

City of Carrollton

Storm Water Management Program



cityofcarrollton.com

2013-2018

**CITY OF CARROLLTON
TXR040326
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM
STORMWATER MANAGEMENT PROGRAM
For 2013-2018**

**In Compliance with
The Texas Commission on Environmental Quality
General Permit to Discharge
Under the Texas Pollutant Discharge Elimination System
General Permit No. TXR040000, issued December 13, 2013**

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Document Organization

This Stormwater Management Program (SWMP) is organized in the following way:

Part I provides background information on the City of Carrollton.

Part II addresses the six stormwater pollution minimum control measures as required under the TXR040000 MS4 General Permit.

For each stormwater pollution control measure, the following are discussed:

Selected BMPs	A description of the best management practices the City of Carrollton will implement to address the regulatory requirement.
Measurable Goals	Measurable goals identified for each BMP.
Schedule	The implementation schedule for each BMP.
Responsible Persons	The person or position responsible for implementation of each BMP.

PART I

CITY OF CARROLLTON BACKGROUND

The City of Carrollton is located in the heart of the Dallas-Fort Worth area and is a vibrant residential and corporate community. Residents are drawn to the City for its high quality of life, abundant parks, schools and safe neighborhoods. In 2008, MONEY Magazine ranked Carrollton 15th in the country as the Best Place to Live and Forbes Magazine recently ranked Carrollton #12 for "America's Best Places to Move."

Geography and Environment

The City of Carrollton is located within the North Central Texas region, and occupies segments of Dallas, Denton, and Collin counties. It has an area of 37.1 square miles of which 0.8 square miles consist of surface water. The North Central Texas Council of Governments has estimated the city's 2012 population at 121,150, with about 60% in Denton County and about 40% in Dallas County. Over 5,000 businesses call Carrollton home. Manufacturing, construction trades and wholesale trades are some of the largest economic sectors; other important sectors include finance, insurance and real estate. While the city's development pattern has been from south to north, current re-development plans focus on improvements in the older areas of south Carrollton.

The climate is humid subtropical characterized by hot humid summers and generally mild winters. Average temperatures vary from lows near 20°F in the winter to highs of over 100°F in the summer. Based on 1981-2010 weather data collected for the NOAA National Climatic Data Center, the average annual precipitation in Carrollton is 37.6 inches distributed over an average number of eighty-one wet weather days.

Carrollton is situated in the Texas Blackland Prairie ecoregion. The terrain is characterized by gently undulating hills and flat plains with a general surface gradient directed southwest towards the Elm Fork of the Trinity River. Its elevations range from 435-670 feet above mean sea level. Predominant soils are black clay and silty clay, with slow permeability and a moderate to severe potential for erosion. When dry, black clays tend to crack to a depth of more than 30 inches. Groundwater is present in the area with shallow, perched ground water at a depth of less than 20 feet below ground surface.

The city is primarily drained by four major tributaries of the Elm Fork of the Trinity River downstream of Lake Lewisville, namely: Indian Creek, Dudley Branch, Furneaux Creek and Hutton Branch. Significant smaller areas of the city are also drained by four principal man-made drainage basins, namely: Huffines Ranch, Frankford Drainage, Dallas Water Utilities, and Valwood Drainage. The map of Carrollton's storm sewer system was completed in Geographic Information System format at the end of the 2007-2012 MS4 Permit. The city as of this date has 1,202 outfalls and 455 headwalls.

Organization

The City of Carrollton Charter as amended on May 15, 2004 defines Carrollton as a home-rule city, operated by a City Council/City Manager government. All powers of the city are

vested in an elective council, “which shall enact local legislation, determine policies, and appoint the city manager, who shall execute the laws and administer the government of the city.” (*Carrollton City Charter, 2004*) Elected officials include a Mayor and seven (7) city Council Members.

Stormwater Management Program

The City of Carrollton is an existing small MS4 operator covered under the previous TPDES general permit TXR040000 (2007-2012). It continues to operate under the conditions of the previous permit and continues to implement existing elements in its approved SWMP.

Legal Authority. Sec. 1.04 of the Carrollton City Charter states that “the City of Carrollton may exercise all powers that now are or hereafter may be granted to municipalities by the Constitution or the laws of the State of Texas. All such powers, whether expressed or implied shall be exercised and enforced in the manner prescribed by this Charter, and when not prescribed herein, in such manner as may be provided by ordinance or resolution of the council of the City of Carrollton.”

Program Funding. Implementation of the city’s Stormwater Management Program is funded through the city’s General Fund and the Water & Sewer Operating Fund.

Stormwater Program Oversight. To ensure collaborative and efficient compliance with stormwater regulations, the City Manager has appointed executive officers of key departments to the Stormwater Management Committee. The committee members have direct control over their respective departments towards the full implementation of the city’s Stormwater Management Program.

In turn, the Stormwater Management Committee formed the Stormwater Advisory Group (SWAG) and assigned specific positions in their respective organizations to serve in the group. The main functions of the SW Advisory Group are to delve into Best Management Practices in the SWMP that call for multi-departmental collaborative efforts, take advantage of overlapping expertise and to present to the SWMC its assessments and/or recommendations for the most efficient and effective approach.

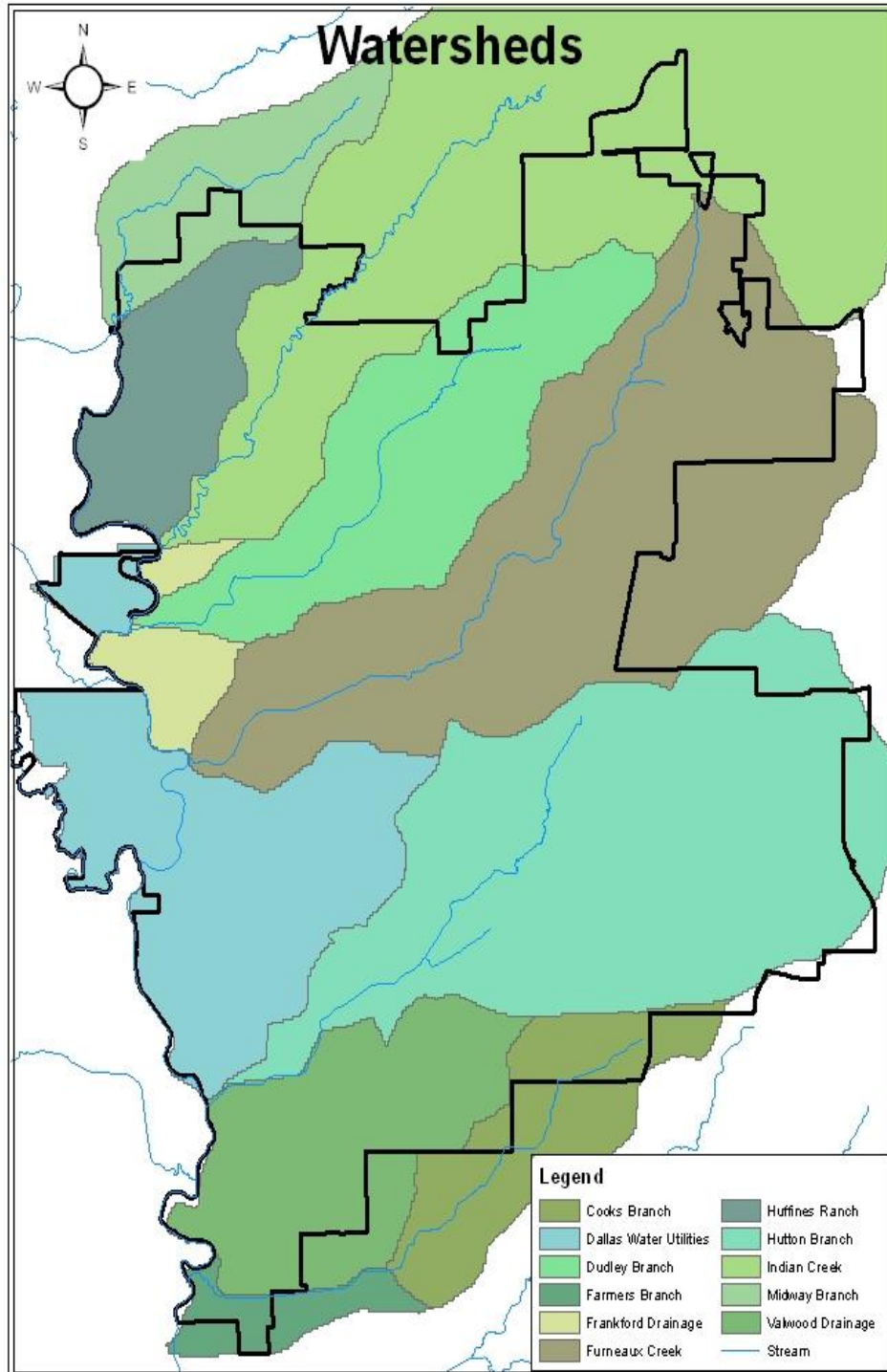
Stormwater Infrastructure - Design, Construction, Operations and Maintenance. The Engineering Department is responsible for the planning and design of all city stormwater structures, approving subdivision construction plans, ensuring flood control, maintaining the General Design Standards and ensuring that construction projects are built in conformance with these standards. The Public Works Department not only handles the cleaning and maintenance of storm sewer pipes and channels, but also of streets, sanitary sewers and water lines to prevent trash, debris, sanitary sewer overflows and water main ruptures from discharging into the stormwater system. The potable water distribution, sanitary sewer collection, and separate storm sewer systems are currently mapped in the city’s GIS system.

Municipal Operations Impacting Stormwater. Fleet, Indian Creek Golf Course, Parks and Public Works operations have a high potential to impact stormwater quality. To ensure that these municipal activities prevent or reduce any impact, pollution prevention practices and training have been put in place.

Inspection and Enforcement for Stormwater Quality. Stormwater pollution prevention inspections at construction sites are routinely undertaken by both Building Inspection and Engineering departments. Enforcement of erosion and sediment controls are addressed by Building Inspection, Engineering and Environmental Services through various enforcement methods, ranging from stop work orders, notices of violation to fines. Environmental Services personnel enforce most environmental regulations such as those addressing illicit discharges, hazardous materials spills, illegal dumping, landscaping, residential sanitary sewer overflows, improper disposal of grass and leaves, oil-laden parking lots at apartment complexes and other health and safety codes violations.

Special Provisions. In the event that the City of Carrollton experiences a disaster, natural or man made, such as a flood or tornado that disables the city, implementation of the stormwater management plan will be suspended. Once the city has recovered from the disaster, implementation of this plan will be resumed.

CARROLLTON TEXAS



PART II
CITY OF CARROLLTON
SELECTED STORMWATER POLLUTION CONTROL MEASURES

A. Definition of Terms and Acronyms.

BMP - Best Management Practice
ERG – Enforcement Response Guide
IDDE – Illicit Discharge Detection and Elimination
NCTCOG – North Central Texas Council of Governments
MCM - Minimum Control Measure
MEP – Maximum Extent Practicable
MS4 - Municipal Separate Storm Sewer System
SWMC – Stormwater Management Committee
SWMP - Stormwater Management Plan
TCEQ – Texas Commission on Environmental Quality
TPDES - Texas Pollutant Discharge Elimination System
US EPA – United States Environmental Protection Agency
Year 0 - Recurring in each year of the permit term

B. Development of the 2013-2018 SWMP.

1. Review of BMPs from Small MS4 Permit Term 2007-2012.

All BMPs from the first permit term have been reviewed and have been found to be effective in its intended goal and thus incorporated into the SWMP for the 2013-2018 permit term. Most of the current or existing BMPs are due in year 0 since these are recurring every year with the exception of the BMPs that have specific years in which they are due. To distinguish from existing BMPs the new activities in this SWMP are typed out in bold.

2. Reporting Year for Current Small MS4 Permit.

The City of Carrollton will report all SWMP activities in the annual report based on the city's fiscal year which is October 1st to September 30th of the next year. As provided in the current permit, to elect a fiscal year reporting period, the first reporting year will last until the end of the fiscal year following the end of the first permit year which first permit year ends December 12, 2014. The city's first reporting year shall then be from December 13, 2013 to September 30, 2015. Subsequent annual reports will then be from October 1 to September 30 of the next year.

3. Legal Authority.

The City of Carrollton is a Home Rule City of the State of Texas and has legal authority to enact and enforce ordinances to reduce the discharge of pollutants from the city's MS4 to the maximum extent practicable (MEP) in order to protect water quality and to satisfy the appropriate water quality standards required under the Clean Water Act and the Texas Water Code. The City also has legal authority to develop and implement an Enforcement Response Plan against violators of its stormwater and stormwater-related ordinances and implementing guidelines.

4. Resources.

Implementation of the city's Stormwater Management Program is funded through the city's

General Fund and the Water & Sewer Operating Fund and involves city personnel in key departments under executive officers of the Stormwater Management Committee. This committee oversees the implementation of the SWMP.

5. Effluent Limitations.

For purposes of compliance with state rules, the controls and BMPs in this SWMP constitute the effluent limitations, along with the maximum allowable concentrations for discharge of hazardous metals to waters in the state as provided for in 30 TAC Chapter 319, Subchapter B.

6. Enforcement Measures.

The City's Stormwater Pollution Prevention Ordinance, the Stormwater Flood Protection Ordinance and other storm-water related ordinances contain penalty provisions which have been and continue to be implemented. By the end of year 3, an Enforcement Response Guide shall have been developed from said penalty provisions to ensure standard and escalated enforcement measures. The Director for Environmental Services shall be the responsible person for this measure.

C. Minimum Control Measures.

1. (a) Public Education and Outreach

Goals and Objectives

The city's goals and objectives for public education and outreach are to protect and promote the quality of its stormwater to the maximum extent practicable through the education of its residents, businesses, municipal employees, construction site operators, industry and commercial facilities regarding: the hazards associated with illegal discharges and improper disposal of wastes; the impact of these discharges on the city's surface waters; and, the various ways of reducing pollutants in the stormwater.

There are several high-priority community-wide issues that have surfaced as evidenced by complaint calls, spill responses and investigations. These issues can be traced to the following target audiences: residents and construction sites. For residents, the issues include: improper disposal of oils (used motor oil, used cooking oil, etc.) and chemicals, yard waste, pet waste and swimming pool discharges. For construction sites, the issues include: lack of and/or lack of maintenance of erosion and sediment controls; and, lack of good housekeeping. These topics are incorporated into presentations and articles, where appropriate.

Selected BMPs

- 1.1 Stormwater Reading Materials
- 1.2 Public Presentations and Educational Events
- 1.3 Promotional Items
- 1.4 Annual "March is Texas SmartScape™ Month
- 1.5 Environmental Education for Commercial and Industrial Facilities

- 1.6 Environmental Education for Construction Site Personnel
- 1.7 Storm Drain Marking
- 1.8 Stormwater and Pollution Prevention Videos and Public Service Announcements
- 1.9 TCEQ FOG Initiatives
- 1.10 Household Hazardous Waste Disposal
- 1.11 Pet Waste Education
- 1.12 Environmental Services Websites
- 1.13 Electronic Newsletter for City Employees
- 1.14 Environmental Educational School Kit
- 1.15 Comply with State and Local Public Notice Requirements
- 1.16 Public Meetings
- 1.17 Illicit Discharge Reporting Line
- 1.18 Volunteer Creek and Greenbelt Cleanup, Recycling and Chemical Collection
- 1.19 Citizens Advisory Committee

1.1 BMP1 Stormwater Reading Materials

The city will distribute different types of educational reading materials that will include brochures, posters, news briefs and notice letters. The city currently has many different types of brochures, posters and notice letters that are available at city facilities and distributed during public presentations and events. These will continue during the second permit term.

The City of Carrollton produced and printed two brochures on stormwater issues. One of the brochures (Stormwater Management: Changes and Challenges in Carrollton) explains the Phase II requirements and the stormwater management plan.

The second brochure produced by the city (Stormwater Pollution: Keeping Our Creeks Clean Starts with You) contains information on sources of stormwater pollution and tips on actions that citizens can take to minimize water pollution. The purpose of this brochure is to educate the average citizen on steps they can take, as individuals, to protect water resources.

The city has obtained educational brochures and posters on other topics, including: Illegal Dumping, Watersheds (3), Non-point Source Pollution (3), Texas Clean Rivers Program, Fat Free Sewers, Buy Recycled, Cool Energy and Develop Naturally. Many of these brochures are provided in both English and Spanish. The city may also add or replace brochures and posters to keep the message fresh and topical.

The city mails letters addressing common violations that could affect stormwater to every apartment manager yearly. The letters are provided prior to the yearly inspections.

The city will place news briefs in the local paper and put mailers in utility bills at different times of the year to educate the public on current or relevant topics. The topics could include proper disposal or use of yard waste, disposal of household hazardous chemicals, or proper ways to drain a pool.

Justification

Brochures, posters, news briefs and notice letters can be a convenient way to convey a relatively long message to citizens. Because they can take the brochure with them, citizens

can read the information at their leisure, and keep the brochure as a reminder. In deciding the information to be included in the city-produced brochures, the city determined that providing information on the overall stormwater plan would explain to the community the efforts by the city to protect water quality, and would foster public cooperation and involvement. The city chose to print a brochure with practical pollution prevention tips to encourage citizens to take specific steps to reduce pollutants in stormwater. The other brochures and posters have been obtained through organizations and agencies such as North Central Texas Council of Governments, Water Environment Federation and the Texas Commission on Environmental Quality.

By placing news briefs in the local paper or mailers in utility bills, the city can reach those individuals that may not attend public events or visit many city buildings. The papers and mailers are delivered to residents and businesses, where they can read the articles at their leisure.

A notice letter is sent to apartment complex managers as a way of educating them on stormwater related violations. By sending this every year, the city can educate new managers and current managers on the violations that may have a stormwater impact.

Measurable Goals

The measurable goal for implementation of this BMP is to distribute 200 brochures during each year of the second permit term. Brochures will be placed at selected city facilities. News briefs will be placed in the local paper or mailers will be sent out twice a year. Notice letters will continue to be sent to all apartment complexes currently in the database every year (based on the calendar year). Development and implementation will be according to the schedule below. This BMP was fully implemented during the previous permit term and will continue through the next permit term.

Schedule

BMP	Target Audience	Activity	Year Due	Responsible Department
Stormwater Brochures	Residents Businesses and Industries	1. Distribute copies of brochures at selected display racks at city buildings and at all public events and presentations. Distribute 200 yearly.	0	Environmental Services and Marketing
		2. News briefs in local paper or mailers/utility bill inserts twice a year	0	
		3. Continue to update and distribute the stormwater letters to all apartment managers currently in the database.	0	

Responsible Persons

The Directors of Environmental Services and Marketing are responsible for the implementation of BMP1.

1.2 BMP2 Public Presentations and Educational Events

The City of Carrollton will conduct public presentations on stormwater issues targeted to different sectors of the community. The presentations will take place during special events, in classrooms, or in meetings with businesses or other sectors of the community. Presentations may include a visual display of graphic information, hands on activities for school children, seminar-style presentations for businesses, etc. At least four presentations a year will be conducted, with some of the options for these presentations being:

- Presentation to local industries in cooperation with the Industrial Pretreatment Program,
- Presentations to neighborhood associations, the government academy, and citizen patrol through the Police Department,
- Presentations to construction operators in cooperation with the Department of Development Services or Engineering,
- Presentations to children through the Departments of Library Services, Parks and Recreation,
- Presentations to the general public during community events, and
- Presentations to schools and youth group associations.

Justification

Public presentations are an opportunity to provide specifically tailored information to interested audiences. They also provide an opportunity for direct contact with the public, and establish an interactive relationship between the audience and city staff. By including a Questions & Answers session, city staff can explain complex technical issues and policies, or address issues of particular concern to the audience. Public presentations can also be adapted to the different audiences such as playing fun, educational games with kids, providing industry-specific pollution prevention information for businesses, and explaining legal requirements to permit holders.

Measurable Goals

The measurable goal for implementation of BMP2 is to conduct four presentations or outreach activities per year. Development and implementation will be according to the schedule below.

Schedule

BMP	Target Audience	Activity	Year Due	Responsible Department
Public Presentations	Will depend on the event	1. Four presentations or outreach activities per year	0	Environmental Services

Responsible Persons

The Director of Environmental Services is responsible for the implementation of BMP2.

1.3 BMP3 Promotional Items

The City of Carrollton will distribute promotional items each year to the public. Most of the promotional items will have a pollution prevention message. Promotional items or giveaways are a valuable tool in sending a message to the public, since they are highly desirable due to their usefulness and/or attractive presentation. The city has an assortment of

items such as chip clips, jar openers, crayons, pencils, and magnets with a variety of messages promoting environmental protection. Although a very effective tool, promotional items tend to be expensive and because of that, the number of items to be distributed is limited. The items will be distributed at public events, at school visits, or as recognition to volunteers.

Justification

Promotional items are a good means for public education because their “free of charge” nature tends to appeal to the public who will voluntarily pick them up. The item’s usefulness will increase its appeal to the public and its effectiveness. Items of every day use, such as magnets, chip clips, etc., serve as a daily reminder of pollution prevention issues. Items suitable for children are an excellent means of encouraging environmental responsibility at a young age. Promotional items will hopefully be continuously updated depending on monies allocated.

Measurable Goals

The measurable goal for implementation of BMP3 is to distribute at least 200 promotional items each year. Development and implementation will be according to the schedule below.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
Distribution of Promotional Items	Will depend on the event	1. Distribute 200 promotional items per year	0	Environmental Services

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP3.

1.4 BMP4 Annual “March is Texas SmartScape™ Month

The City of Carrollton will continue to participate in the regional “March is Texas SmartScape™ Month” Campaign, a Stormwater Management Program Regionally Developed Initiative (RDI) that encourages landscaping with native and adapted species that have low water requirements and need little or no fertilizers or pesticides. By using SmartScape principles, citizens can assist in water conservation and pollution prevention by reducing the amount of fertilizers and pesticides discharged in runoff. March has been selected as the month to promote the Texas SmartScape™ principles of pollution prevention through reduced pesticide and fertilizer use, water conservation, mulching, composting, and yard waste reduction. Each March the city will determine the level of participation, based on available resources, and provide the information to NCTCOG. NCTCOG produces a press release and other materials to promote Texas SmartScape™. This BMP is targeted to residents, nursery and landscape businesses, and public service employees and has the added benefit of reaching out to visitors through greater regional exposure. This public education BMP may also serve as a public involvement BMP.

Justification

Texas SmartScape™ is a RDI coordinated by the North Central Texas Council of Governments. The program addresses three very important environmental issues in Texas,

water conservation, pesticide use, and fertilizer use. In addition, Texas SmartScape™ provides an excellent opportunity for cooperation at the watershed and regional level.

Measurable Goals

The measurable goal for implementation of BMP4 is to continue participating in the Regional Stormwater Management Program to develop and support the annual “March is Texas SmartScape™ Month” in North Central Texas. At least one community outreach event will be conducted annually in our jurisdiction that communicates the SmartScape™ theme.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
Texas SmartScape	Residents, Visitors, City Employees	1. Determine a level of participation in the regional “March is Texas SmartScape™ Month” program based on available resources, and select an outreach activity to conduct. Complete coordination with NCTCOG annually in February and conduct the selected activity (ies) annually in March. Repeat each year	0	Environmental Services

Responsible Persons

The Director of Environmental Services has responsibility for conducting annual activities to participate in the “March is Texas SmartScape™ Month” regional campaign.

1.5 BMP5 Environmental Education for Commercial and Industrial Facilities

The City of Carrollton will prepare articles, focused on specific pollution prevention issues for commercial and industrial facilities. Articles will be electronically distributed to facilities in the city and will be accessible from the Environmental Services Stormwater web page.

Justification

Industries and businesses are an important component of our community to educate about their impacts on stormwater pollution. Commercial and industrial activities with poor pollution prevention practices can be significant contributors of pollutants such as detergents, hydrocarbons, heavy metals and trash, to the city’s MS4. Therefore, it is important to specifically address these activities in an outreach campaign.

Measurable Goals

The measurable goal for implementation of BMP5 is to develop pertinent information on pollution prevention for commercial and industrial facilities. This information will be electronically distributed and posted on our web site. City staff will be available for presentations to commercial and industrial facilities upon request. Development and implementation will be according to the schedule below.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
Environmental Education for Commercial and Industrial Facilities	Commercial and Industrial Facilities	1. Develop educational items for distribution related to pollution prevention for industrial and commercial facilities.	0	Environmental Services
		2. Distribute information to facilities. Update as needed	0	
		3. Hold annual industry meeting	0	

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP5.

1.6 BMP6 Environmental Education for Construction Site Personnel

The City of Carrollton prepared an information packet for construction site operators during the first permit term. The packet is distributed to all individuals applying for a construction or grading permit with the city. The educational information includes a short overview of erosion/sediment control requirements and pollution prevention BMPs for trash containment, mud tracked off site, concrete washout areas, porta-potties, spills and leaks.

Justification

Sediment from construction sites has been identified as one of the major pollutants of surface water across the nation. In addition, stormwater discharges from construction sites have been found to contain organic pollutants, heavy metals, and floatables. Under the Phase II regulations, any construction activity that will disturb one or more acres of land, or that it is part of a larger common plan of development, is required to comply with the conditions of the TPDES stormwater permit for construction activities. Construction sites in the above category, must also apply for a city permit before any construction takes place. Because all operators must contact the city for the permit, this presents a good opportunity to provide the operators with pertinent information regarding pollution prevention for construction activities, and the permit requirements of the TCEQ.

Measurable Goals

The information package will be distributed to permit applicants together with all other city requirements for a grading or building permit. The information will be updated as needed.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
Environmental Education for Construction Site Personnel	Construction Site Personnel	1. Distribute information packet to 100% applicants for a grading or building permit.	0	Development Services, Engineering and Environmental

				Services
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Responsible Persons

The Director of Environmental Services has responsibility for preparation of the information package. The city’s Building Official and the Director of Engineering will be responsible for distribution of the packet to new applicants.

1.7 BMP7 Storm Drain Marking

The City of Carrollton will continue to implement a storm drain marking and replacement marking program. Since 2000, the city has participated in a regional initiative to mark storm drains with plastic discs that display a “no dumping - drains to creek” message. This is another RDI coordinated by the North Central Texas Council of Governments. Since 2000, over 3000 markers have been placed in Carrollton, in both English and Spanish. Youth groups such as Boy and Girl Scouts, as well as concerned citizens, Home Owner Associations and city employees have participated.

Justification

Storm drain marking or labeling is an effective means to remind the community that pollutants discharged to storm drains end up in the nearest creek or river. An additional benefit is that by allowing volunteers to place the markers, the city provides opportunities for public involvement and participation and fosters a sense of ownership among the residents. By joining a regional initiative, the city established partnerships that went beyond the traditional jurisdictional limits and reached out to other watersheds, bringing the message regarding storm drains to a larger number of people.

Measurable Goals

The measurable goal for implementation of BMP7 is to continue to place or replace 500 storm drain markers within the permit term. To place the markers, the city will encourage volunteer participation, particularly from youth groups. Development and implementation will be according to the schedule below.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
Storm Drain Marking	Residents, visitors, Commercial & industrial facilities, city employees, construction employees	1. Placement or replacement of 100 markers per year	0	Environmental Services

Responsible Persons

The Director of Environmental Services is responsible for implementing this BMP.

1.8 BMP8 Stormwater and Pollution Prevention Videos and Public Service Announcements

The City of Carrollton will continue to have a collection of stormwater-related videos and public service announcements for public exhibition. Presently, the city has several videos available. One video was prepared in cooperation with the NCTCOG, discussing the stormwater program. The city has three 35-second public service announcements that target specific resident practices such as disposal of yard waste, disposal of paint and proper vehicle washing. The city also purchased an animated video directed towards young children. Some of the videos and public service announcements will continue to be transmitted on public access channels of the local cable providers and on the stormwater website.

Justification

Videos, although expensive, are an effective means to distribute information and to secure public interest in stormwater issues. In 2000, the city made a significant investment in the preparation of a video, targeting an adult audience, that explains the Phase II regulations and permit requirements. Animated character videos are very effective in engaging younger audiences to environmental messages. To foster support for the Stormwater Management Program within the community, the city will continue to show this video or PSA's on the public access channels of the local cable providers and on the city's stormwater webpage during the permit term. Due to budgetary constraints, the city does not plan to produce additional videos. However, the city will continue to look for opportunities to exhibit its existing videos and possible acquisition of new videos and public service announcements.

Measurable Goals

The measurable goal for implementation of BMP8 is to make stormwater videos available to the community. The city will also evaluate the acquisition of new videos to prepare a video library available to residents, or to use them as tools to enhance public presentations. Development and implementation will be according to the schedule below.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
Stormwater and Pollution Prevention Videos		1. Continue broadcast of Stormwater Management videos or PSA's on local cable public access channel and on the stormwater webpage	0	Environmental Services and Marketing
		2. Evaluate acquisition of other videos, incorporate to video library if appropriate	0	
		3. Maintain library of videos. Include information on web site.	0	

Responsible Persons

The Director of Environmental Services has responsibility for preparation of video library and making videos available to the community. The Director of Marketing Services is responsible for requesting broadcast of the video on cable access channel.

1.9 BMP9 TCEQ FOG Initiative

Fats, oils and grease are a contributing factor to many sanitary sewer overflows, which can have a negative impact on stormwater. In pursuance of its agreement with TCEQ’s SSO Initiative, the city continues to educate the public on grease control. TCEQ’s “Let’s Tackle Grease in the Kitchen” posters in both English and Spanish will continue to be distributed annually and will be required to be posted in all restaurant kitchens. Also once a year, grease control informational brochures will be distributed to all multifamily complexes and selected industries. Grease control information will be sent to residents, businesses and employees in the water bills and/or in the city’s newsletter. On the city’s website, grease control information will continue to be provided.

Justification

Brochures, posters, websites, and water bill inserts are a great way to provide information to all restaurant employees, apartment complex managers and tenants, residents and businesses. The TCEQ posters are laminated so the restaurants can display them in the kitchen area. The posters are printed in both English and Spanish to ensure comprehension by food handlers.

Measurable Goals

The measurable goal for implementation of BMP9 is to continue distributing at least one poster to all new and existing restaurants currently in the database, posters will be given in both languages as needed. After the initial distribution, restaurants will be required to display the posters. Posters will be redistributed as needed. Inspections will be performed yearly for the posters being displayed. Pamphlets will be distributed to each unit in multifamily complexes and distributed to industries. Three times a year water bill inserts and or the city newsletter will contain grease control information. The city website will be available every day of the year. Grease posters are already being distributed and will continue throughout the permit term. Every year three presentations will be given related to FOG, water conservation or other relevant topics.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
TCEQ FOG Initiative		1. Distribute one to every new and existing restaurant currently in database listed as having a grease trap	0	Environmental Services
		2. Distribute an educational letter to every manager of an apartment complex currently in the database at least once every year.	0	Environmental Services
		3. Routine inspections for posters displayed and redistribute posters as needed for every restaurant currently in database	0	Environmental Services

		4. Distribute grease control information to tenants in multifamily complexes yearly	0	Public Works
		5. Distribute grease control information to selected industries yearly	0	Public Works
		6. Grease control information provided in water bills and/or in the city newsletter three times a year	0	Public Works
		7. Information posted on the city website	0	Public Works
		8. Three Presentations per year	0	Public Works

Responsible Persons

The Directors of Public Works and Environmental Services have the responsibility for the implementation of BMP 9.

1.10 BMP10 Household Hazardous Waste Disposal

The City of Carrollton will continue to develop and distribute an annual mailer with information on proper disposal of household hazardous waste and stormwater pollution prevention. It will reach out to encourage the residents to participate in and avail of the city’s household hazardous waste disposal services. The city will maintain a Household Hazardous Waste information topic on the website. The website will be available every day of the year.

Justification

A mailer or a water bill insert and posting of the information on the web page is a great way to reach the largest number of residents with information about proper household hazardous waste and the disposal services of the city.

Measurable Goals

The measurable goal for the implementation of BMP10 is to develop and distribute a mailer or water bill insert on household hazardous waste and the disposal services of the city. This information will also be posted on the city’s website. Development and implementation will be according to the schedule below.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
Household Hazardous Waste Disposal Services		1. Develop one mailer or water bill insert per year	0	Environmental Services and Marketing
		2. Distribute mailer or water bill insert yearly	0	
		3. Post information on the web page for every day of the year	0	

Responsible Persons

The Directors of Environmental Services and Marketing are responsible for implementing BMP10.

1.11 BMP11 Pet Waste Education

The City of Carrollton distributes brochures, bookmarks or other effective tools to pet owners and the community about the importance of cleaning up after their pets. BMP11 will complement the section on Pet Waste Management in the section on Illicit Discharge and Elimination. City parks and most greenbelt areas have signs that notify residents of the city ordinance requiring them to “pick up after your pet”. These signs will be maintained and replaced as needed.

Justification

As with BMP1, brochures, bookmarks, handout materials and signs are a convenient way to convey information to citizens.

Measurable Goals

The measurable goal for this BMP is to continue to distribute the brochures, bookmarks or other items to individuals who adopt or reclaim an animal from the Animal Shelter. Items will also be given out at presentations and public events where applicable. Signs in parks will be maintained as needed.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
Pet Waste Education		1. Distribute to all residents adopting or reclaiming a pet, at presentations, and public events. Post information on the website.	0	Environmental Services
		2. Maintain signs in parks and greenbelts as needed	0	Parks

Responsible Persons

The Directors of Environmental Services and Parks and Recreation have the responsibility for implementing of BMP11.

1.12 BMP12 Environmental Services Websites

The City of Carrollton currently has an Environmental Services website that contains information on Animal Services, Code Enforcement, Food Safety, Industrial Pretreatment, Pollution Prevention and Stormwater. The website is accessible every day of the year to citizens, industries, businesses, and visitors. Each department will add to their sites, brochures and other information that is important to stormwater issues.

Justification

The Environmental Services Website will be able to reach the greatest number of people (including visitors, residents and businesses) with minimal effort. The website can be updated immediately with the most current information.

Measurable Goals

Having the website available every day of the year is the measurable goal for BMP12.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
Environmental Services Web Page		1. Continue updating the information on the web page	0	Environmental Services

Responsible Persons

The Director of Environmental Services has the responsibility for implementation of BMP12.

1.13 BMP13 Electronic Newsletter for City Employees

The City of Carrollton will develop two annual pieces of information on stormwater issues and/or pollution prevention to be distributed as an electronic email to city employees. Newsletters will also be posted by each department for employees without access to email.

Justification

Through environmental newsletters, public employees will be encouraged to change behaviors, both at work and at home, for a positive impact on stormwater quality. Although employees working in high risk areas, such as vehicle repair and maintenance, will receive specifically tailored training in pollution prevention, employees working in other areas can also have an impact on stormwater pollution. For example, the newsletter can inform employees of the steps to be taken if they discover an oil leak in their assigned city vehicle.

Measurable Goals

The measurable goal for implementation of BMP13 is to prepare and distribute to city employees two (2) electronic newsletters a year. Development and implementation will be according to the schedule below.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
Electronic Newsletter for City Employees		1. Distribution of two electronic newsletters per year	0	Environmental Services

Responsible Persons

The Director of Environmental Services has responsibility for preparation and electronic distribution of newsletter. Each department Director is responsible for posting the newsletter to provide access to employees with no email.

1.14 BMP14 Environmental Educational School Kit

The City of Carrollton will continue to provide educational materials to teachers. The bags will include materials and lessons and/or experiments. The bags will be made available at presentations, public events and at teacher or school requests.

Justification

An environmental education bag for schools is an inexpensive way of carrying the pollution prevention message to our children. According to experts, by starting the education process early in life, the likelihood of influencing the community to induce permanent changes in behavior is increased. Furthermore, the U.S.EPA guidelines recommend public education efforts targeting children. Also, by making the bags available to teachers at no cost, the city encourages partnerships with the academic community.

Measurable Goals

The measurable goal for implementation of BMP14 is to continue to provide educational materials to teachers for use in schools. Used materials will be replaced as needed, pending available funding. Development and implementation will be according to the schedule below.

Schedule

BMP	Group	Activity	Year Due	Responsible Department
1.3.14 Environmental Education School Kit		1. Distribute bags at events and or presentations	0	Environmental Services
		2. Review and update bags as needed	0	

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP14.

1. (b) Public Participation/Involvement

Public participation adds dynamic benefits to the program. First, a community actively involved in the development and implementation of the plan is more likely to adopt behavioral changes that will ultimately reduce the amount of pollutants in the storm drainage system. Prevention of pollution is more cost-effective than treatment to remove pollutants from runoff. Second, volunteer citizens can perform tasks that could not otherwise be conducted by the city due to limitations in staff and budget.

Currently, the City of Carrollton receives citizen input in environmental issues through the Citizens Advisory Committee. Additional opportunities for volunteer participation are creek clean up events and the city’s storm drain marking program.

The city also has a phone line to report illicit discharges and other environmental complaints, including stormwater violations, and a contact email is published on the website for all web visitors to access. Environmental Services staff is contacted to respond to such complaints as necessary.

1.15 BMP15 Comply with State and Local Public Notice Requirements

The City of Carrollton does, and will continue to comply with state and local public notice requirements when implementing the public involvement/participation component of this program. In addition, the city will comply with the public notice requirements stipulated in the permit.

Justification

Public notices allow the city to inform the community of changes in policies, operations, and/or ordinances that will have a direct impact on the citizens.

Measurable Goals

The measurable goal for implementation of this BMP is to provide state and local required public notice in the process of adopting a Stormwater Management Program as stipulated in the permit. Implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Public Notice	1. Publish notice of TCEQ determination on NOI and SWMP	1-2	Environmental Services
	2. Publish notice of Public Meeting if determined to be necessary by TCEQ	1-2	
	3. Implementation Complete	1-2	

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BM15.

1.16 BMP16 Public Meetings

The City of Carrollton will hold a public meeting within ninety (90) days from written receipt of TCEQ’s approval of the city’s SWMP.

Justification

Public meetings are an excellent way to interact with citizens about stormwater issues and encourage citizen participation and support for the proposed stormwater management plan. Citizen “buy in” is imperative if the goal of changing behaviors that impact stormwater quality is to be realized. Interactive discussions on key issues that concern the public can help focus the city’s attention on issues the public sees as priorities as well as provide an opportunity for the city to communicate its priorities.

Measurable Goals

The measurable goal for implementation of BMP16 is to conduct one public meeting within ninety (90) days from written receipt of TCEQ’s approval of the city’s SWMP and one public meeting for evaluation and update of the program at the end of the second permit term. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
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Public Meetings	1. Public meeting to introduce approved SWMP within 90 days from written receipt of TCEQ's approval of the SWMP	90 days after TCEQ's approval of SWMP	Environmental Services
	2. A public meeting to update/evaluate SWMP for the next permit term.	December 12, 2018	
	3. Implementation Complete	December 12, 2018	

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP16.

1.17 BMP17 Illicit Discharge Reporting Line

The City of Carrollton will maintain the current departmental reporting line (972-466-3060) for citizens who wish to report stormwater quality problems. A call center receives the calls Monday through Friday from 7 am to 7 pm. Calls regarding hazardous materials spills or releases are forwarded to Environmental Services personnel to address any cleanup or enforcement requirements. After hours callers are given the option to leave a message to be received on the next business day, or dial the non emergency number for Police dispatch (972-466-3333), which is answered 24 hours a day, 7 days a week. For after hour calls reporting an illicit discharge or spill, Police dispatch personnel contact the designated on-call spill response staff member. On-call, spill response personnel are Environmental Services staff members on after-hours duty (on call duty) on a rotational basis. All qualified members of the staff can address calls received during regular business hours. The departmental reporting line is promoted through our web site, and on the promotional items that are distributed to the public free of charge. Reporting is also available through email provided in the Environmental Quality webpage.

In addition to stormwater quality problems, the departmental line receives complaints on illegal dumping, pretreatment violations, and miscellaneous complaints regarding health and safety.

Justification

Community “hotlines” provide a means for the public to report water quality problems that would otherwise go unnoticed by municipalities. By quickly responding to reports of illicit discharges and/or spills, the environmental impact of such incidents can be minimized. In addition, this is an avenue whereby citizens take ownership over what is happening in their community.

Measurable Goals

The measurable goal for implementation of BMP17 is to maintain the present hotline (or an equivalent number). Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Illicit	1. Maintain illicit discharge reporting line.	0	Environmental

Discharge Reporting Line			Services
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Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP17.

1.18 BMP18 Volunteer Creek and Greenbelt Cleanup, Recycling and Chemical Collection

The city will organize or participate in an annual volunteer creek cleanup event or recycling day. The city will actively encourage the participation of youth groups, church groups, and neighborhood associations in this effort.

Justification

Stream cleanups are an effective way of improving water quality, and increasing public awareness of pollutant sources and fates. Furthermore, by taking an acting role, citizens develop a sense of responsibility for protecting their water resources, and become more involved with their community.

Measurable Goals

The measurable goal for implementation of BMP18 is to conduct one annual volunteer creek cleanup event or recycling day. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Volunteer Creek Clean-up	1. One annual creek clean up or recycling with volunteers	0	Environmental Services and Parks and Recreation

Responsible Persons

The Directors of Parks and Recreation and Environmental Services have the responsibility for the implementation of BMP18.

1.19 BMP19 Citizens Advisory Committee

The City of Carrollton formed a Citizens Advisory Committee during the first permit term to solicit citizen’s input to the SWMP. The city will continue to use the presently existing advisory committee with members being replaced as needed. **For this permit term, the Citizens Advisory Committee will work on designing and disseminating an electronic survey to residents in Carrollton that determines their level of information and involvement in stormwater issues.**

Justification

A citizen advisory committee can provide important citizen input while minimizing friction

and controversy frequently present in larger groups. By limiting the number of participants, the amount of time spent in discussing issues is reduced, and specific tasks can be accomplished more efficiently. Furthermore, citizens volunteering for advisory committees usually are interested in the issues and are willing to make the time commitment necessary to assist the city. Advisory Committees are also good avenues to take advantage of valuable expertise in the community and to broaden the reach of the city's Stormwater Management Program.

Measurable Goals

The measurable goal for implementation of BMP19 is to conduct at least one annual meeting to evaluate the implementation of the SWMP. Development and implementation will be according to the schedule below. **In addition, the Citizen Advisory Committee has committed to designing and disseminating an electronic survey within the permit term to residents in Carrollton to determine their level of information and involvement in stormwater issues.**

Schedule

BMP	Activity	Year Due	Responsible Department
Citizen Advisory Committee	1. Annual meetings with Citizen Advisory Committee.	0	Environmental Services
Citizen Survey	2. Design and disseminate an electronic survey to Carrollton residents citizens regarding stormwater issues	December 12, 2018	Environmental Services & Citizens Advisory Committee

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP19.

2. Illicit Discharge Detection and Elimination

Goals and Objectives

The City strongly believes that a solid IDDE program serves to proactively ferret out what would otherwise be hidden and insidious pollution impacts on surface water. Common sources of non-stormwater, dry weather discharges in the city include apartments and homes, car washes, restaurants, and gas stations. These and other sites could discharge sanitary sewer overflows from clogged lines, parking lot washings, vehicle wash water, motor oil, antifreeze, gasoline and fuel spills, and so on. These could come from direct or indirect connections. It is the city's goal to protect its stormwater system by continuing its existing IDDE program and by strengthening it with additional BMPs.

Several functions throughout the city that were already elements of illicit detection and elimination of pollutants were organized, streamlined and standardized during the first small MS4 permit. As a result, there now exists a solid IDDE program consisting of the following components that are implemented by key departments: a complete and continuously

updated map of the city's storm sewer system, in a GIS-compatible format; illegal dumping, spill response and enforcement; grease trap and liquid waste hauler inspections; industrial and commercial waste survey inspections; regular maintenance of water, wastewater and stormwater infrastructure; vegetation and litter control; street sweeping; smoke and dye-testing to check on illicit connections; surface water sampling, and outfall monitoring.

Illicit discharge detection and elimination is primarily undertaken by the Environmental Services Department through various programs. The Industrial Pretreatment Program undertakes a continuous environmental waste survey that tracks the operations, water usage, wastewater characterization, stormwater impacts and waste handling of new and existing businesses. Industries that meet the pretreatment definition of a Significant Industrial User under 40 CFR Part 403 undergo permitting, monitored for their effluent and are inspected at least annually for wastewater and stormwater practices. Another program of the department involves the administration of the Liquid Waste program to ensure proper maintenance of grease/grit traps and proper disposal of recovered liquid wastes, in compliance with 30 TAC Chap.312 (Sludge Use Disposal and Transportation) and 40 CFR Sec. 256 and 257.

In addition, the Environmental Services Department investigates complaints of illicit discharges and spills, and coordinates site clean up operations or other remediation actions needed. Citizens can call the City at any time of the day to report a spill, and the department has a 24-hr spill response on-call staff member on a rotational basis. The department also investigates and enforces ordinances concerning illegal dumping, trash and debris, and pet waste. Another department that assists with spill response arising from accidents and fire-related incidents is the Fire Department.

The city has maintenance programs for sewer infrastructure owned by the city. Segments of sanitary sewers are prioritized for inspection and repair/maintenance work. Stormwater inlets are also inspected based on priority areas. Both these maintenance programs are administered by the Department of Public Works. Public Works performs maintenance operations in the channels, creeks and ditches such as: erosion control and repair, silt removal, drainage feature repair, and debris removal. Parks and Recreation performs vegetation control such as mowing and herbicide spraying as well as trash and litter clean-up.

All new construction must undergo a site plan review and field verification by city inspectors, including video inspection of storm drain piping, to avoid illicit connections to the storm sewer system.

Non-Stormwater Discharges

The following non-stormwater sources may be discharged from the MS4 and have been determined not to be a significant contributor of pollutants to the MS4:

- a) water line flushing (excluding discharges of hyperchlorinated water, unless first dechlorinated and discharges are not expected to adversely affect aquatic life);
- b) runoff or return flow from landscape irrigation, lawn irrigation, and other irrigation utilizing potable water, groundwater, or surface water sources;
- c) discharges from potable water sources **that do not violate Texas Surface Water**

Quality Standards;

- d) diverted stream flows;
- e) rising ground waters and springs;
- f) uncontaminated ground water infiltration;
- g) uncontaminated pumped ground water;
- h) foundation and footing drains;
- i) air conditioning condensation;
- j) water from crawl space pumps;
- k) individual residential vehicle washing;
- l) flows from wetlands and riparian habitats;
- m) street wash water **excluding street sweeper waste water**;
- n) discharges or flows from emergency fire fighting activities (fire fighting activities do not include washing of trucks, run-off water from training activities, test water from fire suppression systems, and similar activities);
- o) other allowable non-stormwater discharges listed in 40 CFR §122.26(d)(2)(iv)(B)(1);
- p) non-stormwater discharges that are specifically listed in the TPDES Multi Sector General Permit (MSGP) TXR050000 or the TPDES Construction General Permit (CGP) TXR150000;
- q) **discharges that are authorized by a TPDES or NPDES permit or that are not required to be permitted**; and
- r) other similar occasional incidental non-stormwater discharges **such as spray park water**, unless the TCEQ develops permits or regulations addressing these discharges.

Selected BMP's for Illicit Discharge Detection and Elimination

- 2.1 Storm Sewer System Map
- 2.2 Stormwater Pollution Prevention Ordinance and Enforcement Response Guide
- 2.3 Spill/Emergency Response
- 2.4 Illicit Discharge Reporting Line
- 2.5 Construction Plans Review and Site Inspection for Illicit Connections
- 2.6 Illegal Dumping and Litter Control
- 2.7 Liquid Waste Program
- 2.8 Maintenance Program for Sanitary Sewers
- 2.9 Pet Waste Management
- 2.10 Dry Weather Discharge Screening
- 2.11 Household Hazardous Waste Program
- 2.12 Water Main Breaks Response
- 2.13 Employee Training for Illicit Discharges

2.1 BMP1 Storm Sewer System Map

The City of Carrollton completed a storm sewer system map during the first permit term. Verification was done using field inspections with GPS and as-built plans for those that cannot be field verified (i.e. underwater). The City will continue to maintain the storm sewer system map, showing the location of storm sewer pipes, ditches, and other conveyances, the location of, or drainage area for each outfall, and the names and locations of all waters of the U.S. that receive discharges from those outfalls. The sources of the map are the as-built construction plans and field work.

Justification

The map will aid the municipality in targeting outfalls with dry weather flows and other suspicious discharges for investigation and abatement. Knowing the locations of outfalls and receiving waters will assist in conducting inspection of the MS4 and responding to illicit discharge reports from the public.

Measurable Goals

The measurable goal for implementation of BMP1 is to continue updating and verifying the storm system map as new outfalls are installed or discovered. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Storm Sewer Map	1. Verification of new or newly discovered outfalls.	0	IT Department, Engineering, Environmental Services and Public Works
	2. Map continuously updated as new data is obtained.	0	

Responsible Persons

The Director of Environmental Services, Director of Engineering, Director of Public Works and the IT Department are responsible for implementing BMP1.

2.2 BMP2 Stormwater Pollution Prevention Ordinance and Enforcement Response Guide

The City of Carrollton will review and update the Stormwater Pollution Prevention Ordinance to effectively prohibit non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions. At the same time, the City will also establish its Enforcement Response Guide based on the penalties approved in the ordinance.

Justification

An ordinance provides the municipality with the legal authority to prohibit non-stormwater discharges, and to enforce such prohibitions.

Measurable Goals

The measurable goal for implementation of BMP2 is to review, revise and implement the current ordinance by December 15, 2015. Development and implementation will be according to the schedule below. **The Standard Operating Procedure for enforcing ordinance requirements herein referred to as the Enforcement Response Guide shall be initiated as soon as the revised ordinance is in effect and shall be completed in Year 3. Implementation of the ERG shall commence in Year 4.**

Schedule

BMP	Activity	Year Due	Responsible Department
Stormwater Pollution Prevention Ordinance	1. Review and revise the Stormwater Pollution Prevention Ordinance.	December 12, 2015	SWMC; Environmental Services
	2. Adoption of ordinance by City Council, publication	December 12, 2015	
	3. Implementation Complete	December 12, 2015	
Stormwater Enforcement Response Guide	4. Establish the Enforcement Response Guide	December 12, 2016	Environmental Services
	5. Commence implementation of ERG	December 12, 2017	

Responsible Persons

The Director of Environmental Services, the Stormwater Management Committee and the City Attorney have responsibility for the development and presentation to Council of BMP2. The Director for Environmental Services is responsible for the implementation of BMP2.

2.3 BMP3 Spill/Emergency Response

The City of Carrollton will review and revise the current policies and procedures for responding to spills of hazardous substances. After receiving notification, Environmental Services staff initiates a response to the spill within one hour. Members of the spill response team have received HAZWOPER training and annual refreshers. Staff attempts to contain the spill on site, identifies the responsible party, and requires cleanup and/or remediation from such party. When the responsible party is unknown or unavailable, staff conducts the clean up or contracts the services of a qualified third party for clean up. Environmental Services staff will require reimbursement of city expenses from the responsible party when possible, and will initiate additional enforcement action if necessary. Since the Fire Department is usually contacted first, they will contain the spill as needed and then contact Environmental Services to complete the response.

Public Works will maintain their current standard operating procedures for handling sanitary sewer overflows and water main breaks. After receiving notification, Public Works staff will respond within one hour. Other staff or departments will be contacted as determined by the response team.

Justification

Accidental or intentional release of hazardous materials can have a tremendous effect on public health and the environment. A quick response and clean up can minimize the environmental impact of such incidents.

Measurable Goals

The measurable goal for implementation of BMP3 is to initiate spill response within 1 hour of receiving notification of incident, 95% of the time. The spill response procedure and **database** will be reviewed and revised in the second year of this permit. **The updates will include prioritizing discharges, reporting discharges to TCEQ, reporting discharges to**

another MS4, follow-ups, and date closed. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Spill Response	1. Spill response plan in place.	0	Environmental Services, Fire Dept. and Public Works
	2. Review and revise the spill response manual and database.	December 12, 2015	

Responsible

The Directors of Environmental Services and Public Works, and the Fire Chief are responsible for the implementation of this BMP.

2.4 BMP4 Illicit Discharge Reporting Line

This BMP has been discussed in a previous section on the Public Participation and Involvement Minimum Control Measure, as BMP1.17. The measurable goal and schedule are described in that section.

2.5 BMP5 Construction Plans Review and Site Inspection for Illicit Connections

The City of Carrollton will continue to review construction plans and conduct site inspections of all new construction projects to ensure that no illicit connections are made between the sanitary sewer and the MS4. This BMP is presently implemented in all new development within the city. Engineering will conduct plans review and inspections for construction projects involving infrastructure that is fully or partially funded with city funds, including Capital Improvement Projects. Engineering will also review and inspect infrastructure components of single-family residential projects for which city funds will be used for future maintenance and repair of the infrastructure, even if the original construction was fully funded by private monies. Building Inspection staff will conduct plans review and inspections for all other projects including the construction of above ground structures and infrastructure of private projects for which maintenance will remain the responsibility of the property owner such as commercial buildings and multifamily apartment buildings. For construction projects conducted by the city with city staff and/or contractors hired by the city, the Department responsible for the project will be responsible for plans review (when applicable) and inspections. Erosion controls for construction sites are discussed in another section of this plan.

Justification

The review of construction plans will ensure that appropriate design considerations are taken to avoid inadvertent connections between the sanitary sewer and the MS4. Site plan reviews of commercial projects by the Department of Building Inspection will also identify areas of concern such as hazardous materials storage areas, fuel storage tanks, and grease or grit traps and appropriate drain design and connections. Field inspections will verify that design specifications are adopted and/or implemented at the site.

Measurable Goals

The measurable goal for implementation of BMP5 is to continue the present policy and conduct plan review and site inspections in 100% new development projects in the city. **Plan review and site inspections for illicit connections will be included in the appropriate SOP.** Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Construction Plans Review and Site Inspections	1. 100 % new construction projects will undergo site plan review and will be inspected to ensure no illicit connections	0	Development Services, Engineering and Public Works
	2. Include plan review and site inspections for illicit connections in the appropriate SOP for construction.	December 12, 2015	

Responsible Persons

The Directors of Engineering and Development Services have joint responsibility for implementation of BMP5 for projects not conducted by city staff. The Director of Public Works will be responsible for construction projects belonging to the city and conducted by Public Works staff or their contractors.

2.6 BMP6 Illegal Dumping and Litter Control

The City of Carrollton will continue to implement present practices regarding illegal dumping and litter control. The Department of Environmental Services responds to illegal dumping incidents. In those cases in which a responsible party is identified, they are required to clean up the dumping/discharge site, and enforcement action follows. For instances in which no responsible party is identified, the city pays for clean up. Litter control is addressed by notices of violation and citations to residential and commercial areas.

Trash and litter control in outdoor city facilities is addressed by the Department of Parks and Recreation. Mowing crews are required to pick up trash in parks, greenbelts, sport complexes and other facilities. Through community services, volunteers and other citizens pick up trash in parks, greenbelt areas, sport complexes, medians, drainage channels and undeveloped sites.

Trash and debris in storm inlets are cleaned by the Department of Public Works. Subject to council appropriation, the city inspects approximately 40% of the storm inlets per year. They also pick up approximately 9000 items of trash and debris from the side of the road per year. These items are also addressed in BMP4.3.2

Justification

Chemical wastes dumped directly into storm drains or transported by runoff from dumpsites can impair water quality and contaminate water supplies. Trash and debris blown or otherwise deposited into the MS4 can also contaminate streams and rivers.

Measurable Goals

The measurable goals for implementation of BMP7 are:

- Initiate response to an active illegal dumping incident within one hour, 90% of the time
- 100% illegal dumpsites abated
- 100% illegal dumping incidents with identifiable responsible party to be followed by enforcement action
- Inspect 40% of storm inlets per year, subject to council appropriation.
- 9000 pieces of trash and debris collected from the roads and ditches per year.

Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Illegal Dumping and Litter Control	1. 90% active illegal dumping incidents respond within one hour.	0	Environmental Services
	2. 100% abatement of illegal dumping incidents	0	Environmental Services
	3. 100% incidents with identifiable responsible party to be followed by enforcement action	0	Environmental Services
	4. Inspect 40% storm inlets per year	0	Public Works
	5. 9000 pieces of trash collected from the roadways per year	0	Public Works

Responsible Persons

The Director of Environmental Services is responsible for implementation of the illegal dumping response. The Director of Public Works is responsible for storm inlet maintenance and trash collected from the roadways.

2.7 BMP7 Liquid Waste Program

The City of Carrollton will continue to implement the present Liquid Waste Program, which requires transporters of non-hazardous liquid waste to obtain a permit from the city and to document proper disposal of all liquid waste. Most common wastes include liquid wastes from grease and grit traps and sanitary sewage from portable sanitary facilities. A five part trip ticket is utilized to document the removal, transport, and disposal for each facility serviced. The system allows verification that the liquid waste generator uses a permitted transporter to remove the waste from the facility, that the transportation is done with a properly functioning vehicle and that the waste is disposed of at an approved facility.

Justification

A common cause of sanitary sewer overflows in urban areas is blockage of the lines by grease from commercial food preparation and industrial food manufacturing. Sewage overflows allow the discharge of untreated raw sewage to creeks and streams. Oils and solids from automobile maintenance shops can also impair water quality. To ensure wastewater from these operations do not exceed acceptable limits of grease, oil, and solids, these facilities are required to intercept these constituents of their waste stream in grease/grit traps, and dispose of the intercepted material at an approved location. The Liquid Waste Program ensures that wastes from the traps are removed at appropriate intervals and

disposed of in accordance with the law.

Measurable Goals

The measurable goal for implementation of BMP7 is to require all establishments that have a grease or grit trap to use a liquid waste hauler permitted by the city and to document the removal, transport, and disposal of waste using city-issued trip tickets. Having a set pumping frequency will help prevent overflows.

The City requires all locations to connect to the city’s wastewater collection system. However, where the locations are more than a hundred feet away from a city sewer line, these locations are exempted from said rule and can set up a septic tank system. **An inventory of septic tanks in the city shall be done and procedures to prevent and correct any leaking septic tank shall be developed.** Development and implementation will be according to the schedule below

Schedule

BMP	Activity	Year Due	Responsible Department
Liquid Waste Program	1. 100% permitted liquid waste haulers inspected once a year	0	Environmental Services
		0	
	2. 100% permitted liquid waste haulers to submit used tickets monthly.	0	
	3. 100% identified facilities to use a permitted liquid waste hauler.	0	
	4. Inventory of septic tanks in the city.	December 12, 2016 (3)	
5. Develop procedures to prevent and correct any leaking on-site sewage disposal system	December 12, 2017 (4)		

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP9.

2.8 BMP8 Maintenance Program for Sanitary Sewers

The Department of Public Works is responsible for the operation and maintenance of Carrollton’s wastewater collection system. It currently operates and maintains approximately 421 miles of sewer main ranging from 6-inches to 42-inches in diameter, approximately 5,461 manholes, 18 lift stations and approximately 35,422 sanitary sewer services. Preventive maintenance activities include an average of approximately 110,288 feet of wastewater collection mains cleaned per month, CCTV inspection of sanitary sewer main lines, lateral and mains during Finals & Maintenance Bonds, manhole rehabilitation, inspection and data acquisition, smoke testing, lift station cleaning, service and main repairs, 30 day list cleaning, responding to sanitary sewer service calls (odor complaints, main lines, service calls, locates) and infiltration/inflow control measures.

Justification

A sewer system can be damaged or misused in many ways, creating continuous problems. Age of the wastewater collection system along with misuse of sewers by the public cause

wastewater collection system lines to become clogged, resulting in sanitary sewer overflows. Construction activities such as underground utility construction, building construction, and street paving activities can result in sewer lines that are cut, bored through, or filled with debris. All of these items necessitate continuous maintenance activities designed to prevent and reduce sanitary sewer overflows.

Measurable Goals

The measurable goal, in keeping with the TCEQ agreement, for implementation of BMP8 is to:

- Clean about 200 miles of sewer lines per year,
- Conduct closed-circuit television inspections of 100,000 feet per year,
- Smoke and dye testing of 100,00 feet per year,
- Inspect 2100 manholes per year
- Repair and/or bring to grade 300 manholes per year
- Maintain and update the 30 day maintenance list
- Lift stations inspected monthly

This BMP will be based on the fiscal year (October 1st – September 30th).

Schedule

BMP	Activity	Year Due	Responsible Department
Maintenance Program for Sanitary Sewers	1. Annual maintenance and inspection of sanitary sewer system.	0	Public Works
	2. Tag high-risk sections of sanitary sewer system for inspection/ maintenance every 30 days (i.e. Maintain 30-day list). Review annually.	0	

Responsible Persons

The Director of Public Works has responsibility for implementation of BMP8.

2.9 BMP9 Pet Waste Management

The City of Carrollton will continue to require pet owners to remove pet wastes from public areas and private property. The city will implement public education measures to increase community awareness of the environmental threat posed by animal wastes.

Justification

Pet waste that is not properly disposed of can be carried by runoff into storm drains and nearby water bodies, becoming a significant source of runoff pollution. Pet waste decomposition in creeks depletes oxygen levels in water and increase concentration of ammonia. Pet waste adds nutrients to water bodies which can promote weed and algal growth, and can also carry bacteria, viruses and parasites that jeopardize sources of drinking water.

Measurable Goals

The measurable goal for implementation of BMP9 is to investigate all of the complaints received regarding improper disposal of pet waste. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Pet Waste Management	1. Investigate all (100%) complaints received regarding improper disposal of pet waste	0	Environmental Services

Responsible Persons

The Director of Environmental Services will be responsible for implementing this BMP.

2.10 BMP10 Dry Weather Discharge Screening

The City of Carrollton will continue to participate in the regional protocol for dry weather screening, developed cooperatively with the participants of the North Central Texas Council of Governments (NCTCOG) Regional Stormwater Management Program. The Dry Weather Screening Manual was revised to fit the city’s needs in the first permit term. The city will continue to purchase items needed for sampling and monitoring.

Justification

Dry weather screening is a simple method to help detect illicit discharges. Visual inspection of outfalls, noting changes in volume of discharge, coloration, and odors can indicate that pollutants are being released into the environment. In conjunction with infrastructure maps and knowledge of the activities occurring in the area, the search for the responsible party can be narrowed.

Measurable Goals

The measurable goal for implementation of BMP10 is to participate in the regional protocol and corresponding training for dry weather screening, developed cooperatively with the participants of the North Central Texas Council of Governments (NCTCOG) Regional Stormwater Management Program. The city will continue to implement the Dry Weather Field Screening at the priority locations. The priority locations and Carrollton’s Dry Weather Field Screening Manual will be reviewed and revised (if necessary) during the permit term.

Schedule

BMP	Activity	Year Due	Responsible Department
Dry Weather Discharge Screening	1. Employees or consultants attend the NCTCOG regional dry weather screening protocol training as needed.	0	Environmental Services
	2. Review and revise if necessary the priority locations for screening.	December 12, 2105	
	3. Review and revise the Dry Weather Field Screening manual	December 12, 2015	
	4. Continue Dry Weather Field Screening at	0	

	the priority locations.		
	5. Implementation Complete	0	

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP 10.

2.11 BMP11 Household Hazardous Waste Program

The City of Carrollton will continue to provide a method of disposal of household hazardous waste for its residents. The city has ordinances prohibiting the discharge of chemical substances, including household chemical wastes to areas draining to the MS4. The city also distributes brochures and promotional items that provide information on the impact of improper disposal of household chemicals.

Justification

Many commonly used household products contain hazardous chemicals that can pose a threat to public health and the environment if improperly disposed. Paint, solvents, cleaners and used motor oil, are a few of the household wastes that are illegally dumped into storm drains across the country. Many of these chemicals should not be discharged into the sanitary sewer, because they are not removed by the treatment process, or can damage the physical or biological components of the treatment plant.

Measurable Goals

The measurable goal for implementation of BMP11 is to continue to provide a program of disposal of household hazardous waste for Carrollton’s residents.

Schedule

BMP	Activity	Year Due	Responsible Department
Household Hazardous Waste Program	1. Provide a household hazardous waste disposal program for Carrollton residents.	0	Environmental Services

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP11.

2.12 BMP12 Water Main Breaks Response

The City of Carrollton will maintain the present policy and procedure for responding to major water main breaks. Upon arriving at the site, the responder will put dechlor tablets into the water flow before the storm drain. Once all residents and businesses affected are notified of the water main break, Public Works will shut off the water. Repairs will begin as soon as possible.

Justification

While chlorine is used to make drinking water safe, it is poisonous to fish at low levels. Dechlor tablets are used to neutralize the chlorine before it reaches the bodies of water. Monitoring will determine both chlorine levels and possible harm to the aquatic life in the

bodies of water.

Measurable Goals

The measurable goal for BMP12 is to initiate a response within 1 hour of receiving notification of the water main break 95% of the time. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Water Main Breaks	1. Response procedures in place.	0	Public Works and Environmental Services

Responsible Persons

The Director of Public Works and the Director of Environmental Services are responsible for the implementation of BMP12.

2.13 BMP13 Employee Training for Illicit Discharges

The City of Carrollton will implement a training program for all field employees who may observe an illicit discharge as part of their normal job responsibilities. The departments who have field employees that will need to be trained will include Development Services, Engineering, Environmental Services, Facility Services, Fire, Parks and Recreation, Police, Public Works, and Utility Customer Services.

Justification

Employees who are in the field on a day-to-day basis are in the best position to locate and report spills and illicit discharges. With proper training and information on reporting illicit discharges, field staff can greatly expand the reach of the IDDE program.

Measurable Goals

The measurable goal for BMP13 is to develop and implement a training program for all city field employees who may observe an illicit discharge.

Schedule

BMP	Activity	Year Due	Responsible Department
Employee Training	1. Develop a training program for all field employees	December 12, 2016 (3)	Environmental Services
	2. Train all field employees	December 12, 2018 (4&5)	

Responsible Person

The Director of Environmental Services is responsible for the implementation of this BMP.

3. *Construction Site Stormwater Runoff Control*

Goals and Objectives

The City will further develop and enforce its existing Construction Site Stormwater Runoff Control Program in order to prevent illicit discharges to the maximum extent practicable. This will be achieved through an assessment of existing BMPs for this control measure, an evaluation of existing ordinances, along with enforcement of erosion and sediment controls during all phases of land disturbance.

The City of Carrollton requires permits for clearing/excavation of sites for the development and construction of infrastructure and buildings and for the demolition of buildings, regardless of the size of the land disturbance. The Engineering Department administers grading permits for public improvements and developments, while Development Services issues grading permits for private development. The city also requires building permits for projects that involve the construction or demolition of structures such as homes or buildings regardless of the size of the land disturbance; and the Building Inspection administers these permits. Development Services and Engineering requires proof of TPDES coverage for all their permits for sites disturbing 1 or more acres of land, including the larger common plan of development.

The city conducts site plan reviews before any type of construction or grading permit is issued. Engineering conducts preconstruction meetings after a development permit is issued, but before construction starts. Site plan review and preconstruction meetings are held for all projects regardless of the size of the land disturbance. Development Services also conducts preconstruction meetings after a Building Permit has been issued and prior to construction. Environmental Services staff addresses pollution prevention and erosion control requirements during these meetings, when schedule allows. When Environmental Services staff cannot be present, the issues are covered by either Engineering or Building Inspection staff.

All private construction sites disturbing one or more acres of land, including the larger common plan of development, are required to submit a copy of their Construction Site Notices or Notice of Intent and a copy of their Stormwater Pollution Prevention Plan (SWP3), to Development Services or Engineering. Operators are notified of this requirement during permit application and they are required to submit the plan together with all other documentation prior to being issued a permit.

The following table shows the current approach to manage construction projects within the city:

Type of Development	Lead Department	Type of Permit	Verification of TPDES Compliance	Erosion Controls Required	Erosion Control Inspections
Public Infrastructure for Residential Subdivision	Engineering	Development Permit	Sites larger than 1 acre, including the larger common plan of	Yes	Yes

			development		
Single family and Duplex Building	Development Services	Building Permit	No if < 1 acre Yes if > 1 acre, including the larger common plan of development	Yes	Yes
Commercial and Multi-Family Building	Development Services	Development Permit and Building Permit	No if < 1 acre Yes if > 1 acre, including the larger common plan of development	Yes	Yes
Demolition	Environmental Services and Development Services	Demolition Permit	No if < 1 acre Yes if > 1 acre, including the larger common plan of development	Yes	Yes

Selected BMPs for Construction Site Stormwater Runoff Control

- 3.1 Ordinance for Construction Site Erosion and Sediment Controls and Enforcement Response Guide
- 3.2 Stormwater Pollution Prevention Plan Review and Submission of NOI/CSN
- 3.3 Construction Site Inspection
- 3.4 Response to Citizen Complaints
- 3.5 Stormwater Information Package for Construction Site Operators
- 3.6 Preconstruction Meetings
- 3.7 Demolitions
- 3.8 Employee Training
- 3.9 Construction Site Inventory

3.1 BMP1 Ordinance for Construction Site Erosion and Sediment Controls and Enforcement Response Guide

The City of Carrollton presently has two ordinances, the Stormwater and Flood Protection Ordinance and the Stormwater Pollution Prevention Ordinance (SWPPO), that requires erosion and sediment controls at construction sites, and compliance with the requirements of the Texas Pollutant Discharge Elimination System (TPDES) permit program for land disturbances of one acre or greater, including the larger common plan of development. The city will review both of these ordinances during the permit term and revise if necessary. **The Standard Operating Procedure for enforcing ordinance requirements herein referred to as the Enforcement Response Guide shall be initiated as soon as the revised ordinance is in effect and shall be completed in Year 3. Implementation of the ERG shall commence in Year 4.**

Justification

An ordinance or another regulatory mechanism provides the municipality with the legal

authority to prohibit non-stormwater discharges and to enforce compliance with federal/state stormwater permits for construction activities.

Measurable Goals

The measurable goal for implementation of BMP1 is to review and revise (if necessary) the Stormwater and Flood Protection Ordinance and the construction site section of the Stormwater Pollution Prevention Ordinance. Develop and implement an ERG. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Ordinance for Illicit Discharge Detection and Elimination	1. Review & revise ordinance Stormwater and Flood Protection Ordinance	December 12, 2015	Engineering, Environmental Services
	2. Review & revise SWPPO	December 12, 2015	
	3. Adoption of ordinance by City Council, publication	December 12, 2015	
	4. Implement ordinance changes	December 12, 2015	
Stormwater Enforcement Response Guide	5. Establish the Enforcement Response Guide	December 12, 2016	Environmental Services
	6. Commence implementation of ERG	December 12, 2017	

Responsible Persons

The Directors of Engineering and Environmental Services and the City Attorney have responsibility for development and implementation of BMP1.

3.2 BMP2 Stormwater Pollution Prevention Plan (SWPPP) Review and Submission of the Construction Site Notice or Notice of Intent

Operators of a construction site greater than or equal to one acre, including the larger common plan of development, are required to submit either a copy of their NOI or Construction Site Notice (whichever is applicable) and a SWPPP. These documents are reviewed and required to be complete and technically sound before a permit is issued.

Justification

Review of the Construction Site Notice, NOI and SWPPP ensures that construction operators have applied for coverage under the TPDES Construction Permit and that appropriate erosion and pollution control measures are implemented at the site. Plan review also aids in identifying individuals responsible for implementation of erosion and pollution control practices, and facilitating enforcement actions when necessary.

Measurable Goals

The measurable goal for implementation of BMP2 is to obtain a construction site notice and a SWPPP for all construction sites greater than or equal to one acre, including the larger

common plan of development, and receive a NOI and a SWPPP for all construction sites greater than or equal to five acres, including the larger common plan of development. Construction Site Notices, NOI's and SWPPP's will be reviewed by staff of the department issuing the permits. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
SWP3 Review and NOI	1. Engineering and Development Services require copies of either CSN or NOI and SWPPP from all operators disturbing one or more acres of land, including the larger common plan of development	0	Development Services and Engineering
	2. Procedures in place to obtain and review CSN/NOI and SWP3 of all (100%) construction sites required to obtain a NPDES/TPDES stormwater permit for construction activities of one acre and greater, including the larger common plan of development.	0	

Responsible Persons

The Directors of Engineering and Development Services have the responsibility for requesting, obtaining and reviewing Construction Site Notices or NOI's and SWPPP's on all construction sites greater than or equal to 1 acre, including the larger common plan of development.

3.3 BMP3 Construction Site Inspection

The City of Carrollton will conduct timely inspections at all active private construction sites regardless of the size of the land disturbance within its jurisdiction to ensure proper installation and maintenance of sediment and erosion control measures. Such inspections may be conducted in conjunction with other inspections required by the city for construction activities. **Written inspection procedures and an inspection form will be developed for use during inspections.**

Justification

Construction site inspections are necessary to ensure that stormwater BMPs are properly installed and maintained, and to conduct enforcement, when needed, to ensure compliance. Written inspection procedures as well as a construction site inspection form, provides guidance as well as documentation of the inspection performed.

Measurable Goals

The measurable goal for implementation of BMP3 is to conduct timely inspections of all active construction sites within the city, regardless of the size of the land disturbance, and to enforce control measures and ordinance provisions. **The inspections will be conducted by city staff trained to recognize proper installation and maintenance of sediment and erosion controls. Written procedures for construction site inspections and**

enforcement will be developed. An inspection form will be produced for use during construction site inspections. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Date Due	Responsible Department
Construction Site Inspection	1. Conduct inspection of 100% of construction activities regardless of the size of land disturbance.	0	Development Services, Engineering and Environmental Services
	2. Develop written procedures for site inspection and enforcement requirements.	December 12, 2015	
	3. Develop inspection sheet for use during construction site inspections.	December 12, 2015	

Responsible Persons

The Directors of Development Services, Engineering and Environmental Services have the responsibility for the implementation of BMP3.

3.4 BMP4 Response to Citizen Complaints

The City of Carrollton will use the same mechanisms described in 1.17 BMP17 to provide a means to receive and consider public inquiries, concerns, and complaints regarding all construction sites regardless of the size of the land disturbance. Therefore, this BMP will have the same measurable goals and schedule of implementation. The responsible parties will include all the city departments that may be involved in the inspections of the construction site. Complaints received from the public will be investigated and enforcement, if needed, will be conducted.

Justification

The general public can be a valuable tool to identify illicit discharges of pollutants from construction sites. Community hotlines provide a means for the public to report water quality problems that otherwise can go unnoticed to municipalities with limited resources. By quickly responding to reports of illicit discharges from construction sites, the environmental impact of such incidents can be minimized. Although the city does not have a telephone number dedicated exclusively to report illicit discharges of this nature, Environmental Services’ main number provides the service of a dedicated hotline.

Measurable Goals

The measurable goal for implementation of BMP4 is to maintain the present hotline (or an equivalent number) for public input regarding illicit discharges from all construction sites regardless of the size of the land disturbance. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
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Illicit Discharge Reporting Line	1. Maintain “hotline” for construction site concerns	0	Development Services, Engineering and Environmental Services
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Responsible Persons

The Directors of Development Services, Engineering, and Environmental Services have the responsibility for receiving public input regarding illicit discharges from construction sites and addressing them as needed.

3.5 BMP5 Stormwater Information Package for Construction Site Operators

The City of Carrollton currently has an information package that is distributed to all construction site operators applying for a grading or building permit with the city regardless of the size of the land disturbance.

Justification

Stormwater runoff from construction sites, which can be loaded with sediments, nutrients, heavy metals and oil and grease among other pollutants, is one of the most common causes of water quality problems in the region. Construction sites can contribute more sediment to streams than can be deposited naturally over several decades. Education on the environmental impact of illegal discharges and improper waste disposal from construction sites, allows operators of construction sites to understand the importance and need of implementing pollution prevention practices at the site. Awareness of personal responsibilities is likely to increase operator’s compliance with environmental regulations.

Measurable Goals

The measurable goal for implementation of BMP5 is to continue to distribute the information packet regarding environmental impacts of stormwater runoff from construction sites, and the operators’ responsibilities in complying with state permit requirements and city ordinances applying to construction activities regardless of the size of the land disturbance. The packet will be distributed to operators by the Engineering, Development Services or Environmental Services departments along with other relevant materials to grading or building permit applicants during preconstruction meetings.

Schedule

BMP	Activity	Year Due	Responsible Department
Stormwater Information Package for Construction Site Operators	1. Update information packet as needed.	0	Environmental Services
	2. Implement distribution plan through Engineering and Building Inspection	0	Development Services, Engineering, Environmental Services, Parks and Recreation and Public Works

Responsible Persons

The Director of Environmental Services has responsibility for updates to the information packet and delivery to Engineering and Development Services. Development Services, Engineering and Environmental Services have responsibility for the distribution of the information package to permit applicants. The Director of Public Works or the Director of Parks and Recreation will be responsible for the distribution of information to their contractors for those construction projects under their direct supervision.

3.6 BMP6 Preconstruction Meetings

The City of Carrollton conducts preconstruction meetings with all operators of construction sites, applying for a grading or building permit with the city, regardless of the size of the land disturbance. As part of the meeting, implementation of erosion and sediment controls and pollution prevention measures at the site are discussed. The city also discusses compliance with the TPDES stormwater permit program for construction activities disturbing one or more acres of land, including the larger common plan of development. Preconstruction meetings for grading permits are conducted by the Engineering Department, and Development Services conducts preconstruction meetings for building permit applicants. Environmental Services attends these meetings when their schedule allows and provides assistance to both departments on an ongoing basis.

Justification

Preconstruction meetings are a good way to outline environmental protection and associated legal requirements to operators of construction sites. It is also a good opportunity to answer questions regarding city requirements and responsibilities of the operator. By meeting with operators before construction activities start, any problems or deficiencies found in the permit application or SWPPP can be brought to the operator’s attention, minimizing the potential for illicit discharges from the construction site.

Measurable Goals

The measurable goal for BMP6 is to continue to conduct a preconstruction meeting with each applicant for a grading permit or a building permit (regardless of the size of the land disturbance), to discuss erosion and sediment controls, pollution prevention practices, waste management, and TPDES requirements for construction operators.

Schedule

BMP	Activity	Year Due	Responsible Department
Preconstruction Meeting	1. Conduct preconstruction meetings with all (100%) applicants to a grading or building permit	0	Development Services, Engineering and Environmental Services

Responsible Persons

The Directors of Development Services and Engineering has the responsibility for conducting the preconstruction meetings and ensuring inclusion of stormwater pollution concerns. The Director of Environmental Services will assist both departments as needed.

3.7 BMP7 Demolitions

Operators of a demolition site greater than or equal to one acre, including the larger common plan of development, are required to submit either a copy of their NOI or Construction Site Notice (whichever is applicable) and SWPPP. These documents are reviewed and required to be complete and technically sound before a permit is issued.

Justification

Review of Construction Site Notices, NOI's and SWPPP's ensures that demolition operators have applied for coverage under the TPDES Construction Permit and that appropriate erosion and pollution control measures are implemented at the site. Plans review also aids in identifying individuals responsible for implementation of erosion and pollution control practices, facilitating enforcement actions when necessary.

Measurable Goals

The measurable goal for implementation of BMP7 is to continue to obtain a Construction Site Notice and a SWPPP for all demolition sites greater than or equal to 1 acre, including the larger common plan of development and receive a NOI and a SWPPP for all demolition sites greater than or equal to 5 acres, including the larger common plan of development. Construction Site Notices, NOI's and SWPPPs will be reviewed by staff of the department issuing the permits. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Demolitions	1. Development Services requires copies of either CSN or NOI and SWPPP from all operators disturbing one or more acres of land, including the larger common plan of development	0	Development Services
	2. Obtain and review NOI's and SWPPP of all (100%) demolition sites required to obtain a NPDES/TPDES stormwater permit	0	Development Services and Environmental Services

Responsible Persons

The Director of Development Services has the responsibility for requesting, obtaining and reviewing demolition Site Notices or NOI's and SWPPP's on all demolition sites greater than or equal to one acre, including the larger common plan of development. The Director of Development Services or Environmental Services is responsible for overseeing the demolition process.

3.8 BMP8 Employee Training

The city ensures that the employees who are responsible for implementing the construction stormwater program receive on the job training as well as periodic training. The employees involved in permitting, plan review, construction site inspections and enforcement will receive the appropriate training.

Justification

Training programs teach employees about how each job duty is responsible for ensuring proper implementation of the stormwater program.

Measurable Goals

The city will ensure that all employees who are responsible for implementing the construction stormwater program are informed or trained to conduct these activities.

Schedule

BMP	Activity	Year Due	Responsible Department
Employee Training	1. Training of all employees responsible for the implementation of the construction stormwater program.	December 12, 2015	Development Services, Engineering and Environmental Services

Responsible Persons

The Directors of Development Services, Engineering and Environmental Services are responsible for this measure.

3.9 BMP9 Construction Site Inventory

In order to effectively oversee the construction projects in the city, the city maintains an inventory of all active construction sites. The appropriate departments are responsible for keeping their construction inventory current or up to date.

Justification

Keeping a current list of all active construction sites will help the permittee to effectively know where the construction activities are occurring. The inventory could track information such as project size, disturbed area, distance to any water body or flow channel, and whether the project is covered by the TCEQ's Construction General Permit (CGP).

Measurable Goals

The city will maintain a list of all active private and public construction sites that are 1 acre or greater or are part of a larger common plan of development.

Schedule

BMP	Activity	Year Due	Responsible Department
Construction Site Inventory	1. Inventory of all permitted active public and private construction sites 1 acre or part of a larger common plan of development.	0	Development Services, Engineering, Public Works

Responsible Persons

The Directors of Development Services, Engineering and Public Works are responsible for this measure.

4. Post Construction Stormwater Management in New Development and Redevelopment

Goals and Objectives

It is the City's goal to minimize any degrading impact of developed and redeveloped land areas, such as greater quantities of stormwater run-off and higher pollution concentrations, on the quality of its surface waters. It shall therefore improve its current post-construction requirements through an evaluation of its current design standards and clear implementation of a maintenance program and an inspection program.

The Planning and Zoning Commission regulates development in the City of Carrollton through several ordinances, as well as general design standards, addressing various aspects of development and redevelopment. The Comprehensive Zoning Ordinance establishes the way in which sections of the city are to be developed, and depending upon the zoning district, it establishes maximum impervious coverage of 80 to 100% of the total area of the tract. It also establishes minimum requirements of landscaping that range from 0 to 20% of the total area. The ordinance also establishes additional landscaping provisions in order to protect and conserve the community's soil and prevent soil erosion and silting of drainage structures and water bodies, and to provide opportunities for groundwater recharge. In order to ensure compliance with these and other city requirements, the city reviews any proposed development plan, before a construction permit is issued.

The Stormwater and Flood Protection Ordinance limits the maximum allowable rate of runoff of any newly developed property to that which would have been created if the property had been developed as single family residential property unless detailed technical data demonstrate that such controls are not necessary to avoid impacts on the waterways beyond those expected from a residential development. This ordinance also prohibits new construction on any floodplain area, unless the area can be reclaimed from the floodplain. The floodplain is defined as the area that would flood if the watershed were fully developed. This definition is more stringent than the regulatory floodplain concept used by the Federal Emergency Management Agency, which administers the National Flood Insurance Program. Issuance of a Floodplain Alteration Permit is contingent upon ensuring that the development will not create erosive water velocities on or off-site, nor significantly increase downstream discharges.

Additional open space is preserved by the Subdivision Ordinance, which requires all new residential subdivisions to provide neighborhood parks or pay a fee in lieu of dedication, after review by the city. All fees collected by this process, are used to develop the neighborhood park system designated to serve the particular area. The city also has a Tree Preservation Ordinance that prohibits the removal of 38 species of protected trees. Prior to development on a site that has one or more protected trees, the city must approve a tree preservation plan. If the city authorizes removal of protected trees, the developer must plant replacement trees as required by the city, or pay a fee to a Tree Restoration Fund unless addressed under another federal permit such as a Section 404 permit.

Long-term maintenance of structural best management practices is regulated under the Stormwater and Flood Protection Ordinance. Generally speaking, property owners are responsible for maintenance and are required to enter into a perpetual maintenance agreement with the city, unless the city elects to assume maintenance responsibility.

Selected BMPs for Post Construction Stormwater Management for New Development/Redevelopment

- 4.1 Review of Stormwater and Flood Protection Ordinance, and General Design Standards
- 4.2 Long-Term Operation and Maintenance Plan for Structural BMPs
- 4.3 Construction Site Plan Review
- 4.4 Neighborhood Green Space Preservation
- 4.5 Tree Preservation Ordinance
- 4.6 Inspection of Structural BMPs during Construction
- 4.7 Limited Mowing Height

4.1 **BMP1 Review of Stormwater and Flood Protection Ordinance, and General Design Standards**

The City of Carrollton will continue to review ordinances related to development, as well as continue the present schedule of annual review of general design standards, to identify opportunities for implementation of additional post-construction control measures for all land disturbance regardless of size. Based on the evaluation, the city will make any changes necessary and implement revised requirements. **The Standard Operating Procedure for enforcing ordinance requirements herein referred to as the Enforcement Response Guide shall be initiated as soon as the revised ordinance is in effect and shall be completed in Year 3. Implementation of the ERG shall commence in Year 4.**

Justification

Policies and ordinances are powerful tools to direct growth to identified areas, protect ecologically sensitive areas, minimize impervious surfaces, and provide buffers along sensitive water bodies. By reviewing ordinances and policies, the city has the opportunity to identify additional controls that are feasible for implementation.

Measurable Goals

The measurable goal for implementation of BMP1 is to review the **Stormwater and Flood Protection ordinance related to development and redevelopment for all land disturbances regardless of size, and identify additional opportunities for implementation of control measures that will assist the city in reducing pollutants in stormwater from newly developed or redeveloped areas. The ordinance changes will be adopted and implemented.** Yearly review and updates to the General Design Standards will continue.

Schedule

BMP	Activity	Date Due	Responsible Department
Review of	1. Review & update the Stormwater	December	Developments

Development Ordinances and Standard Manual	and Flood Protection Ordinance	12, 2015	Services and Engineering
	2. Yearly review of General Design Standards	0	
Stormwater Enforcement Response Guide	3. Establish the Enforcement Response Guide	December 12, 2016	Development Services, Engineering & Environmental Services
	4. Commence implementation of ERG	December 12, 2017	

Responsible Persons

The Directors of Development Services and Engineering are responsible for implementing BMP1.

4.2 BMP2 Long-Term Operation and Maintenance Plan for Structural BMPs

The city requires permanent structural BMPs to limit the rate of runoff from a new development to the rate equal to that which would have been generated if the property had been developed as single family residential property. Therefore, there are no permanent structural stormwater controls in residential developments. In commercial developments, permanent structural controls are required for all construction projects of one acre or greater, including the larger common plan of development, unless technical data demonstrate structural controls are not necessary to avoid impacts on the waterways beyond those expected from a residential development. The city has developed procedures and methods to ensure long-term operation and maintenance of structural BMPs.

Justification

Structural BMPs such as detention and retention facilities are effective tools for reducing runoff flow rates, as well as allowing for settling of sediment and infiltration of the water. By allowing runoff to infiltrate into the ground and getting suspended sediment to settle out, pollutant levels can be reduced before the water leaves the site. Appropriate maintenance is necessary to ensure proper performance of such structural controls.

Measurable Goals

The measurable goal for implementation of BMP2 is to develop procedures and methods to ensure long-term operation and maintenance for structural BMPs constructed on public or private property of one acre or greater, including the larger common plan of development. **An inspection program will be developed including a list of all structural controls to be inspected and the development of an inspection sheet to use during inspections. The city will require enforceable maintenance plans to be submitted for structural controls.** Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Long-Term Operation and	1. Identify procedures and methods to ensure long-term maintenance of structural BMPs	0	Engineering, Development Services and

Maintenance Plan	2. Implement procedures and methods to ensure long-term maintenance of structural BMPs.	0	Environmental Services
	3. List of all Structural BMP's to be inspected.	December 12, 2016	
	4. Receipt of Maintenance Plan for structural controls installed on a site.	December 12, 2017	
	5. Develop inspection form.	December 12, 2018	Environmental Services
	6. Begin inspections of structural controls.	December 12, 2018	Environmental Services

Responsible Persons

The Directors of Development Services, Engineering and Environmental Services have joint responsibility for identifying and implementing procedures and methods to ensure long-term maintenance of structural BMPs.

4.3 BMP3 Construction Site Plan Review

The City of Carrollton will continue to review all new development/redevelopment site plans before construction permits are issued. The review will ensure compliance with limits on maximum runoff rate, maximum impervious coverage, minimum landscaped area, minimum neighborhood park area for residential projects, and tree preservation requirements, among others. Site plan review is done for all projects, regardless of the size of land disturbance. **The city will develop written procedures to follow when performing construction site plan review. Procedures will include a description of which plans must be reviewed as well as when an operator may begin construction.**

Justification

Considerations of water quality impacts from the beginning stages of a project provide more opportunities for water quality protection. Review of plans allows for deficiencies to be addressed prior to the initiation of on-the-ground activities making them easier and cheaper to fix. **A Standard Operating Procedure (SOP) is a set of written instructions that document a routine or repetitive activity followed by an organization. The development and use of a SOP is an integral part in providing the plan reviewers with the information to perform their job properly and consistently.**

Measurable Goals

The measurable goal for implementation of BMP3 is to conduct site plan reviews for each new development or redevelopment project, regardless of the size of land disturbance. Approval of a project will depend upon the findings of the review. **An SOP for Construction Site Plan Review will be developed.** Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Departments
Site Plan Review	1. Site plan review of 100% new development/ redevelopment projects	0	Development Services and

			Engineering
	2. SOP for Construction Site Plan Review	December 12, 2015	Development Services and Engineering

Responsible Persons

The Directors of Development Services and Engineering have the responsibility for implementing this BMP.

4.4 BMP4 Neighborhood Green Space Preservation

The city will continue to enforce the provisions of the Subdivision Ordinance that require each new or redeveloped single-family residential project that disturbs one acre or greater, including the larger common plan of development to dedicate a portion of the land to neighborhood parks. The Planning and Zoning Commission will determine the area necessary on an individual basis.

Justification

Similar to certain structural BMPs, green space preservation creates opportunities for treatment and infiltration of urban runoff. By preserving pervious surfaces that allow runoff to infiltrate into the ground, some of the pollutants present are removed by the soil and vegetation, while the volume and velocity of runoff are also reduced. Green spaces within urban areas also provide much-needed habitat for wildlife.

Measurable Goals

The measurable goal for implementation of BMP4 is to continue to implement present policies regarding the dedication of land in new and redeveloped single-family residential subdivisions that disturb one acre or greater including the larger common plan of development, for neighborhood parks. Because the total amount of undeveloped land to be preserved is determined by a number of considerations which vary from site to site, a numerical goal cannot be established for this BMP. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Neighborhood Green Space Preservation	1.Implementation of green space preservation policies in 100% of new projects	0	Development Services

Responsible Persons

The Director of Development Services has the responsibility for the implementation of BMP4.

4.5 BMP5 Tree Preservation Ordinance

The City of Carrollton will continue to enforce the tree preservation ordinance that prohibits the removal of 38 species of protected trees with a caliper measurement of 4” or greater. The city also requires all construction or development projects containing one or more protected trees, to develop a tree preservation plan, and submit it to the city before any development

or building permit can be issued. Replacement of trees for which the city has given authorization for removal, will be done in accordance to the provisions of the Tree Preservation Ordinance. In cases where the city accepts payment of a fee in lieu of tree replacement, the fees will be paid to the Tree Restoration Fund, and will be used solely for the purpose of purchasing and installing trees in public areas. The tree preservation ordinance applies to all commercial projects, including apartment complexes regardless of the size of the land disturbance.

Justification

Urban tree preservation provides small, but essential green spaces that break up a landscape of impervious surfaces and provide pockets for runoff infiltration.

Measurable Goals

The measurable goal for BMP5 is to continue the implementation of the Tree Preservation Ordinance.

Schedule

BMP	Activity	Year Due	Responsible Department
Tree Preservation Ordinance	1. Implementation of Tree Preservation Ordinance in 100% new projects	0	Development Services and Parks and Recreation

Responsible Persons

The Directors of Development Services and Parks and Recreation are responsible for implementing BMP5.

4.6 BMP6 Inspection of Structural BMPs During Construction

The city will inspect the construction of structural BMPs that are required on all new and redeveloped sites of one acre and greater, including the larger common plan of development, to verify that design specifications are followed to ensure appropriate performance of the finished BMP. Because inspection of BMPs will be done as part of the construction inspections described in section 3, this BMP will have the same measurable goals and schedule of implementation previously described.

Justification

Poor construction of structural BMPs can affect their efficiency in removing pollutants from runoff and controlling flow on all new and redeveloped sites of once acre and greater, including the larger common plan of development. Poorly built BMPs can also create public health problems and cause environmental damage. Retrofitting a poorly built BMP is expensive and difficult. Inspection during construction is essential to ensure that BMPs will perform as designed and save unexpected costs in maintenance.

Measurable Goals & Schedule

See section 3.3.4, BMP4 Construction Site Inspection

Responsible Persons

The Director of Development Services has responsibility for implementation of BMP6.

4.7 BMP7 Limited Mowing Height

The city currently limits mowing of parks areas to a minimum height of 2.5 inches to protect the soil from erosion due to rain or irrigation. In addition, some areas are designated “no-mow” areas and vegetation will be allowed to grow to their natural height further reducing erosion and allowing for additional infiltration, reducing runoff. The mowing height and no-mow areas are established after final stabilization is achieved.

Justification

Excessive mowing reduces turf thickness and root formation. A thick vegetative coverage protects topsoil from rain and irrigation, and strong roots maintain the soil in place.

Measurable Goals

The measurable goal for BMP7 is to limit grass mowing in park areas to a frequency appropriate to maintain a minimum height of 2.5 inches of ground coverage.

Schedule

BMP	Activity	Year Due	Responsible Department
Limited Mowing Height	1. All park areas will be mowed at a frequency to ensure a minimum height of 2.5 inches of ground coverage	0	Parks and Recreation

Responsible Persons

The Director of Parks and Recreation has the responsibility for the implementation of BMP7.

5. Pollution Prevention/Good Housekeeping for Municipal Operations

Goals and Objectives

The City of Carrollton has the goal of ensuring that its municipal operations as well as its municipal facilities shall continue to reduce, if not prevent, to the MEP any pollutants that its operations may generate. This shall be achieved through a Municipal Pollution Prevention and Good Housekeeping Program that has at its core a clear understanding through solid training of respective municipal employees regarding the pollutants arising from its operations and facilities, BMPs to reduce if not prevent pollutant release and spill response and clean-up procedures. To achieve the goal of reducing stormwater impact the City will continue its BMPs for this control measure and adopt additional activities as enumerated in the succeeding paragraphs.

The City of Carrollton has three (3) vehicle and equipment maintenance facilities:

- Central Service Center, located at 2711 Nimitz Drive
- Sandy Lake Service Center, located at 2155 Sandy Lake Road
- Indian Creek Golf Club, located at 1650 W Frankford Road

All three facilities are enclosed, and repair work is conducted indoors. An inventory of vehicles, equipment, and parts is kept at each facility. The city/contractor recycles approximately 400 gallons of engine coolant per year, and 6000 gallons/yr of used oil, fuel and transmission fluids. The city/contractor recycles parts washing solvent, oil filters, car batteries, tires, cardboard and scrap metal from Fleet Services. In addition to the Fleet items, the city/contractor also recycles batteries used in electronic equipment such as cell phones, pagers and radios, scrap wire, cables, certain aluminum products, electronic equipment boards, computer parts and laser printer toner cartridges.

Large vehicle and equipment washing is done at one of five wash bays located at the Central Service Center, Sandy Lake Service Center, or the Indian Creek Golf Club (3 wash bays), all of which are equipped with sand traps that are routinely maintained. The remainder of the fleet is taken to local car wash establishments.

The city has two underground fuel storage tanks, all in compliance with TCEQ and equipped with spill/overflow prevention devices. There is a planned project to replace the central Service Center UST's with AST's in 2014-2015. The city also has eight aboveground storage tanks. Of these, five require Spill Prevention Control and Countermeasure. The following is an inventory of all fuel tanks owned by the city:

Location	Type of Tank	Capacity (gal)	Content	Note	Responsible Department
Police Station (2025 Jackson Rd)	AST	10,000	Unleaded	SPCC	Police
Central Service Center (2711 Nimitz Ln)	UST	12,000	Unleaded	SPCC	Fleet
	UST	12,000	Diesel		
	AST	1,000	Oils		
Sandy Lake Service Center (2155 Sandy Lake Rd)	AST	5,000	Unleaded	SPCC	Fleet/Parks
	AST	5,000	Diesel		
City Hall (1945 E Jackson Rd)	AST	1000	Diesel		Fleet
B. Ballard Pump Station (2750 N Josey Lane)	AST	1,000	Diesel		Fleet
Indian Creek Golf Course (1650 W Frankford Rd)	AST	2,000	Diesel	SPCC	ICGC
	AST	2,000	Unleaded	SPCC	ICGC
	AST2	1,000	Unleaded	SPCC	ICGC
Columbian Club Pump Station (2425 Columbian Club Dr)	AST	950 Belly Tank	Diesel	SPCC	CCPS
	AST	550 Belly Tank	Diesel	SPCC	CCPS

All maintenance facilities are regularly swept, and dry methods are used to immediately clean up spills and leaks. Rags used in maintenance shops, as well as employees' uniforms, are sent to a commercial cleaning service.

The Parks and Recreation Department continues to implement the use of native vegetation on city property, and continues exploring methods to reduce the use of fertilizers and pesticides in Parks facilities, as does the Indian Creek Golf Club.

The city does not operate a Solid Waste Division. A private provider collects trash throughout the city. There is a sole provider of single family residential services, currently Waste Management, which collects trash in residential areas on a weekly basis. The city currently utilizes Waste Management's Household Hazardous Waste Disposal Program, which allows residents to dispose of their domestic hazardous waste at no charge. Apartment complexes are served by a separate provider, Waste Management of Texas, Inc., (1601 Railroad Street, Lewisville, TX 75067).

Waste Management's services include a recycling program for single-family dwellings. Residents are provided with a recycling container, and recyclables are collected in residential areas every other week. Recycling is not available for apartment complexes. A complete list of accepted items includes:

1. Paper (may include paper clips and staples)
 - a. Advertising circulars, junk mail and carbonless paper
 - b. Cardboard from food boxes, corrugated cardboard, paper towel and toilet paper cores
 - c. Envelopes, office paper, sticky notes, printer paper, calendars
 - d. Magazines, newspapers, paperback books
 - e. Catalogs, phone books
 - f. Paper bags
2. Metals
 - a. Aluminum, steel and tin cans
 - b. Aluminum baking tins
 - c. Empty aerosol cans-with spray nozzle
3. Glass and Ceramics
 - a. Bottles and jars, ceramics, dishes – cleaned and rinsed
4. Plastics
 - a. All plastic bottles, jugs and jars - rinsed
 - b. Food trays, tubs and bowls #1 through #7

Waste collection services to commercial customers is provided by a variety of suppliers, commercial customers must contact the supplier directly and arrange for waste collection services.

While hazardous household waste disposal and recycling services are tied into the city's current solid waste contract, the City will continue with hazardous household waste disposal and recycling services whether or not there will be a change in the solid waste collection provider.

The city has a street sweeping program that services approximately 220 miles of street per month. Approximately 40% of storm inlets are inspected each year, and some 250 miles of sanitary sewer lines are cleaned annually.

The Fire Department and the Department of Environmental Services responds to spills and illegal dumping incidents and directs actions for rapid abatement or clean-up of sites to reduce or prevent discharge of pollutants to the MS4.

Selected BMPs for Pollution Prevention/Good Housekeeping for Municipal Operations

- 5.1 Parks and Open Space Maintenance
- 5.2 Road and Bridge Maintenance
- 5.3 Fleet Maintenance
- 5.4 Municipal Buildings and Parking Lots Maintenance
- 5.5 Storm Sewer System Maintenance
- 5.6 Waste Reduction of Information Technology and Communications Operations
- 5.7 Grease, Sand and Grit Interceptor Maintenance
- 5.8 Sand and Deicer Storage Locations
- 5.9 City Owned Facilities
- 5.10 Structural Control Maintenance and Waste Disposal
- 5.11 New construction and Land Disturbance
- 5.12 Contractor Oversight Procedures
- 5.13 Fire Fighting Training Activities
- 5.14 Employee Stormwater Pollution Prevention Training Program

5.1 BMP1 Parks and Open Space Maintenance

The city will continue to research ways to reduce the use of fertilizers and pesticides in all parks and open space areas including the Indian Creek Golf Club and in the mosquito control program. The city will continue to incorporate native plant species in landscape projects. The city will continue to use mulching mowers to reduce the need for fertilizers in public areas. The city will maintain its current routine maintenance of parks, greenbelts, sport complexes and similar facilities, including trash pick-up. **The city will develop schedules for chemical application in public spaces that it owns and operates to minimize the discharge of pollutants from the application due to irrigation and expected precipitation.**

Justification

Nutrient runoff from private and public green areas can cause eutrophication of streams and lakes. Pesticides in stormwater runoff have a direct impact on the health of aquatic ecosystems and can present a threat to humans through contamination of drinking water supplies. Insecticides can be harmful to aquatic life at very low levels.

Measurable Goals

The measurable goals for implementation of BMP1 are to continue to identify ways to reduce the use of fertilizers and pesticides in public areas and to incorporate native plants in the landscape of new city facilities. The city will also continue removing trash during maintenance of green areas approximately 200 days per year, and continue using mulching mowers. The city has established buffer zones and no mow zones. **The city will develop schedules for chemical application in public spaces that it owns and operates to minimize the discharge of pollutants from the application due to irrigation and expected precipitation as well as proper disposal for unused pesticides, herbicides and**

fertilizers. The city will develop a list of pollutants of concern from mowing, herbicide and pesticide application and planting vegetation. The city’s Parks and Recreation and Animal Services will continue to implement the Integrated Pest Management Plan (IPMP) under the TCEQ Pesticide General Permit. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Parks and Open Space Maintenance	1. Mowing crews pick up trash during maintenance of public green areas (approximately 200 days per year). Use of mulching mowers. Leaf blowers used to blow clippings back onto grass.	0	Parks and Recreation and ICGC
	2. Buffer zones and no mow zones.	0	Parks and Recreation and ICGC
	3. Continue to implement native species landscaping and mowing restrictions where applicable.	0	Parks and Recreation and ICGC
	4. Develop schedules for chemical application on public spaces.	December 12, 2016	Parks and Recreation and ICGC
	5. Develop a list of pollutants of concern from mowing, chemical application and planting vegetation.	December 12, 2017	Environmental Services
	6. Continue to implement the Integrated Pest Management Plan	0	Parks and Recreation and Animal Services
	7. Proper disposal method for unused pesticides, herbicides and fertilizers.	December 12, 2016	Parks and Recreation and ICGC
	8. Maintain Licensed Pesticide Applicators and Licensed Irrigators	0	Parks and Recreation, ICGC and Environmental Services

Responsible Persons

The Director of Parks and Recreation and the Management Company for the ICGC are responsible for implementing BMP1 and the Director of Environmental Services is responsible for developing a list of pollutants of concern, implementing the IPMP for mosquito control and maintaining one of the Licensed Pesticide Applicators for the mosquito control program.

5.2 BMP2 Road and **Bridge** Maintenance

Subject to available funding, the City of Carrollton will continue to sweep approximately

200 miles of streets per month. In addition to the street sweeping, the city will continue to pick up 9000 trash and debris items from the roads and ditches. Erosion and pollution prevention practices will be implemented in all street and **bridge** repair operations, to the maximum extent practicable. All wastewater from the different processes for street repair will be recovered using an appropriate method.

Justification

Street sweeping removes pollutants and sediment from the street that would otherwise end up in the storm sewer system. The frequency and extent of street sweeping is limited by available funding. Erosion and pollution prevention practices reduce the amount of pollutants discharged by street repair activities.

Measurable Goals

The city will continue to sweep the major arterials once per month, subject to available funding, for the duration of the second permit term. **Municipal parking lots, including City Hall, Police Department, Municipal Court, Josey Ranch Senior Center and the Hebron/Josey Library are swept monthly. A procedure for disposing of street sweeping waste material will be developed.** The city will collect 9000 items per year from the roadways and ditches. The city will **review and update** erosion and pollution prevention guidelines for road and **bridge repair** operations. A list of pollutants of concern will be developed. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Road, Parking Lot and Bridge Maintenance	1. Major arterials swept once a month. Including the selected municipal parking lots	0	Public Works
	2. Develop a procedure for street sweeping waste material disposal.	December 12, 2016	Public Works
	3. Collect approximately 9000 trash and debris items from roadways and ditches	0	Public Works
	4. Review and update the erosion and pollution prevention guidelines for road and bridge repair operations.	December 12, 2016	Engineering and Public Works
	5. Develop list of Pollutants of concern from road and bridge maintenance	December 12, 2017	Environmental Services

Responsible Persons

The Directors of Public Works and Engineering have the responsibility for development and implementation of BMP2.

5.3 BMP3 Fleet Maintenance

Pollution prevention measures have been implemented for vehicle maintenance and removal of automotive fluids. Small chemical spills are cleaned up immediately upon discovery, using dry methods, and all wastes disposed of properly. For large spills representing a significant threat to health or the environment, the facility supervisor will contact the Fire

Department or Environmental Services. Signs posted at each facility display guidelines for proper clean up. Each facility supervisor will inspect indoor and outdoor areas of maintenance facilities weekly. Any problem found will be addressed, and solutions implemented as soon as possible. All indoor floors will be swept weekly to pick up materials that could contribute to stormwater pollution. Parts and supplies will be stored under cover to prevent exposure to rain. The Indian Creek Golf Course maintenance building, fueling manifests and waste oil will be inspected quarterly by a city employee.

Automotive parts cleaning will be performed in a self-contained washing unit or in designated sinks. Spent solvent will be contained and recycled through a qualified outside vendor. The city/contractor will maintain contracts for uniforms and rags cleaning services. Large pieces of equipment that will not fit the washing units will be washed in one of the vehicle wash bays equipped with sand traps. Sand traps will be routinely cleaned and maintain by a licensed liquid waste hauler. Large vehicles and equipment owned by the city will be washed at one of these wash bays, and the city/contractor will maintain price agreements with local commercial car washers for the remainder of its fleet. All the vehicle wash bays are equipped with a cover.

The city/contractor will continue to recycle used motor oil, used oil filters, antifreeze, spent batteries, scrap metal, spent solvent and used tires through qualified commercial vendors. Antifreeze and used oil are kept in two separate double wall storage tanks at the Central Service Center. Each tank has an overflow prevention device and level gauge. Oil filters will be kept in a properly-labeled indoor container. Engine coolant will also be recycled through qualified outside vendors. The city/contractor will return all spent batteries to the vendor for recycling. The city will recycle all cardboard material generated at Fleet facilities. Waste oil tanks will be inspected weekly.

Fueling facilities will be inspected weekly. Spill kits and signs with procedures and contact information have been placed at all fueling facilities. All fuel storage tanks will be inspected and maintained in compliance with TCEQ regulations. The tank tightness test will be done annually.

All departments will conduct routine inspections for leaks from all vehicles assigned to their departments. Each department will take steps to contain leaks to the extent possible, and will contact Fleet Services as soon as practicable for further action. Animal Services will maintain spill kits and MSDS for the mosquito control program vehicles and equipment.

A Stormwater Pollution Prevention Plan (SWPPP) will continue to be updated for Fleet operations.

Justification

Vehicle maintenance facilities can release significant amounts of hydrocarbons, trace metals and other toxic materials into their stormwater runoff, creating a public health and an environmental hazard. Frequent inspections, good housekeeping practices, and spill response plans and kits, can all reduce the likelihood of toxic pollutants reaching the MS4. Vehicle washing facilities equipped with sand traps retain excessive solids in the trap, while allowing the wastewater to enter the sanitary sewer system for treatment. Self-contained washing units and solvent recovery ensure proper treatment of waste streams that would exceed effluent limitations. Using a vehicle washing bay is an effective alternative for

pieces of equipment that exceed the size of the washing units. Contracting commercial rag services ensure proper treatment and disposal of wash water from uniform and rag cleaning. In addition, reusable rags are a preferred alternative over disposable paper towels by reducing hazardous chemicals in the waste stream and reducing the amount of hazardous wastes generated.

Recycling instead of disposal reduces the amount of waste to be disposed of, saving landfill space. In addition, recycling of hazardous waste reduces the likelihood of such wastes being released into the environment, and in some instances, is required by regulations. Secondary containment and overfill protection and devices are excellent means to reduce the risk of illicit discharges from fuel storage tanks.

Measurable Goals

The measurable goals for continued implementation of BMP3 are:

- **Continue to implement SPCC plans at each fueling station. Develop an SOP for each of the three maintenance facilities.** Maintain spill response kits and signs at each fueling station. Begin spill response within 30 minutes of notice.
- Weekly inspections of maintenance facilities, waste oil tanks and fuel stations.
- Continue to sweep indoor floors weekly and properly disposal of sweepings.
- Parts and materials stored under coverage. Shipments to be moved within 24 hours of arrival.
- Vehicle washing to be done in wash bays or at commercial providers.
- **Develop a SOP for vehicle and equipment washing.**
- Continue recycling programs for used motor oil, used oil filters, antifreeze, used tires, engine coolant, batteries, cardboard, spent solvent and scrap metal.
- Continue the procedures for addressing leaks while vehicles are not at maintenance facility.
- Quarterly inspections of Indian Creek Golf Course maintenance area, fuel manifests and waste oil.

Schedule

BMP	Activity	Year Due	Responsible Department
Fleet Maintenance	1. Weekly inspection/cleaning of maintenance and fueling facilities. Continue to implement spill response and pollution prevention plans (SPCC) at each fueling facility.	0	Fleet and ICGC
	2. Develop a SOP for each of the three maintenance facilities	December 12, 2017	Environmental Services, Fleet and Facilities
	3. All vehicles and equipment washed in bays or commercial vehicle wash.	0	Environmental Services
	4. Develop SOP for vehicle and equipment washing.	December 12, 2014	Environmental Services
	5. Sand Traps are serviced as required by ordinance. All wash bays are under a	0	Fire Department,

	cover. Continue spill response and pollution prevention plans. Spill kits and signs deployed at all fueling stations. Develop plan to address leaks from vehicles during normal use by a City employee.		Fleet ICGC, Environmental Services
	6. Parts and materials stored under cover. Continue recycling program for materials.	0	Fleet and ICGC, and Parks and Recreation
	7. Implement plan to address leaks from vehicles during daily use by an employee.	0	Environmental Services
	8. Maintain SWPPP/Annual Inspection of the Central Service Center maintenance yard	0	Fleet and Environmental Services
	9. Quarterly inspections of the ICGC	0	Facility Services

Responsible Persons

The Director of Fleet Services is responsible for the overall implementation of BMP3 except:

- The Manager of the Indian Creek Golf Club has responsibility for ensuring proper disposal of wash water from vehicles and equipment used at his facility, for designating the Pollution Prevention Team for the ICGC, and for developing/implementing the spill response and pollution prevention plan for that facility.
- The Fire Chief has responsibility for ensuring that no detergents or pollutants are discharged to the MS4 during washing of fire engines.
- The Director of Environmental Services has responsibility for proper disposal of wastewater from cleaning Animal Services equipment for the Vector Control Program.
- The Director of Parks and Recreation has responsibility for designating the Pollution Prevention Team for the Sandy Lake Service Center, for developing/implementing the spill response and pollution prevention plan for that facility, and for providing a cover for Parks and Recreation wash bay.
- The city’s fleet contractor(s) have the responsibility of inspecting the SLSC, PD (in conjunction with the Police Department) and CSC gas stations.

5.4 BMP4 Municipal Buildings and Parking Lots Maintenance

The City of Carrollton will continue to implement a pollution prevention plan for maintenance of city facilities including buildings and parking lots. The city and contractor will continue to research recycling and waste reduction opportunities and will implement these as needed.

The city currently washes the exterior of City Hall every ten years and the windows at City Hall every 6 months. All wastewater and runoff is recovered and disposed of properly.

The city has four boilers (closed and open loop) that are inspected yearly by the state. A private company also tests the closed loop boiler quarterly and the open loop boiler monthly. The two cooling towers in the city are tested monthly by a private company.

The city has reduced the amount of items stored at its facilities. Refrigerants, paper items, glass, and cans are recyclables that come from the municipal buildings, excluding the maintenance shops. Water based paints are purchased in small amounts as needed. In the event that a large amount is accumulated it will be disposed of properly with assistance from Environmental Services. The city contracts with a private cleaning company that maintains and disposes of the chemicals that are used in city facilities.

Inspections of the Fleet Maintenance areas are described in section 5.3.3.

Justification

Many common building maintenance operations include the use of cleaners, solvents, paints and other hazardous materials that when not used and disposed of properly, can result in the discharge of pollutants to the MS4. Washing of parking lots can release discharges containing high levels of hydrocarbons and heavy metals deposited by vehicles over long periods of time.

Measurable Goals

The measurable goal for implementation of BMP4 is to continue to implement a spill response and pollution prevention plan for municipal buildings and parking lots maintenance, to continue to identify options for waste reduction and recycling and to implement feasible options subject to available funding. **Develop a list of pollutants of concern.** Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Municipal Buildings and Parking Lots Maintenance	1. Continue to develop and implement a spill response and pollution prevention plan for building and parking lot maintenance (SPCC). Continue research in waste reduction/ recycling options	0	Facilities and Fleet
	2. Continue inspections of Municipal Buildings and parking lots, including the Public Works yard.	0	Facilities, Fleet and Public Works
	3. Evaluate spill response and pollution prevention plan, adjust plan as necessary	December 12, 2014	Environmental Services
	4. Develop a list of pollutants of concern from municipal buildings and parking lot maintenance.	December 12, 2017	Environmental Services

Responsible Persons

The Directors for Facility and Fleet Services, Environmental Services and Public Works are responsible for implementing BMP4.

5.5 BMP5 Stormwater System Maintenance

The City of Carrollton inspects and removes floatables, debris, sediment, and other wastes from inlet and pipes as needed to maintain capacity and to reduce stormwater pollution. The

city inspects approximately 40% of inlets per year. In addition, the city responds to complaints and other reported problems.

All channels and ditches are inspected yearly and cleaned as needed. Repairs or maintenance to channels are done as needed. Erosion matting materials and inlet protection are maintained as needed throughout the project. Hydro mulching and reseeding for vegetation are done for final stabilization.

All storm drain lift stations are inspected monthly.

Justification

Clogged drains and storm inlets increase risk of flooding. Routine cleaning of stormwater systems reduce the amount of pollutants, trash, and debris in the infrastructure and receiving waters.

Measurable Goals

The measurable goal for implementation of BMP5 is to continue the current plan for maintenance of the stormwater system to protect the infrastructure, reduce risk of flooding and reduce the discharge of pollutants from the MS4 to the receiving waters to the maximum extent practicable. **A list of problem areas will be developed for increased inspections.**

Schedule

BMP	Activity	Year Due	Responsible Department
Stormwater System Maintenance	1. Maintain the plan for stormwater system maintenance.	0	Public Works
	2. Maintain the current schedule for maintenance operations. Revise as necessary.	0	Public Works and Parks and Recreation
	3. Continue current procedures to address complaints and other problems. Revise as necessary.	0	Public Works and Parks and Recreation
	4. Continue to inspect lift stations monthly	0	Public Works
	5. Develop a list of potential problem areas for increased inspections.	December 12, 2017	Public Works Parks and Recreation

Responsible Persons

The Director of Public Works has overall responsibility for implementation of BMP5. The Director of Parks and Recreation will assist for maintenance and clean up operations of open ditches and vegetated channels in Park areas.

5.6 BMP6 Waste Reduction of Information Technology and Communications Operations

The Department of Information Technology (IT) is in charge of all communication and computer equipment including desk phones, cellular phones, pagers, two way radios, computers, and printers used by all operations. IT will continue to recycle batteries, scrap

wire, scrap cable, aluminum parts from antennas, electronic boards, assorted computer parts and components and printer cartridges.

Justification

Discarded batteries and computer equipment contain hazardous materials that must be properly disposed. Scrap wire, cables and other components can release heavy metals.

Measurable Goals

The measurable goals for implementation of BMP6 is to continue recycling all batteries, cables, aluminum scrap, computer parts, and printer cartridges from IT operations, and to continue the appropriate procedures to collect and recycle batteries from all deployed communications equipment.

Schedule

BMP	Activity	Year Due	Responsible Department
Waste Reduction of Information Technology and Communications Operations	1. Continue recycling of all batteries, cables, aluminum scrap, computer parts, and printer cartridges from IT operations	0	IT Department
	2. Continue feasible procedures to collect and recycle batteries from deployed equipment	0	

Responsible Persons

The city’s Information Technology Manager has responsibility for implementation of BMP6.

5.7 BMP7 Grease, Sand and Grit Interceptor Maintenance

The City of Carrollton’s grit and grease interceptors are serviced by a licensed liquid waste hauler as required by city ordinance. The grit traps are located at the Central Service Center (2), Sandy Lake Service Center, and Indian Creek Golf Course (3) and some Fire Stations. The city also has two grease interceptors. One at the Josey Ranch Lake Library and the second grease interceptor is located at the Indian Creek Golf Course.

Justification

The grease and grit traps are maintained at the current cleaning rate per the city ordinance to prevent sanitary sewer overflows.

Measurable Goals

The pumping frequency will be the measurable goal for this BMP.

Schedule

BMP	Activity	Year Due	Responsible Department
Grit and	1. Continue current pumping frequency	0	Fleet and ICGC

Grease trap maintenance	2. Evaluate pumping frequency according to City Ordinance and change as necessary.	0	
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Responsible Persons

The Director of Facility and Fleet Services is responsible for the maintenance of the sand and grit traps, and the Indian Creek Golf Course (ICGC) Manager is responsible for the maintenance of the ICGC grease interceptor and the ICGC grit traps.

5.8 BMP8 Sand and Deicer Storage Locations

The City of Carrollton applies sand to some intersections and city parking lots and a deicer to city facility parking lots and bridges when there is ice or freezing rain. The amount varies according to weather conditions. In major thoroughfares, remaining sand is swept under the street sweeping contract schedule. Sand and liquid deicer is stored at the Central Service Station. Salt is used on the stairs and walkways at City Hall and are applied sparingly according to directions to maintain public safety.

Justification

Sand and deicer are used to increase traction and improve vehicular traffic when weather conditions cause the formation of ice or accumulation of snow on bridges, streets and parking lots and walkways of public buildings. Because of prevalent weather conditions in the region, winter storms causing ice formation or snow deposition are infrequent, and the use of sand and deicer are applied at the minimum amount necessary to ensure safe traveling conditions.

Measurable Goals

The measurable goals for implementation of BMP8 are to continue using sand, salt and deicer at the minimum rate necessary to ensure safe traveling conditions during ice and snow accumulation conditions, and to store the sand in a manner as to prevent runoff. **A list of pollutants of concern will be developed. Written procedures will be developed to reduce the discharge of pollutants from sand salt and deicer.** Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Sand Storage Locations	1. Limit sand, salt and deicer application to minimum amount necessary to ensure safe driving and walking conditions	0	Facilities and Public Works
	2. Maintain MSDS on site for salt and deicer	0	
	4. Continue to implement appropriate controls for sand, salt and deicer storage.	0	
	5. Identify pollutants of concern from the three materials used	December 12, 2016	
	6. Develop written Pollution Prevention Measures to reduce the discharge of pollutants from this BMP	December 12, 2017	

	7. Inspect controls for sand, salt and deicer storage	December 12, 2017	
	8. Implementation Complete	December 12, 2017	

Responsible Persons

The Directors of Public Works and Facility Services have the responsibility for the implementation of BMP8.

5.9 BMP9 City Owned Facilities

The city will develop an inventory of city facilities that it owns and operates. If applicable the inventory will include applicable permit numbers, registration numbers, and authorizations for each facility. The city will evaluate the operation and maintenance activities for their potential to discharge pollutants in stormwater.

Justification

An inventory of facilities will help staff build a better awareness of their locations within the city their potential to contribute stormwater pollutants. Evaluating each city facility and developing facility specific SOP's for high priority facilities will help ensure that these facilities are reducing their impact on stormwater.

Measurable Goal

The city will develop an inventory and map of city facilities and stormwater controls that it owns and operates. An assessment will be done of each city owned facility and will result in the identification of high priority facilities. SOP's will be developed for each high priority facility and annual inspections will be conducted.

Schedule

BMP	Activity	Year Due	Responsible Department
Inventory of city facilities	1. Inventory of city owned facilities.	December 12, 2015 (2)	Environmental Services
	2. Map of city owned facilities & stormwater controls.	December 12, 2015 (2)	Environmental Services
	3. Assessment of city owned facilities.	December 12, 2016 (3)	Environmental Services
	4. Identification of high priority facilities.	December 12, 2016 (3)	Environmental Services
	5. Development of facility specific SOPs for high priority facilities.	December 12, 2017 (4)	Environmental Services
	6. Inspection of city facilities.	December 12, 2018 (5)	Environmental Services

Responsible Person

The Director of Environmental Services is responsible for the implementation of this BMP.

5.10 BMP10 Structural Control Maintenance and Waste Disposal

The City of Carrollton will develop an inventory of structural controls owned by the city, and a maintenance plan that will include periodic inspections and removal of residues. The inventory will include all detention and retention basins or ponds, stormwater wetlands, etc. Sediments from basins, ponds and wetlands will be removed when the city determines it necessary for the proper functioning of the structural control. Disposal of sediment or sludge from maintenance operations will be done following TCEQ and EPA guidelines as required.

Justification

The key to ensuring that stormwater structural BMPs do not become a source of runoff pollutants is proper operation and maintenance (O&M), including periodic cleaning to remove any accumulated residual materials.

Measurable Goals

The measurable goal for implementation of BMP10 is to review and update the inventory of structural controls and to continue the maintenance and waste disposal plans already in place.

Schedule

BMP	Activity	Year Due	Responsible Department
Structural Control Maintenance and Waste Disposal	1. Review, update and log data of the inventory of structural controls.	0	Engineering, Public Works, IT
	2. Continue inspection of structural controls and implement maintenance plan.	0	Public Works

Responsible Persons

The Director of Public Works has responsibility for implementation of BMP10 regarding structural controls. The Director of Engineering will assist with the preparation of the inventory.

5.11 BMP11 New Construction and Land Disturbance

The City of Carrollton will continue to comply with the TPDES general construction permit requirements for those municipally owned construction projects that will disturb one or more acres of land, including the larger common plan of development and for which the city meets the definition of operator as defined by the construction general permit. The city will also require for the contractor(s) of such projects, to obtain authorization under the TPDES construction permit. The city will provide oversight of contractor activities to ensure that they are using appropriate control measures and SOPs.

Justification

Stormwater discharges from construction activities have been identified by the EPA as one of the major causes of impairment of water quality in rivers across the nation.

Measurable Goals

The measurable goal for implementation of BMP12 is to comply with TPDES permitting requirements for construction sites disturbing one or more acres of land. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
New construction and land disturbance	1. Comply with TPDES construction stormwater permit requirements for projects in which the city meets the definition of operator.	0	Engineering, Public Works
	2. Require contractors of municipally owned construction projects to comply with TPDES construction stormwater permit requirements.	0	

Responsible Persons

The Director of Engineering has responsibility for implementation of BMP12, except for city construction projects initiated and directed by Public Works, for which the Director of Public Works has responsibility for this BMP.

5.12 BMP12 Contractor Oversight Procedures

The city will contractually require contractors who perform maintenance activities on permittee-owned facilities to comply with all of the stormwater control measures, good housekeeping practices and facility-specific stormwater management operating procedures, and provide oversight of contractor activities to ensure that they are using appropriate pollution prevention control measures and SOPs. Contractors to be covered by this BMP include Construction, Indian Creek Golf Course, Fleet Maintenance, Mowing Companies, and any other contractors hired by the city.

Justification

Contractors hired by the city must follow the same guidelines as the city employees for pollution prevention measures. To do this the city must implement oversight procedures to verify that they are following the city requirements.

Measurable Goals

The measurable goal for implementation of BMP12 is to develop a list of contractors hired by the city that perform maintenance activities on city-owned facilities, contractually require contractors to comply with all of the stormwater control measures, good housekeeping practices and facility-specific stormwater management operating procedures, and develop and implement procedures for overseeing contractors. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
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Contractor Oversight	1. Develop list of contractors	December 12, 2015 (2)	Engineering, Facilities, Parks and Recreation, Public Works, Legal
	2. Contractually require contractors to comply with stormwater control measures, good housekeeping practices and facility-specific SOPs	December 12, 2015 (2)	
	3. Develop Oversight Procedures	December 12, 2018 (5)	
	4. Implementation complete	December 12, 2018 (5)	

Responsible Persons

The Directors of Engineering, Facility Services, Parks and Recreation, and Public Works have the responsibility for implementation of BMP12.

5.13 BMP13 Fire Fighting Training Activities

The City of Carrollton will continue to implement measures to discontinue discharging untreated water from fire fighting training activities to the storm drains.

Justification

As with water main breaks, chlorinated water is harmful to aquatic wildlife.

Measurable Goals

The measurable goal for this BMP will be to continue to implement BMPs during training activities to prevent discharging pollutants from training activities to the storm drain. The schedule for implementing this BMP is below.

Schedule

BMP	Activity	Year Due	Responsible Department
Fire Fighting Training Activities	1. Continue implementing BMPs during training activities.	0	Fire Department

Responsible Persons

The Fire Chief is responsible for implementing BMP13.

5.14 BMP14 Employee Stormwater Pollution Prevention Training Program

In cooperation with the NCTCOG Stormwater Regional Program, the city will continue to participate in the development of a training program for all employees responsible for municipal operations subject to the pollution prevention and good housekeeping program. Training sessions will be tailored to the specific needs of the different groups of employees.

Justification

Training programs teach employees about potential sources of contaminants and appropriate

stormwater management. Training ensures employee understanding of the SWMP, their role in it, and pollution prevention and spill response measures.

Measurable Goals

The measurable goals for implementation of BMP14 are to continue to participate in the NCTCOG Regional Pollution Prevention Program and train all city employees responsible for municipal operations subject to pollution prevention and good housekeeping. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Date Due	Responsible Department
Employee Training	1. Participate in the NCTCOG regional program to identify pollution prevention training materials and/or develop new materials as needed.	0	Environmental Services
	2. Continue training all employees in departments responsible for operations or maintenance functions. Document training.	December 12, 2016 (3)	
		December 12, 2018 (5)	

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP14.

6. Industrial Stormwater Sources

Goals and Objectives

The quality of stormwater runoff can be tremendously affected by the varied chemicals and materials present at industrial and commercial facilities. Industrial processes and operations such as chemical, material and equipment handling, storage, maintenance and cleaning when not controlled cause hazardous pollutant loadings to surface waters. It is the City’s goal to significantly reduce illicit discharges from industrial sources by continuing and improving its current industrial stormwater inspections and oversight.

In implementing its industrial pretreatment program, a federally required regulatory program aimed at controlling wastewater pollutants from industries and other point sources in Carrollton, the City of Carrollton has expanded this program to include stormwater inspections and evaluations. This program not only inspects and monitors Pretreatment regulated industries; it also inspects all non-regulated industries in Carrollton through a waste survey, a database of all industry and commercial facilities in Carrollton. Inspections checks for compliance with pretreatment, stormwater and other pollution control regulations.

List of Municipally Owned or Operated Industrial Activities that are Subject to TPDES Stormwater Regulations:

A review of Standard Industrial Codes showed that the City of Carrollton does not own or operate an industrial activity subject to TPDES stormwater regulations, except discharges

from construction activity, which have been addressed in this plan.

Selected BMPs for Industrial Stormwater Sources

- 6.1 Inspection of Industrial Facilities
- 6.2 Inventory/Inspection of Commercial Facilities

6.1 BMP1 Inspection of Industrial Facilities

The City of Carrollton will continue to conduct periodic inspections of all permitted industries within its jurisdiction for stormwater concerns. Industries identified by their SIC code as needing to apply for a TPDES or NPDES permit for their effluent discharge or stormwater discharge will be required to obtain the appropriate permit and provide documentation that the facility is in compliance. Facilities will be required to submit a copy of their Notices of Intent. Environmental Surveys will be performed every three years based on the Industrial Pretreatment Program. Facilities that fail to obtain appropriate coverage will face enforcement action by the city, and may be reported to the permitting authority for further enforcement.

Justification

Industrial discharges to the storm sewer system not composed entirely of stormwater may contain pollutants that can adversely impact public and environmental health. Parking lot runoff can transport automotive fluids, heavy metals, and organic pollutants from outdoor storage areas, loading docks, vehicles and machinery.

Measurable Goals

The measurable goal for implementation of BMP1 is to continue to inspect 100 industrial facilities located within the city per year, and to continue to ensure that facilities required to obtain a NPDES/TPDES permit, demonstrate permit coverage. Development and implementation will be according to the schedule below.

Schedule

BMP	Activity	Year Due	Responsible Department
Inspection of Industrial Facilities	1. Annually, inspect 100 industrial facilities.	0	Environmental Services
	2. Identify industries needing to apply for a TPDES/NPDES permit and require proof of permit coverage within 6 months of identification. Survey to be done every 3 years.	0	
	3. Implementation complete	0	

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP1.

6.2 BMP2 Inventory/Inspection of Commercial Facilities

The City of Carrollton will continue to keep and update an inventory of commercial facilities that have the potential to discharge pollutants in stormwater. Facilities determined to be a likely source of pollutants, will be inspected for compliance with the city’s pollution

prevention ordinances. The city will require abatement of any violation. Inspections will include grease/grit traps, dumpster areas and outdoor storage areas as appropriate.

Justification

Commercial discharges to the storm sewer system not composed entirely of stormwater may contain a variety of pollutants that can adversely impact public and environmental health. Parking lot runoff can transport heavy metals and organic pollutants into the waterways. Facilities such as automotive repair shops and gas stations have the potential to contribute oil and other automotive fluids to the storm sewer system from their operations. Grease from food preparation establishments can cause blockage of the sanitary sewer resulting in sanitary sewer overflows.

Measurable Goals

The measurable goal for implementation of BMP2 is to continue to maintain and update an inventory of commercial facilities and conduct 25 commercial inspections per year. Development and implementation will be according to the schedule below

Schedule

BMP	Activity	Year Due	Responsible Department
Inventory/ Inspection of Commercial Facilities	1. Maintain and update inventory of commercial facilities with grease/grit traps	0	Environmental Services
	2. Conduct one inspection per year for all food establishments	0	
	3. Conduct at least 25 commercial inspection per year	0	
	4. Inspect all active grease/grit traps in database once per year	0	
	5. Implementation complete	0	

Responsible Persons

The Director of Environmental Services has responsibility for implementation of BMP2.