

**February 2010 to February 2011 and February 2011 to September 2011 Report for the Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004524000 (TXS001701) for the Municipal Separate Storm Sewer System (MS4) to discharge to surface water in the state.**

**To:**

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**DATE:**

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**REPORTING PERMIT:** Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004524000 (TXS001701) for the Municipal Separate Storm Sewer System (MS4) to discharge to surface water in the state.

**I. INTRODUCTION**

The Renewal Application of The City's TPDES permit was approved on October 18, 2011. With the approval, some changes were suggested by either the City or the Regulatory Agency in order to meet all statutory and regulatory requirements. Some of the changes were the dates for the development of SWMP (Storm Water Management Program) activities and the Reporting Period. In the transition to that change, this is the first system-wide annual report, covering activities developed between two Reporting Periods, February 23, 2010 through February 22, 2011 and from February 23, 2011 to September 30, 2011. These periods are considered as one annual report and are going to be referred as "Reporting Period" in this document. This report is due to be submitted by no later than February 1, 2012.

Activities in the SWMP designed to satisfy the requirements established by the TCEQ are reported here, addressing the requirements of the existing TPDES permit for the Reporting Period mentioned above. Results are shown in the body of this report, but detailed information is attached.

The information herein is a compilation of activities according to requirements of existing permit, but an evaluation of each activity to comply with the renewal permit has been added. Suggested changes and assessment of results are found at the end of this report to help with the preparation of the new SWMP that is due in May, 2012.

## II. DISCHARGE AUTHORIZED BY THIS PERMIT

This permit authorizes existing or new storm water point source discharges to surface water in the state from those portions of the Municipal Separate Storm Sewer System (MS4) owned or operated by the permittee.

This permit does not negate any person's ability to assert the *force majeure* (Act of God, war, strike, riot, or other catastrophe) defenses found in 30 Texas Administrative Code (TAC) § 70.7.

This permit does not transfer liability for discharging without, or in violation of, a National Pollutant Discharge Elimination System (NPDES) or a TPDES permit from the responsible party of the discharge to the permittee.

## III. STORM WATER MANAGEMENT PROGRAM REPORT

Specific program characteristics that were performed according to the permit governing this report are described below. TCEQ changed the reporting dates to agree with the fiscal year for the City. In accordance to the new permit requirements. A new report will be presented in February 2013, and a new SWMP with activities to satisfy TCEQ requirements will be submitted in May 2012. The list of new requirements is described in numeral IV of this report: titled SWMP Changes to Renew Permit Requirements.

1. **Structural Controls.** *The existing permit requires that the MS4 and any storm water structural controls associated with MS4 be operated in a manner to reduce erosion and the discharge of pollutants to the Maximum Extent Practicable (MEP).*

A portion of the MS4 within the boundaries of the City of Pasadena (City), including several regional detention ponds, is operated by the Harris County Flood Control District (HCFCD). HCFCD is currently permitted under TPDES Permit Number WQ00046850000 as a co-permittee with the City of Houston, Harris County, and Texas Department of Transportation (TxDOT) – Houston District. The portion of the MS4 operated by the City includes maintaining ditches and local detention/retention ponds. The City maintains these conveyances and ponds on a regular basis by removing blockage, overgrowth, trash/debris, and sediment. City-owned detention/retention ponds are maintained by City personnel and inspected every three to six months, depending upon rain events and vegetation growth. Clean Streets Task Force does the maintenance as described above, but the Storm Water Team inspects all the ponds in the City once a year. A list of ponds, location, coordinates, ownership and type of pond is maintained. A folder with picture and detailed description of each pond is kept in file. More information on this activity is found in numeral 2 of this section of the report, under areas of development

and significant redevelopment; this is developed as a control for monitoring of construction and pos-construction activities.

During this Reporting Period, the City's Clean Streets Division maintained and cleaned 1,332 Properties, 1604 Drainage maintenance (ditches), removed 738 trees , 1874 Litter Control cleanings, cut and cleaned 2,511 esplanades, easements and streets; 78,363 bags of trash were picked up, for a total of 322,300.5 cubic feet of trash. 2,277 streets were swept for a total of 11,185 ft. The Landscape Department collected 35 cubic yards of limbs and debris and 886 bags of trash from February 2010 to September 2011.

**(See Attachment I)**

In this Reporting Period, the "floatable capture gate" installed in 2009 in a City owned ditch, has been working successfully. This gate was designed and installed by a company called Waterways Clean up Services as a donation to the City, but it was cleaned and maintained by City forces.

During this Reporting Period, the gate located at the intersection of Burke and Crenshaw successfully captured about 20.67 cubic yards of floatable trash, including: dead vegetation 70%, Styrofoam 2%, paper 8%, plastic bottles 1% and plastic bags 7%, and other miscellaneous trash and debris 12%. Well over 70% of the total floatable trash collected includes grass clippings. Trash and Debris found at gate during cleanings revealed that it has shown a reduction in the percentage of dead vegetation in 2010 and in 2011 as compared to the year before. The reduction could possibly be due to the vast resident education and public involvement (grass clippings).

**(See Attachment II)**

The City is in search for funds to place similar gates in bayous located in different parts of the City.

Public participation and involvement were very important activities not only in educational and outreach requirements, but also on the monitoring of structural controls in the City. Ponded water, a good indication of storm drain blockage, was reported both through the public Action Line by residents and from city crews conducting regular field activities. Ponded water complaints were included in Street and Bridge work orders, given high priority for investigation and resolution so that the inlets could be cleaned or repaired. Sediment or debris that blocked the underground culverts was removed so that water quality is improved.

The City previously adopted two inlet details for water quality enhancement. The City adopted one detail to retrofit a storm water grate to almost any storm drain inlet currently in use. The other detail addresses storm water grates, and has been in use since 1993 for all new developments, as well as for the extension or reconstruction of City streets. These grated curb inlets are designed to prevent floatables, trash, and debris from entering the underground storm water conveyance system. In addition, the Street and Drainage Department regularly inspects, maintains and removes trash and debris from the grated inlets, storm drain inlets and catch basins. The Street

and Drainage Department has divided the City into 70 separate areas and assigned field crews to inspect and clean inlets prior to an approaching storm event as well as after-storm events.

The Storm Water Team in partnership with the Traffic department, Street and Bridge Department, Volunteer Pasadena, the Communications Department, and other Departments in the City, organize programs for outreach and public involvement. Since 2006, a new environmental program has been created every year; these include Glue Storm Drain Markers (2006), Adopt-A-Waterway (2007), Adopt-A-Street (2008), Adopt-A-Park (2009), Walk the Waterway (2010), and a Adopt-A-Trail (2011). All of them have been successful from the start. To promote the service to the environment and the community, the volunteer environmental programs have been reviewed and changes are in process of being implemented for the 2012 Reporting Period. One of them is the name of the general environmental volunteer programs to be covered under an umbrella to be more appealing and easy to publicize. The new name is Pasadena C.L.E.A.N.

For the drain markers activity, 50 storm drain markers were installed or replaced by City volunteers during this Reporting Period. In addition, approximately 104,976 linear feet of waterways were cleaned up and 124.5 bags of trash were picked up; 295,252 linear feet of street were cleaned up and 108 bags of trash were picked up; 97,872 linear feet of trail (a new activity started in 2011) were cleaned up and 10 bags of trash were picked up, 475.94 acres of park were cleaned up and 57 bags of trash were picked up. This success is due to the continuous coordinated work from all City Departments, getting residents to understand the importance of their actions in the community and the environment. Public involvement increases every year and this is shown not only in the number of individuals and groups participating in the adopting environmental programs, but also in the number of calls received by the Action Line, a program created by our present mayor for residents to have a voice. Also, these volunteer opportunities are constantly advertised by the local TV station, the City Web-site, the Neighborhood Network and during any public event in the City. As an example, the program called Walk the Waterway designed for residents to monitor only the waterway and report any findings along their path, walked 832.75 miles in this Reporting Period.

Besides the new name of the program and looking to improve the volunteer activities, other changes for 2012 will take place: more explanation on the activities are added to the environmental volunteer contracts between volunteer stakeholder and City, and the cleaning form was modified to get a more detailed monitoring data on outfalls and floatables. This increases stakeholder participation, improves data collected and gives knowledge to participants. This is not only to keep floatables away from our waterways, but also to give pride and sense of ownership to our volunteers.

**(See Attachment III)**

- 2. Areas of New Development and Significant Redevelopment.*** *The existing permit requires a comprehensive master planning process (or equivalent) to develop, implement, and enforce controls to minimize the*

*discharge of pollutants from areas of new development and significant redevelopment after construction activities are completed.*

The City has several programs in place that address areas of new development and significant redevelopment. Various sections of the City's ordinances address the discharge of pollutants to the MS4, including Sections 37-206 to 225: "Prohibition of Pollution of the Municipal Separate Storm Sewer System".

The City reviews all subdivision plats and construction plans within the City limits, and provides review and technical assistance for projects located in flood plains, projects that are adjacent to flood district facilities and projects that are five or more acres. The City requires developments along flood control channels to meet HCFCD standards, and developers must submit their plans to HCFCD for review. HCFCD provides guidance for design, review, and approvals of drainage projects that impact their bayous.

Privately owned detention/retention ponds are planned, constructed, operated, and maintained by the developer, business owner, or neighborhood association. The City inspects all ponds in the City at least once a year and contacts the owners, if there are any complaints about them. Letters are sent when overgrowth or possible malfunction are noticed. 123 pond inspections were accomplished this Reporting Period, and 37 letters were sent for maintenance. 40 re-inspections were done after letters were sent and phone calls made to communicate with pond owners and managers; this helped them to understand how to maintain this post-construction BMP. All cases were resolved and ponds were maintained as required. A detailed data base of ponds was recorded to facilitate monitoring.

**(See Attachment IV)**

The City requires construction permit applications to be submitted to the Permit Office, which is responsible for inspections of commercial and residential construction projects. The City's Department of Public Works (DPW) is responsible for the inspection of public works projects, including roads and utilities.

Structural and non-structural best management practices (BMPs) are described in *Storm Water Quality Management Guidance Manuals*, periodically updated by the Harris County Joint Task Force. The Guidance Manuals contain technical guidance and best management practices, and have been used by the City of Pasadena to implement local storm water management programs for new residential, commercial and light industrial developments and significant redevelopments. The manuals discuss considerations for selecting non-structural and structural controls, design and maintenance criteria and plan requirements. As an aid for education for builders and contractors, the City put together a flyer to distribute with the solicitation of permits as well as by City Inspectors during regular visit.

DPW is responsible for monitoring and maintenance of BMPs. During the Reporting Period, 684 residential and commercial construction inspections were performed. 265 reports were presented from inspections to Public Works construction projects. As a new measure, a bilingual Construction BMPs flyers

were distributed by inspectors and field City workers to construction site managers, as needed, to facilitate education in the field.

**(See attachment V)**

3. **Roadways.** *The permit requires that public streets, roads, and highways be operated and maintained in a manner to minimize discharge of pollutants, including those pollutants related to de-icing or sanding activities.*

The City sweeps all streets at least three times each year. The City rarely performs de-icing activities due to the infrequency of ice and snow. In the event of bridge icing, mortar sand is used, and residual sand is typically swept within 24-72 hours after deicing is completed. The Parks & Recreation Department performs vegetation management on the City's rights-of-way, including mowing at a frequency of six times each year. The Landscaping Department takes care of the medians collecting trash, debris and limbs. Road maintenance crews perform road repair work and remove associated materials within several days. Materials that are kept on-site for more than eight hours are stored in such way that they would not create a pollution hazard.

During the Reporting Period, no de-icing activities were performed by the City; approximately 2,277 streets were swept for a total of 11,185, while Clean Streets cut 322,300.5 cubic feet of Trash in the City, and 78,363 bags of trash were collected. The Landscape Department collected 35 cubic yards of limbs and debris and 886 bags of trash in this Reporting Period. This information is included in Section III, item 1.

4. **Flood Control Projects.** *Impacts on receiving water quality must be assessed for all flood control projects. Where feasible, new flood control structures must be designed and constructed to provide pollutant removal from storm water. If applicable, the retrofitting of existing structural flood control devices to provide additional pollutant removal from storm water must be implemented, to the MEP.*

According to the SWMP, the City does not construct, operate, or maintain any regional detention basins. HCFCD is responsible for flood control activities within Harris County. Due to flooding at the headwaters of Armand Bayou, the City recognizes the need for cooperative efforts among stakeholders, including the U.S. Army Corps of Engineers, Federal Emergency Management Authority, HCFCD, Armand Bayou Nature Center, Galveston Bay Estuary Program, and the City in order to relieve the flooding and preserve the waterway. The City participates in an on-going program with these partners to analyze options for flood relief, natural habitat preservation, and engineering feasibility of retrofitting existing flood control projects. The City works with Flood Control on monitoring detention ponds through the annual inspections of all detention basins in the City or if any complaints are reported by residents through the action line. Information on ponds is shown in Section III, item 2 and its attachment.

5. **Pesticide, Herbicide, and Fertilizer Application.** *The existing permit*

*requires the permittee to implement controls to reduce the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied to public property.*

The City's Maintenance Services uses integrated pest management to maintain landscape at the City Hall complex. Plants are selected that are not attractive to pests. Additionally, the City attempts to use soaps and diluted non-toxic detergents to eliminate insects. When chemicals are used, the most appropriate and least toxic is selected. In the past, the City used Ala Cart for weed control; Roundup is currently used on a limited basis. No broadcast spray chemicals are used.

The City's Parks & Recreation Department uses non-restricted chemicals in limited quantities for pest and vegetation control. Pesticides are chosen that are most appropriate, and least toxic, and are applied according to the manufacturer's instructions. Fertilizers are used for beautification areas, trees, shrubs, bedding plants, area parks, and esplanades.

The City's Street and Bridges Division maintains roadsides, medians and ditches through vegetative control by mowing up to six times each year and applying the EPA approved pesticides such as Roundup in limited amounts.

The City also has a public education campaign which includes information on household pesticide, herbicide, and fertilizer use. A bilingual flyer has been designed for City to distribute among residents and lawn care contractors.

During this Reporting Period, the City continued the renovation of City medians and esplanades. This team has maintained about 17,368 linear feet of City medians, and planted native and water smart plants. A list of chemicals used and the work performed by parks and recreation Department are shown in the attachment referred below. The City has a trained employee at all times during the application of chemicals. Training classes, attended by staff are attached.

**(See Attachment VI)**

**6. *Illicit Discharges and Improper Disposal***

- a. *Non-storm Water. The existing permit requires an ongoing program to detect and eliminate illicit discharges and improper disposal into the MS4.*

The City has several ordinances, including the Stormwater Ordinance, which addresses the illicit discharge of pollutants into the MS4. These ordinances are implemented and enforced by the Department of Public Works (DPW), and Department of Public Health (DPH). The City has a list of allowable non-storm water discharges and has the ability to prohibit individual discharges on a case-by-case basis, if the discharges prove to be a significant source of pollutants. This list of allowable discharges is generally consistent with the list in the existing TPDES Multi-Sector General Permit (MSGP), with the addition of non-commercial car washing. The City investigates complaints of illicit discharges from: the general public via the hotline or in person; City

personnel; federal, state, and local agencies; and the Harris County Pollution Control Services. Violators may be subject to fines of \$75 to \$2,000 per day for each violation. The City recently began drive-by visual inspections of residential and commercial areas, and potential violations are reported to municipal code enforcement officers and the City's Action Line representatives for possible enforcement action.

Upon receipt of a complaint, the department conducts an investigation of the alleged violation to determine if a code violation exists. If a violation is validated, the property owner/resident/responsible party is notified of the violation(s) in writing and advised of necessary steps to abate the violation(s) within a specified timeframe. Re-check inspections are conducted to ensure compliance is achieved. In the event that a violator fails to comply with the terms of the notice of violation, a court citation/summons is issued for failing to correct the violation(s). The City may also hire a contractor to abate the violation(s) in the event the violator fails to do so, bill the property owner for costs incurred and place a lien on the property if the bill is not paid.

Each inspection is viewed as an educational opportunity to inform residents and citizens of municipal, state and federal codes that regulate the MS4. During the inspections, violators are advised of the violation, the impact of continuing the violation and the consequences for not correcting noted violations. Furthermore, departmental educational programs include presentations at civic association meetings conducted throughout the City.

Departmental inspectors for responding to complaints are certified through the State of Texas as Professional Sanitarians and/or Code Enforcement Officers. Each certification is required annually to obtain a prescribed amount of continuing education units which are available through various seminars that serve to provide environmental education to governmental and industry professionals.

During the Reporting Periods, approximately 62 general environmental complaints, 29 illegal dumping complaints, and 158 complaints through the Action Line, regarding the discharge of raw sewage were received and resolved.

- b. *Overflows and Infiltration. The existing permit requires the permittee to implement controls where necessary and where feasible, to prevent dry weather and wet weather sanitary sewer overflows into the MS4 and to limit the infiltration of seepage from municipal sanitary sewers into the MS4.*

The City of Pasadena began a program in 1985 to identify and correct infiltration/inflow (I/I) problems related to its sanitary sewer system and to eliminate sewage bypasses and overflows to various receiving waters during dry- and wet-weather conditions. The City aggressively conducts television (TV) line inspections. The City responds to complaints from the MS4 Action Line to locate sanitary sewer leaks, cross connections to storm sewer systems, to rehabilitate the sanitary sewer system, and to

construct major relief sewers to alleviate the sewage overflow problems.

The City has aggressively pursued identifying inflow/infiltration sources from sanitary sewers in the past, and continues to do so. The City corrects those sources as they become evident. The City will continue its current plan to reduce I/I problems and plans to formalize these tasks in a Capacity, Management, Operations, and Maintenance (CMOM) plan. The City has prepared its own Sanitary Sewer Overflow Action Plan and is in the process of implementing it.

The City replaced 2.44 miles of sanitary sewer main line (ML), installed/replaced 0.88 miles of sanitary sewer secondary line (SL), televised 4.73 miles of sanitary sewer ML, 2.1 miles of sanitary sewer SL, televised 2.31 miles of storm lines, smoke tested 2.69 miles of line, cleaned 30.44 miles of sanitary sewer ML, cleaned 0.53 miles sanitary sewer SL, and cleaned 9.95 miles storm lines in this Reporting Period.

**(See Attachment VII)**

- c. *Floatables. The existing permit requires the reduction of the discharge of floatables, such as litter and other human generated solid refuse, into the MS4.*

Since 1994, the Mayor's Clean Streets Task Force has performed litter removal on the City's streets and ditches on approximately 44 Saturdays each year. Two street sweepers clean all of the City's streets a minimum of three times each year, and problem areas are swept more frequently. "Billy Goats," a type of vacuum, is used to remove cigarette butts and small debris. Catch basins and inlets are cleaned on a four year cycle, with greater than 1,000 basins and inlets cleaned each year. The City performs inspections of residential and business areas to determine potential pollution violations. If a violation is found, municipal code enforcement officers and Mayor's Action Line representatives are contacted, and the polluter may receive penalties or fines.

Litter control is provided in the parks through litter removal, receptacle placement, and garbage pick-ups. During periodic dry and wet weather screenings by the Engineering Department, the drainage system and bayous are monitored for floatables. The Street and Drainage Department responds to any detected problems and removes floatables. These crews also report pollution problems observed during their workdays, and respond to complaints from the general public and other City departments. The City ordered plastic curb markers to place on non-grated inlets to prevent dumping of floatables into the MS4.

Volunteers with the Trash Bash program attend the site located at the Bay Area Park and assist in the reduction of floatables through litter removal during this annual Cleanup-Day event. The City had the honor of being one of the organizers of this Trash Bash site for one of the 17 sites in the Houston-Galveston area. Trash Bash is a once a year event, when thousands of volunteers gather along the Texas waterways to do their part in cleaning up the environment and participate in the largest statewide

event to educate the public about the importance of our water resources. The mission of this event is to promote environmental stewardship of our watershed through public education by utilizing hands-on educational tools and by developing partnerships between environmental, governmental, and private organizations. This particular site is located at the Bay Area Park in the Armand Bayou Watershed. In 2010 the City of Pasadena organized it, in 2011 the City supported it and in 2012 the City will be sponsor supporter.

It has been a successful event, in 2010 with around 700 volunteers. Approximately 625 bags of trash and debris, and 10 tires were collected. In 2011, 855 volunteers participated, 602 bags of trash and debris were picked up, 202 of them were reused or recycled and 9 tires were collected. Adding the amount of trash and debris collected by Clean Streets Task Force (78,363 bags), Landscaping Department (886 bags), Pasadena C.L.E.A.N. (299 bags), Trash Bash Event (1202 bags), and Floatable Gate (40 bags), over 80,000 bags of trash and debris were collected in total, not counting non-bagged materials such as tree limbs, car bumpers, tires, grocery shopping carts and other big items.

**(See attachment VIII)**

- d. *Household Hazardous Waste and Used Motor Vehicle Fluids. The existing permit prohibits the discharge or disposal of used motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, and animal wastes into the MS4. The permit requires the implementation of programs to collect used motor vehicle fluids for recycle, reuse, or proper disposal and to collect household hazardous waste materials for recycle, reuse, or proper disposal.*

To fulfill this requirement, helping not only the environment but also the residents in the City, Pasadena has developed successfully a curbside pickup of HHW. Residents are educated on the danger of these hazardous waste and fluids and are encouraged to call the action line for information on how to dispose them. They are advised to contact the Sanitation Department directly to set an appointment for HHW curb side pickup. Information on this program is distributed to residents across the City through the Municipal Channel, newspaper articles, and flyers, presentations during events by the Storm Water Team, Sanitation Department, Public Library, Health Department, Action Line, etc.

From Feb 2010 through Feb 2011, approximately 29,450 lbs of HHW and from Feb 2011 through Sep 2011, approximately 24,300 lbs of HHW were collected and disposed through the Houston Environmental Collection Site. It shows an increase of public participation from previous years reflected on the increasing number of phone calls from stakeholders for HHW pick up.

**(See attachment IX)**

- e. *MS4 Screening and Illicit Inspections: The current permit requires*

*implementation of a program to locate and eliminate illicit discharges and improper disposal into the MS4. The program must include dry weather screening activities to locate portions of the MS4 with suspected illicit discharges and improper disposal. Follow-up activities may be prioritized on the basis of magnitude and nature of the suspected discharge, sensitivity of the receiving water, or other relevant factors. The program must establish priorities and schedules for screening the entire MS4, but not necessarily each individual outfall, at least once every five years. Facility inspections may be carried out in conjunction with other programs (e.g. pretreatment inspections of industrial users, health inspections, fire inspections, etc.), but must include random inspections for facilities not normally visited by the permittee.*

As part of its TPDES permit, the City monitors the major MS4 outfalls by using dry weather screening. The intent of the field screening requirement is to provide a process for evaluating the presence of illicit discharges into the waters of the U.S. and identify significant contamination potential which could impact the water quality of the receiving stream. Screenings indicating possible problems, such as the presence of large amounts of oil, suspicious odors, or ammonia concentrations greater than 2.0 parts per million (ppm), are investigated by the Public Works Department to determine the source of pollution.

In order to facilitate the implementation of this requirement, the Storm Water Team has not only mapped outfalls, but also has gone above and beyond to improve the screening and inspection of the MS4, by developing a detailed outfall catalog. In 2012 per new requirements, the map and catalog are going to be updated with new outfalls. Map and catalog will be helpful to all the Departments that work with the storm water system.

Each year, approximately half of the City's major outfalls are dry weather screened. The Engineering Department continues the field screening provided in the original NPDES permit, including a visual check for flow in the storm sewer for characteristics such as: color, biota, odor, surface scum, turbidity, and oil sheen. The City performs other tests, such as analyses for copper, phenols, and detergents, when necessary, in the lab. If the results of the laboratory analyses confirm an illicit discharge, corrective action will be pursued through department procedures, which can include legal action. For sites that require a follow-up investigation, the City will visit those sites within four to 24 hours. Sites with no discharge and no indication of a recent discharge will be visited only once. Sites with significant standing water in the conveyances will be labeled as "No flow" and will have a follow-up visit within four to 24 hours from the initial visit.

During this Reporting Period 77 outfalls in the three bayous were screened by the Storm Water Team. Of those outfalls screened, 12 were wet; all of them were due to potable water or ground water. The Water Distribution Department was notified and repaired.

**(See Attachment X)**

Ten percent of the dry weather screening outfalls are selected each year for wet-weather screening. Since the time is limited for wet weather screening, several Engineering Department personnel are assigned outfall sites to visit for screening. Wet weather screening is accomplished within the first 30-45 minutes of the onset of rain at major outfalls. During wet weather conditions, discharge from the outfall is visually inspected for color, turbidity, foam, sheen, biota, and odor. Follow-up investigations may be conducted based on the results of the tests and field observations.

During this Reporting Period, due to the dry spell, the storm water team inspected wet outfalls in the month of October, 2011, before the dates for the present report were changed. That inspection data base is going to be included in next report, due in 2013.

The Department of Public Works also responds to concerned citizens who call to report non-emergency water quality or sanitation problems. Citizens call the Action Line to notify the City of potential pollution. Field response to these calls usually is made within 24 hours. All broken lines reported and fixed are included in section 6, item b of this report and in Attachment VII.

- f. *Elimination of Illicit Discharges and Improper Disposal. The permit requires the elimination of illicit discharges as expeditiously as possible. Where elimination of an illicit discharge within 30 days is not possible, the permittee must require an expeditious schedule for removal of the discharge and during this interim period, the permittee must require the operator of the illicit discharge to take all reasonable and prudent measures to minimize the discharge of pollutants to the MS4.*

Investigations of illicit discharges are initiated by information received from: citizen complaints through the Action Line or Department of Public Works; follow ups to the dry and wet weather screening performed by the Engineering Department; City of Pasadena Streets and Drainage, Health, and Engineering personnel during field operations; federal, state, and local agencies such as EPA, TCEQ, state and local health departments; including Harris County Public Health and Environmental Services.

The normal response time to a complaint or field screening is less than 24 hours, but is usually closer to 4 hours. City personnel go to the field with the appropriate utility map and the crews are dispatched as needed to track down the source of the pollution or contaminant.

Field investigations may include the use of dyes, maps, TV equipment, and extensive sampling to trace illicit discharges. Laboratory analyses are performed to support field results on an as-needed basis. Once an illicit discharge to the storm sewer system is confirmed, corrective action will be pursued through department procedures, including legal action if necessary.

Illicit discharges to the City's storm sewer system are addressed under Ordinance 82-314 Section 3. The ordinance specifies a broad range of illegal discharges and procedures by which the City will take to ensure

that the offender either corrects the discharge within a limited time period or shows that it will be taken care of. If necessary, the City has the authority to discontinue services until the corrective action has taken place.

More information on activities to implement this requirement is found in Section 6, item a, of this report.

7. ***Spill Prevention and Response.*** *The permit requires implementation of a program to prevent, contain, and respond to spills that may discharge into the MS4.*

The State of Texas Emergency Management Office requires all counties and municipalities with a population greater than 5,000 to have a comprehensive plan for a variety of emergencies. The City addresses these requirements through its Comprehensive Emergency Management Plan (CEMP). This State required CEMP for all hazards emergency response is comprised of a Basic Plan with functional Annexes. Annex Q of the "Hazardous Materials and Oil Spill Response" plan details the City's strategy and process for response and recovery measures. Specific protocols and procedures are added as appendices to this Annex. The Annex is reviewed on an annual basis by the appropriate Public Safety and Public Works departments as well as the area Local Emergency Planning Committee (LEPC). The entire CEMP is reviewed every five years.

The City's Fire Department operates, maintains, and deploys an integrated on-scene command post in the event of a hazardous materials incident. Current Annex Q procedures require the spill site be isolated and the spill to be contained quickly. The DPW provides material for containment structures. The responsible party is required to transport and properly dispose of the waste. If the responsible party cannot be located, the City contracts a licensed transportation and disposal company.

During this Reporting Period, the City sent out approximately 227 grease spill prevention letters and checked 1,761 potential grease polluters. In addition, the City Fire Marshall addressed 18 minor cases that were cleaned up and resolved with the help of Hazmat, Harris County and TCDOT, none of these cases reported any contamination to storm sewer system.

8. ***Industrial & High Risk Runoff.*** *The current permit requires implementation of a program to identify and control pollutants in storm water discharges to the MS4 from: (1) municipal landfills; (2) other treatment, storage, or disposal facilities for municipal waste; (3) hazardous waste treatment, storage, disposal and recovery (TSDR) facilities and facilities that are subject to Emergency Planning and Community Right-to-Know Act (EPCRA) Title III, Section 313; (4) industrial or commercial facilities operated by the permittee; and (5) any other industrial or commercial facilities that the permittee determines is contributing a substantial pollutant loading to the MS4. The program needs to include inspections and a monitoring program.*

The City routes its landfill waste to the Chambers County landfill, which is

located near Baytown. The City has one closed landfill for which it performs the annual inspection as required by TCEQ regulations. The City does not currently have solid waste transfer facilities, permitted solid waste incinerators, composting operations, or sites for disposing of or treating sludge from municipal treatment works. If any of these facilities are identified, or if a new facility is constructed, the City has established priorities and procedures for inspections, and developing and implementing control measures, if necessary.

Aside from the Chambers County landfill, the City states that there are currently no other treatment, storage, or disposal facilities for municipal waste; hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; or any other industrial or commercial discharge which are contribute a substantial pollutant loading to the MS4. If such a facility is identified, priorities and procedures will be developed for inspection, specific control measures, and monitoring. City Ordinance 82-314 regulates the intentional discharge, or sufferance discharge of various pollutants, and provides the City with the authority to enter private property for inspections to collect samples and to perform other duties. According to the Storm Water Ordinance, any entity with an NPDES or TPDES permit is required to provide a copy of the permit to the DPW upon receipt.

The City maintains industrial and commercial database. The industrial database categorizes the City's over 600 businesses and industries according to the Standard Industrial Classification (SIC) Codes that are subject to TPDES storm water permitting requirements. The commercial database contains a list of businesses and commercial entities that have the potential to discharge contaminated storm water.

In addition, the City tries to focus its wet weather screening program on monitoring sites that are near facilities with a significant potential for contaminated runoff, such as: equipment rental companies, truck stops, auto salvage yards, and used car lots, areas suspected of having poor sewage connections, commercial areas, and industrial areas.

The City distributes flyers and educates residents and business owners through paper articles, TV and radio interviews, events and during the inspections. Also, letters sent to businesses for compliance, explains what problems can be presented, how they should be handled, and the consequences of non-compliance.

For the Reporting Period, 206 facilities with significant potential for runoff were inspected by the Storm Water Team, 25 letters were sent for a more detailed inspection and 28 were re-inspected. All violators were helped with education and advice, and after re-inspection, all of them were in compliance. The City works closely with Small Business and Local Government, a branch of the TCEQ. Also, the Grease Prevention Inspector visited 1,761 potential grease polluters in this Reporting Period and 1407 grease traps; all of these cases were resolved and brought into compliance.

**(See attachment XI)**

9. ***Construction Site Runoff.*** *The existing permit requires implementation of*

*a program to reduce the discharge of pollutants from construction sites; including requirements for the use and maintenance of appropriate structural and nonstructural control measures to reduce pollutants discharged to the MS4 from construction sites, inspection of construction sites and enforcement of control measures requirements, appropriate education and training measures for construction site operators, and notification of appropriate building permit applicants of their potential responsibilities under the NPDES or TPDES permitting program for construction site runoff.*

The City's Storm Water Ordinance addresses all aspects of storm water runoff.

The City reviews Notices of Intent (NOIs) for construction activities, reviews storm water pollution prevention plans (SWP3s) and best management practices (BMPs), and inspects construction projects subject to City regulations. The City works closely with the developer or builder to ensure that they understand the requirements and develop an appropriate plan. Permit and construction inspectors perform daily site inspections to determine if a project is following approved plans and City specifications. The inspectors present potential NPDES or TPDES violations to the construction crew or company. Additional site visits and follow up enforcement may occur when storm water regulations are not being followed. Inspectors have the authority to shut down a construction site until violations are addressed. The Storm Water Ordinance gives the City authority to pursue fines and penalties. The City reviewed and logged 40 Notices of Intent (NOIs). A list of them has been attached here.

**(See Attachment XII)**

The City performed approximately 684 residential and commercial construction site inspections during this Reporting Period; 9 of them had silt and sediment on the street; construction site supervisors were notified and immediately cleaned the affected area and BMPs were in place. The City found the sites to be in compliance upon further inspections. 265 Public Works construction projects were logged by inspector with description of inspection performed. Inspectors educate managers, operators or person(s) in charge at the moment of visit, about the importance of maintaining BMPs and in the future, they will distribute Construction BMPs flyer; it is included in Attachment V.

10. **Public Education.** *The current permit requires a public education program to promote, publicize, and facilitate: (1) public reporting of the presence of illicit discharges or improper disposal of materials into the MS4; (2) the proper management and disposal of used oil and household hazardous wastes; and (3) the proper use, application, and disposal of pesticides, herbicides, and fertilizers by public, commercial, and private applicators and distributors.*

The City has established a 24-hour "hotline" (Action Line) for public reporting of illicit discharges or improper disposals. The City has also developed a comprehensive storm water quality education campaign. Programs address topics such as increased litter control in roadside ditches, improving garden chemical use and management, the City's ordinances, existing programs that

detect and enforce illicit discharges, illicit connections and their potential water impacts, and the proper management of used oils and toxic materials. The City accomplishes these programs using information flyers, tip sheets, utility messages, television broadcasts, curb markers, newspaper articles, press releases, public service announcements, events, and other items as appropriate.

During the Reporting Period, the Storm water Team organized seven (7) environmental events at the library, supported or organized two Trash Bash events, two Earth Day events and attended 38 presentations or booths at other City events, nature centers, summer camps, and after school programs. Approximately 9,550 public environmental education flyers were distributed during these events, 50% of them were bilingual. 31,253 bilingual letters were sent to residents in the City with storm water drain protection and water conservation information. The Animal shelter attended 12 events just in 2011 and distributed 2,570 "pick up after your dog" flyers. The Parks and Recreation and Sanitation Departments also contribute with education in all type of environmental issues, especially on 'No Littering' and 'Recycling'. The Fire and Police Departments constantly educates on pollution and spill prevention. The Grease Prevention Team educate through letters, inspections, and during events with a grease trap model created by the team.

The communication Department as well as the local TV station spread environmental education, outreach and public involvement opportunities, 24 hours, 365 days of the year. The Water Works Department attends events and sends letters to residents to educate. The Storm Water Team creates flyers, organizes or attends events, get interviews in English and Spanish National TV, radio and Newspapers to captive a bigger variety of audience.

**(See Attachment XIII)**

11. ***Monitoring and Screening Programs.*** *The existing permit requires the following monitoring and screening programs: (1) Dry Weather Screening; (2) Wet Weather Screening; and (3) Industrial and High Risk Runoff Monitoring. In addition, the existing permit requires comprehensive Storm Event Discharge Monitoring, as well as Floatables Monitoring.*
  - a. *Dry Weather Screening:* The City of Pasadena performs Dry Weather Field Screening as described in Item 6.e.
  - b. *Wet Weather Screening:* When possible, the City's Wet Weather Field Screening Program focuses on sites that are located near facilities that have a significant potential for contaminated runoff. Each year, 10% of the dry weather screening outfalls are selected for wet weather screening. Inspectors analyze outfalls for ammonia, pH, phenols, turbidity, and color. A total organic carbon (TOC) and fecal coliform test may be run at the discretion of the inspector. The inspector photographs and documents the type of debris and other relevant observations. The inspector may conduct follow-up investigations based on the results of the tests and field observations.

During this Reporting Period, the City performed wet weather screening in the month of October. As explained in Section 6, item e, 22 outfalls

were inspected, after 10 months of extreme dry conditions. Many of them were carrying dry vegetation and other floatables due to accumulation in the system during the long dry period. This information is going to be included in the next Reporting Period, due in 2013.

- c. *Industrial and High Risk Runoff Monitoring:* The City of Pasadena performs Industrial and High Risk Runoff Monitoring as described in Section 8.
- d. *Storm Event Discharge Monitoring:* In 1998, the City constructed five storm water monitoring sites within the City's jurisdiction. During the course of the original NPDES permit, (issued in July 1997), the City monitored discharges at the Storm Water Monitor Sites during three seasons each year. There are four monitoring sites used which are representative of land use for the City: 1500 Wichita Street; 1500 Jenkins Street; 2550 Pasadena Boulevard; and 200 Old North Richey Street. Weather patterns were unique in the Reporting Period. Extreme drought weather patterns didn't allow the opportunity to collect and much less for the 72 hour waiting period between occurrences. Normally samples are only collected during one rainfall per season due to the cost of chemical analysis. The Grab Sample is collected directly from the outfall. The composite sample is automatically collected in Storm Sites containers, previously prepared with ice around them; when container is full with sampling rain water, it is carefully mixed to fill sampling bottles provided by certified laboratory. One change on the laboratory reagents was Atrazine for Diazinon, as a better indicator of residential pesticide for representative monitoring. Due to the change on reporting dates, season Q for 2011, from December 1, 2011 to February 28, 2012 has not been sampled at the time this report is being compiled. Therefore, this season is not being included in this, but in report due in 2013. The Storm Sites are calibrated annually by an expert.

**(See Attachment XIV)**

- e. *Floatables Monitoring:* The City of Pasadena Develops Floatables Monitoring Programs as described in Section 6, item c.

#### **IV. SWMP CHANGES TO FULFILL RENEWED PERMIT REQUIREMENTS**

The SWMP requirements were reorganized by the TCEQ to include similar program items together, and to add new requirements based on the Phase II MS4 rules in order to achieve the goals of the Clean Water Act related to the Maximum Extent Practicable standard. The following specific items were added and a one (1) year compliance period was established (except that three years was established for part of the mapping requirements as described below). Following is the list of plans the City will accomplish these changes.

1. Revision of the MS4 map to include all outfalls. Existing MS4 will be evaluated and outfalls mapped within three years; all new areas will be mapped according to procedures developed and implemented within one year. The Storm Water Team will be collecting existing information on outfall locations from City records, drainage maps and storm drain maps. A field survey study will be conducted to verify the location and detailed description of outfalls. GIS has developed a coding system

- to mark and identify each of them. The map scale is such that the outfalls can be located accurately. To go beyond this requirement and in order to facilitate the monitoring of the storm system, an outfall catalog will be prepared with detail description of outfalls location, material, size, etc.
2. Also, to go further on outfall monitoring and public participation, some of the Pasadena C.L.E.A.N. (Community Led Environmental Action Network) programs will include outfall monitoring in their cleaning forms. The new forms will have a description of the condition of the outfall. Stakeholders will have opportunity to participate by monitoring water bodies and their outfalls.
  3. The pollution prevention/good housekeeping program for municipal operations will be improved. This will include scheduling of training on requirements to reduce the discharge of pollutants to the MEP from road repair, equipment yards, and material storage facilities, or maintenance facilities. A training schedule for municipal operations will be established; inspections will continue and data recording will be more detailed.
  4. A revision of the ongoing construction runoff program will take place to improve: (1) implementation of the existing requirements from the Construction Site Runoff section of the permit at all construction sites that are one or more acres in size, including smaller sites that are part of a larger common plan of development; (2) addressing the control of wastes at construction sites; (3) reviewing construction plans considering the potential water quality impacts; and (4) following up of complaints from the public concerning the conditions and activities at construction sites. The Storm Water Team, The Action Line, The Permit Department, and Inspectors, will improve the procedures to satisfy these requirements.
  5. Revision of the existing Education and Outreach program for the City to improve recording of the Public data, so that the following requirements are implemented: (1) specification of how the Minimum Control Measures (MCM) are addressed by residents, visitors, public service employees, businesses, commercial and industrial facilities, and construction site personnel; (2) justification for any group not addressed by the program, if any; and (3) Improving documentation of activities conducted and materials used to fulfill the Public Education and Outreach program element.
  6. Improving documentation and recording data developed to satisfy public involvement and participation requirements.
  7. Revision of the development and redevelopment program to incorporate new requirements of the Phase II Post Construction Runoff Control for sites that are greater than or equal to one acre in size, including smaller sites that are part of a larger common plan of development. The City will incorporate a Post-construction ordinance and will develop a Post-construction flyer for developers.
  8. Review of annual expenditures for the Reporting Period, with a breakdown for the major elements of the SWMP, and the budget for the year (reporting years in this

case) following each annual report.

9. A SWMP with schedule changes, will be due in May, 2012

#### **IV. ANNUAL EXPENDITURE FOR REPORTING PERIOD**

Due to the economic situation presented during the reporting years, the City of Pasadena looks for ways to spend wisely and keep the quality of the MS4 activities in high standard. All Departments worked together to support the program, residents were invited as volunteers to help with monitoring, inspections, education and outreach. Also, Pasadena partnered with other communities and organizations to support each other with the compliance requirements. The City is very active by supporting environmental meetings, events, conferences, and workshops in the Houston-Galveston area.

A breakdown for the major elements of the SWMP, and the budget for the Reporting Period are found in Attachment XV.

**(See Attachment XV)**

#### **V. ASSESSMENT**

1. The City has developed all the schedules under the old SWMP, implementing the program according to what was established under the permit at the time of developing such activities, before renewal. One of the biggest problems found during the review of each activity was the fact that the activities in most of the cases were not recorded in a detailed manner. Another observation was that even though some other activities were developed and recorded, they were not reported correctly or not reported at all. A new or more complete schedule of activities will be presented in the new SWMP, due in May, 2012. Some of the changes that will take place have been described as each activity was reported in Section III, Storm Water Program Management Report, and in Section IV, SWMP Changes to Fulfill Renewed Permit Requirements.
2. The assessments of controls and the fiscal analysis were given in more detail in this Reporting Period than in those from prior years. This helped to evaluate the work done and the economical implication. Even though budgets in general were cut, there were other ways the City found to implement requirements in the economical arena. Help from different City Departments, other organizations and stake holders, community spirit and volunteer programs compensated for lack of funds and made a difference on monitoring, inspections, education, and public involvement activities.
3. A summary of results are included in this document, which were not included in reports before, even though the information was available, such as a list of the NPDES and TPDES Notices of Intent received for each general permit, the number of site notices received from small construction site operators seeking coverage for storm water discharges, and the number of inspections conducted at industrial facilities and construction sites.
4. The annual expenditures for the Reporting Period, with a breakdown for the major elements of the SWMP will help to plan for the following reporting year. This

confirms the effectiveness of the positive initiatives the City has, such as working together as a team, and in conjunction with stakeholders and the community in general.

5. The draft permit required the City to provide adequate support capabilities to implement their activities under the SWMP. Compliance was demonstrated by the ability to implement the SWMP, monitoring programs, and other permit requirements before renewal. The permit does not require specific funding or staffing levels. This gave the City the ability, and incentive, to adopt the most efficient and cost effective methods to comply with permit requirements.
6. A summary describing the number and nature of enforcement actions, inspections, and public education programs was presented in detail in this report. These same activities were developed in prior years, but they were not reported in detail; it is important to show data and documentation to understand the big scope of work done. The Action Line, for example, is a very effective measurement of public involvement; the number of environmental complaints increases every year in the City.
7. As the Regulatory agency stated, following the SWMP and integrating the activities and recommendation formulated by TCEQ, plus the changes proposed by the City, permit requirements can be implemented.