



**Chandler • Arizona**  
*Where Values Make The Difference*

City of Chandler

Small Municipal Separate Storm Sewer System Annual Report

July 1, 2004 through June 30, 2005

September 16, 2005

## Small MS4 Annual Report Form

Please refer to the attached instructions as you prepare your annual report.

### A. General Information

Name of MS4: City of Chandler

Contact Name: Jon Sherrill

Telephone Number: (480) 782-3503 Email Address: jon.sherrill@chandleraz.gov

Annual Report Period:  December 19, 2002 – June 30, 2004  July 1, 2004 – June 30, 2005  
 July 1, 2005 – June 30, 2006  July 1, 2006 – June 30, 2007

### B. SWMP Modifications and Additional Information. Attach a brief explanation if you check “yes” to any of the following statements.

- |   |   |  |
|---|---|--|
| 1. Changes have been made or are proposed to the SWMP since the last annual report, including changes in response to ADEQ’s review. | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/>            |
| 2. The MS4 has annexed lands.   | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/>            |
| 3a. The MS4 discharges directly to an impaired water.   | YES <input type="checkbox"/>            | NO <input checked="" type="checkbox"/> |
| 3b. A water within 10 miles of the MS4’s jurisdiction has been identified as impaired.  | YES <input type="checkbox"/>            | NO <input checked="" type="checkbox"/> |
| 4a. The MS4 discharges directly to water for which a TMDL has been established.   | YES <input type="checkbox"/>            | NO <input checked="" type="checkbox"/> |
| 4b. A TMDL has been established for a water within 10 miles of the MS4’s jurisdiction.  | YES <input type="checkbox"/>            | NO <input checked="" type="checkbox"/> |
| 5. The MS4 has conducted analytical monitoring of stormwater quality.   | YES <input type="checkbox"/>            | NO <input checked="" type="checkbox"/> |
| 6. The MS4 is relying on another government entity to satisfy some permit obligations.  | YES <input type="checkbox"/>            | NO <input checked="" type="checkbox"/> |

**C. Stormwater Management Program Status.** Provide the status of every BMP and measurable goal in your SWMP as described in the instructions.

**TABLE 1**

<b>Minimum Control Measure(s)</b>	<b>BMP</b>	<b>Measurable Goal (steps to measure progress)</b>	<b>New or Revised</b>	<b>Start Date</b>	<b>Implementation Status/ Frequency/ Achievement Date (completed, in progress, not started)</b>
Public Education and Outreach	Newsletter Articles	2004 Annual Drinking Water Quality Report November-December City Scope Newsletter Copies are included in Appendix A		May 2003	In progress, annual drinking water quality report and one article in City Scope
Public Education and Outreach	Storm Water Brochure	Printed 20,000 brochures Brochures are included in new resident packets, at City kiosk at Chandler Fashion Square Mall and handed out at City events Copy of brochure included in Appendix B		August 2003	Brochure printed, completed May 2005 In progress, brochure distribution will be tracked during next reporting period
Public Education / Public Involvement	Storm Water Webpage	Developed webpage on City website Copies of webpage content included in Appendix C		August 2003	In progress, website is periodically updated with new information monitor number of visits to site
Public Education	Storm Water Signage	20 Signs Purchased		January 2004	In progress, signs will be installed in City retentions during next reporting period
Public Education / Public Involvement	Storm Drain Placards	6,000 cast aluminum placards were purchased		July 2003	In progress, installation of the placards on storm drain inlets will begin during next reporting period
Public Education	Landscape and Lawn Care	Assist in the management of irrigation runoff 723 low water use conversions 384 irrigation timer rebates		March 2003	In progress, continue tracking number of conversions and rebates
Public Education / Public Involvement	Conservation Calendar	Held 4 <sup>th</sup> grade art contest Created calendar using art Ordered 5,800 calendars, copy included in Appendix D	Revised	August 2003	In progress, calendars in production will be distributed through schools and City events. Art contest and calendar production will continue as funding allows
Public Education / Public Involvement	Classroom Presentations	Number of students in classroom – no invites from teachers during this reporting period		May 2004	In progress, seek out opportunities to present storm water information in classroom

**TABLE 1 (continued)**

<b>Minimum Control Measure(s)</b>	<b>BMP</b>	<b>Measurable Goal (steps to measure progress)</b>	<b>New or Revised</b>	<b>Start Date</b>	<b>Implementation Status/ Frequency/ Achievement Date (completed, in progress, not started)</b>
Public Education / Public Involvement	Hamilton High School Science Fair	Approximately 5,000 fair attendees, Attendees shown storm water related information through use of Enviroscape non-point source model		February 2004	In progress, participate in next Hamilton High Science Fair in February 2006
Public Education	STORM Membership	30 second and 15 second Public Service Announcements reached 2,618,600 listeners. 30-minute community service information interviews reached 40,000 listeners. STORM Annual Report included in Appendix C		March 2003	In progress, continued yearly membership
Public Education	Rain gauges	2,500 rain gauges with storm "Please...only rain in the storm drain" , city website address and contract information. 100 gauges have been distributed at HOA meetings and to teachers and students who participated in the conservation art contest	New	April 2005	In progress, rain gauge distribution will be tracked during next reporting period
Public Education	Dog treat business cards	500 raw hide dog treats with "please pick up after your pet" printed on treat	New	April 2005	In progress, dog treat distribution will be tracked during next reporting period
Public Education	Public Works @ Work, City cable show	8-minute segment on storm water system function and maintenance Aired 11 times per week between March 18 – May 27, 2005	New	March 2005	Completed
Public Participation	Public Meetings	13 public meetings attended by 314 individuals Meetings dates, projects and attendance are included in Appendix F		June 2003	In progress, public meetings will documented in next annual report
Public Participation/Illicit Discharge Detection and Elimination	Storm Water Pollution Hotline	Phone number identified on City website and information distributed that residents can call with storm related issues or concerns		November 2004	In progress, track calls during next reporting period

**TABLE 1 (continued)**

<b>Minimum Control Measure(s)</b>	<b>BMP</b>	<b>Measurable Goal (steps to measure progress)</b>	<b>New or Revised</b>	<b>Start Date</b>	<b>Implementation Status/ Frequency/ Achievement Date (completed, in progress, not started)</b>
Illicit Discharge Detection and Elimination	Storm Water System Map	Collect as-built information on storm drain system, identify new system components		March 2003	In progress, continued collect of as-built information and inspection system
Illicit Discharge Detection and Elimination	Storm Drain Video	Video storm drains for illicit connections and infrastructure condition 9,321 feet of storm drain video inspected	New	May 2005	In progress, report amount of storm drain videoed during next reporting period
Illicit Discharge Detection and Elimination/Post-Construction Stormwater Management	Plan Review	Plan reviews are completed to catch any illicit connections from wastewater discharge into the stormwater system.	Revised	March 2003	In progress, continue plan review for any illicit connections from wastewater discharge into the stormwater system.
Illicit Discharge Detection and Elimination/Pollution Prevention Good Housekeeping	Spill Prevention and Containment	Prevention of material spilled from entering storm drain systems A total of 130 incidents/spills were responded to and resolved Summaries of the spills and incidents responded to and spill response form are included in Appendix G		March 2003	In progress, report incidents/spills responded to during next reporting period
Illicit Discharge Detection and Elimination	Dry Weather Field Screening	Two discharge points were inspected Arrowhead and Denver Basins were inspected weekly and material observed and amount removed was noted. Inspection and daily forms are included in Appendix H		March 2003	In progress, continued inspections and material removed will be noted during next reporting period
Construction Site Runoff Control	Grading and Drainage Permits	A grading and drainage permit is required for new projects. These detail the City's requirements for runoff control. 71 were issued during the reporting period. A list of the Grading and Drainage Permits Issued is included in Appendix I		March 2003	In progress, the number of permits issued will be noted during the next reporting period

**TABLE 1 (continued)**

<b>Minimum Control Measure(s)</b>	<b>BMP</b>	<b>Measurable Goal (steps to measure progress)</b>	<b>New or Revised</b>	<b>Start Date</b>	<b>Implementation Status/ Frequency/ Achievement Date (completed, in progress, not started)</b>
Construction Site Runoff Control	Construction Site Inspections	Sites are inspected for infractions to the Grading and Drainage Permit, and County and/or City regulations and Standards. 53 Final Inspections were completed		March 2003	In progress, the number of inspections completed will be tracked during next reporting period
Construction Site Runoff Control	Construction Storm Water Handbook	City of Chandler Unified Development Manual – Available through City’s website Provides a single source for construction site BMPs, sediment control, permit applications, inspections, and non-stormwater and water management issues.		August 2003	Completed February 2005
Post Construction Storm Water Management	Property Owner Manual	City of Chandler Unified Development Manual – Available through City’s website Provides a means to inform property owners about stormwater management, pollution prevention and maintenance requirements		November 2004	Completed February 2005
Post Construction Storm Water Management	Storm Drainage System Technical Design Manual	The manual outlines the design and policy for hydrology design, street drainage, storm drains, basins, and disposal of storm water and maintenance standards. Available as part of Unified Development Manual	Revised	March 2003	In progress, manual is reviewed and updated as needed

**TABLE 1 (continued)**

<b>Minimum Control Measure(s)</b>	<b>BMP</b>	<b>Measurable Goal (steps to measure progress)</b>	<b>New or Revised</b>	<b>Start Date</b>	<b>Implementation Status/ Frequency/ Achievement Date (completed, in progress, not started)</b>
Post Construction Storm Water Management	One-year Warranty Finals	A one-year warranty inspection is completed developments and redevelopments to ensure that structures are constructed and operating properly. 48One-Year Warranty Finals were completed. A copy of the One-Year Warranty List is included in Appendix J		March 2003	In progress, number of inspections will be tracked during next reporting period
Pollution Prevention and Good Housekeeping	Street Cleaning	54,532 total miles of streets swept. 2,769 tons of material removed		March 2003	In progress, report miles and tonnage of material removed during next reporting period
Pollution Prevention and Good Housekeeping	Illegal Dumping	103 illegal dumping calls were received and abated Summary Report Included in Appendix G		March 2003	In progress, number of calls responded to and abated will be tracked during next reporting period
Pollution Prevention and Good Housekeeping	Cleaning Catch Basins and Outfalls	423 catch basins and scuppers were cleaned Summary of Work Orders Included in Appendix J Arrowhead and Denver Basins was inspected weekly and material observed and amount removed was noted. 1400 catch basins and scuppers inspected. 811 outlets cleaned, removed 13,200 pounds of material		March 2003	In progress, the number of inspections, units cleaned and material removed will be tracked during reporting period
Pollution Prevention and Good Housekeeping	Hazardous Material Storage	114 employees trained during 8 hour HAZWOPR Update		March 2003	In progress, continue tracking training
Pollution Prevention and Good Housekeeping	Household Hazardous Waste Collection	Two events collected 98,522 pounds of household hazardous waste. Summary letter included in Appendix K		March 2003	In progress, continue tracking material collected

**TABLE 1 (continued)**

<b>Minimum Control Measure(s)</b>	<b>BMP</b>	<b>Measurable Goal (steps to measure progress)</b>	<b>New or Revised</b>	<b>Start Date</b>	<b>Implementation Status/ Frequency/ Achievement Date (completed, in progress, not started)</b>
Pollution Prevention and Good Housekeeping	Employee Training	25 employees trained		March 2003	In progress, continue tracking employees trained

Note: If you have developed a stormwater ordinance during the last reporting period, include a description or citation of the ordinance, or simply attach a copy of the ordinance.

**D. Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name (printed)

\_\_\_\_\_  
Title



## **Addenda**

### **Section B – Part 1 – Changes have been made to SWMP**

#### **New Best Management Practices:**

The City purchased 2,500 rain gauges with the printed message “Please, Only rain in the storm drain,” and the City’s Storm Water Pollution Prevention phone number and the City’s web address. These gauges are distributed at HOA meetings, to teachers and students who participated in the conservation art contest, City Staff and residents at City functions. The gauges are used to remind residents and staff of preventing storm water pollution, where to get information and where to report problems.

The City purchased 500 raw hide dog treats with “please pick up after your pet” printed on treat. These treats are handed out to pet owners to remind them that picking up pet waste prevent storm water pollution.

The City completed an eight (8) minute video on storm water system function and maintenance. This video aired on the local cable access channel for 9-weeks, 11 times per week. This video gave the viewer the opportunity to see the storm drain system, how the system is maintained, what activities they do that contribute to storm water pollution and what they can do to prevent pollution from occurring.

As part of the Illicit Discharge Detection and Elimination Minimum Control Measure, the City began video inspection of the City’s storm drains. These inspections are used to look at system component integrity, system construction details, maintenance needs and illicit connections to the system.

#### **Updated/Changed Best Management Practices**

The City of Chandler’s Recycling, Stormwater and Water Conservation Programs combined resources to complete a second annual Conservation Art Contest. The conservation art contest was held for all 4<sup>th</sup> graders in the City of Chandler. Students were asked to create art pictures reflecting conservation issues in recycling, water conservation and storm water pollution prevention. Upon completion of the art contest, a 12-month calendar was created using the winning drawings.

The plan review process is in place and consistently happening, however, specific data is still not conveniently available. Efforts to streamline data retrieval requests will continue the next reporting period.

No records are kept on the number of Technical Design Manual No. 3 distributed. The manual is now available as part of the City’s Unified Develop Manual (UDM). The UDM is available on the City’s website and no count is presently recorded to the number of visits or manuals downloaded. During the next reporting period the City’s website

will be reviewed to determine if number of visits and manuals downloaded can be counted.

A review of the dry weather flow records was completed as part of the report preparation. Although information is collected on date, location, and debris removed from outfalls, no clear records are kept as to the qualitative description of observed flows. During the next reporting period, a review of EPA, ADEQ and other available Illicit Discharge/Dry Weather monitoring programs will be reviewed. Any necessary changes to the monitoring program will be developed and implanted during the second half of the reporting period.

## **Section B – Part 2 The City Has Annexed Lands**

During the reporting period the City of Chandler annexed approximately 262 acres of land. The majority of this land is undeveloped former agricultural fields or dairy farms and smaller developed residential properties. The map included details the areas that have been annexed. If necessary during and post development the following BMPs will be implemented in these areas:

- Public Meetings
- Stormwater System Map
- Plan Review
- Spill Prevention and Detection
- Grading and Drainage Permit
- Construction Site Inspections
- Construction Stormwater Handbook
- Property Owner Manual
- Storm Drainage System Technical Design Manual
- One-Year Warranty Inspection
- Street Cleaning
- Illegal Dumping

## **Section B – Code Sections**

Code sections, as currently written, are used to define and address illicit discharges to the stormwater system.

The following are Code sections applicable to illicit discharges.

## **Chapter 30 – Neighborhood Standards and Maintenance Nuisance Abatement and Code Enforcement**

### **30-1. Purpose, scope and definitions**

*30-1.1. Purpose.* The purpose of this chapter is to promote the health, safety and welfare of the citizens of Chandler and to protect neighborhoods and property values from deterioration and decline by establishing minimum standards for the use and maintenance of all buildings and structures, premises and vacant land.

*30-1.3. Definitions.* Where terms are not defined in this chapter, they shall first have the meanings ascribed to them in other chapters of this Code, including but not limited to the building, electrical, fire, housing, mechanical, plumbing, swimming pool and zoning codes and the code for the abatement of dangerous Buildings.

*Abate.* To repair, replace, remove, destroy or otherwise remedy the condition in question by such means and in such manner and to such an extent as the City Manager/designee determines is necessary to bring the condition into compliance with the City Code in the interest of the general health, safety and welfare of the community.

*Responsible person.* An owner, tenant, renter, lessor, lessee, manager, agent, lienholder or any fiduciary or person with power of attorney or other person who is occupying or having charge, possession or control of the premises or has the authority and ability to act on behalf of, or in the interest of, the owner. When property is held in common by more than one (1) owner, each owner is a responsible person, even when a homeowner's association has been formed to manage and maintain such commonly owned property. Such a homeowner's association shall also be a responsible person.

### **30-2. Maintenance standards.**

*30.2.1.* Property which is part of a subdivision or planned area development (PAD) shall be maintained in conformance with the exhibits, conditions and stipulations approved and imposed by the City Council at the time the approval for rezoning or developments was granted. Said persons will also be responsible to maintain all installed landscaping and irrigation systems in accordance with zoning code provisions for the entire premises as described herein. Such maintenance responsibility includes the areas between sidewalk and curb commonly referred to as parkways.

*30-2.3. Landscape materials.* All landscape materials, including but not limited to grasses, groundcovers, trees, shrubs, ornamental plants, architectural pools, ponds, basins and fountains and all retention basins shall be maintained in substantial conformance to the conditions and requirements in existence at the time of their approval/acceptance by City Inspectors.

Discharges, when applicable, are defined as nuisances:

**30-4. Public nuisance**

*30-4.1. Creating, causing or maintaining a public nuisance.* It is unlawful to maintain or commit a public nuisance or to fail or refuse to perform any legal duty which results in a public nuisance or relating to the removal of a public nuisance.

*30-4.2. Public nuisance designated.* Anything which is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property by an entire community or neighborhood, or by a considerable number of persons, or which unlawfully obstructs the free passage or use, in the customary manner, of any stream, public park, square, street or highway, is a public nuisance, and is no less a nuisance because the extent of the annoyance or damage inflicted is unequal.

In addition any violation of this City Code that is continuous with respect to time is a public nuisance.

C. Any architectural pool, pond, basin, fountain or any swimming pool or spa or any other body of water which is abandoned, unattended, unfiltered or not otherwise maintained to prevent bacterial growth, algae formation, debris accumulation or stagnation.

Allowable non-stormwater discharges to the storm drain system are defined in the Arizona Pollutant Discharge Elimination System General Permit for Discharge From Small Municipal Separate Storm Sewer Systems (MS4s) to Waters of the United States for the City of Chandler submitted to the Arizona Department of Environmental Quality in March 2003. These allowable non-stormwater discharges are:

<b>Allowed non-stormwater discharges</b>
Water Line Flushing
Diverted stream flows
Rising ground waters
Uncontaminated groundwater infiltration
Uncontaminated pumped groundwater
Discharges from potable water sources
Foundation drains
Air conditioning condensate
Irrigation water
Springs
Water from crawl space pumps
Footing drains
Individual residential car washing
Street wash water
Discharges from fire-fighting activities

Discharges from riparian habitat and wetlands
Landscape Irrigation
Lawn watering
Swimming Pool Discharges

Any discharges to the storm drain system, not on this allowable list, would be considered illicit discharges as well as nuisances and addressed using the above detailed sections of Code.

TABLE 1 (continued)

Minimum Control Measure(s)	BMP	Measurable Goal (steps to measure progress)	New or Revised	Start Date	Implementation Status/ Frequency/ Achievement Date (completed, in progress, not started)
Pollution Prevention and Good Housekeeping	Employee Training	25 employees trained		March 2003	In progress, continue tracking employees trained

Note: If you have developed a stormwater ordinance during the last reporting period, include a description or citation of the ordinance, or simply attach a copy of the ordinance.

**D. Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

  
 Signature \_\_\_\_\_ Date 8-29-05

Bryan Patterson  
 Name (printed) \_\_\_\_\_

Public Works Director  
 Title \_\_\_\_\_