



City of Irving, Texas



TPDES Permit No.
WQ0004691000

February 2015

Storm Water Management Plan

Updated: October 27, 2017



February 6, 2015

Rebecca L. Villalba, Stormwater and Pretreatment Team Leader
Texas Commission on Environmental Quality
Wastewater Permitting Section – Storm Water and Pretreatment
Mail Code 148
P.O. Box 13087
Austin, TX 78711-3087

RE: Revised Storm Water Management Plan for the TPDES – MS4 Permit No. WQ0004691000
Dated August 6, 2014.

Dear Ms. Villalba:

Please find enclosed the Revised Storm Water Management Plan for the renewed August 6, 2014 Texas Pollutant Discharge Elimination System MS4 Permit No. WQ0004691000 on behalf of the City of Irving, Texas, and the following co-permittees:

- Dallas County Flood Control District No. 1
- Dallas County Utility and Reclamation District
- Irving Flood Control District, Section I
- Irving Flood Control District, Section III

Should you have any questions or require additional information regarding this revised submittal, please contact Garry Fennell at (972) 721-3721, fax (972) 721-2592 or e-mail gfennell@cityofirving.org.

Sincerely,



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City Engineer

Enclosure

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File



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Storm Water Management Plan (SWMP)
Minimum Control Measures (MCM)

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INTRODUCTION

This Storm Water Management Plan (SWMP) is revised from the City of Irving's existing SWMP to be in the same revised order as required by the Annual Report. The SWMP details the Best Management Practices (BMPs) that the City currently uses as well as the new requirements in the City's renewed permit that went into effect August 6, 2014. These best management practices and measurable goals have been discussed in the body of this SWMP.

Within the City of Irving, the Street Services Division is inspecting, cleaning, clearing, and maintaining stormwater mains and structural controls, including removing debris and silt from these areas.

The four Flood Control Districts (FCDs), the City's co-permittee partners, maintain their Levees, canals, sumps, lakes and ponds removing silt and debris from their MS4 systems as well.

The Parks Department in the *Parks Litter Control Management Program* remove litter and floatables from park properties on a daily basis. The *Corridor Litter Abatement* initiative removes floatables from street right-of-ways (ROW) and inlets. Contract maintenance on rights-of-way around the city removes more floatables annually. It is the City's policy to remove as much floatable litter from the environment as possible before it reaches our MS4 and streams.

The four FCDs also remove floatables from their canals, sumps, ponds and lakes on an annual basis.

Additionally, tons of litter, debris and trash were diverted from receiving waters in public participation cleanup events such as the Trinity Trash Bash.

Home chemicals were retrieved from residential curbsides by the City's Special Waste vehicle. Hundreds of Irving households participated in various single-day home chemical collection events or took their unwanted products to the *Dallas Area Household Hazardous Waste Network* drop-off site.

Code Enforcement officers worked complaints such as litter, improperly maintained dumpsters, and stagnant water that, if left unabated, could have contaminated the MS4. Environmental Compliance inspectors investigated and required immediate cleanup on private and public sewer overflows and stormwater-related complaints which also may have endangered receiving waters.

Street sweepers complete a total of 4 full sweeps of the City's curb and gutter concrete streets, all surface level parking areas, and other facilities under municipal jurisdiction removing particulate matter. They performed 10 complete sweeps of all major thoroughfares (approximately 10,000 miles of roadway surface) removing debris and particulate matter that would have mingled with runoff and eventually, the City's receiving waters.

The Capital Improvement Program Department continues to bid and award projects to repair or replaced existing waste water systems and upgrade the system that the master plan has found to be inadequate. These projects reduce the number of sewer breaks and inflows which contribute to sanitary sewer outflows (SSO) into drainage ways and receiving waters. The Water Utilities Department continues to clean and televise over a half million linear feet of waste water sewer services and mains per year.

Environmental Compliance inspectors perform several inspections on high-risk or industrial facilities in the *Pretreatment Program* verifying their compliance with stormwater best management practices and perform several more inspections of industries with *SIC* codes that indicate the need for special attention for stormwater concerns.

The City of Irving bids several projects for channel repairs, capacity improvements, and erosion controls annually. The City allocates Municipal Drainage Utility funds to assist the City's co-permittees in dredging district canals, lakes and waterways to maintain proper depths improving water quality by removing those sediments as a source of pollutants to the City's receiving waters.

Engineering inspectors make construction inspections during the reporting year; several grading permits are issued, construction plans for sites over 5 acres are examined and *Construction Site Notices* for sites under 5 acres are received and reviewed annually. They also resolve construction situations that would have contributed to the pollution of the MS4 is part of the Cities SWMP.

As an actively participating member of the *North Central Texas Council of Governments Regional Monitoring Program*, efforts are ongoing to accumulate enough of the appropriate data to show that our SWMP is reducing the pollutant of concern in 303d listed waterways. The City has implemented plans of action developed to reduce the discharge of pollutants to the waters of the state and to qualitatively improve (measured indirectly and detailed as the City's measureable goals in the body of this SWMP) those receiving waters. These actions positively impact the quality of the City's receiving waters.

The City is participating in the Implementation Plan for Seventeen Total Maximum Daily Loads (TMDL) for Bacteria in the Greater Trinity River Region (Upper Trinity River I Plan) prepared by the North Central Texas Council of Governments (NCTCOG) in partnership with several Cities as well as Public and Private Partners.

MINIMUM CONTROL MEASURE 1: Maintenance Activities

(MCM 1) Maintenance Activities

MS4 Maintenance Activity

I) STRUCTURAL CONTROLS

The City of Irving and its four Flood Control Districts (FCDs) Co-Permittees have an extensive system of lakes, ponds, canals and channel improvements which act as structural controls. Each time a stream enters a lake or improved body of water silt is deposited on the upstream end of the water body. Floatables that are carried into the pond are often deposited onto the edge of the water body and a smaller amount of floatables exits the water body and travels downstream.

This system of lakes requires a large amount of maintenance which is discussed both in the structural section of this maintenance report and in the floatables section as well.

City of Irving Maintenance Practices

Transportation Department/Streets Division – The objective of each inspection is to find and remove any debris, litter and large deposits of silt and gravel which may pollute or impede stormwater runoff. Following every rain event that produces significant runoff, each street that crosses a culvert or bridge is checked and cleared of any accumulated debris or vegetation. The United States Army Corps of Engineers (USACE) sponsored Delaware creek project reduced erosion and increased flood carrying capacity of Delaware creek. However it also causes silt deposition throughout the project.

Capital Improvement Program Department – The city expends Municipal drainage Utility MDU funds on projects for channel and levee repairs, dredging, capacity improvements, erosion control and removal of floatables. These projects are bid publicly and completed by contractors.

The four Flood Control Districts FCDs that are the City's partners in the permit also perform maintenance on their structural controls, sumps and ponds.

Dallas County Flood Control District No. 1 (DCFCD1)

A status review of DCFCD1 is done annually. The annual review report is completed by representatives from the district's engineering consultants. Based on the field review, recommendations are made for immediate repairs as well as possible future repairs. Those recommendations are then evaluated by the district and implemented as appropriate. Additional field reviews are performed as needed by the district's engineering consultants to address specific concerns related to drainage and structural integrity.

The District also has a contractor who removes silt and topsoil from the Bear Creek Floodway to insure flood conveyance. The floodway is also mowed on a regular basis to keep trees and brush from clogging the floodway and increasing silt deposits.

Dallas County Utility & Reclamation District (DCURD)

Debris is removed daily from the canals and sumps but only reported when weighed and measured by the contracted waste hauler.

DCURD owns a floating dredge and two long arm excavators which are constantly removing silt from the lakes, ponds, canal and streams of the DCURD MS4 drainage system. DCURD administers an ongoing, aggressive, dredging program to maintain flood control capacity and water quality in district waterways.

Irving Flood Control District Section I (IFCD1)

IFCD#1 hires contractors to remove silt from the sumps and ditches to maintain the drainage storage capacity and conveyance of flood waters in the district.

Irving Flood Control District Section III (IFCD3)

IFCD3 hires contractors to use floatable dredges to maintain their ponds and canals on a regular basis.

(MCM 1) Maintenance Activities

II) FLOATABLES

Parks and Recreation Department – Corridor Division: Channel and Inlet Crew – The department employs three full-time employees that are inspecting and cleaning drainage channels, curb inlets and inlet baskets in the Municipal Separate Storm Sewer System (MS4).

Parks and Recreation Department – Corridor Division administers a *Litter Control Management Program* which covers parks, city facilities, public grounds, medians, rights-of-way, drainage channels and storm inlet maintenance. The department developed a standard operating procedure for the program which allocated Parks and Recreation forces and maintenance contract resources to address litter removal on park properties, city facilities and city rights-of-way to the maximum extent practicable.

The *Litter Control Management Program* is responsible for a total of 2,329.60 acres of parkland, public grounds, medians and rights-of-way throughout its jurisdiction including approximately 1,830.98 acres of parks and public grounds; 330.99 acres of street medians, parkways, rights-of-way, surplus non-park properties and highway interchanges; 167.63 acres of state rights-of-way; and 67.87 acres of drainage channels. Additionally, approximately 250 miles of city rights-of-way and drainage areas received regular litter control. Of that number, 120.35 miles of medians are maintained by contract and 158.03 miles of medians, rights-of-way and drainage areas by a full-time corridor litter control staff. Most parkland properties are maintained by city forces; however, the department administers several grounds maintenance contracts which provide regular litter control on medians; rights-of-way; state highways; and building grounds properties. In general, these maintenance contracts provide services nine months per year.

The Corridor Litter Abatement Team (Corridor Team), Fourteen full-time members, provide litter control on 158.03 miles of primary street medians, rights-of-ways and drainage areas.

To improve customer service and facilitate reporting of corridor litter and shopping cart issues, the department publicizes and maintains a 24-hour reporting hot line phone

number (972-721-5487) for external customers. Employees call the *Eyes on Irving* hot line (972-721-7777) to report these issues.

The Parks and Recreation Department administers a shopping cart ordinance that requires shopping cart owners to register their equipment with the city, label their carts and holds owners responsible for retrieving any carts which leave their business premises. Fines may be levied for any business which violates the terms of the ordinance. Any carts which have to be retrieved by the city are held at a city facility and may be retrieved by their owners for a fee.

The *Litter Control Management Program* removes litter from park properties using two packer trucks.

The City's general philosophy is that the more trash removed from the ROW and parks before it reaches the City's streams and lakes then the better the program is.

Dallas County Flood Control District No. 1 (DCFCD1)

DCFCD1 has one contractor who works 40 hours a week maintaining district property including removing floatables and other debris from the sump and floodway of the district.

Dallas County Utility & Reclamation District (DCURD)

DCURD dedicates four full-time employees and two trucks to removing floatables from district waterways and preventing pollutants from entering the Elm Fork of the Trinity River. The district focuses on waterway debris removal following heavy rain events by assigning up to six additional crew members to assist with this vital task. The district uses one, securely-located, 30-yard, open-top container for the sole purpose of measuring and removing floatables that are collected.

Irving Flood Control District Section I (IFCD1)

The district has a crew of two employees to inspect and remove floatables from district waterways and levees on a daily basis in order to prevent pollutants from entering the Elm Fork of the Trinity River. The district maintains a secured, 30-yard, open-top trash container for the sole purpose of measuring and removing the collected floatables. Debris is removed daily but only reported when weighed and measured by the contracted waste hauler.

Irving Flood Control District Section III (IFCD3)

The IFCD3 has a crew of five to inspect; clear; maintain levees; and removing debris from district waterways for. Debris is removed daily but only reported when the 30 yard open top trash container is weighed and measured by the contracted waste hauler.

Public Participation in *Keep Irving Beautiful (KIB)*

Keep Irving Beautiful (KIB) conducts one major public cleanup, the *Trinity Trash Bash*, and supported the semi-annual cleanup of Lake Vilbig. In addition, *KIB* conducts 1 smaller scale cleanup with community partners.

KIB's fall cleanup is the Trinity Trash Bash, which is part of the Texas Waterway Cleanup Program, sponsored by Keep Texas Beautiful.

KIB also provides supplies and volunteers to the Irving Lake Association for the fall and spring cleanup of Lake Vilbig.

In addition, KIB provides opportunities for court-ordered community service workers to earn hours by picking up litter in Irving neighborhoods and on Irving's roads.

(MCM 1) Maintenance Activities

III) ROADWAYS

City Maintenance

The City of Irving's street sweeping program consists of 79 routes. The routes were developed to provide a systematic method of sweeping all curb and gutter concrete streets, all surface level parking areas and other facilities under municipal jurisdiction. The current route methodology provides for four complete sweeps of the entire jurisdiction and ten complete sweeps of all major thoroughfares every 12 months.

The City of Irving Streets Division deploys crushed limestone "sand" on roadways during icy road conditions using city equipment for distribution and cleanup. Street sweeping of the road sanding areas and routes is required after any icing event.

Dallas Area Rapid Transit (DART)

The City of Irving considers any alternate method of transportation as a benefit to the MS4 since there is less chance of fuel, lubricants or oil dripping on the pavement, less chance of a lead tire weights falling off a moving vehicle and having a negative effect on the aquatic environment. There is also less air pollution that can interact with rain and be deposited in the waters of the U.S. and the MS4.

The City of Irving remains a member city of the *Dallas Area Rapid Transit (DART)* program. Bus ridership, train ridership terminating at Irving stations on the *Trinity Railway Express (TRE)* and rides from the electric Irving *Light Rail* stations for mass transit rides.

The city promotes alternatives to individual petroleum fueled vehicle use by hosting bicycling events, installing electric vehicle charging stations at city facilities, celebrating and promoting the expansion of commuter rail service, and publishing availability.

MINIMUM CONTROL MEASURE 2: Post Construction Storm Water Control Measures

(MCM 2) Post Construction Storm Water Control Measures

I) COMPREHENSIVE MASTER PLANNING

The Majority of the City of Irving is in an area that has been master planned by one of our four Flood Control Districts (FCDs). These FCDs were master planned for fully developed flows both in the FCD and going through the FCD from outside drainage areas.

The 38% of the city that does not drain through a FCD has been under a master planning process. This area of the city is 95% developed but under old drainage criteria that does not meet current drainage expectations. A major criteria of new drainage projects is that no increase in downstream flooding or erosion may occur. Delaware Creek comprises 13% of the City of Irving and a draft of its master plan was completed in June 2014 and is under review.

As part of the master planning the City of Irving continues to convert the floodplain along the Elm Fork and West Fork of the Trinity River into park land. The city has also acquired large tracts of land and created parks along the creeks in the 38% of the city not in FCDs.

The city has adopted the enhanced development/redevelopment guide, *iSWM Design Manual for Site Development*, spearheaded by the North Central Texas Council of Governments. The city has incorporated iSWM components within the Stormwater Management and Drainage Ordinance Sect. 35.

The city continues to enforce several new regulations adopted over the past several years and evaluate the need for refinements.

Irving's *Landscaping and Tree Preservation Ordinance* established provisions to protect and extend the urban forest and to ensure that adequate landscaping is provided to create and maintain a pleasant visual environment. The city continues to enforce the landscaping regulations adopted over the past several years and evaluate the need for refinements. The City of Irving has also adopted a Landscaping and Tree Preservation Ordinance for city property.

Irving, an official *Tree City USA*, holds annual observances, community forestry education programs and other initiatives that promote environmental sustainability during the year. The *Tree City USA* program, sponsored by the Arbor Day Foundation in cooperation with the USDA Forest Service and the National Association of State Foresters, provided direction, technical assistance, public attention and national recognition for our urban/community forestry program. Pursuit of the designation, *Tree City USA*, demonstrated that Irving is a community that really cares about its environment.

(MCM 2) Post Construction Storm Water Control Measures

II) FLOOD CONTROL PROJECTS

City-owned and Public Lands – On the Elm Fork and West for of the Trinity River the city maintains the previously established "*Trinity River Greenbelt*," known as Campi3n Trail and continues to acquire open space and recreation areas in the floodplain of the Trinity River in accordance with uses identified in the *Parks and Open Space Master Plan*.

Plans are continuing for the southern extension westward to tie into the city of Grand Prairie's Lone Star Trail. The plan will extend the trail one and three-quarters miles. The City of Irving has been notified by Dallas County of funding for additional trails which will extend Campi3n Trail on the north end in Valley Ranch.

The city continues to study the severity of flooding in some of its major drainage ways such as Embassy Channel, a branch of Delaware Creek, as well as another branch of Delaware Creek, Brockbank Channel, for flooding in its watershed. The Delaware Creek Master Plan analyzed the cumulative impacts of these projects on the watershed and intends to make improvements to these channels that will reduce flooding and erosion.

DCFCD1 engineering consultants evaluate district appurtenances annually and report recommendations to the district. Recommendations address issues such as infrastructure repair, vegetation control and sediment removal to maintain sump capacity and provide flood control. The pump station motors and pumps are tested monthly and mowing is done regularly to control vegetation.

DCURD continues to administer an ongoing, aggressive, dredging program to maintain flood control capacity and water quality in district waterways.

IFCDI manages, maintains and controls three and one-half miles of levees, sump capacity, drainage channels, outfall channels, two pump stations, sluice gates, a SCADA control system and necessary, related appurtenances to prevent flooding to property in the district. Accumulated silt, debris and vegetation are removed from the sumps. Work continues towards a 408 submittal to the USACE for major rehabilitation and improvement of the East Levee System.

IFCDIII maintains sump capacity; drainage channels; a pump station; sluice gates; and a gravity outfall channel to control flooding.

Private Development – The City of Irving, in accordance with the U.S. Corps of Engineers Section 404 permitting requirements, requires channels in new developments to be left in a non-erosive, natural condition.

MINIMUM CONTROL MEASURE 3: Illicit Discharge Detection and Elimination

(MCM 3) Illicit Discharge Detection and Elimination

I) PROHIBITED DISCHARGES

The City of Irving prohibits and makes allowances for certain types of non-storm water discharges to the municipal separate storm sewer system under Irving Code of Civil and criminal Ordinances, Chapter 41, Sec. 41-61. General Prohibition.

The city prohibits certain types of non-storm water discharges to the Municipal Separate Storm Sewer System under Irving Code of Civil and Criminal Ordinances, Chapter 41, Sec. 41-62. Specific prohibitions and requirements.

(MCM 3) Illicit Discharge Detection and Elimination

II) ALLOWABLE DISCHARGES

Categories of non-storm water discharges that the permittees may exempt from the prohibition on non-storm water entering the MS4 include the following: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration (*); uncontaminated pumped ground water; discharges from potable water sources; foundation drains; air conditioning condensation; irrigation water; springs; water from crawl space pumps; footing drains; lawn watering; street wash water; individual residential vehicle washing; wash waters using only potable water and which are similar in quality and character to street wash water or individual residential vehicle washing but without the use of detergents or surfactants; flows from riparian habitats and wetlands; de-chlorinated swimming pool discharges; other allowable non-storm water discharges listed in 40 CFR § 122.26(d)(2)(iv)(B)(1); other allowable non-storm water discharges as listed in the TPDES Construction General Permit No. TXR150000 and TPDES Multi-Sector General Permit No. TXR050000; as well as other similar occasional incidental non-storm water discharges, unless the TCEQ develops permits or regulations addressing these discharges.

(MCM 3) Illicit Discharge Detection and Elimination

III) DISCHARGES FROM FIRE FIGHTING ACTIVITIES THAT HAVE SIGNIFICANT SOURCES OF POLLUTION

The City of Irving Emergency Operation Plan: Annex F - Firefighting under Section VI. Organization and Assignment of Responsibilities task Water Utilities with Responding to any hazardous chemical and petroleum products to protect the environment and prevent their entry into the waters of the MS4 or the State. This assignment applies for both vehicle and structural fire situations.

(MCM 3) Illicit Discharge Detection and Elimination

IV) DETECTION AND ELIMINATION OF ILLICIT DISCHARGES

Any Non Storm water Discharges are Prohibited if they Cause significant Pollution
Chapter 41 Section 41-6 General Prohibition of Pollution addresses this issue.

Elimination of Illicit Discharges and Improper Disposal

The city uses a step-enforcement program (or escalating method of code enforcement) to gain compliance and correct illicit discharge and improper disposal violations.

The Water Utilities/Environmental Compliance Section uses the following process for enforcement actions:

- (1) Environmental compliance staff, upon finding a violation, issues a *Notice of Violation* and assesses the level of difficulty for the discharger to cease the violation.
- (2) In most cases, the problem is required to be rectified within 48 hours and a follow-up inspection is performed to determine compliance.
- (3) If the violation still exists, but there is evidence that there has been an effort to correct the problem, then staff determines if there is a need for the violator to develop a plan of action to remove the discharge.
- (4) Upon re-inspection, if staff determines that there is no evidence of effort to rectify the problem or if they determines that the violation still exists after the deadline set by an action plan, then a citation is issued and the matter referred to the court system.

Under the Irving Code of Civil and Criminal Ordinances, Chapter 41 Section 41-71, the violator can be subject to a fine of up to \$2,000 per day, or any greater fine authorized by state statute.

- (5) If the city exhausts all enforcement options and the violation remains, the case is referred to the appropriate state or federal authorities.

The Code Enforcement Department utilizes the following process to gain compliance to correct trash, stagnant water, illegal dumping and sewage discharge violations:

- (1) A code enforcement inspector, upon finding a violation, issues a *Notice of Violation* and establishes the appropriate time frames to correct the code violation(s).
- (2) In most cases, the inspector requires the problem to be rectified within one to ten days depending on the violation(s). A follow-up inspection is performed to determine compliance.
- (3) Upon the final re-inspection, if the violation(s) still exist and there has been no response or improvement by the property owner the inspector issued a citation. Enforcement continues until the violation(s) is/are abated. Under the Irving Code of Civil and Criminal Ordinances Chapter 33 Section 33-20 and Land Development Codes Chapter 1144 Section 52-56 and Chapter 8 Section 8-26 the violator can be subject to a fine of up to \$2,000 per day, or any greater fine authorized by state statute.
- (4) If the city exhausts all enforcement options and the violation(s) is/are not abated, the case is referred to the city Attorney's Office for options, which may include the filing of a *Chapter 54* lawsuit to obtain a *Permanent Injunction*.

The Capital Improvement Program/Engineering Division uses the following process for gaining compliance with the *TPDES General Construction Permit* on construction projects to prevent the discharge of pollutants into the drainage system:

- (1) When problems are observed or corrections are needed, a verbal notice is issued to the violating company's on-site representative or by telephone to the company's main office personnel.
- (2) If the company does not respond, a written warning is issued (if possible) to the company's on-site representative and a copy sent to the company's main office.
- (3) If the company does not comply with the written warning, a *Stop Work Order* (a written directive from the Capital Improvement Program/Engineering Division that requires all on-site construction activities to cease until compliance has been achieved) is issued to the company and results in:
 - a. The Planning and Inspections Department suspending all job site inspections until notification that compliance has been achieved.
 - b. If construction (other than those activities necessary to gaining compliance) does not cease, the Planning and Inspections Department issues citations to company employees and the company becomes liable for civil penalties in accordance with the appropriate sections of city code.
- (4) If compliance is still not obtained, the *Texas Commission on Environmental Quality* is notified and requested to inspect the job site, suspend the job site permit and issue punitive measures as appropriate.
- (5) In addition, the *U.S. Environmental Protection Agency* is notified and requested to inspect the job site to have federal punitive measures instituted as appropriate.

In the case of a City of Irving Capital Improvement Project, final payment for the project is withheld from the operator pending submittal of a copy of the completed storm water pollution prevention plan (SW3P) including all reports and records kept in the development of the SW3P in accordance with the *TPDES Construction General Permit, TXR150000*.

The Planning and Inspections Department includes an overall job site evaluation for erosion and sedimentation controls in trade inspections on new construction. The inspectors use the following procedures to gain compliance:

- (1) For minor violations or the initial discovery of more extensive problems, the inspector issues a verbal warning. Verbal warnings are informal and, typically, not documented.
- (2) For continued violations or those of a more extreme nature, a "red tag" is left with the on-site construction representative with a timeline set for correction. No further inspections are done if erosion and sedimentation controls are not in place.

- (3) Upon reinspection, if corrections are not made to violations set forth in the “red tag” or for violations presenting a life-threatening hazard or of an immediate danger to the environment, a *Stop Work Order* is issued to the company requiring all on-site construction activities to cease until compliance has been achieved.
- (4) If these measures fail to gain compliance, citations are issued.

(MCM 3) Illicit Discharge Detection and Elimination

V) OVERFLOW AND INFILTRATION

The city performs a variety of activities as part of its program to eliminate spills, overflows, inflow and infiltration. These include smoke testing, manhole inspections, dyed-water flooding, a regular program of preventive maintenance cleaning and TV inspections followed by remedial construction.

Consultant Contracts – A *Sanitary Sewer Evaluation Survey (SSES)* are usually performed every three years. This SSES evaluates the condition of pipes and man holes in a sewer basin. A prioritized list of needed sanitary sewer rehabilitation, repair and replacement projects is created. Operations staff entered the repairs identified into the computer maintenance management system to be scheduled and completed.

A. Sewer System Preventive Maintenance/Repair Summary

Several thousand linear feet of sanitary sewer services and mains will be cleaned as part of the *Preventative Maintenance* program. There will be manhole rehabbed or repairs done as well.

B. Operations

The city operates a *SCADA* (computerized *Supervisory Control and Data Acquisition*) system to manage water distribution and wastewater collection including 10 sanitary sewer lift stations. *SCADA* continuously monitors and reports the level of wastewater in the lift stations; the status of pumps; alerts operators to power failures; and provides an intrusion alarm. Continuous monitoring of the lift stations alerts *SCADA* operators to potential maintenance issues that staff can respond to before a more serious failure occurs.

Flyght controllers and back-up float systems (in the event that the controllers fail) are installed at all lift stations. The controllers provide extensive information about how the pumps at the lift stations are operating which promotes more efficient operation and helps minimize downtime.

In addition to monitoring lift stations via the *SCADA* system, the city deploys two manhole covers with flow monitors to prevent sanitary sewer overflows. These devices monitor sewage in targeted parts of the system and notify the *SCADA* operators if levels reach a pre-determined level so that a crew can be dispatched to the location for maintenance prior to an overflow occurring.

Reported SSOs and TCEQ SSO Initiatives

Upon notification or discovery of sanitary sewer overflows or breaks, city personnel clear blockages and recover waste material. Affected areas are cleaned and disinfected. Repairs are made as needed.

During the reporting year, property owners will be notified of overflows on private sites. *Notice of Violation* will occur and most will have follow-up inspections scheduled. Those not requiring follow-up inspections were corrected before or during the initial inspection. The city will assumed responsibility for overflows that occurred in the public system including cleanup and system repair.

The city participates in the Texas Commission on Environmental Quality's *Sanitary Sewer Overflow (SSO) Initiative* which was developed to reduce sanitary sewer overflows across the state. The agreement with the state, approved in March 2007, included measures to reduce grease in the sanitary sewer system through public education, revision of city ordinances and more frequent cleaning and videotaping of the sewer system.

C. Public Education

Public Education will be discussed in the MCM 7 portion of this SWMP concerning Fats Oil and Grease (FOG) program.

D. Revisions of City Ordinances

As a result of the city's participation in the *SSO Initiative*, the ordinance dealing with liquid waste transporters was updated in July 2007. It required all grease traps be cleaned every ninety days.

Increased Cleaning and Televising

The city takes specific actions to implement the SSO Initiative program including cleaning at least 500,000 feet and televising a minimum of 75,000 feet of the system per year.

E. Wastewater Construction Projects

Inflow Infiltration Projects

The city continues to evaluate the sanitary sewer system for inflow and infiltration problems. Projects are awarded, continued, or planned based on the findings of this and past evaluations.

Waste Water Master Plan Projects

In September 2009, the city adopted a comprehensive *Wastewater Master Plan* to meet regulatory obligations by providing long-term guidance and prioritization for sanitary sewer interceptor and collection system capital improvements.

Projects resulting from the plan are designed and constructed. As funds become available.

(MCM 3) Illicit Discharge Detection and Elimination

VI) HOUSEHOLD HAZARDOUS WASTE

The Solid Waste Services Department provide residential curbside pickup of used motor oil, antifreeze, transmission fluid and a variety of household hazardous wastes via a *Special Waste Collection* service. Residents are asked to set their materials for special collection near their regular pickup location and notify the Solid Waste Services office to dispatch the crew to their location. Refuse crews also notify the office when they observed suitable materials set out for collection.

City participation in the *Dallas Area Household Hazardous Waste Network* provides all Irving residents with a convenient, efficient and environmentally-friendly way to dispose of household hazardous wastes such as pesticides, herbicides, fertilizers, auto fluids, batteries, light bulbs, paint, pool chemicals and other household chemicals.

(MCM 3) Illicit Discharge Detection and Elimination

VII) MS4 SCREENING AND ILLICIT DISCHARGE INSPECTIONS

In the annual report, an average of 120 outfalls will be inspected for dry weather field screenings for discharges. The sources of flows will be investigated using expert knowledge and GIS maps of the MS4. Data collected will be included in *Appendix G*.

Samples of flows were collected and analyzed for the following parameters:

Parameter	Reporting Units
Ammonia	parts per million (ppm)
Chlorine	parts per million (ppm)
Copper, total	parts per million (ppm)
Detergent	parts per million (ppm)
pH	Standard Units (S.U.)
Phenols	parts per million (ppm)

The Environmental Compliance section investigates storm water-related complaints; the majority of which involved sanitary sewer overflows. In all incidents, immediate cleanup is required.

Departmental policy is to educate violators regarding regulations before issuing tickets or filing charges. Two warnings or "Notices of Violation" (NOVs) are given before enforcement action, such as the issuance of a citation, is taken. Environmental Compliance inspectors will report NOVs and citations issued.

(MCM 3) Illicit Discharge Detection and Elimination

VIII) NPDES AND TPDES PERMITTEE LIST

A list will be maintained of *Notices of Intent (NOIs)* on file in the Environmental Compliance section of Water Utilities.

(MCM 3) Illicit Discharge Detection and Elimination

IX) MS4 MAP

The City of Irving has a current accurate MS4 map showing all public outfalls but has not photographed or GPS located all outfalls at this time. All City owned outfalls have been located on our GIS Mapping system and ongoing operations have begun photographing these and private outfalls into the MS4.

The City plans to complete the mapping, photographing and GPS locating of all the outfalls in the allotted 3 year time period.

(MCM 3) Illicit Discharge Detection and Elimination

X) SPILL PREVENTION AND RESPONSE

Fire Department

The Hazardous Materials Team, under the direction of the fire department, is comprised of thirty-six fire department members, divided among three duty shifts. The Hazardous Materials Team is housed at Station 8 located at 650 Las Colinas Blvd. Specialized response equipment is housed with these personnel and was available for response 24 hours a day. Team members will completed at least 72 hours of training in preparation for emergency response annually.

In addition the Irving Fire Department provides training to staff members in other departments.

Water Utilities

Environmental Compliance employees attend the 8-hour Hazardous Material Refresher Course presented by the city's fire department hazmat team. This internal training and collaboration improves communication between departments and enhances joint hazmat response.

Emergency Management

HAZMAT/plume modeling software is utilized by for the Irving Fire Department HAZMAT Team as well as the Irving Mobile Command Vehicle for any major HAZMAT event in the City of Irving.

The City of Irving participates in the quarterly Dallas County Local Emergency Planning Committee (LEPC) meetings with our local government entities as well as private sector stakeholders involving facilities that store known hazardous chemicals.

(MCM 3) Illicit Discharge Detection and Elimination

XI) LIST OF PRIORITY AREAS TO INSPECT FOR ILLICIT DISCHARGES

The City is preparing a map of older industrial areas to inspect on a more frequent basis as a part of this MCM. There are only 2 facilities that have had a history of multiple illicit discharges which will also be listed for more frequent inspections.

MINIMUM CONTROL MEASURE 4: Pollution Prevention and Good Housekeeping for Municipal Operations

(MCM 4) Pollution Prevention and Good Housekeeping for Municipal Operations

I) POLLUTION PREVENTION AND GOOD HOUSEKEEPING PROGRAM

A) Identify and Implement

The City of Irving began a Good House Keeping effort in 2009 of all Municipal facilities. Before the EPA audit of 2010, Industrial inspectors inspected the 6 largest Municipal facilities and brought any issues to the attention of the Facility Managers. There has been a quarterly inspection of these largest facilities ever since. Any deficiencies are immediately brought to the manager's attention and addressed.

The 6 facilities that are inspected quarterly are; Briery Yard, Valley View Municipal Center, Las Colinas Service Center, Fritz Park Maintenance Office, Trinity View Park Maintenance center and the Animal Shelter.

B) Reduction of Discharges to Maximum Extent Practicable (MEP)

The City facilities are being well maintained and have a track record of no oil spills or illicit discharges from the yards and vehicle maintenance facilities. Both wet weather and dry weather test of storm water outfalls have test for illicit discharges.

C) Training for All Employees

The city has a training program for employees with best management practices (BMP) in place. Documentation of the BMPs is being finalized as part of the Storm Water Management Plan updates and will be complete by the end of the first year of the renewed permit.

(MCM 4) Pollution Prevention and Good Housekeeping for Municipal Operations

II) STRUCTURAL CONTROL MAINTENANCE MEASURES

The Briery Yard has floor drains in the Fleet Maintenance building that are connected into an oil water separator for the removal of any hydrocarbons before the water drains into a sanitary sewer system. This structure is maintained by an outside contractor. The car and truck wash is a water recycle system which separates dirt, oil, grease and hydrocarbons from the wash water before the water is recycled into the wash system and

used again. This system is maintained by the Water Utilities vacuum trucks on a regular basis.

The Valley View Municipal Complex has two Stormceptors in the storm sewer system where the maintenance vehicles are parked. The Water Utilities vacuum trucks maintain these structures. The sand and gravel piles for regular maintenance are stored in roofed structures as is the crushed limestone sand for winter events.

(MCM 4) Pollution Prevention and Good Housekeeping for Municipal Operations

III) WASTE HANDLING

The fleet maintenance facility at Briery has a waste handling BMP and standard operating procedure for all of its fluids.

Used motor oil, hydraulic fluids, brake fluids is collected and placed in a used oil (Waste Oil) tank that is surrounded by a concrete containment wall designed to contain any spills or leaks from the tank operations. Any spills of used oil during vehicle maintenance are collected with Pig Mats that are then squeezed by a press so that the oil is removed and properly stored and the mat can be re-used several times. The used oil tank is drained by an outside contractor on a weekly basis. All used antifreeze is collected in a large tank that is kept under a roof and it is drained by an outside contractor on an as needed basis.

(MCM 4) Pollution Prevention and Good Housekeeping for Municipal Operations

IV) PESTICIDE, HERBICIDE AND FERTILIZER APPLICATION

The Parks and Recreation Department maintains approximately 2,329.6 acres of land including parkland, public grounds, medians and public rights-of-way during the permit year. Included in this number is weed and vegetation control on 67.87 acres of drainage channels. All of these areas are maintained using both in-house personnel and private contractors.

The comprehensive *Parks Turf Maintenance Program* was developed to manage pesticide, herbicide and fertilizer requirements and use by city staff and contractors. Only nitrogen based fertilizer is used north of SH 183 because of the high sulfur content in the soils in north Irving. Insecticides, herbicides and fungicides are used on various park properties to control specific problems. In accordance with technical contract specifications, various contractors applied chemicals for control of weeds, turf disease and insect pests in problem areas only. Specifications for all chemical application contracts require fully-trained and certified applicators and all chemicals are applied in accordance with state and federal requirements. The coverage in the *Chemical Weed and Pest Control Contract* for parks, athletic fields and public grounds include a total of 120.55 acres providing full-season weed and fire ant control on high-profile parks and public grounds areas. The *Corridor Program* (an aggressive litter control program for high-profile primary streets, medians and rights-of-way) also includes application of herbicides on selected areas to improve appearance and control the growth of obnoxious weeds.

The Parks and Recreation Department will have at least fifteen maintenance employees who are state licensed and completed test requirements for pesticide applicator certification. The department provides training to achieve pesticide applicator certification for key operational personnel to greatly expand the scope of existing pesticide application contracts.

DCFCD1 has two people working approximately forty hours per week doing maintenance. Vegetation within the district was controlled primarily by routine mowing and cutting.

DCURD maintains 348.85 surface acres of lakes and waterways using an established, comprehensive lake management program which addresses aquatic weed and algae control and aquatic animal damage control. The district uses integrated pest management practices utilizing algaecides, herbicides, non-pesticide dyes, mechanical control and cultural control measures. District personnel only uses products that do not require a permit to apply and carry no restrictions for application.

The District remains a Level II Operator according to TCEQ Guidelines, has completed the Self Certification Form for Level II under the TPDES Pesticide General Permit TXG870000 and maintains that form on-site per TCEQ requirements.

IFCD1 regularly mows and trims vegetation on all properties to control weeds and encourage vegetative growth. All weedy vegetation is removed via weed eating and mowing.

IFCD3 regularly mows all properties to control weeds and encourage desirable vegetative growth during the reporting year mowing district levees and surrounding areas.

(MCM 4) Pollution Prevention and Good Housekeeping for Municipal Operations

V) LIST OF MUNICIPAL FACILITIES

City of Irving Facilities		
Facility	Address	Number of Structures
Animal Shelter	4140 Valley View Lane	1
Auto Pound at VVMC	401 Valley View Lane	1
Bear Creek Heritage Museum	3925 Jackson	3
Briery Yard	128 N. Briery Road	11
Brighter Tomorrows	226 Falcon	1
Central Library	801 W. Irving Blvd.	1
Cimarron Park Recreation Center	201 Red River Trail	1
City Hall Complex	800 W. Irving Blvd.	3

Facility	Address	Number of Structures
Civic Center	825 W. Irving Blvd.	1
Community House	135 S. Jefferson	1
Communications Shelters		5
Criminal Justice Center	305 N. O'Connor	1
Family Advocacy Center	600 W. Pioneer	1
Fire Museum	2nd & Jefferson	1
Fire Prevention Building	1230 Glenwick	1
Fire Station #1	925 Chamberlain	1
Fire Station #2	1306 N. Story Road	1
Fire Station #3	1825 E. Grauwyler	1
Fire Station #4	3303 N. MacArthur	1
Fire Station #5	2925 W. Shady Grove	1
Fire Station #6	2801 Esters Road	1
Fire Station #7	3303 W. Walnut Hill	1
Fire Station #8	650 E. Las Colinas	1
Fire Station #9	8101 Jetstar Drive	1
Fire Station #10	415 Cimarron Trail	1
Fire Station #11	6200 Love Drive	1
Old Fire Station #6	2801 Esters Road	1
Fritz Maintenance Office	312 East Vilbig	1
Garden Arts Center	906 S. Senter Road	1
Hackberry Pump Station	8501 Hackberry Road	1
Heritage House	303 S. O'Connor	1
Heritage Park	217 South Main	3
Heritage Senior Center	200 S. Jefferson	1
Human Services Bldg.	440 S. Nursery	1
ICTN	233 S. Rogers	1
Irving Arts Center	3333 N. MacArthur	1
Irving Convention Center	550 W. Lax Colinas Blvd.	1
Irving Soccer Complex	3585 World Cup Way	1
Jaycee Art Center	200 W. Airport Frwy.	1

Facility	Address	Number of Structures
Landfill	220 W. Hunter Ferrell	2
Las Colinas Service Center	5964 N. O'Connor	5
Lee Recreation Center	3000 Pamela	1
Lively Community Center	909 O'Connor	1
MacArthur Pump Station	1900 N. MacArthur	1
Museum	313 Irving Blvd.	1
Mustang Park Recreation Center	2223 Kinwest Pkwy.	1
North Police Station	5992 Riverside Dr.	1
North Service Center	5826 Valley View Lane	1
Northwest Park Recreation Center	2800 Cheyenne 75062	1
Paine House - Museum	2515 W. Fifth Street	1
Police & Fire Training Academy	2603 Esters Road 75062	1
Senter East Bldg.	228 Chamberlain 75060	1
Senter Park Recreation Center	909 S. Senter (901) 75060	1
Trinity View Park Maintenance Facility	2221 SH 356 75060	2
Valley Ranch Library	401 Cimarron	1
Valley Ranch Library (former)	9940 W. Valley Ranch Pkwy	1
Valley View Municipal Center	333 Valley View Lane	5
Warehouse	3000 Rock Island	1
West Irving Aquatic Center	3701 Conflans	1
West Irving Library	4444 W. Rochelle Road	1
West Park Recreation Center	530 Davis	1
Total		91

MINIMUM CONTROL MEASURE 5: Industrial and High Risk Runoff

(MCM 5) Industrial and High Risk Runoff

I) PRIORITIES AND PROCEDURES FOR INSPECTION AND IMPLEMENTATION OF CONTROL MEASURES

The City of Irving has no wastewater treatment facilities, transfer stations, incinerators or hazardous treatment facilities.

Hunter Ferrell Land Fill the city's landfill is well maintained and floatables are covered with soil as a daily cover throughout the daily operations and very little is blown outside the landfill operations. Windblown litter is picked up in the area on a regular or as needed basis.

(MCM 5) Industrial and High Risk Runoff

II) INDUSTRIAL AND HIGH RISK MONITORING PROGRAM

- A)** The City of Irving performs annual storm water inspections for all known industries in the city that are permitted under the *Industrial Pretreatment Program*. Storm water inspections are performed during the reporting year by Environmental Compliance staff in conjunction with the city's Industrial Pretreatment Program.

- B)** The City of Irving inspects five industrial and/or high-risk occupancies selected at random from approximately 500 industries in the city that report SIC codes impacted by storm water regulations per permit year.

MINIMUM CONTROL MEASURE 6: Construction Site Storm Water Runoff

(MCM 6) Construction Site Storm Water Runoff

I) CONSTRUCTION SITE RUNOFF ORDINANCE

- A)** The City of Irving Code of Civil and Criminal Ordinances Chapter 41, Section 41-62.1 requires an earthwork permit for any grading of property including sites smaller than 1 acre and all larger sites inside Irving, requiring erosion control of runoff during construction and until re-vegetation is completed.

- B)** The city adopted the enhanced development/redevelopment guide, iSWM Design Manual for Site Development, spearheaded by the North Central Texas Council of Governments. The city has incorporated iSWM components within the Stormwater Management and Drainage Ordinance Section 35. The North Central Texas Council of Governments (NCTCOG) Public Works Council designated the City of Irving's status as a Certified Silver Integrated Stormwater Management (iSWM) Community on June 27, 2018.

(MCM 6) Construction Site Storm Water Runoff

II) REQUIREMENTS FOR STRUCTURAL AND NON-STRUCTURAL BEST MANAGEMENT PRACTICES (BMP)

The City of Irving requires erosion control measures on all construction sites to keep mud from the sites reaching City Streets or the MS4 and natural waterways. The City of Irving maintains a copy of the USEPA Baseline Construction General Permit Checklist and requires contractors to follow these requirements. The City also has a copy of the *North Central Texas Council of Governments Construction Activity Best Management Practices Manual* and a variety of training videos for reference purposes for employees, developers and builders.

The city requires all site operators to address the control of site waste, litter (floatables), building materials, concrete truck washout water, chemicals and sanitary waste.

The City of Irving receives complaints concerning mud in the street or unusually muddy water in the streams from the public through the CIP department complaint line. If the construction project is a CIP project the call is forwarded to the onsite inspector or the CIP erosion control inspector for immediate clean up. If the project is private, the call is forwarded to the CIP inspector in charge of private sites for immediate clean up.

(MCM 6) Construction Site Storm Water Runoff

III) INSPECTION OF CONSTRUCTION SITES AND ENFORCEMENT REQUIREMENTS

The City of Irving issues *Warning Notices* and *Stop Work Order* letters to construction projects not using and maintaining appropriate structural and/or nonstructural pollutant reduction measures as determined by comparison to site construction plans submitted to the City of Irving, the *USEPA Baseline Construction General Permit Checklist*, or physical evidence that the installed measures are ineffective (i.e., mud in the public right-of-way, trash, ect.).

The Capital Improvement Program/Engineering Division performs inspections on private development projects during the permit reporting year and issues verbal warnings, stepping up to written *Warning* notices and *Stop Work Orders* construction site operators for failure to use and maintain appropriate pollutant reduction measures or other aspects of their storm water pollution prevention plan.

In addition, *SWPPP* inspections are conducted on capital improvement projects. Deficiencies are documented and resolved under the direction of the engineering construction inspector with oversight of the project with the deficiency. Written Warning notices and Stop Work Orders are issued to construction site operators for failure to use and maintain appropriate pollutant reduction measures or other aspects of their storm water pollution prevention plan. The city requires all earth-moving operations to obtain a grading permit if they had not applied for a building permit prior to the commencement of excavation operations.

(MCM 6) Construction Site Storm Water Runoff

IV) EDUCATION AND TRAINING FOR CONSTRUCTION SITE OPERATORS

To inform and remind the development/building community of stormwater requirements for construction activity, the Planning & Inspections Department provides erosion control regulations and signage to all building permit applicants as well as copies of sample designs for erosion and sedimentation control plans for smaller construction sites. This signage, detailing their erosion control responsibilities, is required to be posted on-site at all times.

The city maintains a library of development assistance tools for employees, developers and builders in the Public Works/Office of Environmental Stewardship. These tools include a

copy of the *North Central Texas Council of Governments Construction Activity Best Management Practices Manual* and various training videos. To supplement the library with the freshest training and latest information available at an affordable cost, the city focuses on identifying free or low-cost online webinars and webcasts and live, local presentations regarding environmental issues affecting city operations including development and re-development topics.

The city also trains Capital Improvement Program employees in erosion control. The city regularly sends engineers to erosion and sedimentation control training offered by the North Central Texas Council of Governments. City staff also take advantage of other opportunities such as webinars and presentations at professional organization meetings to advance their knowledge and update their skills in a variety of related topics.

(MCM 6) Construction Site Storm Water Runoff

V) NOTIFICATION OF REQUIREMENTS TO CONSTRUCTION SITE OPERATORS

The City of Irving requires developers and engineers submitting development or building plans that may potentially fall within the scope of the *TPDES Construction General Permit (CGP)*, TXR150000, to provide a copy of their TPDES “Notice of Intent,” Stormwater Pollution Prevention Plan (SW3P) and, subsequent, TPDES “Notice of Termination” to the Capital Improvement Program/Engineering Department. The city requires copies of *Construction Site Notices* or *Notices of Intent* for all subdivisions over an acre prior to the issuance of three-way contracts to build publicly maintained streets, water, sanitary sewer and storm sewer and other drainage systems.

The city receives construction plans for privately developed projects (with city-maintained infrastructure) that requires the submittal of a *Notice of Intent* to the state during the reporting year. The city also receives copies of *Construction Site Notices* for smaller private developments during this time frame. The city prepares plans for capital improvement project (CIP) that requires the submittal of a *Notice of Intent* to the state and for *Construction Site Notices* for smaller capital improvement projects during the reporting year.

(MCM 6) Construction Site Storm Water Runoff

VI) LIST OF CONSTRUCTION SITES

The City of Irving of Irving maintains a list of construction sites with that discharge into the MS4 and have been issued either a NPDES or TPDES permit. This list will be attached in Appendix G.

(MCM 6) Construction Site Storm Water Runoff

VII) STATUS OF COMPLIANCE WITH NEW REGULATIONS

The City of Irving reviews and requires grading plans for all Construction sites including lots 1 acre in size.

MINIMUM CONTROL MEASURE 7: Public Education, Outreach, Involvement and Participation

(MCM 7) Public Education, Outreach, Involvement and Participation

I) PUBLIC EDUCATION AND OUTREACH

Keep Irving Beautiful

During the reporting year, *Keep Irving Beautiful* keeps the public informed through the use of several print media outlets, as well as local television programs and online papers. In addition, through participation in community events and presentations to organizations, *KIB* is able to distribute literature on an ongoing basis. Following are some of the publications utilized:

Irving Rambler

The *Irving Rambler* is a local community newspaper, available by subscription or online and sold at numerous outlets throughout the city.

Dallas Morning News Neighbors Go

Neighbors Go is a section of the *Dallas Morning News* that focuses on the community you live in.

Bubblelife

Bubblelife is an online publication dedicated to getting the word out about Irving

Buckaroo

Buckaroo is another online publication dedicated to getting the word out about Irving

City of Irving Operations Update Report

This report is provided to City Council, city employees, list serve subscribers and residents through the *All About Irving* email list on a biweekly basis. This report delivers department updates on a variety of topics as they relate to the city's *Strategic Plan*.

The city Spectrum

The city *Spectrum* is a City of Irving publication which is mailed to all households and available online from the city's website

Irving Community Television Network (ICTN)

ICTN is the City of Irving Television station, which featured *KIB* in at least one programs during the reporting period.

Events and Presentations:

KIB partnered with many civic, government, faith, youth and non-profit groups through the reporting period to either present information at their events or help them make their events "green" by providing recycling supplies and volunteers to educate participants and monitor the use of recycling stations.

All About Irving:

City of Irving email list serv for subscribers, residents and employees about city activities and information. These included:

Keep Irving Beautiful Newsletter

Monthly online newsletter is posted on the *KIB* page of the City of Irving website and *Rock the Green* website.

Irving Community Television Network

Public Service Announcements, Broadcast and Cable Media

The city informs residents and businesses of storm water issues through municipal access cable television and the use of its website's "Video on Demand" feature. Public service announcements (PSAs) that highlight residential and commercial best management practices as well as regular programming on various storm water topics are broadcast throughout the day on 3 cable channels and are included in the menu of "on demand" video available to the public for viewing 24 hours a day, seven days a week by computer. The inventory of PSAs and storm water related programs is included in the annual report

Proper management and disposal of used oil and household hazardous waste

ICTN shows Public announcements were shown in the data in section A). The Solid Waste Services Department provided residential curbside pickup of used motor oil, antifreeze, transmission fluid and a variety of household hazardous wastes via a *Special Waste Collection* service. Residents were asked to set their materials for special collection near their regular pickup location and notify the Solid Waste Services office to dispatch the crew to their location. Refuse crews also notified the office when they observed suitable materials set out for collection.

City participation in the *Dallas Area Household Hazardous Waste Network* provides all Irving residents with a convenient, efficient and environmentally-friendly way to dispose of household hazardous wastes such as pesticides, herbicides, fertilizers, auto fluids, batteries, light bulbs, paint, pool chemicals and other household chemicals.

Proper use application and disposal of pesticides

Irving residents and business owners are presented with a variety of opportunities to learn about the proper use, application and disposal of pesticides, herbicides and fertilizers through year-round course offerings, presentations at festivals and community events and participation in the *Dallas Area Household Hazardous Waste Network*.

Public Service Announcements

Throughout the reporting year, the following public service announcements which include a message educating the public on the proper use, application and disposal of pesticides, herbicides and fertilizers are shown on the Irving Community Television Network, Time-Warner cable and various local broadcast television stations.

- Know Where It All Goes – Fertilizer
- *Texas SmartScape™* – English
- *Texas SmartScape™* – Spanish
- *Household Hazardous Waste Collection*

(MCM 7) Public Education, Outreach, Involvement and Participation

II) PUBLIC INVOLVEMENT AND PARTICIPATION

Public Reporting of Illicit Discharges or Improper Disposal of Materials, Including Floatables into the MS4 – The city supports, participates in and promotes the *North Central Texas Council of Governments’ Illegal Dumping Hotline & Public Awareness program*. This program provides a 24-hour a day telephone hotline (1-888-335-DUMP) to facilitate public reporting of illicit discharges or improper disposal of materials plus brochures and a variety of promotional items to distribute to the public.

Additionally, the Parks and Recreation Department maintains a 24-hour reporting “hotline” phone number (972-721-5487) to facilitate reporting of litter in public rights-of-ways and other areas.

The Communications Department maintains a Customer Questions and Concerns online form <http://cityofirving.org/web-forms/customerqc/i.asp> for residents, visitors and businesses to use to report problems including litter and illegal dumping.

Employee reports of litter and dumping are encouraged and collected through a 24-hour telephone hotline (972-721-7777).

Public Involvement in the Removal of Floatables from the Floodplain and Right Of Ways

The City of Irving, as an affiliate of *Keep Texas Beautiful* (under the name of *Keep Irving Beautiful*), participates in well-publicized, well-attended activities throughout the year as well as those promoted nationally by *Keep America Beautiful*, and statewide by *Keep Texas Beautiful* and the *North Central Texas Council of Governments*.

Key Keep Irving Beautiful (KIB) Activities

Trinity Trash Bash:

The *Trash Bash* is *Keep Irving Beautiful’s* contribution to the *Texas Waterway Cleanup Program*, sponsored by *Keep Texas Beautiful*. Approximately 20 communities in the Trinity River watershed participate in events during September and October, with the primary goal of keeping litter out of our waterways

Adopt-A-Spot Program (year-round)

Adopt-A-Spot is the longest running element of *KIB’s* present program. This program urges individuals or groups to “adopt-a-spot” and to keep it litter-free for a minimum of one year, and report their activities to *KIB* on a monthly basis. Irving currently has 73 active locations. The adopted spots are sponsored by individuals, families, companies and organizations in every economic and geographic sector of Irving. They are very popular with youth groups, schools, churches, neighborhood associations and corporate service groups.

Green Events (year-round)

Based on a *Keep Texas Beautiful* initiative, the *Green Events Program* involves partnerships with city departments, schools, neighborhood associations, faith groups, large and small businesses, and all types of organizations in the community to help make their events more environmentally-friendly. *KIB* supplies recycling containers and signs, banners and educational materials, and often provides volunteers for these events.

(MCM 7) Public Education, Outreach, Involvement and Participation

II) EVALUATION OF THE EFFECTIVENESS OF THIS MCM

Evaluation of this new minimum control measure will be done in future reports.

MINIMUM CONTROL MEASURE 8: Monitoring Evaluation and Reporting

(MCM 8) Monitoring Evaluation and Reporting

I) DRY WEATHER SCREENING PROGRAM

The City of Irving performs an average of 120 dry weather field screenings per year. Any flows found will be investigated to find the sources of flows and investigated using expert knowledge and GIS maps of the MS4 and any violations corrected. Data collected will be included in *Appendix I*.

Samples of flows are collected and analyzed for the following parameters:

Parameter	Reporting Units
Ammonia	parts per million (ppm)
Chlorine	parts per million (ppm)
Copper, total	parts per million (ppm)
Detergent	parts per million (ppm)
pH	Standard Units (S.U.)
Phenols	parts per million (ppm)

(MCM 8) Monitoring Evaluation and Reporting

II) WET WEATHER SCREENING PROGRAM

The City of Irving monitors 8 storm events per permit year. The City of Irving, using mobile wet weather samplers, will monitor storm events during the permit reporting period. The City will screen sites on the various receiving waters: Shown on the map bellow. Screening methodologies included grab sampling (first flush) and composite sampling for two storm events per sample site.

The following chemical analyses will be performed on grab samples: hardness, pH, temperature, DO, DO%, conductivity, grease & oil, e. coliform and fecal streptococcus. The following testing will be performed on composite samples: BOD, COD,

Nitrite+Nitrate-Nitrogen, TKN, Phosphate (total), Ortho-phosphate, TDS, TSS, Cadmium (total), Copper (total), Chromium (total), Nickel (total), Lead (total), Zinc (total), Diazinon, Ammonia Nitrogen and Arsenic.

A table giving the dates and the locations where the samples were collected. Will be included.

The samples are analyzed for the following parameters:

Sampling Parameters Employed	
Parameter	Reporting Units
Ammonia Nitrogen, total (calculated)	mg/L (milligrams per liter)
Arsenic	mg/L (milligrams per liter)
BOD - 5 day	mg/L (milligrams per liter)
Cadmium, total	mg/L (milligrams per liter)
Chromium, total	mg/L (milligrams per liter)
COD	mg/L (milligrams per liter)
Conductivity	µS/cm (microsiemens per centimeter)
Copper, total	mg/L (milligrams per liter)
Diazinon	µg/L (microgram per liter)
Dissolved Oxygen	mg/L (milligrams per liter)
Dissolved Oxygen Percent	% (percent)
E. Coli, MPN Q-tray	MPN/100mL (Most Probable Number per 100 milliliters)
Fecal Streptococcus	Col/100mL (colonies per 100 milliliters)
Grease & Oil	mg/L (milligrams per liter)
Hardness	mg/L (milligrams per liter)
Lead, total	mg/L (milligrams per liter)
Nickel, total	mg/L (milligrams per liter)
Nitrate+Nitrite-Nitrogen	mg/L (milligrams per liter)
Ortho-Phosphate	mg/L (milligrams per liter)
pH	S.U. (standard units)
Phosphate, total	mg/L (milligrams per liter)
TDS	mg/L (milligrams per liter)
Temperature	°C (degree Celsius)
TKN	mg/L (milligrams per liter)
TSS	mg/L (milligrams per liter)
Zinc, total	mg/L (milligrams per liter)

The City of Irving is continuing the accumulation of wet weather screening data. Data collected during this permit period will be included in *Appendix I of the report*.

(MCM 8) Monitoring Evaluation and Reporting

III) INDUSTRIAL AND HIGH RISK RUNOFF MONITORING PROGRAM City of Irving Landfill

The state renewed the Multi-Sector General Permit in August 2011, and the city received notice that it had until November 14, 2011, to file an NOI under this permit. The city submitted the NOI and e-payment on September 22, 2011. The city was notified on December 28, 2011 that our application for authorization under the general permit had been received. The TPDES multi-sector storm water general permit number for the site is TXR05M662.

(MCM 8) Monitoring Evaluation and Reporting

IV) WET WEATHER CHARACTERIZATION PROGRAM

North Central Texas Regional Monitoring Program

The City of Irving participates in a regional monitoring program coordinated through the North Central Texas Council of Governments.

(MCM 8) Monitoring Evaluation and Reporting

V) FLOATABLES MONITORING

The floatables monitoring program is described in **MCM1 III) Floatables**. A description of the floatable trash that is removed at the source (i.e. street ROW) before it reaches the MS4 and removal of floatables in the streams and creeks after they enter the MS4 is detailed in the annual report.

Implementation Plan for the Eight Total Maximum Daily Loads for Bacteria in the City of Irving (I Plan)

The City is participating in the “**Implementation Plan for Seventeen Total Maximum Daily Loads (TMDL) for Bacteria in the Greater Trinity River Region (Upper Trinity River I Plan)**” prepared by the North Central Texas Council of Governments (NCTCOG) in partnership with several Cities as well as Public and Private Partners. This information will be discussed in “**Appendix B: Progress Towards Reducing 303(D) Pollutants of Concern**” in every Annual Report.