



**Maricopa County
Environmental Services Department
Quality and Compliance Division
Stormwater Quality Program**



**AZPDES Phase II FY2015 Annual Report
August 2015**

Introduction

The Maricopa County MS4 system consists mainly of flood control conveyances, drainage ditches, catch basins, storm drains, county owned streets, curbs and gutters. Our Jurisdiction is the urbanized, unincorporated area (UUA) of Maricopa County (2010 Census is 149 square miles with a population of about 149,000). The County has developed a Stormwater Management Program (SWMP), which is administered by the Environmental Services Department's Stormwater Quality Program. This annual report documents and summarizes the implementation of the Maricopa County SWMP during the previous fiscal year. Program results are evaluated and planned changes towards continuous improvement are described. The annual report also serves as a "state of the SWMP" report for the general public or other stakeholders in the community.

Since 2003 Maricopa County has invested significant resources to eliminate stormwater pollution and protect our surface waters. The Maricopa County Board of Supervisors was authorized to operate the Municipal Separate Storm Sewer System (MS4) under the Phase II Arizona Pollution Discharge Elimination System (AZPDES) permit AZG2002-002 on December 19, 2007. The required Stormwater Management Program (SWMP) was approved on November 25, 2009. This is the seventh annual report that has been issued since the SWMP was adopted. Each year the County strives to integrate the iterative process of review and improvement into all related permit compliance activities. It is the County's intent to continue the stormwater pollution prevention efforts, to protect environmental quality for the benefit of the citizens, and to be a leader in the County and State in environmental protection.

The annual report form authored by the Arizona Department of Environmental Quality (ADEQ) has been a good tool for reporting activities performed under this permit. ADEQ has indicated that the form contains a suggested format for an annual report; therefore, using this document as a guide, the County has utilized it supplementing additional information. This updated format provides the requested data as well as information that may be used by the County for the future of the program. Please accept this updated format which includes the following changes:

- Part A, "General Information", including the technical and billing contact for this permit.
- Part B, "Additional Information"
- Part C.a., "Stormwater Management Program Status", including the following columns:

MCM	Minimum Control Measure - The six MCMs listed in Part V.B. of the permit.
BMP	Best Management Practice activities in the Stormwater Management Program agreed upon through direction of the State on November 25, 2009, and updated through each annual report.
Measurable Goal	Achievable goals in the Stormwater Management Program agreed upon through direction of the State on November 25, 2009 and altered as necessary by Maricopa County to ensure Maximum Extent Practicable (MEP) activity continues.
New or Revised	Place an X in this column if the BMP or measurable goal is new or revised, such as replacement with another BMP, addition of a new measurable goal, or revision of a start date, etc. Briefly explain the change to the SWMP in the "Implementation Status" column.
Start Date	The scheduled start date (month and year) for each measurable goal. Enter the actual start date of the activity or program.
Implementation Status/Frequency/Achievement	This column is for enumerating the compliance activities performed during the reporting period and may include the actual number of activities, percent reached, or frequencies performed. Additionally, it may indicate comments on the implementation status (such as "completed", "in progress", or "not started"), notes on permit compliance status, or an explanation for any BMP for which a zero (0) has been reported. If an activity is in progress, but has an expected end or completion date, indicate the expected achievement date.
Responsible Entity	The department or division in the municipality responsible for performing this activity.
Documentation	List the documentation used to support the reported number, status, and/or achievement date.

- Part C.b., "Stormwater Management Program Changes" including changes that are to be added to the program. This includes new or altered BMPs or minor SWMP changes found to be lacking during the program

year. These BMPs or minor SWMP changes will be implemented immediately in the next reporting period. Additionally, significant SWMP changes will be added here as a formal request to ADEQ for approval.

- Part D, “Certification”
- Part E, “ Attachment”

AZDEQ Phase II MS4 Annual Report Form

A. General Information

Permittee:	Maricopa County Board of Supervisors
Permit number:	AZG2002-002
County:	Maricopa County
Annual Report Period:	FY2015 07/01/2014 – 06/30/2015
Annual Report due date:	09/30/2015
Responsible Authority:	Steven Goode
Title:	Director
Section:	Environmental Services Department, Office of the Director
Address:	1001 N. Central Ave., Suite 401, Phoenix, AZ 85004
Telephone Number:	(602) 506-6654
Email Address:	SGoode@mail.maricopa.gov
Technical Contact:	Carl D’Acosta
Title:	Environmental Specialist Supervisor
Section:	Environmental Services Department, Quality & Compliance Division, Stormwater Quality Program
Address:	1001 N. Central Ave., Suite 401, Phoenix, AZ 85004
Telephone Number:	(602) 506-6944
Email Address:	CD’acosta@mail.maricopa.gov
Billing Contact:	Diane Cabanillas
Title:	Finance Manager
Address:	1001 N. Central Ave., Suite 400, Phoenix, AZ 85004
Telephone Number:	(602) 506-6703

B. Additional Information. See additional information attached to end of report for any item checked “yes” below.

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	NO	X
2. The MS4 has annexed lands.	YES	NO	X
3. Impaired Waters			
a. The MS4 discharges directly to an impaired water.	YES	NO	X
b. Impaired waters within 10 miles of the MS4’s jurisdiction.	YES	X NO	
4. TMDLs			
a. The MS4 discharges directly to water for which a TMDL has been established.	YES	NO	X
b. A TMDL has been established for surface waters within 10 miles of the MS4’s jurisdiction.	YES	NO	X
5. The MS4 has conducted analytical monitoring of stormwater quality.	YES	NO	X
6. The MS4 is relying on another government entity to satisfy some permit obligations.	YES	NO	X

C.a. Stormwater Management Program (SWMP) Status:

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
1. Public Education and Outreach							
	1.1 Develop and distribute educational materials						
		Distribute at least 500 Educational Materials annually		12/2006	Completed and ongoing	ESD	Minimum Control Measures FY15.xls
		Number of Educational Materials distributed		12/2006	<p>19,767 brochures and print materials</p> <p>The County provided 19,767 educational materials to the public which included brochures, bookmarks, illicit discharge magnets, illicit discharge cards, fact sheets (i.e. Pet Waste), Storm Drain Dan coloring books, Sam the Salamander masks (our new mascot), Sam the Salamander stickers, and newly developed this year – a children’s Stormwater activity book. These materials were distributed at schools, public events, in public buildings, and on our Stormwater website.</p> <p>In addition, the County has distributed 4,633 promotional items bearing educational information and Stormwater pollution prevention slogans. Promotional items included Frisbees, cups, calendars, reusable shopping bags, bracelets, crayons, clips, pencils, pens, pet waste containers, jar openers, drawstring bags, coffee mugs, water bottles, and slap bracelets.</p> <p>Note: Promotional items were not purchased for the 2015 fiscal year. Items used were provided by STORM (Stormwater Outreach for Regional Municipalities) or were used from the remaining FY2014 inventory. Due to this fact, more brochures/printed materials were created and distributed which included: a new school</p>	ESD	OutReachActivity 2015.xlsx

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					<p>outreach brochure (Clean Water: Students Can Help), a new business brochure (Clean Water: Business Can Help), salamander masks, salamander stickers, and a children’s Stormwater activity book.</p> <p>Brochures/Print Material Used for 2015: Maricopa County’s Clean Water You Can Help, Clean Water Students Can Help, Clean Water Businesses Can Help, 10 Tips Bookmark, Pet Waste (English/Spanish), Swimming Pool Maintenance, Retention Basins, Home Repair and Remodeling (English/Spanish), Lawn Care (English/Spanish), Waste Handling and Disposal, Painting Contractors, Mobile Cleaning- Vehicles (English/Spanish), Mobile Cleaning – Carpets (English/Spanish), Commercial Landscape Maintenance (English/Spanish), Animal Care and Handling Facilities, Auto Recycling Facilities (English/Spanish), Food Service Industry (English/Spanish/Chinese), Plant and Tree Nurseries (English/Spanish), Pressure Washing and Surface Cleaning, Auto Repair Facilities (English/Spanish), Construction Sites (English/Spanish), Vehicle Care (English/Spanish), Sam the Salamander Masks, Sam the Salamander Stickers, Storm Drain Dan Coloring Books, children’s Stormwater activity Book, Illicit Discharge Cards, Illicit Discharge Magnet and the EPA’s After the Storm and Solution to Pollution.</p>		
		Website activity		12/2006	69,841 Page views 23,995 Downloads	ESD	Minimum Control Measures FY15.xls

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					These numbers represent all page views and downloaded information for all Stormwater related web pages within the County.		PageViewsFY15-Webtrends.docx FY15-Downloads-Wtrends.docx SWMP-FY15-Downloads-Wtrends.docx
1.2 Public education Public Service Announcement (PSA) on stormwater							
		PSA aired for at least 4 weeks		12/2006	Performed annually	ESD	STORM-Annual-Report: FY2015.pdf
		PSA aired timeframe		12/2014	<p>Billboard Initiative Bear Essential News 1 Movie Campaign 209 Facebook Posts</p> <p>Billboard Initiative: The billboard initiative ran for 4 weeks on 22 panels including 20 digital panels and 2 static panels. Total estimation is 17,101,939 views and impressions which focus on Stormwater pollution prevention and construction.</p> <p>Bear Essential News: Outreach staff created four unique activity based ads that were placed in regional student educational newspapers. The publication was called "Bear Essential News" (BEN). The four ads were issued in November and December of 2014 and March and April of 2015. BEN was distributed to 375 elementary and middle schools in the following school districts: Creighton, Deer Valley, Madison, Paradise Valley, Roosevelt, Scottsdale, Washington, Chandler, Gilbert, Higley, Mesa, Queen Creek, Tempe, Alhambra, Avondale, Cartwright, Dysart, Glendale, Litchfield, Pendergast, Peoria, Phoenix, plus</p>	ESD	

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					<p>additional charter and private schools, with a total of 120, 000 newspapers with an estimated 800,000 views per month. In addition, BEN included a web page with 63 hits and a BEN email promotion to 4,000 kids, teachers, parents, and businesses who all received two email blasts.</p> <p>Movie Campaign: The movie campaign had 158 screenings and was estimated to have been observed by 165,000 movie goers each week for 13 weeks. This provided an impact to approximately 2,145,000 viewers.</p> <p>Facebook posts: A total of 209 posts on stormwater pollution prevention and educational outreach events on stormwater were posted from July 2014 through June, 2015.</p> <p>Note: Although the STORM Organization performed or sponsored some activities reported in this measure, the responsibility of performing the activity remains on the County. The significant increase of people reached is due to the success of the movie campaign and the billboard initiative.</p>		
		Estimate of population reached		12/2006	Over 20,000,000 views and impressions.	ESD	
1.3 Maintain and update the Maricopa County Stormwater Website							
		Website maintained with the SWMP and NOI		12/2006	<p>Completed and updated as needed</p> <p>11 pages on the Maricopa County Environmental Services Department website are dedicated to the program. These pages have links to downloadable items and resources for business, construction, and</p>	ESD	<p>http://www.maricopa.gov/EnvSvc/QC/StormWater/</p> <p>SW 11 pages.pdf</p>

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					citizens. The SWMP, Notice of Intent (NOI), and Maricopa County Stormwater Regulation are located on the main program web page.		Minimum Control Measures FY15.xls
		SWMP and NOI website activity		12/2006	45,761 Downloads This is the number of downloads recorded for the SWMP and NOI only.	ESD	SWMP-FY15-Downloads-Wtrends.docx
2. Public Involvement / Participation							
2.1 Provide various vehicles of communication to the general public for feedback to the County							
		Provide 500 surveys annually		12/2009	Completed and ongoing	ESD	Minimum Control Measures FY15.xls
		Number of surveys provided		12/2009	1,745 The surveys are intended to promote the Stormwater pollution prevention message to the general public. The County attempts to inform as much of the population about the Stormwater pollution prevention message as possible. The surveys were provided at public events, posted on the internet and were accessible via QR (Quick Response) code and link from the Environmental Services Department web page. The outreach program provided 1,745 blank surveys of which 429 were completed.	ESD	FY2015 Survey Report
		Survey responses received		12/2009	429 responses	ESD	
2.2 Develop a Stormwater Stakeholder Workshop							
		Stakeholder workshop(s) held		12/2009	1	ESD	Minimum Control Measures FY15.xls
		Number of attendees		12/2009	1 One Public meeting for the draft FY2014 annual report held on September 19, 2014.	ESD	publicmeetingMCESDFY 14.pdf
2.3 Establish stormwater related contests for school children and local communities							
		Minimum of one contest per year		12/2009	Completed and ongoing	ESD	Minimum Control

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		Number of contests		12/2009	1	ESD	Measures FY15.xls adoptahighway2015.pdf
		Number of submittals		12/2009	830	ESD	
		Number of participating schools		12/2009	23	ESD	
		Public/Private Collaboration		8/2011	5 participating sponsors In FY2015, Maricopa County Environmental Services Department Stormwater Quality Program collaborated with The Children’s Museum of Phoenix, The Wildlife World Zoo and Aquarium, the Desert Botanical Garden, the Arizona State Parks, and the Maricopa County Library District to support a poster contest for grades 3-4 and grades 5-6. The theme of the poster contest was “Keep It Clean: Stormwater Flows to Our Washes and Waterways”. With 830 entrants, and 5 public sponsors, the public outreach program more than tripled active participation from the previous year. Posters were judged based on artwork, originality, and message conveyance. The winning entrants were presented with prizes and a special award certificate at a Maricopa County Board of Supervisors public meeting. In addition to sponsoring the poster contest, Stormwater Program calendars created from this contest have been placed on display at Maricopa County Parks, The Maricopa County Administration building and Maricopa County Libraries, and have been handed to residents during outreach events and to teachers during school outreach programs. Additionally, the Maricopa County Department of Transportation held adopt-a-highway events with 1,355 citizens participating.	ESD	

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
3. Illicit Discharge Detection and Elimination							
3.1 Identification of illicit discharges through an inspection program							
		Storm sewer system map with location of outfalls and receiving WoUS		12/2009	<p>In Progress, expected achievement date December of 2019. Stormwater sewer system mapping with locations of outfalls and receiving WoUS is in progress and is expected to be complete by December of 2019. However, possible new permit requirements may create substantial additional work; and this anticipated completion date may need to be re-assessed.</p> <p>Storm sewer system mapping has been the goal of the program since its inception. The storm sewer is a complex system with many types of stormwater structures. The County MS4 urbanized jurisdiction has been updated per the 2010 census. The 2010 census data was available from the federal Census Bureau in May of 2012, and was implemented into the program immediately. The new census data increased the Unincorporated Urbanized Area (UUA) from 80 square miles to 150 square miles. This, along with annexations and changes in documentation of stormwater structures, required the program to restart our storm sewer system map. Since the expansion of the UUA, 100% of the 150 square miles have received storm sewer structure and outfall inspection activities. The majority of all stormwater structures have been identified and any remaining will be identified in the process of system mapping. More outfalls are expected to be identified as part of this process. The program has adopted a multistage approach to mapping the storm sewer system. Stage one has been to find all municipal storm systems, identify all inlets and outfalls, and stop any illicit discharges and improper disposal to the storm</p>	ESD	GIS map and inventory

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					system. During this process, Waters of the United States (WOUS) were mapped, and jurisdictional boundaries were confirmed. Stage two will be to perform recurring inspections on a percentage of the known outfalls each year, proactively inspect and verify ownership of stormwater structures, and map the municipal surface and subsurface stormwater structures.		
		Illicit discharge improper disposal detection and elimination program		12/2009	Completed and ongoing	ESD	
		Illicit discharge improper disposal detection and elimination citation		12/2009	5 Citations 5 citations in the form of Letters of Outstanding Violation (LOVs) were documented for discharges to the MS4 that may be recognized as violations of the Stormwater Quality Regulation. Additionally, 11 inspections were documented against food establishments for possible pollutant discharge violations against the Maricopa County Health Code (protecting waters of the County). All documented violations were addressed by the responsible parties, and no follow-up enforcement action was needed.	ESD	LOV-218-41-208-cc-14-21897 LOV 218-41-213-cc-14-21990 LOV 218-41-214-cc-14-21904 LOV 230-03-263B-20140731 LOV 23212050-2015036 SummaryofLOV(s)_.xlsx JuneSWFY15.xls SWFY15.xlsx
		Staff performing inspections (at least one staff)		12/2009	2 The Stormwater Quality Program maintains 2 full-time inspector positions.	ESD	Environmental_Services_SWQP_contact_list.pdf and SW-Staff-2015-2015.pdf
		Percent of outfalls inspected for Fiscal Year (Minimum 20 Percent annually)		12/2009	The entire UUA above ground and below ground structure mapping has not been completed; however we believe that most outfalls have been identified. Since the inclusion of the updated UUA in 2012 from the Census Bureau, the County has identified 196 outfalls, and 14% of these have been found in the UUA during FY2015. Any remaining outfalls will be identified in the process of system mapping. Maricopa County	ESD	GIS map and inventory
		Percent of outfalls inspected in total		12/2009			

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					<p>continues with its commitment to address this new jurisdictional area, and inspections are in progress. Mapping completion of the entire storm system is expected in December 2019. However, possible new permit requirements may create substantial additional work; and this anticipated completion date may need to be re-assessed.</p> <p>Maricopa County is performing a two stage field screening process that includes dry weather outfall screening. During the first stage of the inspection program, the outfalls and other MS4 structures are mapped, and during the second stage, staff will perform inspections on the SWMP approved 20% of outfalls. A total of 1,343 inspections were conducted during FY2015. Dry weather inspections accounted for the majority inspections conducted. "Dry weather" has been defined as a period of no rain during which an inspection shall occur to ensure no illegal discharges are observed from the storm sewer system. Although a national standard of a "dry period" has been recognized to be 72 hours (EPA, Sept 1993 NPDES Storm Water Program Q&A Part II), a regional approach to the concept is needed because of the unique weather observed in the arid South West. The Stormwater Quality Program uses a 48 hour timeframe after a storm event as the minimum time that inspectors must wait after a storm event before regular inspection activities may occur. All inspections of the MS4 include documentation of characteristics of a flow (if observed), and any flow observed will be traced to its source.</p>		
3.2 Implement a complaint response program							

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
		Complaints received		12/2009	929 total complaints This total number of complaints includes 900 processed by MCDOT and 29 processed by ESD.	ESD MCDOT	FY15 SW Complaints List.xlsx responsefromMCDOT_worksheet_8.11.15.pdf
		Enforcement actions taken		12/2009	5 LOVs issued Letters of Outstanding Violations (LOVs) are considered the beginning of enforcement actions. 5 were issued due to possible violations to the Stormwater Quality Management and Discharge Control Regulation. All LOVs were addressed without need for further enforcement. Note, all violations found by staff or residents are recorded in the complaint system as the procedural method of entering data prior to and in preparation for potential enforcement. This includes illicit discharge and improper disposal.	ESD MCDOT	SummaryofLOV(s).xlsx LOV-218-41-208-cc-14-21897 LOV 218-41-213-cc-14-21990 LOV 218-41-214-cc-14-21904 LOV 230-03-263B-20140731 LOV 23212050-2015036
		Average Complaint Response time(days) (\leq 15 days)		12/2009	100%	ESD MCDOT	
		Complaint type(s)		12/2009	Grey water discharge, construction without permit, road debris, illegal dumping, illicit discharge, pool water discharges, and hazardous material response, vehicle leakage to street.	ESD MCDOT	
3.3 Educate businesses and the general public about hazards associated with illegal discharges to storm sewer systems							
		Distribute 5,000 Pamphlets annually		12/2009	Completed and ongoing	ESD	Minimum Control Measures FY15.xls
		Number of pamphlets distributed		12/2009	89,926 This total is the number of illicit discharge materials that were provided at events and includes web information downloaded about illicit discharges into the storm sewer system.	ESD	OutReachActivity 2015.xlsx FY15-Downloads-Wtrends.docx
4 Construction Site Stormwater Runoff Control							
4.1 Establish an enforcement mechanism to require erosion and sediment controls at construction sites \geq 1 acre							

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
		Rules established		12/2009	Completed	ESD	MARICOPA COUNTY STORMWATER QUALITY MANAGEMENT AND DISCHARGE CONTROL REGULATION C-88-09-008-7-00 05/06/2009
		Rules drafted		12/2009	0 Maricopa County has a fully functional Stormwater Quality Regulation for permit compliance requirements.	ESD	
		Newly established rules		12/2009	Completed	ESD	
4.2 Review and update Maricopa County construction site BMP Manual							
		Research BMPs for Vol. III 2009 update		12/2009	Completed	FCD	ErosionControlManualDraft.pdf http://www.fcd.maricopa.gov/downloads/manuals/Erosion-Control-Manual.pdf
		Additional updates or changes made		12/2009	The final edition of the Erosion Control Manual was issued July of 2012.	FCD	
4.3 Review plans and permit applications							
		Implement plan review process		12/2009	Completed	ESD	
		Staff performing plan review		12/2009	1	ESD	4.3 Plan Review Staff fy15.docx
		Number of permit applications reviewed		12/2009	16	ESD	Construction Database.accdb
4.4 Establish a stormwater inspection program							
		Number of Stormwater inspections		12/2009	109 21 pre-construction and 88 construction BMP (Best Management Practices) follow-up inspections. Follow-up inspections include monthly inspections during dry months, twice per month during wet weather months, and 48 hours after rain events that are 0.50 inches or greater.	ESD	Construction Database.accdb Inspection forms
		Problems observed		12/2009	0 problems with BMP installation was noted during this reporting year.	ESD	
		Enforcement actions taken		12/2009	0 Letters of Outstanding Violations have been issued.	ESD	
4.5 Establish a complaint response program							
		Number of construction complaints received		12/2009	1	ESD	Construction Database.accdb

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
		Type of construction complaints		12/2009	Operating a construction site without a permit	ESD	CC-14-17508.pdf ACCELA Complaint System Inspection forms ACCELA automation
		Construction compliant response times (≤15 days)		12/2009	All construction complaints are responded to in less than 15 business days.	ESD	
		Enforcement actions taken on construction sites		12/2009	0 No Letters of Outstanding Violations have been issued.	ESD	
4.6 Provide educational information on the County's Stormwater Website							
		Active web pages for construction		12/2009	3	ESD	Construction15.pdf Forms15.pdf Postconstruction15.pdf
		Number of webpage hits		12/2009	678,790 pre-construction web page views. Of these webpage hits, 862 pre-construction applications have been downloaded. Maricopa County, as a participant of STORM, was also involved in the billboard initiative, which included Pollution Prevention Control and Construction messages.	ESD STORM	SWMP-FY15-Downloads-Wtrends.docx Minimum Control Measures FY15.xls STORM Annual Report: FY 2015
5 Post construction Stormwater Management in New Development and Redevelopment							
5.1 Develop and adopt technical guidance materials							
		Review and develop technical guidance		12/2009	Completed and ongoing	ESD	Minimum Control Measures FY15.xls
		Available on County Website		12/2009	Completed and ongoing	ESD	
		Distribute guidance materials annually (Minimum 500)		12/2009	Completed and ongoing	ESD	SWMP-FY15-Downloads-Wtrends.docx
		Number of materials distributed		12/2009	678,790 web page views recorded, 1,951 post-construction application downloads, and 1 post construction related activities were initiated in FY2015.	ESD	PageViewsFY15-Webtrends.docx
		Method of distribution		12/2009	Internet pages views and web information downloads.	ESD	
5.2 Review plans and permit applications							
		Implement plan review process		12/2009	Completed	ESD	

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
		Staff person for plan review		12/2009	1	ESD	SW Plan Review Staff fy15.docx
		Number of permit applications reviewed		12/2009	1	ESD	Construction Database.accdb
5.3 Conduct construction site inspections							
		Establish stormwater inspection program		12/2009	Completed		
		Number of Inspections performed		12/2009	86 total inspections. 2 post-construction inspections and 84 follow-up construction inspections performed.	ESD	Construction Database.accdb Minimum Control Measures FY15.xls
		Number of Violations observed		12/2009	0	ESD	
		Number of Corrective actions required		12/2009	0	ESD	
		Number of Enforcement actions performed		12/2009	No violations were observed, no corrective actions were required, and no enforcement actions were performed during this reporting period. All requests for inspections were satisfied.	ESD	
5.4 Create and distribute educational materials for the development community							
		Create and publish educational materials for development		12/2011	Completed and ongoing.	ESD	Minimum Control Measures FY15.xls
		Distribute 500 annually		12/2011	Completed and ongoing.	ESD	
		Number distributed		12/2011	678,790 web page views and 1,951 down loaded documents recorded.	ESD	PageViewsFY15-Webtrends.docx
6 Pollution Prevention/Good Housekeeping for Municipal Operations							
6.1 Maintain a regular street sweeping program							
		Maintain a regular street sweeping program		12/2009	Completed and ongoing	MCDOT	
		Number of miles swept		12/2009	6,768 miles	MCDOT	Printout of sweeper data
		Frequency of sweeping		12/2009	16 week frequency for arterial streets 8 week for residential 2 week for special cycle streets	MCDOT	Hard copy maps of areas swept and contract billing schedule McDOT Report FY15.pdf
6.2 Evaluate County facilities with regards to pollution prevention practices							
		Number of County facilities inspected/yr. (Minimum 20%/yr.)		12/2011	152 (28% of the County facilities)	ESD EQSR	Minimum Control Measures FY15.xls

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		Total number of facilities		12/2011	531		Monthly Work Orders Daily inspection form and SOP for ESQR Calculation page
		Number of Inspections		12/2011	1,203 This number includes 1,051 Maricopa County Equipment Services Department (EQSR) inspections of 4 facilities with inspections daily, quarterly, and annually and the 152 Stormwater Quality Program inspections.		
		Recommendations for change (Minimum 2/yr.)		12/2011	2 McDOT Administrative Offices Cave Creek Refueling Station		ArcGIS Online StormwaterFY15 map Email communication CaveCreek refueling station.msg 6.2 MCDOT Basin.pdf
6.3 Development of a centralized, County-wide employee education and training program regarding pollution prevention							
		Number of educational workshops (Minimum 2/yr.)		12/2009	7 in person workshops were delivered and 6 online training workshops were taken a total of 50 times. Online staff training workshops included six training presentations. This information was available to all staff that might have the potential to see stormwater pollution or work with potentially polluting materials as a part of their job.	AQ EQSR ESD FACILITIES FLOOD MCDOT P&D PARKS RISK SO WRR	Stormwater online TrainingsFY15.docx OutreachActivity2015.xlsx Training names – February group.msg Stafftraining – esd-2014 Staff training EH-12-16-2014.pdf
		Number of staff trained		12/2009	466 employees There were a total of 57 trainings sessions, which includes 7 in-person training workshops (256 trained) and 50 online training workshop session (210 trained).		

C.b. Stormwater Management Program Changes

- The County believes that no changes are needed. Pending the issuance of the new permit, the County will pursue the new direction of the upcoming permit to ensure ongoing County compliance.

D. Certification (40 CFR 122.22)

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

Steven Goode

Name (printed)

Director

Title

E. Attachment

Acronyms

AQ	Maricopa County Air Quality Department
EQSR	Maricopa County Equipment Services Department
ESD	Maricopa County Environmental Services Department
FACILITIES	Maricopa County Facilities Department
FCD	Maricopa County Flood Control Department
MCDOT	Maricopa County Department of Transportation
P&D	Maricopa County Planning and Development Department
PARKS	Maricopa County Parks Department
RISK	Maricopa County Risk Management Department
SO	Maricopa County Sheriff's Office
WoUS	Water of the United States
WRR	Maricopa County Waste Resources and Recycling
STORM	ST ormwater O utreach for R egional M unicipalities
SWQP	Stormwater Quality Program

Instructions (From the official report form)

Regulated Municipal Separate Storm Sewer Systems (MS4s) must submit annual reports to Arizona Department of Environmental Quality (ADEQ) for each year of the permit term. In compliance with the MS4 General Permit, an MS4 must annually review its Stormwater Management Program (SWMP) in conjunction with the preparation of the annual report. This document is a suggested format for annual reporting.

Submit a signed copy of your annual report no later than September 30 of each year to:

Arizona Department of Environmental Quality
 Surface Water Section/ Stormwater & General Permits Unit (5415A-1)
 1110 West Washington Street
 Phoenix, AZ 85007

Additional Information - From Part B.3.b of the report

B.3.b. Impaired waters within 10 miles of the MS4's jurisdiction. YES X NO

- The Salt River, Gila, and Hassayampa Rivers have been noted as impaired for Chlordane, DDT, and Toxaphene. All of these chemicals have been banned and are no longer used. The EPA has directed that a TMDL is needed but has not been established. The regular use of these chemicals has been with agriculture, and the authority over agricultural practices is with the State Department of Agriculture. These waterbodies do not receive a direct discharge from the County UUA. The chemicals of concern, Organochlorines, originally used widely as insecticides beginning in the 1940's, are runoff/leaching agents for stormwater and surface water pollution, and have been implicated by federal agencies as a significant health related concern for citizens and the environment. They strongly bind to soils and the sediments of waterbodies, and it is believed they gradually evaporate to the air where they are slowly broken down by sunlight.*

Organochlorines:

1. Chlordane is an organochlorine insecticide. It was banned in 1983, but is very persistent in the environment and may remain in soils for 20 - 30 years before it breaks down. It was used to control insects on crops. Chlordane is very stable in the environment.*
2. DDT (dichlorodiphenyltrichloroethane) is an organochlorine insecticide. It was banned in 1972 but is persistent in the environment, taking between 12 to 15 years or more to break down and commonly causes fish

consumption advisories. Its uses include combating malaria, typhus, and the other insect-borne human diseases and for insect control in crop and livestock production.*

3. Toxaphene, also known as camphechlor, chlorocamphene, polychlorocamphene, and chlorinated camphene, is an organochlorine insecticide. It was banned by the EPA in 1982. Relatively nontoxic to bees, toxaphene was used to control insects on cotton, corn, fruit, vegetables, and small grains as well as to protect livestock from such pests as lice, fleas, ticks, mange, and scab mites. Persistent in nature, it remains in soil for up to 14 years.*

The information above is a consideration for the impairment of surface waters listed for these Organochlorines; however, recent evidence published in a 2013 report entitled Organochlorine Pesticide Delist Report and Fish Consumption Advisory Withdrawal For the Middle Gila, Salt, and Hassayampa Rivers and Painted Rocks Reservoir and Borrow Pit Lake by ADEQ shows that "Pesticide residues in fish tissues, while present in some instances, have decreased substantially since the 1999 survey for all pesticides previously found to have caused impairment. The majority of pesticides analyzed for in this study were not detected at detection limits of 0.02 mg/kg (DDTr, chlordane) or a conservative 0.034 mg/kg (toxaphene, MDL varied by specimen)." Additionally, this report found that the Organochlorines appear to be bound in the sediment of the rivers. It is apparent that the pollutants found in fish tissue are not a result of municipal stormwater runoff, but are due to the latent characteristics of the interaction of the chemicals to the river sediments, and the benthic feeding activities of fish. Because of the findings of this study, and because the listed surface waters do not receive a direct discharge from the Maricopa County Separate Stormwater System, no further action from the Maricopa County Stormwater Quality Program is considered necessary regarding the Organochlorine pollutants. (*Information obtained from the WHO, USEPA, and ATSDR Toxicological Profile)

- Canyon Lake is impaired for Dissolved Oxygen. This waterbody does not receive a direct discharge from the County UUA.
- Chaparral Park Lake is impaired for Dissolved Oxygen and E. Coli. This waterbody does not receive a direct discharge from the County UUA.
- Alvord Park Lake is impaired for un-ionized Ammonia; no TMDL's have been established. This waterbody does not receive a direct discharge from the County UUA.
- Cortez Park Lake is impaired for Dissolved Oxygen and pH. No TMDL's have been established. This waterbody does not receive a direct discharge from the County UUA.
- Lake Pleasant is impaired for Mercury due to Mercury in fish. No TMDL's have been established. This waterbody does not receive a direct discharge from the County UUA.

Assessment

According to 40CFR122.34(g) and Part F.1. of the permit, Maricopa County is to evaluate how the Stormwater Management Program (SWMP) complies with permit requirements, and according to the 40CFR122.34(i) and part G.1.a of the permit, the county is to report:

1. The status of compliance with permit conditions,
2. An assessment of the appropriateness of the identified best management practices,
3. Progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and
4. The measurable goals for each of the minimum control measures;

As referenced in Part F.1. of the permit, since there are no impaired waters that receive direct discharges from the MS4, measurable goals do not contain numeric pollutant reduction levels, and water quality monitoring of outfalls has not been

performed. The information for condition 3 and 4, listed above, may be observed in table C.a. of the report, while condition 1 and 2 may be seen in the following narrative:

Due to a lack of impaired waters, lack of waters with a TMDL receiving a direct MS4 discharge, and the recognition that implementing practices consistent with the permit through an approved Stormwater Management Program (SWMP) constitutes compliance with the standard of reducing pollutants to the “maximum extent practicable” (MEP), the Maricopa County Stormwater Quality Program provides the following assessment of the SWMP activities, and believes these practices represent compliance with the goal of pollution reduction in stormwater runoff to the MEP.

With a lack of surface waters available for ambient water quality monitoring, and the general understanding of population and business types in the region, a list of presumed pollutants was created. The pollutant sources include pesticides, herbicides and fertilizers; fats, oils, and greases; yard debris; waste from residential and small business; pet waste; petroleum spills; construction trash, debris, and sediment.

MCM 1

The permit requires a public education program which includes the distribution of educational materials or an equivalent measured in public outreach activities.

The approved SWMP indicates that at a minimum the County must distribute 500 brochures or educational material to the public. The County has provided over 19,767 brochures and other printed educational materials to the general public and has recorded 69,841 webpage views and 23,995 webpage downloads. The STORM movie campaign, Facebook page, BEN and the billboard initiative received over 20,000,000 views and impressions. The public outreach activities are centered on cultivating a deeper understanding of the County’s Stormwater pollution prevention plan. 5 new hands-on classroom workshops were developed and delivered to K-8th grade students within Maricopa County. 138 educational outreach programs were provided in FY2015 vs. 45 programs in FY2014 with 3,586 students being contacted in FY2015 vs 1,282 students from FY2014. The educational outreach programs delivered included 2 homeschool groups reaching 30 students and 30 different public schools reaching 3,556 students. A total of 48 events were attended in FY2015 with approximately 6,410 citizens being reached with the stormwater pollution prevention message.

According to the 2010 Census the total population of the county is 3.8 million, and the UUA population is approximately 150,000; thus we have far exceeded our population in our outreach efforts. The permit requires for the County to have a target audience: Our population is too separated in island areas to focus on a specific population type; therefore, use of demographic information from the Census Bureau is required to make a determination on the average population group that might exist in our UUA. According to the 2010 Federal Census Bureau, 60% of the population in Maricopa County is white, 30% is Hispanic, and other cultures are less than 10% of the remaining population. No known pollution concern exists for the cultural activities associated with the known population groups in the Unincorporated Urbanized Area; therefore, English and Spanish language speaking general public, and school children, as approved in the SWMP, remains an appropriate target audience.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the maximum extent practicable (MEP).

MCM 2

The permit requires public involvement and participation in the approved SWMP.

The County has fulfilled this minimum control measure by ensuring public involvement through open forums, such as public workshops and meetings to discuss SWMP implementation. The County has ensured public access by maintaining a hotline and by recognizing and considering citizens comments. The success of the poster contest is a great example of public and private collaboration, which focuses on educating school aged children on the importance of pollution prevention. The Stormwater

survey is an additional method used to gauge the public's awareness of Stormwater pollution prevention. The survey results and any additional feedback are used to help direct future public outreach activities. Further actions taken by the County include participating in public street cleanup events organized by MCDOT and other volunteer events, such as the Tres Rios Cleanup and Rio Salado Weed and Clean. These activities focus on trash clean up in natural drainage ways and rivers.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the MEP.

MCM3

The Permit requires implementation of an illicit discharge detection and elimination program, development of a storm sewer system map, education to businesses and the public on the potential effects of wastes on surface water, conducting dry weather outfall screening, responding to complaints of discharges, and addressing waste water discharges to the MS4.

Stormwater sewer system mapping with locations of outfalls and receiving WoUS is in progress and is expected to be complete by December of 2019. However, possible new permit requirements may create substantial additional work; and this anticipated completion date may need to be re-assessed. Since the expansion of the UUA, 100% of the 150 square miles have received storm sewer structure and outfall inspection activities. The majority of all outfalls and structures have been identified and any remaining will be identified in the process of system mapping. The current mapping process can be described in two stages. The first stage includes locating outfalls and structures while following illicit discharge detection elimination objectives. Stage two is the routine inspections of a percentage of the number of known outfalls per year, verify ownership of Stormwater structures, and map municipal linear Stormwater structures. The County has successfully completed a sufficient amount of inspections, outreach activities, documenting and responding to complaints and dispensing Stormwater contact information throughout the region. In addition one of the main goals for these activities is to enhance citizen knowledge on Stormwater pollution prevention for the purpose of increasing awareness and feedback to the County. The County offers fact sheets online and at public events and maintains an effective public outreach program and distributes brochures and other educational materials.

The Stormwater Quality Program employs 2 full-time inspectors. Their tasks include Illicit Discharge/Improper Disposal inspections, dry weather outfall screening, mapping of Stormwater structures, a general review of the MS4 and responding and investigating citizen complaints. A total of 1,343 inspections were conducted during FY2015. Dry weather inspection accounted for the majority of all inspections conducted. Dry weather screening includes inspecting every part of the observable storm system, looking for illicit discharges, documenting all observed potential illicit discharges and backtracking flows to their source. Since the last update of the UUA, the County has found 196 outfalls, of which 14% were found during FY2015. All of the waters of the US have been mapped. This map work has been ongoing since its inception in 2009 and is still under way.

A total of 929 complaints were processed, which includes 900 from MCDOT, and 29 from ESD.

No official legal action has been taken in FY2015. A total of 5 letters of outstanding violations (LOVs) were drafted and issued due to probable violations regarding the Stormwater Quality Management and Discharge Control Regulation. In addition, potential LOVs were resolved through education and Stormwater Pollution Prevention training. Records of all complaints and probable violations are documented in the ESD complaint system.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the MEP.

MCM 4

The County construction activities have not been a very active because being included in this UUA Requires an area to already be developed.

The Permit calls for a program to provide Stormwater Pollution Prevention education to the construction industry, legal authority to require E&S and waste controls, a review of plans for potential water quality impacts, erosion, sedimentation, and waste control, a review of plans before construction to verify that the plans are appropriate, and to have a method for site inspection and enforcement.

The SWMP commits the county to:

- Developing a regulation and enforcement mechanism to require erosion, sedimentation, and waste controls on construction sites. This was initiated as a program in 2009 and is still exists.
- Reviewing and updating of the BMP manual. This was reviewed and was finally updated in 2012. Further products have been reviewed for new technologies, but no updates have been considered for the manual.
- Reviewing plans and permit applications was committed to be performed, with the measurable goal of implanting the plan review process and having one staff position to assist in the plan review needs. This position has been created in 2009 and remains an active part of the program.
- Establishing a stormwater inspection program with a measurable goal of reporting the overall inspection activity including the number of inspections, the types of problems identified and enforcement actions, establishing a complaint response program for construction. This inspection program has been in place for this entire permit year and remains active.
- Establishing a complaint response program. This complaint response program has been in place since 2009, and remains active through this reporting year.
- Providing education on the stormwater website. This activity has been conducted each year since 2009, and has remained in effect through this reporting year. Education during this reporting year included educational material hand outs and direct contact with developers as they applied for permits through various county sources. The County's participation with STORM outreach events also educated the regulated community.

The program is effective in reducing trash and sediment to the MS4 by ensuring plans require and site staff are aware of and frequently reminded of the requirements of the BMP implementation.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the MEP.

MCM 5

The approved SWMP requires the County to provide updated education and guidance material to at least 500 customers on an annual basis. There were over 650,000 page views that provided educational materials to customers and 1,951 post-construction application downloads in FY2015. There were a total of 2 post construction inspections and 84 follow-up inspections that occurred in FY2015. According to the procedure, an operational and maintenance plan are approved and implemented for the property. Upon completion of site development, follow-up inspections are immediately performed succeeding an approved post-construction plan and future follow-up inspections are recurring 5 years after site completion. No update to the technical guidance drainage design manual has occurred since 2009.

Due to the limited nature of completed stormwater structures that might discharge into our MS4, the actions performed by the County to date are appropriate for the impact that these systems might have on allowing pollutants into our storm system.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the MEP.

MCM6

The permit calls for an Operation and Maintenance Program that includes training and the SWMP commits the County to the following:

- Street sweeping with an anticipation of 4000 miles swept annually,
- An evaluation of at least 20% of the County owned facilities and a recommendation for change for at least two sites each year. And,
- A staff education program, with at least two workshops each year.

The County has a regular street sweeping program that has performed over 6000 miles of sweeping during this reporting year. There are an estimated 531 facilities owned by the county, of which 152 were evaluated this year, which equates to 28% of County owner facilities receiving inspections. 2 locations received recommendations for change to structural controls for pollution prevention concerns. There were 13 workshops, 7 in person and 6 available online that reached a total of 466 employees. Training was focused to those employees that work with pollutants or work in the UUA and might see pollutants.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the MEP.



Douglas A. Ducey
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Misael Cabrera
Director

February 1, 2016

Reading file: SWGP16-0025

Carl D' Acosta
Stormwater Program Supervisor
Maricopa County Environmental Services Department
1001 N. Central Avenue, Suite 300
Phoenix, AZ 85004

Re: Review of the Maricopa County Environmental Services Department; Quality and Compliance Division; Stormwater Quality Program; 2015 Annual Report

Dear Mr. D' Acosta:

The Arizona Department of Environmental Quality (ADEQ) received the Maricopa County Municipal Separate Storm Sewer System (MS4), Phase II FY2015 Annual Report on September 16, 2015. ADEQ has completed its review and determined the amended annual report satisfactorily complies with the permit requirements.

Recommendations

The suggestions below are not required by State law and there are no legal consequences should you choose to disregard them; however, ADEQ appreciates your cooperation and asks you to consider the following:

ADEQ is currently drafting a new Phase II MS4 permit that will include an updated annual reporting form. The new form will include specific reporting requirements to assist the city with assessing its progress and for ADEQ to better assess permit compliance. ADEQ suggests the city review the draft permit to evaluate the current program and opportunities.

How to Submit

Please submit all documents sent in response to this letter using one of the following methods:

- Hard copy to ADEQ, Attention: Spencer York, Stormwater and General Permits Unit, 1110 W. Washington Street, Phoenix, AZ 85007
- FAX to (602) 771- 4528
- E-mail to: syl@azdeq.gov

Thank you for your efforts to comply with Arizona's environmental requirements. Should you have any comments or questions regarding this matter, please do not hesitate to contact me at (602) 771- 4509 or syl@azdeq.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Spencer J. York". The signature is fluid and cursive, with the first name "Spencer" being the most prominent part.

Spencer J. York, Project Manager
Stormwater and General Permits Unit