



Stormwater Management Program (SWMP)

For the
City of Tucson
Stormwater

AZPDES Permit No. AZS000001-2010

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Overview

The City of Tucson's Stormwater Management Program (SWMP) was developed by the Stormwater Management Section within the Engineering Division of the Department of Transportation. The SWMP is a requirement of the City of Tucson's AZPDES Stormwater Permit AZS000001-2010 issued by Arizona Department of Environmental Quality (ADEQ) on September 1, 2011. This is the third addition of the SWMP in the permit's five-year term.

The intent of the SWMP is to codify the requirements of the permit and provide guidance to other City of Tucson Department staff with a focus for employees who work outside, in an effort to reduce the discharge of pollutants to the municipal storm sewer system and into the navigable waters of the U.S.

I. Public Education and Outreach

A. Permit Requirements

Tucson shall provide outreach and education to the general public on the Stormwater program issues and requirements. The following will detail the outreach strategy used.

Public education and outreach will be provided to one target group each year. This may include: the general public, development community, home owners, Home Owner Associations, automobile shops or schools. A different group will be targeted each year.

One or more topics are used in the public education and outreach program every year, but the topic or topics vary every year. The following topics are used:

- Potential impacts of animal waste on water quality and the need to clean up and properly dispose of pet waste to minimize runoff of pollutants in Stormwater
- Proper management and disposal of used oil
- Spill prevention, proper handling and disposal of toxic and hazardous materials, and measures to contain and minimize discharges to the storm sewer system
- Illicit discharges and illegal dumping, proper management of non-stormwater discharges, and providing information on reporting spills, dumping, and illicit discharges
- Installation of catch basin markers or stenciling of storm sewer inlets to minimize illicit discharges and illegal dumping to the storm sewer system
- Stormwater runoff issues and residential Stormwater management practices (GI/LID)
- Water conservation
- Potential water quality impacts of application of pesticides, herbicides and fertilizer and control measures to minimize runoff of pollutants in Stormwater
- Post-construction ordinances and long-term maintenance requirements for permanent Stormwater controls

The outreach topic selected and the target group are reported in every Annual Report including an estimate of the number of participants reached.

Business sector education/outreach are provided to at least one target group every year on one or more appropriate topics. The outreach approach selected, the topic, the target group, and an estimated number of participants reached are documented in the Annual Report. One or more of the following topics are used every year:

- Planning ordinances, grading, and drainage design standards for Stormwater management in new developments and significant redevelopments
- Municipal Stormwater requirements and Stormwater management practices for construction sites.
- Illicit discharges and proper management of non-stormwater discharges
- Spill prevention, proper handling of toxic and hazardous materials, and measures to contain and minimize discharges to the storm sewer system
- Proper management and disposal of used oil and other hazardous or toxic materials, including practices to minimize exposure of materials/wastes to rainfall and minimize contamination of Stormwater runoff
- Stormwater management practices, pollution prevention plans, and facility maintenance procedures

B. Implementation

Stormwater Outreach

The City of Tucson attends a variety of Stormwater-related public awareness activities every year including Earth Day, two Water Festivals, a Health and Safety Fair, Operation Splash, Monsoon Safety Awareness Week, events at Ward Offices and attending Southern Arizona Home Builders Association (SAHBA) meetings. A variety of Stormwater handouts are distributed at these events. These include: Yard and Landscape Waste Disposal, Fix Leaky Vehicles, Ten Tips to Prevent Stormwater Pollution, Clean Up After Your Critters, Water Harvesting Guidance Manual, Discharge Guidelines for Pools and Spas, General Construction Flyer, and Best Management Practices (BMP) flyers. These materials target the general public, the business community, the construction and development community, and school children.

The City also partners with Pima Association of Governments (PAG) and other jurisdictions to create public awareness of stormwater issues through radio advertisements, interviews, public service announcements, billboards, magazine ads, movie theater slides, brochures, bus interior posters, facebook, and website pages.

Ongoing public education and outreach activities include presentations at schools, distribution of the middle school activity book, *Stormwater in the Desert*, with its interactive website activities, and distribution of the elementary school activity book, *Desert Wash Safety Activity Book*, at schools, dentists' and doctors' offices.

The City's ongoing catch basin identification program includes placing weather-resistant metal disks bearing the slogan, "Only Rain in the Drain" near catch basins that are more likely to receive illegal dumping.

In order to inform citizens about the importance of preserving naturally vegetated watercourses, the City has continued a program to install signs identifying washes by name at significant road crossings. If the public is aware of the location and name of their local washes, they may be more likely to protect the wash as a natural resource.

Educational Program for Developers and Contractors

Construction information packets containing guidance on complying with the AZPDES General Permit for Construction are distributed throughout the year. The City of Tucson Stormwater Management Section distributes various flyers on General Construction Procedures, SWPPP Guidelines, and Construction Best Management Practices (BMP). The Stormwater Management Section also produced the Water Harvesting Guidance Manual to assist the development community in complying with Land Use Code requirements and low-impact development to maximize use of water harvesting.

A Stormwater Seminar is held each year in cooperation with Pima Association of Governments (PAG), Arizona Department of Environmental Quality (ADEQ), and surrounding jurisdictions. In previous years the target audience was the construction industry. This year it will be the general public.

Educational Program for Businesses and Industries

Business and Industrial education are provided by flyers handed out as needed throughout the year. Information packets and guidance for industrial facilities include information on the "No Exposure" certification process and an example SWPPP for a local industrial site. Flyers have been developed for Carpet Cleaners, Auto Paint and Body Shops, Auto Repair Shops, Brake Repair Shops, Food Service, Fuel Stations, Auto Salvage Yards, Fabricated Metal Products, Liquid Waste Recyclers, Parking Garage and Parking Lots, Printers and Publishers, Pool and Spa Companies, and Vehicle and Equipment Mobile Cleaners.

The Planning and Development Services Department serves as the one stop permitting facility for the private construction and development community in Tucson. Outreach is conducted through daily interactions with counter staff, handout materials and monthly meetings with contractors and developers. Post-construction maintenance of retention/detention basins is encouraged through direct mailings and inspections.

Environmental Services - Recycling Education

The City of Tucson Environmental Services Department gives presentations to schools, and promotes City recycling programs at special events through news releases, newsletters, flyers and brochures distributed to the community. This program includes blue barrel curbside recycling and several Neighborhood Recycling Centers (NRCs). Outreach to children includes providing brochures, stickers, recycled rulers, recycled pencils, magnets, recycled water bottles and height charts. Los Reales Landfill also accepts scrap metal for recycling, TV's and personal computers.

Household Hazardous Waste

Household Hazardous Waste distributes brochures on how to properly dispose of auto fluids, batteries, paints and solvents, pool chemicals, and pesticides. The program provides information to businesses through their Small Business Waste Assistance Program.

University of Arizona, Cooperative Extension Service

The University of Arizona's Cooperative Extension Services provides training on the proper storage, use, and disposal of pesticides, herbicides, and fertilizers to the general public, and landscape professionals.

Tucson Water

Tucson Water engages in a wide variety of educational outreach activities intended to increase awareness and encourage citizen action in water-related areas. The outreach program is largely targeted at promoting water conservation and water use efficiency. Tucson Water sub-contracts with Environmental Education Exchange to provide water-related programs and presentations to students.

Stormwater Harvesting

The City allows private citizens to do stormwater harvesting by allowing curb cuts that enable stormwater to flow into water harvesting depressions.

Tucson Clean and Beautiful

Recycling Education programs serve the greater Tucson-eastern Pima County metropolitan area. Programs include coordination of a live and recorded Recycling Information Line which serves as a clearinghouse for providing area residents with information on recycling and waste reduction programs including curbside recycling, neighborhood recycling centers, Household Hazardous Waste, and other available community environmental programs. Callers also may request brochures, information directories, and other resources by mail, email, and on the Internet.

The Recycling Education Coordinator also manages *E Pluribus Recycles*, an educational play teaching recycling and waste reduction concepts to elementary school students annually. Tucson Clean & Beautiful also produces a periodic email newsletter that is now available online, highlighting local environmental education events and community volunteer opportunities while encouraging involvement in the organization's programs.

Pima Association of Governments (PAG)

Pima Association of Governments (PAG) Stormwater Working Group was established in an effort to help jurisdictions coordinate stormwater permit requirements and provide a forum to discuss stormwater regulations and rules. PAG orchestrates an annual multi-media outreach campaign. Each year’s media campaigns are strongly emphasized through the summer monsoon season, but also include some features available year-round.

Pima Association of Governments also provides stormwater pollution prevention outreach to the construction industry and businesses through meetings with the Southern Arizona Homebuilders Association and through their internet site www.PAGstorm.com/construction.

C. Five Year Plan

The City of Tucson Stormwater Section has developed a five-year public education and outreach plan to focus on specific target audiences and topics, as required under the permit. The plan includes the following:

	Target Audience	Topic
Fiscal Year	2011-2012 <ul style="list-style-type: none"> • General Public • Schools 	<ul style="list-style-type: none"> • Potential impacts of animal waste on water quality
	2012-2013 <ul style="list-style-type: none"> • General Public • Municipal Employees • Shopping Centers • Auto Industry 	<ul style="list-style-type: none"> • Proper management and disposal of used oil. • How to clean up spills
	2013-2014 <ul style="list-style-type: none"> • General Public • Home Owners • Home Owners Associations 	<ul style="list-style-type: none"> • Wash Protection, Wildcat Dumping • Illicit discharges and illegal dumping, proper management of non-stormwater discharges
	2014-2015 <ul style="list-style-type: none"> • General Public • Development Community 	<ul style="list-style-type: none"> • LID Outreach • Water conservation
	2015-2016 <ul style="list-style-type: none"> • General Public • Lawn & Garden Centers 	<ul style="list-style-type: none"> • Potential water quality impacts of pesticides, herbicides, and fertilizers

II. Public Involvement and Participation

A. Permit Requirements

Tucson engages the public to help spread the message on preventing Stormwater pollution by undertaking group activities that highlight storm drain pollution, and contributions from volunteers through community actions to restore and protect local water resources. The following details the outreach strategy used.

The City implements at least one of the following during each year of the permit to provide fundamental support to the City's Stormwater Management Program (SWMP). The number of complaints/reports, amounts of garbage/waste collected, attendance at public/volunteer activities, and effectiveness and evaluation of the activity are documented in the Annual Report.

- Provide the opportunity to involve the public in the City's Stormwater Management Program and to encourage public participation in monitoring and reporting spills, discharges, or wildcat dumping within their communities (such as facilitation of neighborhood watch groups).
- Provide the public with an opportunity to participate in the City's Stormwater Management Program, such as voluntary litter control activities (e.g., facilitation of Adopt a Wash, Adopt a Park, and Adopt a Street litter control activities) or voluntary erosion control projects. Maintain and support program as a regular ongoing activity.
- Provide the public with a household hazardous waste program to facilitate proper disposal of used oil, antifreeze, pesticides, herbicides, paints, and other hazardous and toxic materials by City residents (such as scheduled household hazardous waste collection events or operation of full-time disposal facilities) a minimum of two (2) times per year for the first two (2) years of the permit, three (3) times per year for years three (3) and four (4) of the permit, and every year thereafter.

The "Report a Concern" is found on the Stormwater web site that is a reporting system to facilitate public reporting of spills, discharges or dumping to the storm sewer system. These are tracked in an incident report database managed by Stormwater Inspectors.

The first version of the SWMP was posted on the City's Stormwater Webpage in October 2012. Updates are posted when completed. Every Annual Report is posted on the City's web site soon after completion.

B. Implementation

Public Reporting of Concerns

Spills, discharges, or dumping may be reported by using “Report a Concern” link located in the Stormwater Management Section’s web site. These are tabulated in our database.

Environmental Services – Recycling

The City of Tucson Environmental Services Department provides an opportunity for residents to participate in residential recycling. Tucson residents and businesses are able to recycle a wide variety of material – including plastics. Curbside pickup for recycled items is available on the same day as the resident’s trash pick-up. Neighborhood Recycling Centers are drop-off sites located throughout Tucson where residents can take any recyclables accepted in the Blue Barrel Recycling Program.

Tucson Clean and Beautiful

Tucson Clean and Beautiful is a nonprofit environmental organization funded in part by the City of Tucson, Pima County, private and corporate grants, and community membership donations. Through the Adopt a Park and Adopt a Wash program, public areas have been officially adopted by community volunteer groups, including schools, neighborhood and civic associations, government, and religious organizations. These groups make an ongoing volunteer commitment to clean up litter and provide assistance in monitoring and reporting maintenance concerns at their adopted area. Volunteers removing of litter and illegally dumped material from public areas help to reduce impacts to Stormwater quality.

Trees for Tucson, a part of Tucson Clean and Beautiful, is a grassroots urban forestry program that advocates planting desert-adapted, low-water-use trees in order to increase shade tree cover that acts to decrease the volume of direct stormwater runoff. Shade trees also help improve water quality by stabilizing soil and reducing erosion.

Tucson Clean and Beautiful produces a periodic e-mail newsletter and hosts a website. These online resources complement information shared by phone, in person and in brochure format, highlighting local environmental education events and community volunteer opportunities. These programs, as well as the central message of Tucson Clean and Beautiful, encourage the public to act responsibly in ways that improve and promote Stormwater quality.

Household Hazardous Waste

The City of Tucson provides year round Household Hazardous Waste (HHHW) disposal services through a central dedicated hazardous waste facility and five Antifreeze, Batteries, Oil and Paint (ABOP) drop-off sites. The ABOP site at Los Reales Landfill, is now managed under the HHHW Program. The Household Hazardous Waste Collection program distributes outreach materials to the general public through direct mailings,

handouts at public events and facilities on topics including proper disposal of auto fluids, batteries, paints and solvents, pool chemicals, and pesticides. Educational materials provided to the public include a brochure describing the collection site locations, hours of operations, and tips on how to reduce environmental impacts. The public participates in the program by visiting the facilities and dropping off their household hazardous waste.

The program also provides information to businesses through the Small Business Waste Assistance Program. Waste collection is available to Conditionally Exempt Small Quantity Generator (CESQG) that generates small quantities of hazardous waste.

III. Illicit Discharge Detection and Elimination (IDDE)

The Illicit Discharge Detection and Elimination Program (IDDE) is divided among three City of Tucson Departments; Planning and Development Services (PDS), Transportation (DOT) and Tucson Water (TW).

PDS is responsible for compliance with the International Building Code and the Uniform Plumbing Code that prohibit cross-connections between sanitary sewers and storm drains. PDS inspectors visit building sites during construction to ensure that all work meets building, electrical and plumbing codes, including prohibition of illegal connection to the storm drain system and requirements for proper wastewater disposal. These PDS inspectors are not Stormwater Inspectors discussed in Section VI.

DOT, Engineering Division inspects all drainage projects built under the City's Capital Improvement Program. Inspectors from the Division also examine drainage projects built under Private Improvement Agreement Contracts that are dedicated to the City upon completion. Both types of inspections ensure that drainage projects are built to City standards and help minimize illicit connection. The Stormwater Management Section, a part of the Engineering Division, implements the City's Field Screening Program, found in Section III Parts C, D, and E, to detect the presence of illicit flows in the storm drain system, in addition to responding to tips and notices from the public or other informants of discharges.

TW is responsible for enforcement of the City's Water Waste and Theft ordinance. Under this ordinance, Water Waste Investigators are assigned to respond to staff and citizen complaints of dry weather flows of water in the streets, drainage channels, and parking lots. This enforcement program is designed to reduce water waste resulting from over-irrigation and other practices, but also serves as a means of detecting and responding to various types of illicit discharges.

In addition, Pima County Regional Wastewater Reclamation Department participates in the IDDE Program through a review and approval process of all modifications to the wastewater system within the city limits. This review ensures compliance with the Uniform Plumbing Code and appropriate disposal of wastewater.

A. Municipal Employee Training

1. Stormwater Inspectors:

Stormwater Inspectors, new and existing, receive annual refresher training prior to inspecting the major outfalls and field screening points. These inspections are generally conducted during the dry periods in the spring and fall. Training includes an in-office review of the “Stormwater Management Protocols for Dry-Weather Screening of Outfalls (FSO),” included in the Appendix, inspection forms, sampling procedures, (including sample methods and the use of chain of custody forms), the use of the City’s GIS Hydrologic and Wash map that includes the City’s storm drain system and watercourses, and data entry for the field screen database. Additionally, Stormwater Inspectors review outreach handouts, such as the, “Discharge Guidelines for Pool & Spa Water,” and the “Compliance Process,” also found in the Appendix. Field training is scheduled prior to annual field screening, and includes the use of the Storm Water Test Kits, and visual investigation processes.

2. Non-Stormwater Staff:

Non-stormwater staff include street sweeper drivers, road maintenance crews, meter readers, garbage truck drivers, and other non-stormwater inspectors (code enforcement, building, grading landscape, etc.)

During the first year of employment, employees can review the “New Employee Stormwater Training” Power Point presentation that is an introduction to stormwater through the City’s on-line university called City Learn. Additionally, they receive training from Central Safety Services on safety topics. In the past, the topics included: spill prevention and response, proper storage, handling and disposal of used oil and other toxics, reporting spills, reporting spills that threaten the stormdrain system, and reporting suspicious non-storm flows. However, these have been removed from the program at this time. Plans to re-establish these topics are underway for next fiscal year. Fortunately, during orientation, new employees are trained utilizing the “City of Tucson Employee Safety Handbook” that includes spill prevention and response, proper storage, handling and disposal of used oil and other toxics, reporting spills, reporting spills that threaten the stormdrain system, and reporting suspicious non-storm flows. New employees are instructed to report all suspicious non-storm flows to the City’s Emergency Management Coordinator for documentation and the Stormwater Management Section for investigation and action as necessary. New Fire personnel receive the specialized 40 hour Hazardous Waste Operations and Emergency Response (HAZWOPER).

Current non-stormwater City employees are required to take annual OSHA refresher training through City Learn. Every other year, this mandated training included information on detecting and reporting spills and suspicious non-storm

flows. The training instructed observers to report non-storm flows and spills that threaten to reach the storm drain system to the City's Emergency Management Coordinator. Plans to re-establish these topics in the annual OSHA refresher are underway for implementation in the next fiscal year. Fire, stormwater, and environmental services staff take the 8-hr HAZWOPER refresher training annually. Additionally, Central Safety Services provides stormwater awareness training annually to all staff who work outside at the Price Service Center.

B. Spill Prevention and Response

Spill response within the City is provided by the Hazardous Materials Unit of the Tucson Fire Department. They have been trained to berm or protect storm drain inlets as practical and appropriate in the event of a spill. As First Responders, they provide technical spill response expertise and oversight and initiate the City's Hazard Communication Protocol. Among other requirements, this protocol specifies that in the event that a spill threatens to reach the City's storm drain system, the Stormwater Section should be notified. Stormwater personnel can provide specific information on the storm drain system in the area of the spill and, if necessary, provide instructions on protecting or cleaning the stormwater conveyance system.

1. Spill Prevention and Control Measures at Municipal Facilities:

The City of Tucson has a Citywide Spill Response Program that provides guidance to employees on what to do in the event of a spill. Spill prevention practices required at City facilities include:

- reduction of the use of toxics,
- reduction in the quantities of these materials that are stored,
- use of secondary containment,
- bermed and covered storage areas where warranted, and
- readily accessible spill kits.

The Spill Response Program defines spill responsibilities for each city agency and includes notification procedures to follow in the event of a spill, including provisions to notify the City's Environmental Management Program Coordinator in the event that a spill threatens the storm drain system. All spills at City facilities are to be reported to the Environmental Services Department for inclusion in a centralized database at the City's Environmental Services Department. All departments are to inform Environmental Services Department of spills according to the Spill Response Program found on the City's website and the Stormwater Management Program (SWMP).

2. Used Oils and Toxic Control Measures:

Proper use, storage, transport and disposal of used oil and other hazardous or toxic materials and wastes is achieved in three ways. First, inspection of all City owned and operated facilities are conducted annually by the City's Multi-Agency

Inspection Team (MAITs). These inspections include a multi-disciplinary team consisting of representatives from Tucson Fire Department, Central Safety Services, Risk Management, and Stormwater Management Section among others. The MAITs inspectors assure that spill prevention practices are followed at all City owned and operated facilities.

Secondly, the Tucson Fire Department funds the City's Hazardous Waste Disposal Program. Under this program, the Fire Department is responsible for providing technical expertise, trained and equipped personnel for the prevention, mitigation and resolution of incidents involving hazardous substances and wastes. The Tucson Fire Department insures that City facilities properly dispose of hazardous wastes.

Third, City employees are required to take an annual OSHA refresher course through the City's on-line university called City Learn. This training included proper handling, transport, and disposal of potential stormwater pollutants in the past, but was removed from the curriculum. However, it will be added back in fiscal year 2015.

Annually, the Stormwater Inspector assigned to MAITs performs and documents assessments of City facilities where more than five gallons of potentially toxic or hazardous materials are stored in outside areas. Additionally, biennially the inspector ensures that site-specific material handling and spill response procedures are in place and effective.

Additionally, the Stormwater Inspector has identified higher risk facilities. Those are facilities that have a higher storage volume of toxic or hazardous material (5 gallons or more) or have increase in staff turn over.

C. Major Outfalls and Field Screening Points

1. The outfalls have been mapped on the City's GIS Hydrologic and Wash map that includes the City's storm drain system. A map showing the 514 outfalls is included in the Appendix. The City identified and mapped 14 additional outfalls determined to be an inspection priority for illicit discharge screening to impaired waters. These outfalls identified may impact Lakeside Lake, an impaired water.
2. Field Screening Procedures. The City has developed procedures for inspecting field screening points and a database to track and record all findings of conditions and the presence of potential illicit discharges. Procedures for inspecting outfalls include visual inspection for flow, trash, suds, odors, and other indicators of potential illicit discharges. The City follows the protocol established under the 40 CFR 122.26 requirements for the Phase I MS4 permit application. These requirements include conducting field screening utilizing the Storm Water Test Kits when flow is observed. If the field test indicates the presence of contaminants,

a sample is collected and submitted to the laboratory for analysis, and an investigation to determine the source of the flow is conducted. If flow is present, re-inspection within 24 hours is required to determine if the flow is still present.

D. Inspections of Major Outfalls

1. Inspection Priorities and Schedule: To meet the requirements of the City’s MS4 permit, the City has inspected the developed watershed upstream of Lakeside Lake, an impaired water, and determined there are 14 outfalls to the Atterbury Wash that flows into Lakeside Lake, and have been included as priority dry weather screening outfalls. In addition, City staff have reviewed the database and determined there are not any instances where illicit discharges have occurred nor are there any significant sources of pollutants. Now identified as a priority, these 14 outfalls are inspected annually. There have not been any other outfalls identified as ‘priority’ since the time of this writing.

2. Of the City’s 514 identified outfalls, approximately 20% are inspected every year, and records of the inspection, any observations, any analytical data, and any follow-up actions are documented in the Field Screen Outfall database. The outfall locations are inspected according to this schedule:

	FSO Inspection Area	Number of Outfalls	
Fiscal Year	2011-2012	<ul style="list-style-type: none"> • North East • Atterbury Wash 	<ul style="list-style-type: none"> • 97 • 14
	2012-2013	<ul style="list-style-type: none"> • South East • Atterbury Wash 	<ul style="list-style-type: none"> • 108 • 14
	2013-2014	<ul style="list-style-type: none"> • South West • Atterbury Wash 	<ul style="list-style-type: none"> • 95 • 14
	2014-2015	<ul style="list-style-type: none"> • North West • Atterbury Wash 	<ul style="list-style-type: none"> • 99 • 14
	2015-2016	<ul style="list-style-type: none"> • Central • Atterbury Wash 	<ul style="list-style-type: none"> • 101 • 14

E. Investigation of Potential Illicit Discharges

1. Dry Weather Discharges:

The City has developed Stormwater Management Protocols for Dry-Weather Field Screening of Outfalls (FSO) that includes details for investigating dry weather discharges including criteria to identify, characterize, and prioritize dry weather flows as well as practices to determine and evaluate the source of the flow and to follow a schedule to eliminate potentially polluting non-storm flows or take enforcement actions where the source is known.

2. Existing Dry Weather Flows:

Currently, there are no known illicit discharges to the City's MS4 that have not yet been resolved. When one of the 514 field screen locations shows evidence of dry weather flow, and past records indicate that the outfall was previously identified as having evidence of dry weather flow, it is re-evaluated to insure that the flows are still not considered to be a source of pollutants. Because it takes five years to inspect all 514 outfalls, this means that all outfalls with known dry weather flow are placed on the priority list and annually inspected. However, none of the outfalls have had flow in the past five years.

3. Illicit Discharge Investigation (Source Identification):

If flowing or ponded water is present at a field screening location, and the field test kit identifies any contaminant (as indicated by any positive test result), the inspector immediately investigates to determine the source of the water. This may include searching up gradient in the drainage (manholes, inlet grates, catch basins, etc.) for inflows and/or illicit connections, reviewing storm drain maps and records of the area, and interviewing people who work at possible sources of inflow. Additionally, during industrial facility inspections, the Stormwater Inspector inspects drainage within the facility, looking for evidence of non-storm flow that could indicate a cross-connection or other illicit discharge. Any findings are documented on the Stormwater Industrial Inspection Summary. If any concerns are noted, the Stormwater Inspector takes actions to educate the facility operator or enforce the provisions of the City's Stormwater Ordinance (SWORD) as appropriate.

4. Tracking and Reporting:

The City utilizes a field screening outfall database (FSO) for all of the data collected during dry weather field screening. The database is organized by outfall, and previous inspection records are accessible. The database also includes fields where observations, testing results, laboratory results and follow-up actions are recorded. A summary report is prepared based on the current information contained in the database. A map can be generated based on the database and will be included in the 4th year Annual Report. The map indicates which outfalls were flowing, if any, or had evidence of recent flow, and any outfall where field testing was conducted,

and/or samples were collected for laboratory analysis. Any outfalls with indications of recent flow are re-inspected within three days. If there is any flow, field test kits are utilized to conduct tests. If a contaminant is detected, a sample is collected for laboratory analysis.

5. Illicit Discharge Elimination:

The City of Tucson MS4 system has few closed conduits; the majority of the storm drain system consists of open channels and natural and improved washes. Conducting follow-up investigations of dry weather flows can be as basic as following the flow path upstream to the source. In the event that the flow passes through an underground conduit, Stormwater Inspectors utilize the GIS Hydrology and Wash Map to determine the flow path of the discharge. If the source can be determined and has the potential to be a source of pollutants, as evidenced by field or laboratory testing, it should be considered illicit. The following steps are taken to cease the discharge to the storm drain system: discussion with responsible parties, distribution of guidance materials, issuance of a written or verbal warning, issue of a notice of violation, issue of a citation, and notification of regulatory authorities.

6. Public Awareness and Reporting of Potential Illicit Discharges:

The City utilizes an integrated stormwater quality education program that includes messages on recognizing and reporting suspect non-storm discharges. This program includes storm drain inlet markers bearing the slogan, “Only Rain in the Drain,” wash identification signs with the admonition to “Protect Our Natural Watercourses,” and “No Dumping” signs at washes where illicit dumping has been known to occur. Citizens with concerns regarding suspect non-storm or dry weather flows are directed through the City’s website to a “report a concern” link that sends an email alerting the Stormwater Section staff at stormwater@tucsonaz.gov. Detailed discussion of the City’s Stormwater Quality Education Program can be found under I. Public Awareness and Outreach.

7. Investigation of Reported Potential Illicit Discharges:

Stormwater Inspectors investigate reports of dry weather flows to determine if they are significant sources of pollutants. Due to the nature of the City’s storm drain system, sampling is not usually the first course of action when investigating a non-storm flow. The City’s storm drain system contains limited subsurface conduit, and is primarily comprised of natural and improved open channels. Usually, the inspector can trace the flow path and identify the source. Typical dry weather flows include discharges from pools and irrigation overflow. The Stormwater Management Protocols for Dry-Weather Field Screening of Outfalls (FSO) discussed in E.1 includes a list of allowable dry weather flows and criteria to determine if a suspect flow is a significant source of pollutants.

8. Responding to Reports of Potential Illicit Discharges:

Stormwater Inspectors respond to a minimum of 90% of reports of illicit discharges by initiating an inspection to determine the source.

9. Investigating Potential Illicit Discharges:

Stormwater Inspectors investigate a minimum of 80% of potential illicit discharges identified by field screening, public reporting, or other detection methods, such as reports by other City departments or government agencies, within three days of the detection or report. When discharges contain obvious indicators of pollutants as determined by visual observation or field testing, the investigation is initiated immediately.

F. Illicit Discharge Elimination

1. Illicit Discharge Ordinance:

The City's Floodplain, Stormwater, and Erosion Hazard Management Ordinance prohibits the discharge of all sources of pollutants to the City's stormwater drainage system, including non-storm flows and illicit discharges. The ordinance contains provisions to enforce against any party shown to be discharging pollutants to the storm drain system and requires the responsible party to eliminate the discharge, and perform clean-up activities as needed or face penalties. The compliance process developed defines a corrective action to be initiated within five days.

2. Non-Stormwater Discharge Evaluation:

Discharges that qualify for the AZPDES De Minimus General Permit are not prohibited. Qualifying Discharges include:

- Discharges associated with operation and maintenance of the potable or reclaimed water systems, well development, or well monitoring,
- Residential dechlorinated swimming pool discharges,
- Discharges from residential coolers and air conditioning condensate,
- Discharges from residential or charity exterior car washing where only water or biodegradable soaps are used,
- Building or street wash water where only water or biodegradable soaps are used.

If the source of the discharge qualifies for the De Minimus General Permit, and if the results of the field tests are negative, then the discharge is not considered to be a significant source of pollutants. Please note, however, that swimming pool (and spa) discharges should follow Discharge Guidelines for Pool & Spa Water found in the Appendix. If the source qualifies for the De Minimus General Permit and field test results indicate the presence of pollutants, ADEQ should be notified.

3. Non-stormwater Discharge Records:
The City maintains a database of tracking and recording non-stormwater discharges.

G. Compliance Activities/Enforcement

The City of Tucson has developed an enforcement guidance Compliance Process that includes prioritizing the violation, as either a very minor deficiency, a minor deficiency, or a major deficiency. Depending on the severity of the infraction, the Stormwater Inspector can issue a verbal or written warning with an opportunity to resolve the condition within a set time frame, a notice of violation, or a citation. Resolution must be reached on 80% of these incidents within one year, or the violation is transferred to the City Court. The Compliance Process flowchart is in the Appendix.

IV. Municipal Facilities Pollution Prevention/Good Housekeeping Program

The Municipal Facilities Pollution Prevention Program is shared by a number of City of Tucson Departments and Programs. They include:

General Services Department

The General Services Department (GSD) has taken the lead in implementing the City's Spill Policy. GSD supplies spill kits for the Thomas O. Price Service Center. Upon request, the General Services Department will coordinate the disposal of spent materials. Used rags are no longer disposed of at Household Hazardous Waste but are taken to the landfill. Restocking the spill kits with absorbent material is the responsibility of the department.

Thomas O. Price Service Center houses the vehicle maintenance yard, fueling operations, and material storage yards that support the functions of Facilities Management, Fleet Services, and Communications. Thomas O. Price Service Center operates under a Spill Prevention Control and Countermeasure (SPCC) plan. The City developed a Stormwater Pollution Prevention Plan (SWPPP) for this facility. A major update to the SWPPP was December 2011, and the SPCC Plan was in June 2006. The SWPPP is adhered to and updated as needed.

In accordance with these plans, spill control stations were erected next to vehicle parking and repair areas, as well as at the fuel island. The Tucson Fire Department, HazMat Unit or contractors handle cleanup for large spills, or spills of unknown materials. During normal operations, personnel from the General Services Department routinely clean up minor spills that occur while maintaining the City's vehicles. In most cases, these minor spills were caused by failure of coolant and hydraulic lines on City vehicles or equipment.

Fire Department

The Fire Department is responsible for enforcing the hazardous materials storage provision of the International Fire Code. This includes reviewing building plans for compliance with International Fire Code and conducting building inspection. The Fire Code includes requirements for secondary containment for hazardous materials storage. The Fire Department has HazMat emergency response units respond to spill incidents that could impact waters of the U.S. or the City's municipal separate storm sewer system. Upon arrival at a site, the HazMat Unit will investigate the incident, contain the spill, and in conjunction with Fire Department Fire Prevention Division Inspectors, initiate containment and cleanup procedures.

Environmental Management Program

The City of Tucson's Environmental Management Program, or EMP, provides a set of management processes and procedures that address the needs of the City's staff to analyze, control and reduce the environmental impact of its activities, services and programs.

The EMP allows City staff to continuously improve its environmental performance, operate with greater efficiency and control, and provide the highest level of environmental protection to the departments and the community.

The City of Tucson's EMP is comprised of a group of senior department representatives whose focus is to convene and implement proactive, comprehensive and collaborative environmental management tools to address environmental issues facing the City of Tucson.

Quarterly meetings are scheduled for the EMP group to assemble, and apply issue identification and problem-solving tools that can be used by employees to meet individual department's environmental activities and needs. Staff evaluate the processes and procedures they use to manage environmental issues and incorporate strong operational controls, roles, and responsibilities into existing job descriptions and work instructions. The EMP integrates the environment into everyday business operations, and environmental stewardship becomes part of the daily responsibility for employees across the entire City organization.

Representatives from the larger departments form a Governing Board (GB). The EMP GB meets monthly to set priorities, manage current incidents, and follow up on previous incidents. The meetings usually include training, question and answer sessions, and informational updates.

The City's EMP is an evolving, growing, changing program based on the "Plan, Do, Check, Act" model. This model leads to continual improvement based upon:

- Plan ○ Planning, including identifying environmental aspects and establishing goals
- Do ○ Implementing, including training and operational controls
- Check ○ Checking, including monitoring and corrective action
- Act ○ Reviewing, including progress reviews and acting to make needed changes to the EMP.

Department of Transportation

Erosion control and repair of road surfaces includes dust suppression, street dirt maintenance, shoulder grading, and alley dirt maintenance. These activities contribute to improving stormwater quality by reducing suspended solids and other naturally occurring constituents of concern associated with sediment in runoff.

The Streets and Traffic Maintenance Division has established a standard of sweeping major arterial and collector streets monthly, and sweeping the central business district weekly. Every day the debris from street sweeping is transferred to dump trucks and hauled to approved landfills for disposal. An additional element of the sweeping program involves sweeping for special events and at various City-owned facilities as appropriate. This category includes sweeping following traffic accidents or after spill cleanups in the street. After storms, a cleanup involves additional street sweeping and debris removal.

The primary responsibility for maintenance of the public stormdrain system and detention/retention basins lies with the Department of Transportation, and includes activities of the Streets and Traffic Maintenance Division and the Engineering Division.

Parks and Recreation Department

Within City-owned parks and golf courses, the Parks and Recreation Department is responsible for drainage system maintenance. Drainage channels are maintained primarily using manual and mechanical means to control vegetation.

Within City owned and operated parks and golf courses, washes, and selected detention/retention basins, the Parks and Recreation Department performs minor maintenance and repairs to the stormwater drainage system. In addition, the Department is responsible for the maintenance of detention/retention basins owned by the City within and adjacent to developed park areas. These basins are on the Dell Ulrich Golf Course, at 600 South Alvernon Way. A series of six small detention basins along the Arroyo Chico Drainage way lie within the golf course. The only other detention basin under Parks and Recreation jurisdiction is located at Oak Tree Park, 5433 S. Oak Tree Drive. Debris is removed from all basins seasonally, or as necessary, contingent on flow.

All open channels within the Parks and Recreation Department's parks and golf courses are maintained with careful attention to plant life and the environment. Drainage ways are monitored and actions are taken to ensure healthy plant life and restriction-free waterways.

Central Safety Services

The Central Safety Services Section manages the City's Multi-Agency Inspection Program (MAITs). This program utilizes a multi-disciplinary team consisting of representatives from various City departments to inspect City-owned and operated facilities for environmental and safety regulatory compliance. The MAITs team consists of representatives from the following City agencies: Central Safety Services, Tucson Fire Department, Environmental Services, General Services, Stormwater Management Section; and a representative of the City's liability insurer. Each City-owned facility is inspected annually. Following each inspection, the inspection team documents any concerns and recommends pollution control measures in an inspection report. The report is supplied to the department in charge of the facility for follow up action.

A. Employee Training

New City employees take an Introduction to Stormwater class that is available through City Learn. Additionally, new City employees attend mandatory OSHA training during their first year and ongoing employees receive OSHA training every other year as discussed in the previous section. Specific staff to be trained include fleet maintenance personnel with General Services, Fire's HazMat Team, and Fire Code Inspectors, Transportation's street sweeper drivers, Parks and Recreation Department's fertilizer applicators, vehicle maintenance personnel, and wash, detention/retention basin maintenance crews. OSHA training for City of Tucson employees will include the following key subject areas:

1. Spill Training: topics covered include prevention, response and practices to prevent or minimize spills or discharges to the City's storm drain system, and

2. Proper handling, storage, transport and disposal of used oil and other toxics and hazardous materials and wastes to prevent spills, exposure to rainfall, and contamination of stormwater runoff.

Specialized training for Stormwater Inspectors includes the following:

1. Stormwater management practices and pollution prevention plans.
2. Review of the Floodplain, Stormwater, and Erosion Hazard Management Ordinance and supporting development standards of Tucson Code.
3. Review of stormwater discharge regulations and permit requirements, including the Stormwater Management Program (SWMP).

Fleet Maintenance personnel received training in the City's Hazardous Communication Program and the Spill Response Program requirements to clean minor spills

Tucson Department of Transportation (TDOT) Stormwater Inspectors receive training during their first year of employment and refresher training every other year. New Stormwater employees each receive a copy of the AZPDES General Permit for Discharge from Construction Activities to Waters of the United States, the Stormwater Management Program (SWMP), the Floodplain, Stormwater, and Erosion Hazard Management Ordinance, the Stormwater Sampling Procedures, the Stormwater Industrial Inspection Procedures, and the Stormwater Construction Inspection Procedures. Every other year these materials are reviewed and updated as needed.

On-going training for Planning and Development Services Department Stormwater staff includes frequent review and discussion of the AZPDES General Permit for Discharge from Construction Activities to Waters of the United States, the Floodplain, Stormwater, and Erosion Hazard Management Ordinance, and Development Standards. New staff are trained by existing staff in a mentoring process along with annual attendance of Pima Association of Government's (PAG) annual stormwater seminar.

The City has plans to develop and present training on best management practices (BMPs) for street repair and road improvements to control the discharge of pollutants to the storm drain system, to employees directly involved in these activities.

B. Municipally Owned and Operated Facilities

1. Municipal Facility Inventory:

As discussed in the previous section, Central Safety Services maintains a list of City owned and operated facilities that are inspected as part of the Multi-Agency Inspection Team or MAITs Program. This list serves as a starting point for developing the required information for each facility. The following information was added to the inventory (that have the potential to discharge pollutants to waters of the U.S.); latitude/longitude, facility contact, the operational status (operating or closed), the Standard Industrial Classification (SIC) code(s) that best reflects the services provided by each facility, and brief description of activities that may generate pollutants of concern as well as pollutants of concern and other factors of risk at such facilities.

2. Higher Risk Facilities:

The Stormwater Inspector assigned to the MAITs team collected information and assessed the potential of City owned and operated facilities to impact stormwater quality. The facilities were prioritized based on the following criteria:

- i. Proximity to Lakeside Lake, an impaired water,
 - ii. Need for an MSGP,
 - iii. Potential for impacting stormwater quality due to material handling, storage and use, including pesticide and herbicide use and maintenance of oil and toxic materials,
 - iv. Current priority City owned facilities include Lincoln Regional Park and Fred Enke Golf course, both located upstream of the impaired Lakeside Lake. These facilities are inspected annually. Other City facilities are considered higher risk. They are: Thomas O. Price Service Center, Silverbell and Randolph Golf Courses, Fire Department Maintenance (HAZMAT) and Household Hazardous Waste. Additionally, facilities with an MSGP are considered higher risk. They are: Los Reales Landfill, (AZMSG-61695), Sun Tran Bus Terminal AZMSG-61745, Sun Tran Bus Terminal Northwest AZMSG-61747, Sun Van AZMSG-61746.
 - v. One more facility was found to be higher risk from recent MAITs inspections. It is El Rio Golf course.
- ### 3. The City controls the use of pesticides, herbicides, and fertilizers, by ensuring that those used in any area within or adjacent to the waters of the U.S. are approved for aquatic use under the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA).

C. Inspections

1. Prioritizing Areas of MS4 for Inspection:

The City of Tucson, Department of Transportation, Streets and Traffic Maintenance Division shares responsibility for inspection and maintenance of the City's MS4 Drainage System with the Parks and Recreation Department. There are approximately 32 miles of drainage channels/washes and seven retention/detention basins located within City owned parks. All 32 miles of drainage channels within City owned parks are considered priority and are inspected a minimum of once a year. Based on system history, citizen complaints, and known maintenance concerns, the City annually inspects key areas of the stormdrain system located outside of City owned parks for the presence of illicit discharges, excess sediment, litter, debris or other pollutants that may obstruct flow or be transported in stormwater. In addition, Stormwater Inspectors perform inspections of the City's MS4.

2. Municipal Facility Assessments:

The City's Multi-Agency Inspection Team (MAITs) conducts annual inspections of all City owned and operated facilities. Follow-up inspections are conducted to verify that corrections have been performed as needed. The Stormwater Inspector assigned to MAITs performed assessments of City facilities and determined if five or more gallons of potential stormwater pollutants such as oil, fuel, chemicals or fertilizers were stored in areas that could be exposed to stormwater. Based on this assessment, and on the types of activities performed, material stored and proximity to receiving waters, the City has determined which of these facilities are considered high risk. They are listed in B.2.v of this section.

The City shall identify in the Annual Report municipal facilities inspected and note whether improvements were needed. The City shall initiate any recommended improvements within three months of the inspection and set a schedule for implementation. The City will maintain a tracking system and the status of improvements and dates of implementation.

D. Infrastructure Maintenance

1. The City shall evaluate the drainage system maintenance priorities and update the inspection schedule at least once a year. The number of units (broom miles, number of storm drain inlets, or pounds of debris, *etc.*) cleaned each year is documented in the Annual Report.
2. The Streets and Traffic Maintenance Division's current priorities for street sweeping for major arterial and collector streets is monthly, and sweeping streets in the central business district is weekly. These priorities are reassessed annually.

Street and parking lot sweeping in public parks is conducted through the Parks and Recreation Department. The City shall evaluate street sweeping frequency at least once a year. The number of units (street miles, broom miles, or pounds of debris collected, *etc.*) shall be reported in the Annual Report for street and lot sweeping activities.

3. The City needs to assess all municipal maintenance activities performed by the City (e.g., paving and road repairs, saw cutting, concrete work, curb and gutter replacement, buried utility repairs and installation, vegetation removal, street and parking lot striping, drainage channel cleaning, *etc.*) and develop a control measure field manual for municipal maintenance activities.

E. Municipal System Maps

The City's Geographic Information System (GIS) mapping system, is formatted as an Environmental Systems Research Institute (ESRI) Geodatabase feature class North America Datum of 1983 (NAD83) High Accuracy Reference Network (HARN) in State Plane Arizona Central Fips 0202 International Feet. The GIS based Stormwater Map, <http://maps.tucsonaz.gov/stormwater> currently contains the following information:

- Linear Drainage Structures: Line layer showing the location of Stormwater system pipes. The direction of flow can be determined based on the topographic layer.
- Storm Drain Grates and Catch Basins: Point layer showing the locations of storm drain grates and catch basins.
- Outfalls: Point layer showing the location of all major outfalls (field screen locations); polygon layer showing the drainage area associated with each of the five sampling sites where Stormwater is monitored.
- Detention/Retention Basins: Point or polygon layer showing the locations of all identified City-owned retention and detention basins.
- Jurisdictional Boundary: Line or polygon layer showing the jurisdictional boundaries of the MS4, including any new land annexations during the permit term.

The additional features will include:

- Linear Drainage Structures
 - Line layer showing the location of all streets used for stormwater conveyance and the direction of stormwater flow.
 - Line layer showing other linear stormwater conveyance structures (channels, floodways, *etc.*) and the direction of stormwater flow.
- Land Uses - Polygon layer showing the land uses within each drainage area associated with each outfall.
- Detention/Retention Basins

- Point layer showing the location of all privately-owned retention and detention basins that are connected to the municipal stormwater conveyance system (i.e., that receive drainage from, or discharge to, a stormwater conveyance).
- Line layers showing the drainage infrastructure associated with each retention/detention basin.
- Locations of Discharges to Waters of the United States
Line or polygon layer showing the location (and name) of all waters of the U.S. that may receive stormwater discharges from the MS4 either directly or by way of a conveyance owned or operated by another person. Any water body that is listed as an Outstanding Arizona Water (A.A.C. R18-11-112) or as an Impaired Water (Arizona's 303(d)) and other impaired water list(s) shall be clearly identified.

During the first four years of this permit, the City plans to incorporate mapping of additional features identified in the new MS4 permit. Completion of this effort is anticipated by September 30, 2015. In addition, the City plans to complete a study evaluating the costs, methods and time needed to further develop the City's GIS Stormwater Map. This study should be completed by September 30, 2015.

V. Industrial and Commercial Facilities (Non-Municipally Owned)

The City of Tucson Stormwater Management Section is responsible for implementing the City's program to control pollutants in stormwater discharges from industrial and commercial facilities. Outreach to the industrial and commercial community on stormwater management is detailed in Sections I. and II. Public Education and Public Involvement.

A. Municipal Employee Training

New Stormwater Management Staff receive extensive training during their first year. Stormwater training incorporates both Stormwater Pollution Prevention Plans (SWPPP) review and inspection. Employees each receive a copy of the Stormwater Management Program (SWMP), the Floodplain, Stormwater, and Erosion Hazard Management Ordinance, manuals on the Multi-Sector General Permits, the Stormwater Industrial Inspection Procedures, and outreach materials for stormwater management for industrial and commercial facilities.

Stormwater Inspectors receive training regularly and at a minimum, every other year, through seminars, educational videos and on-line training. Where applicable, training dates and topics are recorded for inclusion in the Stormwater Annual Report.

B. Inventory

1. The Stormwater Management Section maintains a database of industrial and commercial facilities that have the potential to discharge pollutants to the City's storm sewer system. The list includes the facility name and address, and the Standard Industrial Classification (SIC) code(s) best reflects the principal products or services provided by each facility. The Stormwater Management Section added a brief description of the facilities' activities to the Industrial Facility Database. The database includes the following facilities:
 - i. Industrial facilities identified in 40 CFR 122.26(d)(2)(iv)(C);
 - ii. Industrial facilities subject to MSGP requirements, including those facilities that have submitted for a no exposure exclusion; and
 - iii. Other industrial and commercial sources (or categories of sources) where the City determined to be a significant source of pollutants.
2. Higher Risk Facilities:

The Stormwater Management Section prioritized inspections. The higher risk facilities are most likely to be sources of stormwater pollution. The risk assessment includes the type of facility, the products or services provided by the facility, proximity to receiving waters, receiving water quality, and other factors that indicate the potential to impact water quality.

3. **Maintaining the Inventory:**
The Industrial Facility Database is updated regularly, and a minimum of biannually throughout the permit term. The information is obtained through various means including correspondence with the facility, inspection visits to the facility, and mailings to groups of facilities requesting their assistance in protecting stormwater quality. The inventory is reviewed biannually to determine if there are any facilities that have not filed a Notice of Intent (NOI) with the State of Arizona.
4. **AZPDES Non-filers:**
When the City learns either through reporting or during a review of the Industrial Facility Database that a particular facility may not have obtained coverage as required under the Arizona MSGP, the City will report that facility's location and contact information to the ADEQ - Water Quality Compliance Section, Field services Unit Manager, Mail Code: 5415B-1, 1110 West Washington Street, Phoenix, AZ 85007 biannually. In addition, the City either calls or sends a letter to the facility notifying them of the City's MS4 Permit requirement to report them to ADEQ.
5. **Other Measures to Control Pollutants from Landfills, Municipal Waste Facilities, and Industrial Facilities:**
The City conducts annual inspections of Los Reales Landfill, despite the landfill's coverage under the MSGPs. This inspection is an additional measure to ensure that pollutants from landfills, municipal waste facilities, and industrial facilities are controlled.
6. **Finding MSGP Targeted Industrial Facilities:**
In addition to the established inventory of industrial facilities, a Stormwater Inspector routinely visit areas of the City zoned for industrial uses and takes note of new businesses. The City's business license database no longer references the SIC code, however, on-line searches of local business directories are utilized to locate new facilities.
7. **Notifying New Industries of MSGP Requirements:**
Once a new facility that is potentially targeted under Arizona's MSGP is identified, a Stormwater Inspector schedules a site visit to assess the facility, and if appropriate, provides an outreach packet with information on the MSGP permit requirements. In addition, the City advises the facility operator that the City is required by it's Permit to report them to ADEQ as a non-filer.

C. Inspections

1. Inspection Procedures:

The Stormwater Inspector verifies that an NOI has been filed and an authorization number issued by ADEQ, and that a SWPPP exists for the facility. A review of the SWPPP is performed to verify that substantial elements required by the permit are addressed. Additionally, an inspection of the site is performed to verify that the SWPPP is implemented and accurate. Outdoor materials handling and storage areas are inspected, along with hazardous materials handling, secondary containment measures, and spill controls. The location of stormwater flow entering and exiting the site is inspected. Potential sources of pollutants or illicit discharges are addressed during the inspection and in an inspection report. A thorough inspection report is prepared for, and provided to, the owner and operator of the facility.

2. Industrial Facility Inspections – Higher Risk:

The City developed a system to identify higher risk facilities. The City prioritized industrial and commercial facilities in the Industrial Facility Database based on the following criteria:

- i. Requirement for MSGP,
- ii. Proximity to Lakeside Lake, an impaired water, and
- iii. Potential for impacting stormwater quality.

3. Inspect 20% of all facilities:

The City's goal is to annually inspect a minimum of 20% of the industrial facilities listed in the City's Industrial Facilities Database that have an MSGP. The number of inspections completed each year and follow-up inspection are documented in the Annual Report.

4. Enhancing the Industrial Facility Program:

During the permit term, the Stormwater Management Section evaluates alternatives for enhancing the industrial/commercial stormwater program with the goal of increasing field presence through increased numbers of inspections and increasing interaction with commercial and industrial facilities through outreach or other innovative measures.

5. Recognition of Outstanding Facilities:

Industrial facilities that perform outstanding maintenance practices for stormwater compliance are provide with and "Certificate of Excellence" signed by the Director of Transportation. The Stormwater Inspector chooses facilities based on his inspection findings. Some of the criteria the Stormwater Inspector looks for are facilities that are pro-active with following MSGP guidelines. He looks for facilities that have extra BMP's installed, are clean, and demonstrate they are

environmentally conscientious. The Stormwater Inspector also provides the certificate to sites that have a number of challenging problems and the operator makes changes to the site to prevent stormwater from contacting potential pollutants and does a nice job at cleaning the site. So far, up to five sites per year are honored with a Certificate of Excellence. The number of certificates provided to facilities is included in the Annual Report.

D. Compliance Activities and Enforcement

1. Enforcement Flow Chart:

The City's enforcement process is illustrated by the enforcement flow chart, included in the Appendix. The flow chart shows escalation actions in response to the severity of the infraction, repeat offenses, and willful negligence.

2. Formal Enforcement Protocol:

The City has established a formal enforcement escalation protocol that focuses on having the highest level of enforcement resolved or turned over to the City court system within one year of the initial inspection/violation.

3. Industrial Facility Inspection Protocols:

The City has conducted a review of the City's procedures for industrial facility inspections for effectiveness. Recommendations for improvements have been made and incorporated. An enforcement protocol to address violations of municipal stormwater requirements, ordinance, or code identified during inspections is in place.

4. The City will document in the Annual Report the number of corrective or enforcement actions taken during the reporting period including severity, elapsed time for resolution, penalties assessed, and outcome.

VI. Construction Sites

Construction site plans are reviewed and the sites inspected by the Department of Transportation (TDOT) for roadway projects and Planning and Development Services Department (PDSD) for projects in the private sector. Staff include Plan Reviewers and Stormwater Inspectors to ensure the requirements of the AZPDES Construction General Permit are met. Plan Reviewers verify that ground disturbing activities that fall under the AZPDES General Permit requirements include a Stormwater Pollution Prevention Plan (SWPPP) with the plan submittal and Stormwater Inspectors ensure the SWPPP is utilized and updated in the field.

A. Municipal Employee Training

1. New Employees

The City provides new employee training at least one time per year and shall provide refresher training for existing employees directly involved in these activities at least once every two years. In the event there are no new employees in a given period, the City will document this information in the Annual Report. Staff receive training during their first year of employment and refresher training every other year. New employees each receive a copy of the AZPDES General Permit for Discharge from Construction Activities to Waters of the United States, the Stormwater Management Program (SWMP), the Floodplain, Stormwater, and Erosion Hazard Management Ordinance, the Stormwater Construction Inspection Procedures. New staff are trained by existing staff in a mentoring process along with annual attendance of Pima Association of Government's (PAG) annual stormwater seminar.

2. Current Employees

Current employees receive training in both SWPPP review and inspections. An emphasis on cross training allows a limited number of staff to fill in as needed to meet fluctuations in workload.

On-going training for staff includes frequent review and discussion of the AZPDES General Permit for Discharge from Construction Activities to Waters of the United States, the Floodplain, Stormwater, and Erosion Hazard Management Ordinance, and Development Standards.

Current employees receive written materials, including a copy of the AZPDES General Permit for Discharge from Construction Activities to Waters of the United States, the Stormwater Management Program (SWMP), the Floodplain, Stormwater, and Erosion Hazard Management Ordinance, the Stormwater Construction Inspection Procedures.

Stormwater Inspectors also attend PAG's annual Stormwater Seminar.

B. Planning and Land Development

The City of Tucson has long advocated water harvesting, open space, native plant preservation, landscape requirements, riparian habitat preservation, scenic corridor, hillside preservation, and other practices to limit the impact of development on the environment, including stormwater quality. During development plan review, City plan reviewers verify that plans submitted for review comply with provisions of these ordinances.

During the first four years of this permit term, the City will continue to evaluate Low Impact Development (LID) practices to assess the feasibility of incorporating additional measures into the City's practices. Land use planners and other appropriate departments will be consulted in the evaluation.

By September 30 2015, the City will submit the findings of how LID practices would contribute to the reduction of pollutants in stormwater discharges to the MS4. In addition, the evaluation will identify any additional, feasible LID practices for potential incorporation into City design standards. Before incorporating these practices into City design standards, new LID practices will need to be vetted in the community and taken before Mayor and Council for approval.

C. Plan Review and Approval

1. Plan Review:

All roadway projects, new development and redevelopment plans are reviewed for conformance with planning documents, City Code, ordinances, development standard design manuals and state regulations.

2. Plan Approval:

Building permits, grading permits are issued and/or a notice to proceed provided, following plan approval. All projects that are subject to the requirements of the Arizona Construction General Permit are required to submit a SWPPP for review. Verification that the SWPPP is complete is a requirement for the issuance of a grading permit or provided a notice to proceed. Planning and Development Services also administers the International Building Code (IBC), including the dedicated chapter on Excavation and Grading. This chapter includes requirements for structural and nonstructural post construction controls.

3. Pre-Construction Meetings:

Pre-construction meetings for private construction projects provides an opportunity to review the SWPPP together and to make sure the developer understands the stormwater controls that must be utilized and verify the SWPPP is complete (including a copy of ADEQ's authorization number). Similarly, prior to breaking

ground, TDOT holds a preconstruction meeting ensuring the SWPPP is complete and a copy of ADEQ's authorization number(s) are included.

D. Inventory

1. Permits Plus Database:

PDSD uses the Permits Plus Database to track development plans and construction sites. Information in the database includes: requirement for a Construction General Permit, plan and SWPPP review comments, number of submittals, site location, and construction inspections.

2. Updating Database:

The Permits Plus Database is continually updated as plans are submitted and reviewed, permits are issued, and construction sites are inspected.

3. Identifying and Documenting Non-filers:

During the first site visit, Stormwater Construction Inspectors verify that the SWPPP has been implemented prior to the start of construction, and that the site has an ADEQ authorization number. In the event that this is not the case, PDSD will promptly notify the Stormwater Section.

4. City Department for NOIs:

Planning and Development Services Department and the Department of Transportation receive and maintain copies of NOIs.

E. Construction Site Prioritization

The City has established a process for construction site inspection priorities. An inspection schedule is discussed below.

F. Inspections

Construction site inspections performed by PDSD staff are inspected for compliance with the International Building Code (IBC) that details requirements and enforcement procedures for construction activities. TDOT and PDSD have an AZPDES inspection program for construction sites that fall under the AZPDES General Permit requirements.

1. Description of Inspection Program:

The City's AZPDES inspection program for construction sites within the City that disturb one or more acres includes the following objectives:

- Verifying existence of a SWPPP for that construction site;
- Verifying that all substantial elements required by AZPDES Construction General Permit were addressed in the SWPPP;
- Verifying that the SWPPP was implemented; and
- Verifying that the SWPPP evolves to meet changing construction conditions.

During inspections, the Stormwater Inspector looks for proper storage and use of construction site materials such as oils, hydraulic fluid and gasoline. City Inspectors make every effort to ensure that any compliance issues are quickly handled before enforcement action is needed. The City of Tucson uses codes such as the Floodplain, Stormwater, and Erosion Hazard Management Ordinance to assist in the enforcement of AZPDES construction site requirements. High priority sites are those that disturb over an acre of land.

2. Inspection Schedules:

At a minimum, high priority construction sites are inspected once every three months and before a rain event, depending on the construction activity. Low priority sites are inspected at least once every six months.

3. Follow-up Inspections:

In instances where Stormwater Inspectors observe stormwater quality issues that require action, the site is re-inspected within a month to ensure that the issues identified have been addressed.

4. Records of Inspections:

Records of stormwater inspections are kept for a period of three years after the project has been completed. Additional records kept include the Notice(s) of Intent, the authorization number(s) and the Notice(s) of Termination.

G. Stormwater Control Measures

1. Additional Structural and Nonstructural Practices:

The City requires that plans conform to the International Building Code and include these erosion and sediment control requirements:

- Maximum fill and cut slopes;
- Maximum bench heights and widths;
- Types of allowable fill materials;
- Fill compaction requirements;
- Setbacks of fill slopes from property boundaries;
- Treatment of fill slopes and other slopes to prevent erosion from stormwater

runoff;

- Requirements for maximum fill/cut slopes for drainage channels;
- Terracing drainage requirements, including erosion controls;
- Subsurface drainage controls for stability;
- Drainage way erosion control provisions;
- Requirements for interceptor drains at top of slopes to prevent erosion;
- City amendment prohibiting grubbing without first obtaining a grading permit;
- City amendment for reseeding requirements, including the posting of bond; and
- City amendment for proper construction of drainage facilities.

2. Standards for Construction Site Controls:

The City utilizes the 2003 version of the “City of Tucson and Pima County Standard Specifications for Public Improvements” along with the 2005 version of “ADOT Erosion and Pollution Control Manual for Highway Design and Construction.” The City/County 2003 version has been updated and is waiting approval.

3. Review of Construction Inspection Procedures:

The City has reviewed stormwater inspection procedures for construction sites. Further reviews will consider the current program effectiveness, make recommendations for improvements and incorporate appropriate changes.

4. Escalation Protocol:

Construction Inspection Procedures include enforcement timeframes identified in the compliance process and escalation for corrective actions. Enforcement timelines focus on resolving the highest level of enforcement within one year.

H. Compliance Activities and Enforcement

1. Compliance Flow Chart:

The City’s enforcement process is illustrated by the Compliance Flow Chart, included in the Appendix. The flow chart shows escalation actions in response to the severity of the infraction, repeat offenses, and willful negligence.

2. Formal Enforcement Protocol:

The City has established a formal enforcement escalation protocol that focuses on having the highest level of enforcement resolved or turned over to the City court system within one year.

VII. Post-Construction

A. Review of Master Plan

The existing Master Plan was developed over 20 years ago. The Plan is outdated yet it contains stormwater pollutant controls that are adequate and effective. The Plan suggested using water harvesting measures that are now mandated by ordinance and are part of every construction project.

B. Municipal Employee Training

Municipal employee training for construction and post-construction is discussed under Section VI Construction Site Controls.

C. Post Construction Controls

The City inspects projects in the post-construction phase to ensure controls are installed and are being maintained as approved. The City inspects at least 75% of sites that have received City permits for earthwork or other ground disturbing activities within one year after construction has been completed to determine the effectiveness of site stormwater controls.

In August 2013, the Department of Transportation Director signed “Active Practice Guidelines for Green Streets.” The intent of these guidelines is to require the incorporation of green infrastructure features into Tucson roadways wherever possible.

D. Compliance Activities and Enforcement

The City has implemented an effective compliance program that incorporates escalating actions for violations of municipal stormwater requirements, ordinance or code.

The City shall document areas of non-compliance and follow-up actions taken by the City to achieve compliance.

Appendix

Protocols for Dry-Weather Screening of Outfalls (FSO)

Pool & Spa Owners (Flyer)

Spill Response Program

Map of Field Screen Outfalls

Compliance Process

Stormwater Industrial Inspection Summary

Overview of the City of Tucson's Stormwater Management Program (SWMP)