordinances, report findings to site operator and verify recommendations are implemented to minimize release of pollutants to the MS4. Document all project inspections and compliance activities.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|---|-----------------|
| 1 | Inspect site BMPs and report inspection activities. Ensure compliance with CGP and city ordinances. | Inspect 100 percent of construction sites for CIP projects. | Sept 2019 |
| 2 | Inspect site BMPs and report inspection activities. Ensure compliance with CGP and city ordinances. | Inspect 100 percent of construction sites for CIP projects. | Sept 2020 |
| 3 | Inspect site BMPs and report inspection activities. Ensure compliance with CGP and city ordinances. | Inspect 100 percent of construction sites for CIP projects. | Sept 2021 |
| 4 | Inspect site BMPs and report inspection activities. Ensure compliance with CGP and city ordinances. | Inspect 100 percent of construction sites for CIP projects. | Sept 2022 |
| 5 | Inspect site BMPs and report inspection activities. Ensure compliance with CGP and city ordinances. | Inspect 100 percent of construction sites for CIP projects. | Sept 2023 |

Staff Training – CIP Staff

Primary Departments: Utilities and Environmental Services, Transportation, Parks and Recreation, General Services

Supporting Department(s): Stormwater

Ensure CIP staff is trained regularly on the CGP, City ordinances, and associated procedures required for construction sites to minimize release of pollutants to the MS4.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|---|-----------------|
| 1 | Organize training sessions with city staff to educate on requirements and BMPs for the CGP and city ordinances. | Host 1 training session for city project managers. | Sept 2019 |
| 2 | Update employee training modules on requirements and BMPs for the CGP and city ordinances. | No goals for this year. Updating training material. | N/A |
| 3 | Organize training sessions with city staff to educate on requirements and BMPs for the CGP and city ordinances. | Host 1 training session for city project managers. | Sept 2021 |
| 4 | Update employee training modules on requirements and BMPs for the CGP and city ordinances. | No goals for this year. Updating training material. | N/A |
| 5 | Organize training sessions with city staff to educate on requirements and BMPs for the CGP and city ordinances. | Host 1 training session for city project managers. | Sept 2023 |

MCM #4

Post Construction Stormwater Management in New and Redevelopment

Introduction

Permittees are required to address new development and significant redevelopment in their SWMPs through controls to reduce pollutants in stormwater discharges after construction is completed.

The Phase II regulations require regulated small MS4 operators to develop, implement, and enforce a program to address stormwater discharges from new development and redevelopment sites that disturb greater than or equal to one acre to the MS4 (including projects that disturb less than one acre that are part of a larger common plan of development or sale). The regulations also require that the MS4 ensure that control measures are installed and implemented that prevent or minimize water quality impacts.

As part of these Phase II requirements, the MS4 must:

- Develop and implement approaches to addressing post-construction stormwater discharges that include a combination of structural and/or non-structural controls;
- Adopt adequate legal authority to enable the MS4 to address post-construction stormwater discharges from new development and redeveloped sites; and
- Ensure adequate long-term operation and maintenance of applicable post-construction control measures.

Summary

During the previous permit term, the City adopted an Illicit Discharge Ordinance, updated plan review and inspection procedures, trained inspectors, responded to complaints, and assisted the TCEQ with permanent BMP compliance issues. During this permit term, previous program elements will be continued and enhanced, and procedures documented and revised as necessary.

Permanent BMPs Plan Review - CIP

Primary Department: Utilities and Environmental Services, Transportation, Parks and Recreation, General Services

Supporting Department(s): Stormwater

Review CIP projects to ensure designs are compliant with City ordinances and policies as updated for the MS4 General Permit.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|---|-----------------|
| 1 | Review CIP projects to ensure compliance with MS4 permit and city ordinances. | Review plans for 100 percent of CIP projects. | Sept 2019 |
| 2 | Review CIP projects to ensure compliance with MS4 permit and city ordinances. | Review plans for 100 percent of CIP projects. | Sept 2020 |
| 3 | Review CIP projects to ensure compliance with MS4 permit and city ordinances. | Review plans for 100 percent of CIP projects. | Sept 2021 |
| 4 | Review CIP projects to ensure compliance with MS4 permit and city ordinances. | Review plans for 100 percent of CIP projects. | Sept 2022 |
| 5 | Review CIP projects to ensure compliance with MS4 permit and city ordinances. | Review plans for 100 percent of CIP projects. | Sept 2023 |

Permanent BMPs Plan Review – Development and Redevelopment

Primary Department: Development Services

Supporting Department(s): Stormwater

Review projects to ensure designs are compliant with City ordinances and policies as updated for the current MS4 General Permit.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|---|-----------------|
| 1 | Review development and redevelopment projects to ensure compliance with MS4 permit and city ordinances. | Review plans for 100 percent of development and redevelopment projects. | Sept 2019 |
| 2 | Review development and redevelopment projects to ensure compliance with MS4 permit and city ordinances. | Review plans for 100 percent of development and redevelopment projects. | Sept 2020 |
| 3 | Review development and redevelopment projects to ensure compliance with MS4 permit and city ordinances. | Review plans for 100 percent of development and redevelopment projects. | Sept 2021 |
| 4 | Review development and redevelopment projects to ensure compliance with MS4 permit and city ordinances. | Review plans for 100 percent of development and redevelopment projects. | Sept 2022 |
| 5 | Review development and redevelopment projects to ensure compliance with MS4 permit and city ordinances. | Review plans for 100 percent of development and redevelopment projects. | Sept 2023 |

Post Construction Site Inspection

Primary Department: Development Services

Supporting Department(s): Stormwater

Inspect permanent BMPs for compliance with plans, City ordinances, and practices. Document all project inspections and compliance activities.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Inspect permanent BMPs to ensure compliance with MS4 permit and city ordinances. | Inspect 100 percent of permanent BMPs. | Sept 2019 |
| 2 | Inspect permanent BMPs to ensure compliance with MS4 permit and city ordinances. | Inspect 100 percent of permanent BMPs. | Sept 2020 |
| 3 | Inspect permanent BMPs to ensure compliance with MS4 permit and city ordinances. | Inspect 100 percent of permanent BMPs. | Sept 2021 |
| 4 | Inspect permanent BMPs to ensure compliance with MS4 permit and city ordinances. | Inspect 100 percent of permanent BMPs. | Sept 2022 |
| 5 | Inspect permanent BMPs to ensure compliance with MS4 permit and city ordinances. | Inspect 100 percent of permanent BMPs. | Sept 2023 |

Long Term O&M – Permanent BMPs Permittee Owned

Primary Department: Stormwater Operations

Supporting Department(s):

The City will continue to maintain city-owned water quality and detention facilities.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|---|-----------------|
| 1 | Perform regular maintenance on city owned permanent BMPs. Report the amount of material removed. | Perform maintenance on 100 percent of permanent BMPs inspected. | Sept 2019 |
| 2 | Perform regular maintenance on city owned permanent BMPs. Report the amount of material removed. | Perform maintenance on 100 percent of permanent BMPs inspected. | Sept 2020 |
| 3 | Perform regular maintenance on city owned permanent BMPs. Report the amount of material removed. | Perform maintenance on 100 percent of permanent BMPs inspected. | Sept 2021 |
| 4 | Perform regular maintenance on city owned permanent BMPs. Report the amount of material removed. | Perform maintenance on 100 percent of permanent BMPs inspected. | Sept 2022 |
| 5 | Perform regular maintenance on city owned permanent BMPs. Report the amount of material removed. | Perform maintenance on 100 percent of permanent BMPs inspected. | Sept 2023 |

Long Term O&M and Enforcement – Permanent BMPs Privately Owned

Primary Department: Development Services

Supporting Department(s): Stormwater

The City will continue to respond to maintenance complaints regarding permanent BMPs and will assist TCEQ as appropriate to enforce the EAR regulations. Privately owned permanent BMPs will be maintained by their owners and the maintenance plans will be filed with the county.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|---|-----------------|
| 1 | No activities scheduled for this year. | No goals for this year. | N/A |
| 2 | No activities scheduled for this year. | No goals for this year. | N/A |
| 3 | Determine the number of privately owned BMPs within the city and research the parties responsible for maintaining those BMPs. | Collect data on the responsible party's contact info for 80 percent of identified privately owned BMPs in the city. | Sept 2021 |
| 4 | Begin preliminary inspections for privately owned BMPs to determine maintenance needs. | Inspect 25 percent of identified privately owned BMPs in the city. | Sept 2022 |
| 5 | Begin preliminary inspections for privately owned BMPs to determine maintenance needs. | Inspect 25 percent of identified privately owned BMPs in the city. | Sept 2023 |

MCM #5

Good Housekeeping

Introduction

The TPDES General Permit requires the operator of a regulated MS4 community to develop a program to:

- Prevent or reduce the amount of stormwater pollution generated by municipal operations and conveyed into receiving waters.
- Train employees on how to incorporate pollution prevention/good housekeeping techniques into municipal operations.
- Identify appropriate control measures and measurable goals for preventing or reducing the amount of stormwater pollution generated by municipal operations.

The first step is to evaluate and assess the areas and municipal facilities that it controls in order to determine which activities may have a negative impact on water quality and to find solutions for these activities. The simplest solution is to limit the number of activities that are conducted outside and exposed to stormwater. Storm drain systems need maintenance to ensure that structures within the storm drain do not become sources of pollution. Regular maintenance of catch basins prevents the accumulation of pollutants that are later released during rain events as well as blockages, backups, and flooding.

System mapping and regular maintenance are key to a successful pollution prevention program. It is also important for material that is collected to be disposed of in a responsible manner. Employee training to carry out these pollution prevention measures is a required component of the program. Specific pollution prevention requirements related to pollutant-generating activities such as landscaping techniques and operating and maintaining public streets, should also be considered. For example, typical pollutants associated with street repair and maintenance includes heavy metals, chlorides, hydrocarbons, concrete dust, sand, deicers, sediment, and trash. Training and educating staff is important to ensure that everyone is knowledgeable in the most effective approaches to minimize pollutant discharges from municipal facilities and activities.

Summary

During the previous permit term, the City performed structural control maintenance, street sweeping, and vehicle maintenance and began training employees. Spill Prevention and Response Plans were also implemented at appropriate facilities. This permit term, the City will continue previous program elements, amend contract language, and enhance its facility mapping.

Permittee Owned Facility Map and Inventory

Primary Department: Stormwater

Supporting Department(s):

The City will continue to update the City's storm system map as new features are added or discovered. Additionally, the City will develop a map of city-owned facilities and stormwater controls as described in Part III, Section B of the TPDES General Permit.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|---|-----------------|
| 1 | Update the City's storm drain map with new, altered, and newly discovered storm drain features. | Update 100% of any new, altered, or newly discovered storm drain features on the MS4 map and for city facilities. | Sept 2019 |
| 2 | Update the City's storm drain map with new, altered, and newly discovered storm drain features. | Update 100% of any new, altered, or newly discovered storm drain features on the MS4 map and for city facilities. | Sept 2020 |
| 3 | Update the City's storm drain map with new, altered, and newly discovered storm drain features. | Update 100% of any new, altered, or newly discovered storm drain features on the MS4 map and for city facilities. | Sept 2021 |
| 4 | Update the City's storm drain map with new, altered, and newly discovered storm drain features. | Update 100% of any new, altered, or newly discovered storm drain features on the MS4 map and for city facilities. | Sept 2022 |
| 5 | Update the City's storm drain map with new, altered, and newly discovered storm drain features. | Update 100% of any new, altered, or newly discovered storm drain features on the MS4 map and for city facilities. | Sept 2023 |

Contractor Requirements and Oversight

Primary Department: Purchasing

Supporting Department(s):

Ensure all city contractors perform maintenance activities using appropriate control measures and standard operating procedures (SOPs) to minimize the release of pollutants to the MS4.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Implement contracts that require city contractors to use appropriate control measures and SOPs to minimize the release of pollutants to the MS4. | Require 100 percent of city contractors to sign or renew contracts with language requiring control measures and SOPs to minimize pollutants. | Sept 2019 |
| 2 | Implement contracts that require city contractors to use appropriate control measures and SOPs to minimize the release of pollutants to the MS4. | Require 100 percent of city contractors to sign or renew contracts with language requiring control measures and SOPs to minimize pollutants. | Sept 2020 |
| 3 | Implement contracts that require city contractors to use appropriate control measures and SOPs to minimize the release of pollutants to the MS4. | Require 100 percent of city contractors to sign or renew contracts with language requiring control measures and SOPs to minimize pollutants. | Sept 2021 |
| 4 | Implement contracts that require city contractors to use appropriate control measures and SOPs to minimize the release of pollutants to the MS4. | Require 100 percent of city contractors to sign or renew contracts with language requiring control measures and SOPs to minimize pollutants. | Sept 2022 |
| 5 | Implement contracts that require city contractors to use appropriate control measures and SOPs to minimize the release of pollutants to the MS4. | Require 100 percent of city contractors to sign or renew contracts with language requiring control measures and SOPs to minimize pollutants. | Sept 2023 |

Operations and Maintenance Activity SOPs

Primary Department: Wastewater Treatment, Solid Waste and Recycling Services, Fleet Maintenance

Supporting Department(s): Stormwater

Evaluate current procedures and develop SOPs for high-risk maintenance activities to minimize release of pollutants to the MS4.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|--|-----------------|
| 1 | Assess procedures for high-risk maintenance activities to determine their continued effectiveness. | Conduct review once a year of procedures for high-risk maintenance activities. | Sept 2019 |
| 2 | Assess procedures for high-risk maintenance activities to determine their continued effectiveness. | Conduct review once a year of procedures for high-risk maintenance activities. | Sept 2020 |
| 3 | Assess procedures for high-risk maintenance activities to determine their continued effectiveness. | Conduct review once a year of procedures for high-risk maintenance activities. | Sept 2021 |
| 4 | Assess procedures for high-risk maintenance activities to determine their continued effectiveness. | Conduct review once a year of procedures for high-risk maintenance activities. | Sept 2022 |
| 5 | Assess procedures for high-risk maintenance activities to determine their continued effectiveness. | Conduct review once a year of procedures for high-risk maintenance activities. | Sept 2023 |

High Priority Facility SOPs

Primary Department: Wastewater Treatment, Solid Waste and Recycling Services, Fleet Maintenance

Supporting Department(s): Stormwater

Develop facility specific SOPs and perform annual inspections for high-risk facilities to minimize release of pollutants to the MS4. The Wastewater Treatment Plant, Recycling Center, and Fleet Maintenance building are all high priority facilities. Inspections include fueling operations, vehicle maintenance, and equipment and vehicle washing procedures.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|--|-----------------|
| 1 | Inspect high priority facilities to ensure BMPs are maintained, and SOPs are implemented. | Perform 1 annual inspection for each high priority facility. | Sept 2019 |
| 2 | Inspect high priority facilities to ensure BMPs are maintained, and SOPs are implemented. | Perform 1 annual inspection for each high priority facility. | Sept 2020 |
| 3 | Inspect high priority facilities to ensure BMPs are maintained, and SOPs are implemented. | Perform 1 annual inspection for each high priority facility. | Sept 2021 |
| 4 | Inspect high priority facilities to ensure BMPs are maintained, and SOPs are implemented. | Perform 1 annual inspection for each high priority facility. | Sept 2022 |
| 5 | Inspect high priority facilities to ensure BMPs are maintained, and SOPs are implemented. | Perform 1 annual inspection for each high priority facility. | Sept 2023 |

Staff Training Good Housekeeping

Primary Department: Stormwater

Supporting Department(s): Utilities and Environmental Services, Stormwater Operations, Parks and Recreation, General Services, Solid Waste and Recycling Services, Wastewater Treatment

Ensure O&M staff is trained regularly on the pollution prevention and good housekeeping practices to minimize release of pollutants to the MS4. Training includes practices for fueling operations, vehicle maintenance, and equipment and vehicle washing.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|--|-----------------|
| 1 | Update employee training modules for pollution prevention and good housekeeping practices. | No goals for this year. Updating training material. | N/A |
| 2 | Train operations and maintenance employees on pollution prevention and good housekeeping practices. | Host 2 training sessions for operations and maintenance employees. | Sept 2020 |
| 3 | Update employee training modules for pollution prevention and good housekeeping practices. | No goals for this year. Updating training material. | N/A |
| 4 | Train operations and maintenance employees on pollution prevention and good housekeeping practices. | Host 2 training sessions for operations and maintenance employees. | Sept 2022 |
| 5 | Update employee training modules for pollution prevention and good housekeeping practices. | No goals for this year. Updating training material. | N/A |

Street Sweeping

Primary Department: Stormwater Operations

Supporting Department(s):

Perform regular street sweeping of public streets and high priority facilities to minimize the release of pollutants from roadways and parking lots to the MS4. Ensure proper disposal of trash, debris, and other stormwater pollutants collected during the street sweeping.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|---|--|-----------------|
| 1 | Maintain streets and high priority facilities by sweeping curbs and parking lots of potential pollutants. | Sweep 100 percent of scheduled street maintenance locations. | Sept 2019 |
| 2 | Maintain streets and high priority facilities by sweeping curbs and parking lots of potential pollutants. | Sweep 100 percent of scheduled street maintenance locations. | Sept 2020 |
| 3 | Maintain streets and high priority facilities by sweeping curbs and parking lots of potential pollutants. | Sweep 100 percent of scheduled street maintenance locations. | Sept 2021 |
| 4 | Maintain streets and high priority facilities by sweeping curbs and parking lots of potential pollutants. | Sweep 100 percent of scheduled street maintenance locations. | Sept 2022 |
| 5 | Maintain streets and high priority facilities by sweeping curbs and parking lots of potential pollutants. | Sweep 100 percent of scheduled street maintenance locations. | Sept 2023 |

Structural Control Maintenance

Primary Department: Stormwater Operations

Supporting Department(s):

The City's structural control maintenance program includes inlet cleaning and permanent BMP maintenance targeted at reducing the level of pollutants discharged into the MS4.

| Permit Year | Activity | Measurable Goal | Due Date |
|--------------------|--|---|-----------------|
| 1 | Maintain city owned permanent BMPs. Remove vegetation, sediment, and floatables. | Perform maintenance on 100 percent of city owned permanent BMPs at least once per year. | Sept 2019 |
| 2 | Maintain city owned permanent BMPs. Remove vegetation, sediment, and floatables. | Perform maintenance on 100 percent of city owned permanent BMPs at least once per year. | Sept 2020 |
| 3 | Maintain city owned permanent BMPs. Remove vegetation, sediment, and floatables. | Perform maintenance on 100 percent of city owned permanent BMPs at least once per year. | Sept 2021 |
| 4 | Maintain city owned permanent BMPs. Remove vegetation, sediment, and floatables. | Perform maintenance on 100 percent of city owned permanent BMPs at least once per year. | Sept 2022 |
| 5 | Maintain city owned permanent BMPs. Remove vegetation, sediment, and floatables. | Perform maintenance on 100 percent of city owned permanent BMPs at least once per year. | Sept 2023 |

Acronyms

| | |
|--------|--|
| 303d | Refers to Section 303d of the CWA requiring a listing of impaired waters |
| BMP | Best Management Practice |
| CGP | Construction General Permit |
| CFR | Code of Federal Regulations |
| CWA | Clean Water Act |
| DACS | City of Round Rock's Design and Construction Standards |
| EAR | Edwards Aquifer Rule |
| EARZ | Edwards Aquifer Recharge Zone |
| ETJ | Extraterritorial Jurisdiction |
| EPA | Environmental Protection Agency |
| GIS | Geographic Information System |
| Hazmat | Hazardous Materials |
| HHW | Household Hazardous Waste |
| I-Plan | Implementation Plan associated with a TMDL |
| MCM | Minimum Control Measure |
| MEP | Maximum Extent Practicable |
| MS4 | Municipal Separate Storm Sewer System |
| NPDES | National Pollution Discharge Elimination System |
| NOC | Notice of Change |
| NOI | Notice of Intent |
| NOT | Notice of Termination |
| PSA | Public Service Announcements |
| ROW | Right of Way |
| SOP | Standard Operating Procedure |
| SPRP | Spill Prevention and Response Plan |
| SWMP | Storm Water Management Program |
| SWP3 | Storm Water Pollution Prevention Plan |
| TAC | Texas Administrative Code |
| TCEQ | Texas Commission on Environmental Quality |
| TMDL | Total Maximum Daily Load |
| TPDES | Texas Pollution Discharge Elimination System |
| WPAP | Water Pollution Abatement Plan |