

# Revised April 2009

(Revisions performed by the City of Peoria)  
Appendix A-5 "Responses to ADEQ Comments" together with the content of the SWMP are considered the final SWMP for the City of Peoria. If any conflict exists between the SWMP and Appendix A-5, then information in Appendix A-5 shall overrule.

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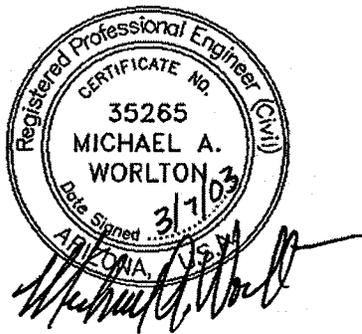
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**FINAL**

## Storm Water Management Plan City of Peoria

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# 1. Overview of Storm Water Management Program

## 1.1. Introduction

Pollution of surface water bodies is a large problem which affects the nation's communities. According to the 1996 National Water Quality Inventory, approximately 40 percent of surveyed U.S. water bodies are impaired and do not meet water quality standards. Polluted storm water runoff is believed to be one of the leading sources of this contamination. In response to concern over the pollution in America's waterways, Congress passed the Clean Water Act (CWA) in 1972. The CWA is the primary federal law that protects our waters. Polluted storm water runoff was addressed specifically under the CWA by a two-phase program that relies on the National Pollutant Discharge Elimination System (NPDES) permit coverage. The two phases of the NPDES storm water program are known as Phase I and Phase II.

In 1990 the Environmental Protection Agency (EPA) implemented Phase I of the NPDES storm water program, under the CWA. Phase I of the storm water program addresses the prevention of pollution from storm water runoff from three main categories:

- (1) "medium" and "large" municipal separate storm sewer systems (MS4s) serving populations over 100,000,
- (2) construction activities disturbing 5 acres of land or greater,
- (3) 10 specific categories of industrial activities.

In order to expand the protection of water bodies and promote cleaner water, the Phase II Final Rule was published in 40 CFR on December 8, 1999. This rule extends the NPDES permit coverage to include small MS4s serving urbanized areas (those serving populations less than 100,000), as well as construction sites from 1 to 5 acres. The City of Peoria was listed in Appendix 6 to the Preamble of 40 CFR, Federal Register Vol. 64, No. 235 p. 68812, as a governmental entity located fully or partially within an urbanized area, which is required to comply with the Phase II requirements. The submittal deadline for the Phase II program is March 10, 2003.

The goals of the Phase II program are similar to the Phase I program, which are to reduce the discharge of pollutants to the maximum extent practicable (MEP), protect water quality, and satisfy the water quality requirements of the Clean Water Act. In order to facilitate the development of the Phase II program, six measures have been defined by the EPA, which when addressed, are believed to reduce the discharge of pollutants. These six measures are known as the six minimum control measures. The specific methods of addressing these six minimum control measures, through the selection of appropriate Best Management Practices (BMPs), have been tailored to the unique conditions found in the City of Peoria.

This Storm Water Management Plan (SWMP) has been developed by the City of Peoria in order to fulfill the requirements for compliance with the National Pollution Discharge Elimination System (NPDES) Phase II storm water permit application. This SWMP addresses the six minimum control measures established by the EPA:



1. Public education and outreach on storm water impacts
2. Public participation/involvement
3. Illicit discharge detection and elimination
4. Construction site storm water runoff control
5. Post-construction storm water management in new development/redevelopment
6. Pollution prevention/good housekeeping for municipal operations

For each of the six measures outlined above, this SWMP identifies the BMPs that will be implemented by the City of Peoria. Each of the BMPs adopted in this plan are accompanied by measurable goals in order to assess their effectiveness and level of implementation. An implementation schedule is provided for each of the BMPs, as well as the names of those persons within the City who will be responsible for implementing them.

The intent of this SWMP, when implemented is to reduce the discharge of pollutants from the City of Peoria municipal separate storm sewer system (MS4) to the “maximum extent practicable” (MEP). The City of Peoria will be responsible for the administration and implementation of this SWMP and will also play a regulatory role at construction sites within the City.

In order to assess the effectiveness of their SWMP, as well as comply with the legal requirements of the program, the City of Peoria will be submitting an annual report each year during the first 5-year permit term. This annual report will provide an update on the progress that the City is making in fulfilling their measurable goals. A detailed inventory of each BMP, progress on associated measurable goals, as well as a schedule of implementation will be provided.

## 1.2. Organization of SWMP

This SWMP is divided into eight sections with associated appendices, as applicable. The sections are briefly described below:

**Section 1. Overview of Storm Water Management Plan** – Background information on the requirements of the NPDES system and the organization of the SWMP.

**Section 2. Program Management** – The goals of the City’s storm water program, the responsibilities of the City, developers, corporations and individuals, and the legal authority and enforcement options available to the City.

**Section 3. Public Education and Outreach** – The purpose of this program is to disseminate information, on the importance of clean storm water runoff, to the general public and targeted business sectors. In addition, the efforts that the City will put forth to reach minority and disadvantaged residents are defined.

**Section 4. Public Participation and Involvement** – One of the keys to a successful storm water pollution prevention program is recruiting strong public participation. This section outlines the City’s objectives for involving the public in



the design of the program, and how they intend to involve the public during its implementation.

**Section 5. Illicit Discharge Detection and Elimination** – This section describes the City’s program for prohibiting non-storm water discharges into the MS4. The methods for detecting non-storm water discharges, and the education of the public with concentration on target sectors of Industry about the hazards of illegal dumping are addressed.

**Section 6. Construction Site Storm Water Runoff Control** – The program set forth by the City to reduce polluted storm water runoff from construction sites one acre to five acres is described, and the procedures for review, inspection, and enforcement are set forth.

**Section 7. Post-Construction Runoff Control** – This section identifies programs to be carried out by the City to reduce pollution from post-construction and redevelopment areas, including both structural and nonstructural BMPs, maintenance of infrastructure, and enforcement of regulations. This section addresses the following types of construction:

**Residential-** Individual, Subdivision, Master Planned Community

**Commercial-** Small (1-4.99 acres), Medium (5.0 – 10 acres), and Large (>10 acres)

**Section 8. Pollution Prevention / Good Housekeeping** – The City’s program for reducing pollution from routine municipal operations is contained in this section. This section also outlines the City’s employee training programs for storm water pollution prevention.

Some sections may have one or more appendices in support of the material presented in the text. The appendices will also include the forms needed to comply with the small construction general permit once they are released.

### 1.3. Permit, Laws, and Regulations

The City of Peoria is required to submit a NPDES permit application to the EPA for the discharge of storm water from the MS4, in accordance with the requirements of the Phase II Final Rule adopted on December 8, 1999. The City of Peoria is designated as the operator of a *regulated small MS4* as defined in the Phase II Final Rule and information from the 1990 census.

On December 8, 1999 the EPA published the regulation entitled “National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges”. This new rule requires that specific permitting provisions be enacted for certain MS4s and construction activities. A NPDES permit is required if storm water is to be discharged from any of the following:

- (1) regulated small MS4s or Municipal Operations sites;
- (2) construction sites of 1 to 5 acres;
- (3) industrial sites with selected Standard Industrial Classifications (SIC) codes that do not meet the Phase II conditional no exposure certification.



Construction sites greater than 5 acres in size are already covered under the Phase I storm water regulations. The Phase II regulations extended this coverage to construction sites one acre and larger.

Application for coverage under the Construction General Permit requires the completion of a one-page form called a Notice of Intent (NOI), which certifies that the applicant will comply with the permit conditions. Before the NOI is submitted (to the City and the EPA), a Storm Water Pollution Prevention Plan (SWPPP) must be prepared. The Construction General Permit contains the requirements, which the EPA considers necessary to produce an acceptable SWPPP. Additional information relative to compliance with the Construction General Permit is provided in Section 6 of this SWMP.

#### **1.4. Facilities Covered**

This SWMP covers discharges from the facilities located within the boundaries of the City of Peoria that are not covered under the Phase I permit. The City boundaries, as well as the City's municipal storm sewer system are shown in Figure 1-1. Individuals, corporations, utilities, and other governmental agencies conduct activities within the City boundary. The City will regulate such activities through a permitting process to ensure that they are consistent with the requirements of their NPDES permit.

This SWMP will be updated periodically by the City in a continuing effort to maintain a state-of-the-art storm water quality management program. Minor updates will occur at the staff level and will consist of bookkeeping matters, such as changes in who is responsible for a specific BMP, etc. Major updates will include changes in the SWMP such as the implementation of new BMPs or the discontinuance of ineffective ones, policy changes, etc.

#### **1.5. Small MS4 General Permit**

The Arizona Department of Environmental Quality (ADEQ) has received primacy for the NPDES storm water programs within the State of Arizona. The City of Peoria will be submitting their application for coverage under the Phase II NPDES storm water program to the ADEQ. ADEQ will then serve as the permitting authority for the City of Peoria. Documentation regarding the Phase II program, such as a copy of the small MS4 storm water general permit, is provided in Appendix A Small MS4 Documents.



## **2. Program Management**

### **2.1. Overview**

In order to assist the City in complying with the goals of the NPDES Phase II Final Rule, as set forth under the Clean Water Act, this Storm Water Management Program (SWMP) has been developed. This program will be implemented on an ongoing basis and will be updated and refined at least once every 5 years. This section describes the overall objectives of the City's SWMP, some of the local issues specific to the City's receiving waters, departmental implementation of the SWMP, and an overview of the legal authority to implement and enforce the program.

The mission of the City is to promote a healthy and stable environment with a good quality of life for its citizens. As part of the City's responsibility for the oversight of the design, construction, and maintenance of public and private infrastructure, the implementation of the SWMP will assist in fulfilling the City's mission.

### **2.2. Goals and Policy**

The goal of Peoria's SWMP is the protection of its water resources through compliance with the Clean Water Act's NPDES Phase II requirements. As such, this program has been designed to aid in accomplishing this goal. The City of Peoria's storm water program is based on the six minimum control measures established by the EPA's Phase II final rule.

The objectives of the SWMP are to:

- Remain in compliance with environmental laws and regulations and remain compatible with other programs within the City;
- Implement cost effective Best Management Practices (BMPs) that provide water quality benefits; and
- Control pollutants that may adversely impact Peoria's receiving waters (New River and the Agua Fria River).

The City's storm water program is based on a set of six minimum control measures, established by the EPA, which have been designed to protect the Nation's waters by reducing polluted storm water runoff. The implementation of the six minimum control measures specified in the Phase II requirements, and listed herein, will support these objectives through City Policy.

These six categories are:

1. Public education and outreach on storm water impacts
2. Public participation/involvement
3. Illicit discharge detection and elimination
4. Construction site storm water runoff control
5. Post-construction storm water management in new development/redevelopment
6. Pollution prevention/good housekeeping for municipal operations



The City also recognizes the importance of the watershed approach in improving water quality, and has begun working with neighboring jurisdictions in coordinating programs such as public outreach and education, attending meetings, participating in special studies, and reporting spills.

**2.3. Discussion of Local Receiving Waters**

The City of Peoria is located within the Middle Gila Watershed. Due to surface water diversions, groundwater pumping, and the limited rainfall received, the majority of the streambeds within this watershed are dry. Three primary locations exist which receive Peoria’s runoff. The first two locations consist of dry riverbeds, while the third is man-made. These locations are: (1) Agua Fria River; (2) New River; and (3) ADOT drainage. North Peoria discharges into the Agua Fria river while the rest of Peoria discharges to the New River and the ADOT drainage. The ultimate receiving water for the City’s discharge is the Agua Fria River. Before discharging to the rivers, Peoria’s storm water runoff is collected in both local municipal and private storm drain systems. As a condition of discharging to the river system, the City of Peoria must maintain the designated beneficial uses, which are listed in Table 2.1.

**Table 2.1 Beneficial Uses of Receiving Waters in Peoria**

Receiving Water	Designated Beneficial Use
Agua Fria River <i>Lake Pleasant-Beardsley</i>	Aquatic and Wildlife Ephemeral Partial Body Contact Agricultural Livestock Watering
New River <i>Headwaters-Interstate 17</i>	Aquatic and Wildlife Coldwater Fishery Fish Consumption Full Body Contact Agricultural Irrigation Agricultural Livestock Watering

The City of Peoria encompasses approximately 165 square miles. This SWMP has been designed to cover all storm water runoff and discharges located within the City’s boundaries. While much of the northern portion of the City of Peoria is currently undeveloped, this area will likely experience much growth in the future. This SWMP was developed to serve as a comprehensive management tool to help maintain storm water quality throughout the entire city.

The City of Peoria receives very little precipitation, averaging only 7-9 inches per year. Flow in most conveyances is ephemeral, although dry weather flow may be present in portions of the New River or the Agua Fria River throughout the year from irrigation excess and urban activities.

**2.4. Storm Water Management Responsibilities**

The storm water management program will be implemented by existing City of Peoria departments. The Maricopa County Flood Control District (MCFCD) will also participate with the City in implementing the program. The departments within the City which will be



responsible for implementing the program are outlined below. As discussed in the general permit developed by the State of Arizona, the name and title of the responsible person must be listed for each BMP. Throughout this SWMP, the department responsible for each BMP is identified. The person responsible for ensuring the implementation of the BMPs assigned to each department is outlined in Table 2-1 Responsible Departments and Parties. This document is meant to be a living document, and as departments or personnel change within the City, this table will be updated accordingly.

**Table 2-1 Responsible Departments and Parties**

<b>Department</b>	<b>Responsible Party</b>
Engineering Department	David Moody Engineering Director
Public Works Streets Solid Waste Facilities Management Fleet Services	Neil Mann Public Works Director
Community Development Department Code Enforcement Division	Debra Stark Community Development Director
Community Services Department	J.P. de la Montaigne Community Services Director
Utilities Department	Stephen Bontrager Utilities Director
Fire Department	Robert McKibben Fire Chief
Materials Management Department	John Wenderski Chief Financial Officer

The Legal Department, Public Information Department, and Management Services will also contribute through a supporting role to the implementation of the storm water program.

The City's Engineering Department will assume the lead role in the program implementation and coordinate the internal and external activities. The Engineering Department will be responsible for the development of the annual reports and submitting them to the current permitting authority. The annual reports will include a review of the progress being made on the measurable goals that were defined with the City's Best Management Practices.

**2.5. Legal Authority and Enforcement**

The City has established the legal authority to enforce the provisions of this SWMP in accordance with the NPDES permit. Legal Authority will be provided to the City by the Peoria City Code and through the Arizona Revised Statutes (ARS).

The City is also granted specific powers by the ARS for control of storm water quality:



- **ARS § 9-276(A)** - The City is authorized to regulate and prevent the throwing of offensive material in and prevent injury to any street, way, alley or public grounds; provide for the cleaning and purification of waters, watercourses and canals, and the draining or filling of ponds on private property when necessary to prevent or abate nuisances; regulate the construction, repair and use of vaults, cisterns, areas, hydrants, pumps, sewers and gutters; and define nuisances, abate them, and impose fines upon persons creating or continuing nuisances.
- **ARS § 9-461.05(D)(1)** – The City is responsible for preparing a general plan to guide land use regulation within the City; this includes City zoning ordinances to control the uses of land which may contribute to the contamination of storm water runoff.
- **ARS § 11-952** – The City may enter into an intergovernmental agreement for services or joint/cooperative action. The City may consider an intergovernmental agreement for the management of storm water leaving state freeways that are within the jurisdiction of the Arizona Department of Transportation (ADOT). The City may also enter into intergovernmental agreement with neighboring cities and/or Maricopa County to provide for an integrated storm water collection and regulation program.
- **ARS § 13-1602(A)(1)** – To prevent pollution of storm water, the City may invoke general state criminal laws that provide for the punishment of misdemeanors. These include criminal damage to property and criminal littering or polluting.
- **ARS § 13-1603(A)(1) and (2)** – Since the City owns a majority of the storm water collection system within Peoria, certain activities that pollute the storm water collection system may constitute criminal damage to City property. The City can prevent unlawful disposal of materials on public property, e.g., the storm water collection system, or the discharge of any sewage, oil products or other harmful substances into any waters of the State of Arizona (State) that lie within the jurisdiction of the City.
- **ARS § 49-107** – The City can receive a delegation of authority from the Arizona Department of Environmental Quality (ADEQ) for permitting, inspecting, monitoring, and enforcing some of ADEQ's programs.
- **ARS § 49-141(6)** – The pollution of domestic water is specifically defined as an environmental nuisance.
- **ARS § 49-143** – The City may issue abatement orders requiring owners or occupants of private property on which an environmental nuisance exists to remove the nuisance.
- **ARS § 49-144** – The City is authorized to enter premises for inspection or abatement of an environmental nuisance.



### **3. Public Education and Outreach**

#### **3.1. Overview**

According to the Phase II regulations, the first minimum control measure which must be addressed is public education and outreach on storm water impacts. The regulatory text for this minimum control measure states:

*...operators of small MS4s must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps to reduce storm water pollution. The public education program should inform individuals and households about the problem and the steps they can take to reduce or prevent storm water pollution.*

In order to comply with this minimum control measure, the City of Peoria must implement a public education program or conduct equivalent outreach activities to inform the public about storm water pollution issues. Implementing a comprehensive storm water management information campaign is believed to have a significant effect on the public acceptance of the storm water program, as well as reducing the actual impact of storm water pollution.

An informed public is essential to a successful storm water management program. It is believed that when the public is informed, greater support for the program will exist, which may significantly aid the City both in recruiting volunteers to help with the program and in implementing a new funding initiative. In addition, when the public becomes informed of the importance of storm water pollution prevention, greater compliance with the goals of the program will be found, and a reduced pollutant load will reach the area's water.

Developing a public education program for storm water runoff in the southwestern United States provides a unique challenge not faced by communities in other parts of the nation. The City of Peoria receives an average rainfall of only seven to nine inches per year. When such a small amount of rainfall is received, storm water runoff is seldom a subject of public concern. With this challenge constantly present, the City of Peoria must develop an informative and effective information campaign. Not only is it important that this campaign educate the public regarding ways to reduce storm water pollution, but that it also inform the public of how this pollution affects them.

One of the key factors in developing an effective storm water public information and outreach program is identifying the target audiences, their corresponding level of interest, and their potential for involvement. Many different target audiences exist within the City of Peoria. In order to meet the requirements for this minimum control measure, the City of Peoria has identified these different groups, and the methods that should be used to address each of them. The target audiences within the City of Peoria include:

- Peoria Residents
- Homeowners



- School Children
- Minority and Disadvantaged Residents
- Stakeholders
- Developers
- Business Owners
- City Staff

The public education campaign that will be developed by the City of Peoria is designed to educate and inform these select audiences. This campaign will be used to inform these groups about the importance of pollution prevention and maintaining clean storm water runoff, as well as to inform the various audiences of their responsibilities regarding the Phase II program.

The City will meet the goals established under the public education and outreach measure by implementing a comprehensive educational program as set forth in this SWMP. Peoria will strive to reach a diverse cross-section of citizens by implementing Best Management Practices (BMPs) which target minority, disadvantaged, and younger members of society in addition to the other targeted audiences. The disseminated information will be applicable to those sectors of society that the City feels can do the most to reduce storm water pollution.

In order to accomplish their goal of creating a successful storm water management program, the City of Peoria will be forming a partnership with other municipalities in the Phoenix Metropolitan Area. This cooperative partnership will work together to create a shared information campaign, which will help the City to develop a more cost-effective and consistent public outreach program by spreading the cost of developing educational materials over a much larger funding source. It is believed that the partnership will also allow the various communities to pool their resources, thus providing a better overall program and letting each member realize the economies of scale. In addition, by working with other municipalities, a constant and consistent message against storm water pollution will be presented to the citizens of Peoria regardless of where they travel within the Phoenix metropolitan area.

### **3.2. Target Audiences**

Many different groups of people, with varying interests, beliefs, and concerns, make up the population of the City of Peoria. These different groups of people all have varying effects on the storm water runoff quality. The City will strive to optimize its public education and outreach program by targeting specific audiences within the City that have the most potential for reducing storm water pollution. Each of the target audiences is described below. Additionally, the reason they have been identified as a group that can have a significant effect on reducing storm water pollution is included.

The audiences, which the City plans on targeting with their information campaign, include Residents, Stakeholders, and City Staff. These audiences have been selected since they possess the largest potential for reducing storm water pollution. Additionally, they are also the groups most likely to be affected by the implementation of the Phase II regulations. For these reasons, each of these target audiences must be specifically educated about the Phase II program, and storm water pollution in general.



### 3.2.1. Residents

The primary land use within the City of Peoria consists of residential housing. Consequently, the residential audience comprises the largest audience for the City's storm water program. Residents within the City of Peoria are one of the most important groups that must be targeted. Providing sufficient information to the City's residents will help to educate them regarding the importance of the storm water program, as well as the legal requirements for the implementation of the program. Educating the residential public early on in the development of a storm water management program is believed to result in greater acceptance and compliance with the requirements of the program. Additionally, the residential population typically generates the largest pool of volunteers.

Three specific groups of residents must be addressed in order to effectively convey the message of the storm water program. These three groups of residents include:

- Homeowners
- School Children
- Minority and Disadvantaged Residents

Different methods must be implemented in order to reach these different groups of residents. Homeowners have a large impact on the effectiveness of a storm water management program. They will pay a significant cost of the storm water program, whether it is through a storm water utility fee, increased taxes, or a reduction in other vital services. In addition to shouldering many of the costs that must be met when implementing a storm water program, homeowners are also more likely to be willing to volunteer. Additionally, once homeowners are educated, they will be more likely to notice an illegal discharge to the storm drain system and be willing to report it.

School children are another group of residents that have the potential for greatly aiding a storm water management program. Various types of information will be provided to school children. The City of Peoria believes that by educating the City's children regarding the importance of storm water pollution prevention, younger members of society will be more diligent in preventing storm water pollution. School children may also take the information that they learn at school home and share it with their parents and families, thus propagating the effects of educating this audience.

In order to develop a well-rounded public education program, the City of Peoria is also striving to include their minority and disadvantaged residents in the public education and outreach program. The messages which are presented to Peoria's homeowners will also be presented to Peoria's minority and disadvantaged residents, with the information tailored to address the specific audience. For example, a bilingual version of a storm water information flyer may be prepared by the City to inform additional City residents.

The City believes that all residential members of their communities can have a positive impact reducing storm water pollution; if they are sufficiently informed of the requirements and of the part they can play.



### 3.2.2. Stakeholders

The second group of citizens that the City of Peoria has identified as a target audience is the City's stakeholders. Stakeholders within the City of Peoria may include business owners and developers. The concerns of the stakeholders within the City need to be addressed, since this audience will be directly affected by the implementation of the Phase II requirements. Each of the different stakeholders will have a varying effect on the storm water runoff quality within the City of Peoria.

The City of Peoria has identified business owners as a group of citizens which have the potential for improving storm water quality. Various different types of businesses exist within Peoria's city boundary. One of the keys to a successful public information campaign with regard to business owners is to identify those specific industries that have the largest impact on storm water quality. The City must then tailor the information that it distributes so that it is directly applicable to the problems caused by those industries. Examples of these industries include restaurants, gardening centers, automotive repair facilities, car washes, dry cleaners, and any other businesses likely to discharge significant amounts of water to the storm drain system.

Another group of key stakeholders that the City has identified as being affected by the Phase II requirements is developers. Under the Phase II Final Rule, various new development requirements will now be mandatory on all construction projects from one to five acres, as well as smaller projects that are a part of a larger development. The City will strive to provide adequate information to developers on the necessity of complying with these requirements, including the punitive actions that can be taken by various agencies if compliance is not forthcoming. It is believed that by providing adequate information, the City will ensure that the developers will be both better able and more likely to comply with these new regulations.

### 3.2.3. City Staff

The third group that will be targeted for the public education and outreach program is the City's staff. This audience will receive information and training specific to the tasks on which they work. A detailed description of the City's plan for City staff is described in Section 8, Minimum Control Measure 6- Pollution Prevention/ Good Housekeeping for Municipal Operations.

## 3.3. Public Education Program

In order to effectively communicate the importance of clean water and preventing storm water pollution, the City of Peoria has designed a public education campaign. This campaign will target various demographic segments of the City, from adult homeowners to young children. The City will strive to maintain clean water by informing their citizens of the importance of clean storm water runoff. The City will provide a constant message through such measures as distributing flyers containing storm water facts and information, creating a website dedicated to maintaining clean storm water, and distributing storm water pollution prevention coloring books to children. This well-rounded approach to informing the public will help improve the quality of the City's storm water by letting the citizens of Peoria know that they can and need to help maintain



water quality. The City’s public education goal is to communicate with approximately 60% of their citizens.

The Best Management Practices that the City will be implementing are outlined below. A description of the purpose of the selected BMPs along with their target audience is also provided.

### 3.4. Business Education Program

Private citizens are not the only residents who can have an effect on storm water quality. For this reason, the City of Peoria will be working with local businesses to ensure that the managers and owners understand their responsibilities in regards to storm water quality. The City’s business education program is designed to provide information to those businesses that are more likely to have significant storm water impacts. As part of the City’s efforts to reduce pollution, they will be identifying the types of businesses that are located within their boundaries. Once the types of businesses are identified, the City will be developing specific Fact Sheets targeting those businesses which may have the greatest impact on storm water quality. These fact sheets will include information that has been tailored to the various business types, and will be distributed to those existing businesses.

After the sheets have been distributed to those existing businesses within the City, they will also be distributed to applicants whenever an application for a new business license in one of the targeted industries is submitted.

### 3.5. Selected BMPs

As described earlier in this document, the Phase II Rule contains few specific requirements for storm water management. Instead, each operator of an MS4 is required to develop specific Best Management Practices (BMPs) that will provide the most benefit for their specific area. Under this method, each MS4 operator will be able to tailor a Storm Water Management Program to the specific problems and conditions with which they are faced. The City of Peoria has selected the following BMPs which they feel will provide the greatest benefit in meeting the Public Education and Outreach minimum control measure. The selected BMPs are shown in Table 3-1 Selected BMPs for Public Education Measure. A detailed description of each of the BMPs, along with a description of how it will help to meet the City’s goals, is also provided.

**Table 3-1 Selected BMPs for Public Education Measure**

BMP	Responsible Party*
Storm Water Pollution Prevention Brochure	Engineering
Water Conservation Practices for Homeowners	Utilities
Proper Disposal of Household Hazardous Wastes	Solid Waste
Pet Waste Management	Code Enforcement
Trash Management	Solid Waste
Storm Water Website	Engineering

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in Table 2-1 Responsible Departments and Parties.



### 3.5.1. Storm Water Pollution Prevention Brochure

One of the fundamental purposes of the Public Education and Outreach minimum control measure is to better inform the public about both the effects of polluted storm water runoff and the need to reduce storm water pollution. As discussed earlier in this section, the City of Peoria faces a unique challenge in this aspect. Due to the minimal amount of storm water that is received in the City each year, the dry washes located throughout the City, and the general arid nature of the southwest, storm water runoff is not a topic that is in the forefront of the City of Peoria's residents' minds. In order to educate and inform residents about storm water runoff, as well as pollution prevention, the City of Peoria will be developing an informational brochure.

This storm water brochure will be general in nature. The brochure will provide interesting and informative tips regarding storm water runoff, water pollution, and various measures that residents can take to reduce storm water pollution. The brochure that is developed will be tailored to address the issues and concerns of Peoria's residents. The brochure will address pollutants such as motor oil, pet waste, and waste from other residential and commercial activities.

The City of Peoria will also strive to include its minority and disadvantaged residents in its storm water information campaign. One way the City of Peoria intends to include these residents is through the development of a bilingual brochure. The City will translate the storm water brochure, which has been developed, into other languages as deemed appropriate. The City will then make this brochure available.

Once the information brochure is developed, the City of Peoria will distribute the brochure to City residents. The City intends to distribute this flyer by including it in their utility bills. The City estimates that approximately 38,000 people will be contacted through this method.

Specific actions that will occur under this BMP include:

- Developing a storm water pollution prevention flyer
- Develop a bilingual storm water pollution prevention flyer
- Distributing the storm water pollution prevention flyer

### 3.5.2. Water Conservation Practices for Homeowners

According to the City of Peoria's 2001 Water Infrastructure Master Plan, the City uses approximately 196 gallons of water per capita per day system wide. This daily water demand has remained essentially the same for the last 6 years. The City believes that improvements can be made in this area, and has chosen to implement the Water Conservation Practices BMP. Based on EPA studies, water usage in the home can easily be reduced 15 to 20% without major discomfort to the homeowner. Both citizens and the City will benefit greatly through the implementation of this BMP.

Implementation of the water conservation measures contained in the informative flyer will result in benefits to both the City and its residents. The greatest benefit that will be



realized for the City's residents is a reduction in water bills. The benefits to the City may include a reduction on the load at wastewater treatment facilities and a reduced frequency of sanitary sewer surcharges.

The City of Peoria will encourage water conservation by informing residents of ways that water usage can be reduced in the home. Some of the methods for reducing water consumption include:

- Checking pipes regularly for leaks.
- Minimizing use of garbage disposals by using a garbage can instead.
- Using dishwashers and washing machines for full loads only.
- Checking toilets for leaks.
- Utilizing low volume showerheads.
- Utilizing the principles of Xeriscape for landscaping.
- Constructing a water-retaining basin around each plant.
- Watering lawns during the coolest time of the day.
- Adjusting sprinklers to water the lawn only, not the sidewalks, street, or house.
- Avoiding watering on windy days.
- Sweeping driveways instead of using water to clean them.

In order to implement this BMP, the City of Peoria will be producing a flyer and publishing newspaper ads which outline water conservation practices for homeowners. Tips for reducing water consumption will be outlined in this flyer, as well as the direct benefits to the homeowner and the City. The City of Peoria will distribute this informational flyer to their Citizens in hard copy, as well as through the City's website.

In addition to the newspaper ads and the brochure, the City of Peoria will be targeting school age children to teach them about water conservation. The City of Peoria will be developing a magic show that promotes water conservation. This magic show will be performed free of charge at the City's elementary schools.

Specific actions that will occur under this BMP include:

- Developing a water conservation flyer
- Distributing the water conservation flyer
- Publish newspaper ads
- Develop water conservation presentation (magic show)
- Present water conservation presentation to elementary schools

### 3.5.3. Proper Disposal of Household Hazardous Wastes

Many items commonly found in homes can be classified as hazardous wastes. Household hazardous wastes generally take the form of household cleaners, paints, motor oil, paint thinner, bug killers, etc. Sanitary municipal landfills typically are not designed to handle these types of chemicals, and contamination can occur by disposing of these materials in a storm drain. Due to the potential environmental contamination of these products, the City of Peoria will implement a hazardous waste collection program.



The City of Peoria will implement a hazardous waste collection program that consists of two parts:

- Drop Off Event
- Special pickups

The City will implement a household hazardous waste collection program by scheduling multiple Drop Off Events each year. The exact number of events that will be held on a yearly basis will be determined based on the public response, and anticipated demand of the residents. The Drop Off Events will be scheduled at a specific location, and will provide the citizens of Peoria with the opportunity to properly dispose of their hazardous wastes.

The second program that the City of Peoria will implement will be a Special Pickup program. This program will allow residents to call and schedule an appointment for a technician to collect household hazardous waste from their home. When the resident calls to schedule a pickup, they will be instructed how to properly prepare their items for pickup.

For both of the types of events listed above, City personnel will receive adequate training in handling and transporting hazardous waste.

One of the key tasks in implementing a successful hazardous waste pickup is to provide adequate advertising of the event. This will be accomplished through utility bill stuffers, announcements in the newspaper, and on the City's website.

Specific actions that will occur under this BMP include:

- Developing a hazardous waste collection information flyer
- Developing a hazardous waste collection program

#### 3.5.4. Pet Waste Management

When animal owners do not collect pet waste, the potential exists for the waste to be washed into a collection basin or water body by storm water runoff. Since storm drains do not connect to a treatment system, it is possible that the untreated pet waste will be conveyed to a water body and pollute the water supply.

Pet waste can become a significant pollutant to a water system. Pet waste contains nutrients which promote the growth of algae and weeds. Additionally, pet wastes uses up the oxygen in the water as it decays. Pet waste may also carry bacteria, viruses, and parasites that can threaten human health and wildlife.

The City of Peoria will be implementing a pet waste management ordinance that will require animal owners to clean up after their pets. The City will post signs in public parks that state "Pick Up After Your Pet," and also provide the ordinance number which specifies enforcement of this action. The City of Peoria believes that by reducing the amount of uncollected pet waste, there will be a reduction in the storm water runoff contamination.



Specific actions that will occur under this BMP include:

- Implementing a Pet Waste Collection ordinance
- Posting "Pick Up After Your Pet" signs in City-owned parks

#### 3.5.5. Trash Management

The buildup of trash in storm drains and waterways is not only unsightly, but can cause harm to both humans and animals. Trash can both clog storm water conveyances as well as impart bacterial pollution to the water. The City of Peoria will strive to minimize pollution from trash through the development of an effective public information campaign and a recycling program.

The City of Peoria believes that the majority of citizens will not litter if they know where and when trash will be collected. The City will be developing a flyer which outlines the trash collection schedule. In addition, this flyer will describe what items cannot be disposed of in a sanitary landfill. Through education, it is believed that the amount of litter and subsequent storm water pollution can be substantially reduced.

In addition to solid waste pickups, the City of Peoria will be working on implementing a recycling program. In March 2001, the City of Peoria tried to implement a curbside recycling program. However, this measure failed, with a vote of Yes – 4,607, No – 6,009. Even though this measure failed to pass, it did show that approximately half of all voting Peoria residents were in support of recycling. The City of Peoria will be striving to reduce the collection of solid waste through the implementation of a drop-off recycling program.

The City of Peoria will place collection bins for specific materials throughout the City, where citizens can leave these materials to be recycled. The City will start the drop-off recycling program with the collection of newspapers and aluminum cans. The collection of these two types of materials will reduce the burden on the landfill. The City of Peoria will be developing an informational flyer detailing this recycling program. Alternatively, the information may be included in the solid waste collection flyer.

The solid waste pickup information flyer, and recycling information flyer will be made available to the public for pickup at the City office buildings.

Specific actions that will occur under this BMP include:

- Develop a solid waste pickup information flyer
- Implement a recycling drop-off program
- Develop a recycling information flyer

#### 3.5.6. Storm Water Website

The City currently has a website that contains information about the City, its departments, and programs. Developing a website has been found to be a cost-effective method of sharing information with the public. As part of the City's SWMP, a web page will be developed dealing specifically with Storm Water Quality Protection.



This page will link directly from the City of Peoria's web page. The Storm Water Quality Protection website will include information such as:

- Importance of storm water quality
- Pollution Prevention Tips
- Hazardous chemical disposal information
- Storm Drain marker information
- Storm water hotline information

The City's website is located at <http://www.ci.peoria.az.us/>. The City of Peoria has found that the use of their website provides a cost-effective method of distributing information to their residents. One advantage of the City's website is that a resident can search for specific information at any time.

The City of Peoria will utilize the City's web page to disseminate information about their storm water pollution prevention plan. It is envisioned that this web page will have information for residents, business owners, and developers. Each specific audience will be able to access information that has been specifically tailored to their concerns. The web page will also provide generic information about the Phase II final rule.

The residential portion of the web page will provide information and links to pollution prevention tips, conservation tips, and also an electronic copy of the City's storm water informational brochure.

The business portion of the web page will provide access to BMP fact sheets for specific industries located within the City of Peoria.

The developer portion of the web page will provide information which has been specifically tailored to developers. This section will describe the reasons that the developer must comply with the Phase II requirements, as well as the penalties for failing to comply. Additionally, various BMPs which are acceptable to the City will be outlined and described on the website. Finally, this section of the website will provide the developer access to electronic copies of any forms or documents which they may need, such as SWPPP forms, applications, etc.

Specific actions that will occur under this BMP include:

- Develop a storm water pollution prevention website which is linked to the City's homepage.
- Update website as necessary.

### **3.6. Implementation Goals**

As was described earlier in this SWMP, the City of Peoria is responsible for tracking their progress on the SWMP through the development of measurable goals. These measurable goals must include specific actions that will aid the City in establishing and implementing the BMPs outlined in this section. The actions, which have been established for these measurable goals, must also include a specific time frame within which they will be accomplished.



In order to track the City's progress on the implementation of their selected BMPs, the City of Peoria has defined specific measurable goals. The City will strive to implement these programs within the time frame specified. Table 3-2 Measurable Goals For Public Education Measure provides an outline of the actions that the City plans to take, as well as the time frame by which the goals will be completed. In the City's annual reports, an accounting will be made of the progress and implementation of the selected BMPs. Where feasible, readily quantifiable data will be collected and maintained for each of the BMPs. For example, the number of flyers distributed through utility bills will be recorded reported. The name and title of the person responsible for ensuring the implementation of each of the BMPs is listed by department in Table 2-1 Responsible Departments and Parties.

**Table 3-2 Measurable Goals For Public Education Measure**

Measurable Goal	Permit Year					Start Date	End Date	Responsible Party*
	04	05	06	07	08			
<b>Storm Water Pollution Prevention Brochure</b>								
Develop a storm water pollution prevention flyer	X					6/03	6/04	Engineering
Develop a bilingual storm water flyer		X				7/04	12/04	
Distributing the storm water flyer through utility bills			X			7/05	6/06	
<b>Water Conservation Practices For Homeowners</b>								
Developing a water conservation flyer		X				1/05	6/05	Utilities
Distributing water conservation flyer through utility bills		X	X	X	X	7/04	6/08	
Publish newspaper adds once a year	X	X	X	X	X	6/03	6/08	
Develop water conservation presentation (magic show)	X					5/03	6/04	
Present water conservation presentation to schools	X	X	X	X	X	9/03	4/08	
<b>Proper Disposal of Household Hazardous Waste</b>								
Developing a hazardous waste collection information flyer			X			12/05	6/06	Solid Waste
Developing a hazardous waste collection program				X		7/06	6/07	
<b>Pet Waste Management</b>								
Implementing a Pet Waste Collection ordinance		X				7/04	6/05	Code Enforcement
Posting "Pick Up After Your Pet" signs in City-owned parks		X	X	X	X	1/06	6/08	
<b>Trash Management</b>								
Develop a solid waste pickup information flyer		X				12/04	6/05	Solid Waste
Implement a recycling drop-off program				X		11/06	6/07	
Develop a recycling information flyer				X		11/06	6/07	
<b>Storm Water Website</b>								
Develop storm water website linked to City's webpage		X				7/04	6/05	Engineering
Update website as necessary			X	X	X	7/05	6/08	

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in Table 2-1 Responsible Departments and Parties.



## 4. Public Participation/Involvement

### 4.1. Overview

The second minimum control measure mandated by the EPA includes seeking the active participation and involvement of the public. The regulatory text for the second minimum control measure states:

*...the municipal storm water management program must comply with applicable State and local public notice requirements.*

The actual requirements that the City of Peoria must comply with to satisfy this minimum control measure, as specified in 40 CFR, are very minimal. As described in the regulatory text above, the City is only required to comply with applicable public notice requirements. The EPA however, has provided additional recommendations in order to develop a more effective Public Participation/Involvement program.

The EPA recommends that the operator of a small MS4 recruit extensive public participation. The EPA also recommends that the public participation program should reach out to all economic and ethnic groups within a municipality, in order to include as many people as possible. During the initial development of the SWMP the City of Peoria held public meetings to explain the SWMP to City residents, as well as to City Council members.

The City of Peoria is aware that certain members of the community are more likely to be affected by the Phase II Final Rule. In order to help these members of the community understand the Phase II requirements and the City's methods for satisfying these requirements, the City held a stakeholder meeting. On September 30, 2002 the City of Peoria held a meeting outlining the six minimum control measures required under the Phase II Final Rule, as well as the BMPs that the City plans on implementing to address these measures. Six members from the community attended the meeting, and they were given the opportunity to ask questions regarding the program, as well as express opinions or concerns.

The City of Peoria also held a meeting for the City Council on October 15, 2002. This was an open meeting where the public was allowed to attend. The program was explained to the City Council, and their questions and concerns were addressed.

The City of Peoria intends to exceed the minimum requirements of the EPA by involving the public in both the development and implementation of the SWMP. The City believes that many benefits will be realized through the recruitment and involvement of the public in their storm water program. Some of these benefits are summarized below:

- **Broader public support-** Citizens who participate in the development of the SWMP are partially responsible for the program, and therefore may be less likely to raise legal challenges to the program and more likely to take an active role in its implementation.



- **Shorter implementation schedules-** Fewer obstacles in the form of public and legal challenges, as well as an increased source of citizen volunteers should accelerate implementation.
- **A broader base of expertise and economic benefits-** The community can be a valuable and free intellectual resource.
- **A conduit to other programs-** Citizens involved in the storm water program development process can provide important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, as encouraged by the EPA.

The City of Peoria will strive to prevent polluting storm water runoff within the City through actively involving the public in their pollution prevention campaign. The City will meet the requirements of the Public Participation/Involvement measure by actively seeking public input during the development of the program, as well as through soliciting public participation during the program’s implementation. This chapter describes the BMPs that the City has selected to implement. These BMPs have been specifically tailored to promote public participation and involvement within the City’s storm water program.

The City of Peoria will make a copy of the SWMP available for review at the Engineering Department. Additionally, an electronic copy of the SWMP and NOI will be made available on the City’s website. Interested parties will be able to review the SWMP and NOI, and submit written comments to the Department. These comments will then be reviewed by the Engineering Department.

#### 4.2. Selected BMPs

As described earlier in this chapter, the actual requirements that have been established for the Public Participation/Involvement minimum control measure are minimal. The City of Peoria will strive to meet and exceed these minimum requirements in the development and implementation of their SWMP. The City of Peoria has selected the following BMPs to implement the Public Participation/Involvement minimum control measure. The BMPs which the City of Peoria has selected are shown in Table 4-1 Selected BMPs for Public Involvement/Participation. A detailed description of each of the BMPs, along with a description of how it will help to meet the City’s goals, is also provided.

**Table 4-1 Selected BMPs for Public Involvement/Participation**

BMP	Responsible Party*
Community Environmental Hotline	Public Works/Streets
Watershed Organization	Engineering
Storm Drain Markers	Engineering (New Construction) Public Works/Streets (retrofit) Community Services

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in Table 2-1 Responsible Departments and Parties.



#### 4.2.1. Community Hotline

One of the main BMPs that the City of Peoria will be implementing to aid in preventing storm water pollution will be a community hotline. This hotline will provide a method through which Peoria's residents may report illegal dumping into storm drains, dry weather discharges from storm drain outfalls, or other instances of storm water pollution. Specifically, residents will be encouraged to report the following types of information on the storm water hotline:

- Leaking or blocked sanitary sewer lines
- Dry weather discharges that appear contaminated
- Malfunctioning septic systems
- Silt and sediment runoff from poorly controlled construction sites
- Vehicles that are leaking fluids
- Use of oil weed control
- Dumping of chemicals and any other spills
- Improper use of fertilizers and pesticides

When a report is filed through the storm water hotline, City staff will be alerted to the receipt of the complaint and will be responsible for responding. A preliminary discussion of the procedure to responding to citizen complaints is included here, however one of the measurable goals for this BMP is refining this response procedure. When a complaint is reported to the City, the information will be input into the computer as a work order. This work order will be routed to the appropriate department and then investigated by that departments staff.

Specific actions that will occur under this BMP include:

- Developing a storm water hotline
- Establish a response procedure for complaints

#### 4.2.2. Watershed Organization

By forming a watershed organization, the resources of many smaller entities can be combined in order to create a stronger, more effective organization. This pooling of resources allows cities to present a more effective message, while investing fewer of their resources. Additionally, a consistent message will be presented across the entire watershed area.

The City of Peoria has been actively participating in the implementation and development of a watershed organization that comprises many of the communities located in the Phoenix Metropolitan Area. This watershed organization is known as STORM, STormwater Outreach for Regional Municipalities. The mission of this watershed organization is: *STORM promotes regional storm water public education through outreach.*



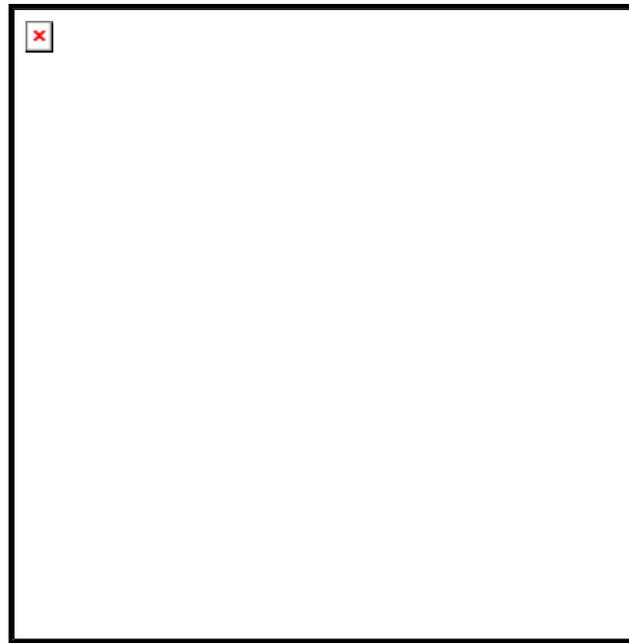
As a member of STORM, the City will be working with other municipalities and agencies within the Phoenix Metropolitan Area. They will be working together to develop a cost effective and consistent public outreach campaign.

Specific actions that will occur under this BMP include:

- Actively participate in the STORM watershed organization

#### 4.2.3. Storm Drain Markers

In order to present a clear and consistent message to the residents of Peoria and to solicit public involvement, the City has decided to mark the storm drain inlets. The City will be applying a metal storm drain marker which has been engraved with the message “STORM DRAIN NO DUMPING” to storm drain inlets within the City. A picture of the storm drain marker is shown in Figure 4.1. The City of Peoria will be utilizing a storm drain marker that was designed by the City of Phoenix, and is now being used by many municipalities throughout the Phoenix Metropolitan Area. This marker will be used by various communities throughout the region, in order to provide a consistent message against storm drain dumping.



**Figure 4-1 Storm Drain Marker**

The City of Peoria will be responsible for ordering the storm drain markers, and maintaining the maps and lists describing the areas that have been marked. Additionally, the City of Peoria will update their standard specification for storm drain inlets, to indicate that the storm drain marker must be in place on the construction of all new storm drain inlets.

The City believes that the implementation of the storm drain marking program will provide an opportunity for community groups to participate in the storm water management program. Community and civic groups will be informed of the storm drain



marking program and given the opportunity to participate. Youth groups such as scouts, church groups, and school clubs would be able to participate by placing the storm drain markers. This program will be advantageous to the City, for community groups to participate in, since it can be accomplished with minimal supervision and funding.

The process of marking storm drain inlets is relatively simple. The City will provide the necessary supplies, storm drain markers, epoxy glue, appropriate safety materials, and a map or list of locations that need to be marked. The storm drain inlet will then be marked by cleaning the location where the marker will be placed, applying the epoxy glue, and placing the storm drain marker.

The City of Peoria will begin by marking those storm drain inlets which are located within high traffic areas, as well as those inlets where pollution problems are more likely to occur. In areas of high traffic, more direct City supervision will be necessary in order to ensure the safety of volunteers.

The City will keep a record of the locations that have been marked, and will update this list periodically.

Specific actions that will occur under this BMP include:

- Mark storm drain inlets within the City
- Recruit public participation in marking the storm drain inlets

### **4.3. Implementation Goals**

The City of Peoria is responsible for tracking their progress on the SWMP through the development of measurable goals. These measurable goals must include specific actions that will aid the City in establishing and implementing the BMPs outlined in this section. The actions, which have been established for these measurable goals, must also include a specific time frame within which they will be accomplished.

In order to track the City's progress on the implementation of their selected BMPs, the City of Peoria has defined specific measurable goals. The City will strive to implement these programs within the time frame specified. Table 4-2 Measurable goals for public participation/involvement measure provides an outline of the actions that the City plans to take, as well as the time frame by which the goals will be completed. In the City's annual reports, an accounting will be made of the progress and implementation of the selected BMPs. Where feasible, readily quantifiable data will be collected and maintained for each of the BMPs. The name and title of the person responsible for ensuring the implementation of each of the BMPs is listed by department in Table 2-1 Responsible Departments and Parties.



**Table 4-2 Measurable goals for public participation/involvement measure**

Measurable Goal	Permit Year				Start Date	End Date	Responsible Party*	
	04	05	06	07				08
<b>Community Environmental Hotline</b>								
Develop a storm water hotline			X			7/05	6/06	Public Works-Streets
Establish a response procedure for complaints			X			7/05	6/06	
<b>Watershed Organization</b>								
Participate in the STORM watershed organization	X	X	X	X	X	4/03	6/08	Engineering
<b>Storm Drain Markers</b>								
Mark storm drain inlets within the City		X	X	X	X	3/05	6/08	Engineering (new const)
Recruit public participation in marking the storm drain inlets				X	X	7/06	6/08	Streets (retrofit) Community Services

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in Table 2-1 Responsible Departments and Parties.



## 5. Illicit Discharge Detection and Elimination

### 5.1. Overview

The third minimum control measure mandated by the EPA includes developing a plan to detect and address illicit and non-storm water discharges to storm drain systems. The regulatory text for the third minimum control measure is very specific and states:

- *...develop, implement and enforce a program to detect and eliminate illicit discharges (as defined at Sec. 122.26(b)(2).*
- *Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;*
- *To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the storm drain system and implement appropriate enforcement procedures and actions*

*(C) Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping; and*

*(D) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.*

- *... address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if you identify them as significant contributors of pollutants to your small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States).*

ADEQ recommends four components to the illicit discharge detection and elimination plan:

- Procedures for locating priority areas likely to have illicit discharges;
- Procedures for tracing the source of an illicit discharge;
- Procedures for removing the source of the discharge; and
- Procedures for program evaluation and assessment.



ADEQ further recommends visual screening of outfalls during dry weather. Educational efforts are also recommended, including storm drain marking and a program to publicize and facilitate public reporting of illicit connections and discharges (see Chapter 4).

This chapter will describe the BMPs that the City has selected to institute this control measure. These BMPs have been specifically tailored to facilitate the detection and elimination of illicit discharges to the City’s storm drain system.

## 5.2. Selected BMPs

The City of Peoria has selected the following BMPs to implement the Illicit Discharge Detection and Elimination minimum control measure. The BMPs that the City of Peoria has selected are shown in Table 5-1 BMPs for Illicit Discharge Detection and Elimination. A detailed description of each of the BMPs, along with a description of how it will help meet the City’s goals, is also provided.

**Table 5-1 BMPs for Illicit Discharge Detection and Elimination**

BMP	Responsible Party*
Industrial/Business Connections	Industrial Waste Groups & Utilities
Sewage from Recreational Activities	Utilities & County
Sanitary Sewer Overflows	Maricopa County
Identifying Illicit Connections	Public Works/Streets & Engineering
Wastewater Connection to Storm Drain System	Engineering & County
Illegal Dumping	Solid Waste, Fire Department, Code Enforcement

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in Table 2-1 Responsible Departments and Parties.

### 5.2.1. Industrial/Business Connections

Any industrial discharge that is not composed entirely of storm water or authorized non-storm water and that is conveyed to the storm drain system or to a water body is considered an illicit discharge.

Illicit discharges result from connections to the storm drain system of which the business owner is unaware and which are generally not evident in architectural plans. Illicit connections can occur in several ways, the most common of which include cross connections with sanitary sewers and floor drains that are improperly attached to storm drain pipes. Such improper connections can often be located through field screening procedures, source testing protocols, and visual inspection.

The City of Peoria will use the following methods to identify and correct improper industrial discharges to the storm drain system:

- Locating existing illicit industrial/business discharges to the municipal storm drain system or local waters using storm drain monitoring, which includes visual inspection in order to identify potential discharge sources and review of pipeline schematics.



- Documenting the testing and eliminating of illicit industrial/business connections, including recording the location of the connection, the date of testing, and the method used to remove the connection.
- Field inspection and documentation of outfalls will occur as follows:
  - Twenty percent of all major outfalls will be visually inspected every year with the entire system screened in five years.
  - If dry weather flow is observed, the City of Peoria will investigate the illicit discharge within 15 days of its detection. The Maricopa County Flood Control District will be notified and samples will be taken, as appropriate.
  - If a discharge is determined to be hazardous, the Peoria Fire Department will mitigate the emergency and a hazardous waste contractor will remediate the site.
  - If a discharge is not hazardous and found to be illicit, the Code Enforcement Group in Community Services will be notified and will begin enforcement procedures.
- Requiring thorough inspection and verification during the entire construction phase of new developments in order to prevent the establishment of new illicit connections.
- Utilizing the community hotline for citizen reporting of incidences of illicit discharges (see Chapter 4).

Specific actions that will occur under this BMP include:

- Establishing a plan to identify and remove illicit industrial/business discharges
- Establishing an inspection procedure for new developments to prevent illicit connections
- Establish a response procedure for complaints

### 5.2.2. Sewage from Recreational Activities

The proper disposal of recreational waste is necessary to avoid the impacts that these activities and their associated developments can have on aquatic environments. While a portion of Lake Pleasant falls within the City's boundaries, no recreational facilities fall under the City's jurisdiction. Maricopa County is required to regulate the proper disposal of sewage from boats. Under federal law, it is illegal to discharge sewage from boats operated in lakes (such as Lake Pleasant) and reservoirs or in rivers not used for interstate navigation. Boats with installed toilets must have an operable Coast Guard approved marine sanitation device (MSD) that either holds sewage for pumpout ashore or that treats the sewage to Federal standards prior to discharge.

The City of Peoria will be recommending that Maricopa County implement the following requirements for recreational sewage:



- *Pumpout Installation and Operation*—Pumpout stations are an efficient method to control sanitary discharges from boating activities. Pumpout facilities collect waste from on-board MSDs, which are recommended for vessels over 25 feet. EPA Region 4 suggests one facility for every 200 to 250 boats with holding tanks.
- *No-discharge area designations*—No-discharge areas are zones where it is illegal to discharge sanitary waste from vessels, whether it is treated or untreated. The only type of marine sanitation device that can be legally used in these areas are Type III MSDs (holding tanks). The benefit of the no-discharge areas is that they can significantly reduce the amount of bacterial contamination from illegal discharges of vessel waste.
- *Signage*—Signs marking pumpout station locations and hours of operation will be placed in prominent places where boaters tend to gather. Self-service pumpout stations will include a sign that provides operating guidance. Applicable codes and penalties will also be posted.

Specific actions that will occur under this BMP include:

- Provide one pumpout station per every 200-250 boats with holding tanks utilizing Lake Pleasant
- Designate and clearly mark “no-discharge” areas for Lake Pleasant
- Provide signage informing boaters of both the location and proper operation of pumpout stations

### 5.2.3. Sanitary Sewer Overflows

Sanitary sewer overflows (SSOs) involve the release of raw sewage from a separate sanitary sewer system prior to reaching a treatment facility. These overflows occur when the flow into the system exceeds the design capacity of the conveyance system, resulting in discharges into basements, streets, and streams. A common SSO is overflowing sewage manholes that send untreated sewage into a stream. While SSOs can occasionally occur in any system due to factors such as flooding or temporary blockages, chronic overflows are an indicator of a deteriorating system or a system where development has exceeded capacity.

Maricopa County is responsible for the detection and elimination of SSOs; therefore, they will not be addressed further in this SWMP.

### 5.2.4. Identifying Illegal Connections

An illicit discharge detection program can be an effective method to reduce the quantity of industrial or commercial pollutants that enter the storm drain system. The EPA defines illicit connections as “illegal and/or improper connections to storm drainage systems and receiving waters.”

The practices that the City of Peoria will utilize to discover and prevent illicit connections under this best management practice are as follows:



- Mapping of the storm sewer system which shows the location of outfalls, and the names and locations of the waters of the United States that receive discharges from these outfalls.
- Maintain inspections for new developments or remodeling to identify illicit connections to the storm sewer system. Inspect connections in question to determine whether they should be connected to the storm drain system or to the sanitary sewer.
- Provide training to City Staff on detecting illicit discharges, as described in Section 8

The City will establish a priority scheme for detecting illicit discharges from businesses as follows:

1. Automobile-related businesses/facilities and heavy manufacturing
2. Printers, dry cleaners/laundries, photo processors, utilities, paint stores, water conditioners, chemical laboratories, construction companies, and medium light manufacturing
3. Institutional facilities, private service agencies, retail establishments, and schools

Specific actions that will occur under this BMP include:

- Establish a priority ranking for detecting illicit discharges
- Review and revise building and plumbing codes
- Establish field inspection and documentation procedures
- Perform GIS mapping of existing storm drain system
- Institute mandatory inspections for new developments and redevelopment projects

#### 5.2.5. Wastewater Connections to Storm Drain System

Storm drain systems are sometimes illegally used as inexpensive or convenient alternatives to properly disposing of wastewater. Such illegal wastewater discharges can occur as illicit connections from commercial or business establishments or illegal dumping into storm drain inlets.

The program employed by the City of Peoria to address illicit connections, including wastewater connections, will utilize a combination of monitoring, inspection, and public outreach to achieve the goal of eliminating improper discharges to the storm drainage system.

Field monitoring will be an essential component of the City's illicit detection program. Drains that have dry weather flows will be monitored to identify those outfalls that do not meet water quality standards. Once an outfall has been identified as having a high priority through visual inspection, closed circuit television testing and spot testing at storm drain manholes upstream of the outfall will be used to isolate areas from which the problem discharges stem, per the field inspection and documentation procedures outlines in Section 5.2.1.



Once an area is identified as requiring further investigation, an illicit connection inspection will be performed on facilities in that area. Field crews will determine the location of storm and sanitary sewer manholes and the locations of all plumbing fixtures in the facility. The facility will be monitored for any illicit connection.

If a plumbing fixture is found to be connected to the storm sewer, or discharging to either surface water or the ground, the facility will be informed of the violation. The facility will then be given a time frame in which to respond to the violation. Following this period, the fixtures will be retested. If the connection has not been corrected, further disciplinary action may be taken.

The general housekeeping practices of a facility will also be examined during an inspection. Issues such as the proper storage of hazardous materials and the proper disposal of wastewater from cleaning will be reviewed with facility operators in order to help eliminate potential sources of pollutants entering the storm drain system. The City will also require inspection of on-site wastewater systems at the time of property transfer.

Specific actions that will occur under this BMP include:

- Establish an inspection procedure for both illicit connections and good housekeeping practices, as well as appropriate penalties for violations
- Require on-site treatment system inspections whenever transfer of property occurs within the City

#### 5.2.6. Illegal Dumping

Illegal dumping is the disposal of waste in an unpermitted area, such as a back area of a yard, a stream bank, or some other off-road area. Illegal dumping can also be the pouring of liquid wastes or disposing of trash down storm drains. One of the most effective methods of preventing illegal dumping is through public education. The City will be providing public education to their residents according to the Public Education and Outreach BMPs described in Chapter 3.

The City of Peoria recognizes that reliance on public reporting is an important factor in the effectiveness of anti-illegal dumping programs. The City website and Community Hotline discussed in Chapters 3 and 4 will allow for citizen reporting of illegal dumping. In addition, roads that have often been used for trash disposal will be monitored and signs posted informing potential violators of the penalties for illegal dumping. Storm drain marking, as discussed in Chapter 4, will also be used to deter illegal dumping.

Specific actions that will occur under this BMP include:

- Provide educational materials informing the public about the adverse impacts of illegal dumping
- Monitor known dumping sites and post warnings



### 5.2.7. Illegal Dumping/Illicit Discharge Ordinance

The City of Peoria will be developing a City ordinance which gives them the enforcement powers to prohibit non-storm water discharges into the storm sewer system. This ordinance will be developed by the community to outline the enforcement procedures and actions that may be taken against any individual found to be discharging non-storm water discharges to the storm sewer system. The City of Peoria will allow the nonpermitted discharges outlines in Part I, Section C.2 and Part V, Section B.3.a.ii of the Arizona Department of Environmental Quality's *General Permit for Discharge from the Small Municipal Separate Storm Sewer Systems to Waters of the United States*.

### 5.3. Implementation Goals

The City of Peoria is responsible for tracking their progress on the SWMP through the development of measurable goals. These measurable goals must include specific actions that will aid the City in establishing and implementing the BMPs outlined in this section. The actions that have been established for these measurable goals also include a specific time frame within which they will be accomplished.

In order to track the City's progress on the implementation of their selected BMPs, the City of Peoria has defined specific measurable goals. The City will strive to implement these programs within the time frame specified. Table 5-2 Measurable Goals for Illicit Discharge Detection and Elimination provides an outline of the actions that the City plans to take, as well as the time frame for completing the goals. In the City's annual reports, an accounting will be made of the progress and implementation of the selected BMPs. Where feasible, readily quantifiable data will be collected and maintained for each of the BMPs. The name and title of the person responsible for ensuring the implementation of each of the BMPs is listed by department in Table 2-1 Responsible Departments and Parties.



**Table 5-2 Measurable Goals for Illicit Discharge Detection and Elimination**

Measurable Goal	Permit Year					Start Date	End Date	Responsible Party*
	04	05	06	07	08			
<b>Industrial/Business Connections</b>								
Develop a plan to identify illicit industrial/business discharges		X				7/04	6/05	Industrial Waste Groups/Utilities
Establish an inspection procedure for new developments			X			10/05	6/06	
Establish a response procedure for complaints			X			10/05	6/06	
<b>Sewage From Recreational Activities</b>								
Provide one pumpout station per every 200-250 boats				X	X	7/06	6/08	Utilities/ Maricopa County
Designate "no-discharge" areas for Lake Pleasant			X			7/05	6/06	
Provide signs for location and operation of pumpout stations			X	X		7/06	6/08	
<b>Identify Illegal Connections</b>								
Establish a priority ranking for detecting illicit discharges		X				7/04	6/05	Streets
Establish field inspection and documentation procedures			X			7/05	6/06	Engineering
Perform mapping of existing storm drain system	X					4/03	6/04	
Institute mandatory inspections for new projects			X	X		7/06	6/08	
<b>Wastewater Connections to Storm Drain System</b>								
Establish an inspection procedure for both illicit connections and good housekeeping practices, as well as appropriate penalties for violations			X			7/05	6/06	Engineering
Require on-site treatment system inspections whenever transfer of property occurs within the City.			X	X		7/06	6/08	Maricopa County
<b>Illegal Dumping</b>								
Provide educational materials about illegal dumping		X				7/04	6/05	Solid Wastes
Monitor known dumping sites and post warnings.			X	X	X	7/05	6/08	Fire Dept (HAZMAT) Code Enforcement
<b>Illegal Dumping/Illicit Discharge Ordinance</b>								
Establish an ordinance prohibiting illegal & illicit discharges		X				7/04	6/05	Engineering

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in **Table 2-1 Responsible Departments and Parties**.



## 6. Construction Site Storm Water Runoff Control

### 6.1. Overview

The fourth minimum control measure mandated by the EPA includes requiring the implementation of construction site storm water runoff control measures. The regulatory text for the fourth minimum control measure is very specific and states:

- *... develop, implement, and enforce a program to reduce pollutants in any storm water runoff ... from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the NPDES permitting authority waives requirements for storm water discharges associated with small construction activity in accordance with Sec. 122.26(b)(15)(i), you are not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.*
- *The program must include the development and implementation of, at a minimum:*
  - A. *An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;*
  - B. *Requirements for construction site operators to implement appropriate erosion and sediment control (ESC) best management practices;*
  - C. *Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;*
  - D. *Procedures for site plan review which incorporate consideration of potential water quality impacts;*
  - E. *Procedures for receipt and consideration of information submitted by the public, and*
  - F. *Procedures for site inspection and enforcement of control measures.*

ADEQ encourages municipalities to provide appropriate educational and training measures for construction site operators. ADEQ also recommends that municipalities require the development of Storm Water Pollution Prevention Plans (SWPPP) for construction sites within their jurisdiction that discharge into a municipality's storm drain system.

This chapter describes the requirements that the City will enforce for construction sites within the City. Each construction site meeting the requirements outlined in the preceding section will be required to develop a SWPPP. As part of this SWPPP the



responsible party for the site will be required to implement measures to prevent storm water pollution at the site. Specific requirements for the SWPPP are included in Section 6.2. Specific structural construction BMPs are outlined in the Maricopa County Erosion Control Manual.

## **6.2. SWPPP Requirement**

The City of Peoria requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared for any site that disturbs more than one acre or any site, regardless of size, that is part of a larger planned development or land purchase that will disturb more than one acre. The SWPPP shall be developed in accordance with the Construction General Permit. The City of Peoria does not recognize any waivers of this requirement.

The SWPPP shall contain, at a minimum:

- General project information (nature of activity, area of disturbance, etc.)
- General location and site map
- Narrative site description (describe and quantify discharges, etc.)
- Goals and criteria statements
- Description of stabilization practices
- Description of structural practices
- Description of post-construction storm water management
- Description of any other control measures used
- Approved state and local plans

**The following documents are provided in Appendix A-6 Storm Water System Maps**



Appendix B Small Construction General Permit Information to assist in the development of a SWPPP:

- Construction General Permit
- Construction Notice of Intent (NOI)
- Notice of Termination (NOT)
- Construction General Permit Fact Sheet

### 6.3. Selected BMPs

The City of Peoria has selected the following BMPs to help implement and enforce the Construction Site Storm Water Runoff Control measure. The BMPs that the City of Peoria has selected are shown in Table 6-1 Selected BMPs for Construction Site Storm Water Runoff Control. A detailed description of each of the BMPs, along with a description of how it will help to meet the City’s goals, is also provided.

**Table 6-1 Selected BMPs for Construction Site Storm Water Runoff Control**

BMP	Responsible Party*
SWPPP Checklist	Engineering
Construction Runoff Ordinance	Engineering
Construction Site Inspection	Engineering
Land Grading Plan	Engineering
Construction Plan & SWPP Review	Engineering

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in Table 2-1 Responsible Departments and Parties.

#### 6.3.1. SWPPP Checklist

As outlined in Section 6.2, the City will be requiring that all development that disturbs from one to five acres, as well as developments that are smaller than one acre but part of a larger master planned development, to submit an SWPPP. The City will enforce the submittal of an SWPPP by amending their plan review procedures to require that an SWPPP be submitted before a grading permit is issued.

In order to provide guidance to the developer, and to help reduce unnecessary costs, the City of Peoria will be developing a SWPPP checklist. This checklist will be available to all developers, and will serve as a guideline for developing the SWPPP. It is envisioned that by following the steps listed in the checklist, the developer will have developed an effective SWPPP.

Specific actions that will occur under this BMP include:

- Develop an SWPPP Checklist.
- Distribute SWPPP Checklist to developers.

#### 6.3.2. Construction Runoff Control Ordinance

The City of Peoria will be revising their existing drainage ordinance to address construction runoff control. The updated ordinance will require all construction site operators disturbing between 1 and 5 acres of land to implement measures to control erosion and sediment runoff, as well as properly dispose of construction wastes. The update ordinance will also give the City enforcement powers. These powers will allow



representatives of the City to inspect construction sites to ensure that proper BMPs are being implemented. Additionally, the City will have the ability to cite those contractors not following the requirements.

Specific actions that will occur under this BMP include:

- Develop a construction runoff control ordinance.

### 6.3.3. Construction Site Inspection

In order to help ensure that the SWPPP is followed, the City of Peoria will be implementing a construction site inspection program. When the City's inspectors are checking on a construction site, the inspectors will also be required to check if the developer has a SWPPP, and a copy of the plan is on site. In addition, the inspector will be checking to make sure that the BMPs specified in the SWPPP are being implemented on the construction site. If the inspector finds the construction site out of compliance with their SWPPP, the City will have the authority to halt construction activities.

As part of this Construction Site Inspection BMP, the City will be training their inspectors on the requirements of an SWPPP, and the proper method for installing and maintaining BMPs.

In addition to the City inspectors evaluating construction sites, the City of Peoria will also be available to receive information regarding construction sites, or storm water violations from the public. As described in 4.2.1 Community Hotline the City will be developing a community hotline, and a procedure for responding to the information received.

Specific actions that will occur under this BMP include:

- Train inspectors on SWPPP requirements, and BMP inspections
- Inspect construction sites for SWPPPs

### 6.3.4. Land Grading Plan

Land grading is an effective means of reducing steep slopes and stabilizing highly erodible soils when properly implemented with storm water management and erosion and sediment control practices. Land grading involves reshaping the ground surface to planned grades as determined by an engineering survey, evaluation, and layout. Such reshaping provides more suitable topography for buildings, facilities, and other land uses while helping to control surface runoff and soil erosion by decreasing runoff velocity.

In order to implement this best management practice, the City of Peoria will require that all developers and landowners who will be performing grading on their property prepare a grading plan. This grading plan must establish which areas of the site will be graded, how drainage patterns will be directed, and how runoff velocities will affect receiving waters. The grading plan must also include information regarding when earthwork will start and stop, must establish the degree and length of finished slopes, and must clearly dictate where and how excess material will be disposed of (or where borrow materials will be obtained if needed). Berms, diversions, and other storm water practices will also be incorporated into the grading plan. Grading activities should maintain existing drainage patterns as much as possible.



Only those areas necessary for building activities and equipment traffic should be cleared and graded. An undisturbed temporary or permanent buffer zones must be provided. The lowest elevation of the site should remain undisturbed to provide a protected storm water outlet before storm drains or other construction outlets are installed.

The City will require that a grading plan conforming to the above specifications be submitted and approved before a grading permit will be issued.

Specific actions that will occur under this BMP include:

- Require a grading plan, necessary for procurement of a grading permit within the City's jurisdiction

#### 6.3.5. Construction Plan and SWPPP Review

As explained earlier in this section, all contractors disturbing between 1 and 5 acres on their construction sites must submit an SWPPP as well as construction plans showing the BMPs the contractor intends to develop. The SWPPP requirements are outlined in Section 6.2. The City of Peoria will be reviewing these plans in order to ensure that the BMPs set forth by the contractor will adequately reduce storm water runoff and erosion from the construction sites. Although, the City will be reviewing the SWPPPs to ensure that the information outlined in Section 6.2 is included, ultimate responsibility for the design and implementation of BMPs will be assigned to the developer and contractor respectively. No construction permits will be issued by the City until the construction plans and SWPPP has been approved. Upon review of the plans and SWPPP, the City will verify in writing that the BMPs for the site are appropriate.

Specific actions that will occur under this BMP include:

- Review construction site plans and SWPPPs for compliance with the general permit.

### 6.4. Implementation Goals

The City of Peoria is responsible for tracking their progress on the SWMP through the development of measurable goals. These measurable goals must include specific actions that will aid the City in establishing and implementing the BMPs outlined in this section. The actions that have been established for these measurable goals also include a specific time frame within which they will be accomplished.

In order to track the City's progress on the implementation of their selected BMPs, the City of Peoria has defined specific measurable goals. The City will strive to implement these programs within the time frame specified. Table 6-2 Measurable Goals for Construction Site Storm Water Runoff Control provides an outline of the actions that the city plans to take, as well as the time frame for completing the goals. In the City's annual reports, an accounting will be made of the progress and implementation of the



selected BMPs. Where feasible, readily quantifiable data will be collected and maintained for each of the BMPs. The name and title of the person responsible for ensuring the implementation of each of the BMPs is listed by department in Table 2-1 Responsible Departments and Parties.

**Table 6-2 Measurable Goals for Construction Site Storm Water Runoff Control**

Measurable Goal	Permit Year					Start Date	End Date	Responsible Party*
	04	05	06	07	08			
<b>SWPPP Checklist</b>								
Develop an SWPPP Checklist.	X					6/03	6/04	Engineering
Distribute SWPPP Checklist to developers.		X	X	X	X	7/04	6/08	
<b>Construction Runoff Control Ordinance</b>								
Revise drainage ordinance for construction runoff.		X				7/04	6/05	Engineering
<b>Construction Site Inspections</b>								
Train inspectors on SWPPP requirements and inspections		X				7/04	6/05	Engineering
Inspect construction sites for SWPPPs			X	X	X	7/05	6/08	
<b>Land Grading Plan</b>								
Require a grading plan before issuing a grading permit	X	X	X	X	X	4/03	6/08	Engineering
<b>Construction Plan and SWPPP Review</b>								
Review grading and drainage plans and SWPPPs		X	X	X	X	1/05	6/08	Engineering

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in Table 2-1 Responsible Departments and Parties.



## 7. Post-Construction Runoff Control for Private Development

### 7.1. Overview

The fifth minimum control measure mandated by the EPA includes developing, implementing, and enforcing a program to address post-construction storm water pollution from new development and redevelopment projects. The regulatory text for this minimum control measure states:

*...develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into your small MS4. Your program must ensure that controls are in place that would prevent or minimize water quality impacts.*

*Specifically, the program must:*

- *Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for your community;*
- *Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal, or local law;*
- *Ensure adequate long-term operation and maintenance of BMPs.*

The EPA believes that when storm water quality is considered from the beginning of a project, new development and redevelopment projects will be better able to reduce pollution from storm water runoff throughout the life of the project. In order to effectively implement a post-construction storm water program, a combination of both structural and non-structural BMPs must be addressed. Non-structural BMPs include preventative actions that involve the management of source controls, as well as public outreach and appropriate ordinances. Structural BMPs on the other hand, include measures such as detention ponds, filter strips, and other methods, which physically affect the storm water runoff.

As part of this SWMP, the City of Peoria developed a post-construction storm water program that addresses storm water runoff in both new development and redevelopment. The City of Peoria will implement both structural and non-structural BMPs in order to reduce storm water pollution in new development and redevelopment areas. The City of Peoria will be implementing a public education campaign aimed at homeowners and developers. Additionally, the City will be holding stakeholder meetings in order to involve those most affected by the storm water programs. The BMPs which will be implemented as part of the public education campaign and the watershed organization, are described in detail in Chapter 3 and Chapter 4 respectively.



The City of Peoria will develop a program that will help prevent post-construction pollution from new development and redevelopment. This chapter describes the BMPs that the City has selected. These BMPs have been specifically tailored to reduce post-construction pollution from new development and redevelopment projects. This chapter specifically deals with post-construction runoff control from private developments. Post-construction runoff control from public developments is described in Section 8 Pollution Prevention/Good Housekeeping for Municipal Operations of this SWMP.

## 7.2. Selected BMPs (Privately Owned Facilities)

The City of Peoria will strive to comply with the objectives of the Post-Construction Runoff Control minimum control measure through the selection and implementation of appropriate BMPs. Many standards and requirements regarding the design of post-construction storm water control measures have been adopted by the City of Peoria. These measures include guidelines for the design and use of detention and retention basins, as well as storm water transmission options. This SWMP adopts the existing storm water design requirements by reference. These requirements can be found in the most recent versions of the *City of Peoria Infrastructure Development Guidelines*, the *City of Peoria Zoning Ordinance*, and the *Drainage Design Manual for Maricopa County, Arizona*. These manuals should be consulted in order to receive the most up to date information regarding the post-construction structural BMPs required by the City.

In addition to the BMPs established in the manuals discussed above, the City of Peoria has elected to implement additional BMPs. The BMPs, which the City of Peoria has selected, are outlined in Table 7-1 Selected BMPs for Post-Construction Runoff Control (Privately Owned Facilities). A detailed description of each of the BMPs, along with a description of how it will help to meet the City's goals, is also provided.

**Table 7-1 Selected BMPs for Post-Construction Runoff Control (Privately Owned Facilities)**

BMP	Responsible Party*
Detention/Retention/Infiltration Basins Design & Privately Owned Maintenance of New Construction	Design: Engineering Maintenance: HOA's
Catch Basin Maintenance	Private Party with Engineering Overview
Post-Construction BMP Inspection	Engineering & Public Works: Streets
Post-Construction Ordinance	Engineering
Developer Education Program	Engineering

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in Table 2-1 Responsible Departments and Parties.

Note: City maintained facilities are covered in Section 8

### 7.2.1. Detention/Retention/Infiltration Basins Design and Maintenance

Being located within the desert southwest, the City of Peoria receives very infrequent rainfall. However, when rain is received, the storms are generally very intense. The City of Peoria requires that the 100-yr/2-hour storm be retained or detained on site, where possible in accordance with the *City of Peoria Infrastructure Development Guide*. In



order to manage the storm water runoff, as well as comply with the storm water requirements, detention, retention, and infiltration basins are located throughout the City.

Various standards have been established specifying the proper design and sizing requirements for the different types of storm water basins. These requirements are set forth within the most recent versions of the *City of Peoria Infrastructure Development Guidelines*, the *City of Peoria Zoning Ordinance*, and the *Drainage Design Manual for Maricopa County, Arizona*.

In addition to the design of the storm water basins, they must be maintained in order to ensure proper operation. The maintenance of the storm water basins is performed by both the City of Peoria and private groups (ie. Homeowner's associations [HOA]). As part of this BMP, a maintenance schedule for each of the storm water basins maintained by the City will be established.

Specific actions that will occur under this BMP include:

- Develop a maintenance schedule for privately owned storm water basins

#### 7.2.2. Catch Basin Maintenance

Storm water runoff typically enters the storm drain system through the catch basins. Catch basins are also known as storm drain inlets and curb inlets. Since the majority of the water that enters the storm drain system passes through the catch basins, these basins provide one of the first opportunities for removing trash and pollutants from the storm water runoff.

Within the catch basins installed in the City, there is a depressed area which allows sediment to settle out. In order for the catch basin to operate effectively, the sediment must periodically be removed. The owners of private property where the catch basins are installed are required to install and maintain effective post-construction BMPs. The owners will be required to annually submit a report to the City outlining the maintenance that is being performed on the catch basins.

Specific actions that will occur under this BMP include:

- Require owners to submit an annual report outlining the maintenance of their catch basins

#### 7.2.3. Post-Construction Ordinance

In order to ensure that the post-construction storm water runoff requirements will be followed, the City of Peoria will be developing an ordinance that will provide the City with the power to enforce the post-construction requirements. This ordinance will help ensure that adequate measures are in place to address the post-construction runoff from new development and redevelopment projects. This ordinance will grant the City the authority to inspect the post-construction BMPs and ensure their upkeep. In addition, the ordinance will require that a maintenance agreement is continuously maintained for the structural BMPs on a project.



Specific actions that will occur under this BMP include:

- Develop a post-construction runoff control ordinance.

#### 7.2.4. Post-Construction BMP Inspection

The City of Peoria will be developing an ordinance to better enforce the post-construction BMP requirements. This ordinance will be enforceable with various penalties as described within the ordinance. In order to ensure that the ordinance is being followed, the City of Peoria will be periodically inspecting the post-construction BMPs. These inspections will check that the structural BMPs are being properly maintained. The method and schedule for inspections will be determined by the City.

Specific actions that will occur under this BMP include:

- Inspection post-construction sites for storm water compliance.
- Develop an inspection schedule.

#### 7.2.5. Development Education Program

In order to assist the development community in complying with the post-construction requirements, the City of Peoria will be developing educational information to provide to owners, developers, designers, and the public. The purpose of this information will be to identify measures and designs that will minimize water quality impacts, as well as provide a description of post-construction BMPs that could be used to reduce post-construction runoff from new development and redevelopment projects within the City.

Specific actions that will occur under this BMP include:

- Develop post-construction BMP information materials for developers.
- Make the information available for pickup by the developer.

### 7.3. Implementation Goals

The City of Peoria is responsible for tracking their progress on the SWMP through the development of measurable goals. These measurable goals must include specific actions that will aid the City in establishing and implementing the BMPs outlined in this section. The actions, which have been established for these measurable goals, must also include a specific time frame within which they will be accomplished.

In order to track the City's progress on the implementation of their selected BMPs, the City of Peoria has defined specific measurable goals. The City will strive to implement these programs within the time frame specified. Table 7-2 Measurable goals for post-construction runoff measure provides an outline of the actions that the City plans to take, as well as the time frame by which the goals will be completed. In the City's annual reports, an accounting will be made of the progress and implementation of the selected BMPs. Where feasible, readily quantifiable data will be collected and maintained for



each of the BMPs. The name and title of the person responsible for ensuring the implementation of each of the BMPs is listed by department in Table 2-1 Responsible Departments and Parties.

**Table 7-2 Measurable goals for post-construction runoff measure**

Measurable Goal	Permit Year				Start Date	End Date	Responsible Party*	
	04	05	06	07				08
<b>Detention/Retention/Infiltration Basins Design and Maintenance</b>								
Develop maintenance schedule for privately owned basins		X				7/04	6/05	Engineering
<b>Catch Basin Maintenance</b>								
Require owners of catch basins to submit an annual report			X	X	X	1/06	6/08	Engineering
<b>Post-Construction Ordinance</b>								
Develop a post-construction storm water ordinance		X				7/04	6/05	Engineering
<b>Post-Construction BMP Inspection</b>								
Develop an inspection schedule		X				7/04	6/05	Engineering &
Inspect post-construction sites for storm water compliance			X	X	X	1/06	6/08	Public Works: Streets
<b>Development Education Program</b>								
Develop post-construction BMP information materials		X				7/04	6/05	Engineering
Make the information available for pickup by the developer.			X	X	X	7/05	6/08	

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in Table 2-1 Responsible Departments and Parties.



## **8. Pollution Prevention/Good Housekeeping for Municipal Operations**

### **8.1. Overview**

The sixth minimum control measure mandated by the EPA includes developing and implementing a pollution prevention program for municipal operations. The regulatory text for this minimum control measure states:

*...develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, your State, Tribe, or other organizations, your program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.*

The EPA believes that operation and maintenance programs, when properly implemented, will reduce the risk of water quality problems. Therefore, these programs are an important part of all storm water management programs. In developing an appropriate pollution prevention/good housekeeping program for municipal operations, the EPA recommends that at a minimum the following items be considered: maintenance activities, maintenance schedules, long-term inspection procedures, controls to reduce pollution from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops; procedures for properly disposing of waste removed from the separate storm sewers and other municipal maintenance areas; and ways to ensure new flood management projects assess the impacts on water quality and examine methods for reducing the water quality.

The City of Peoria will develop a program that will help prevent pollution from municipal activities. This chapter describes the BMPs that the City has selected. These BMPs have been specifically tailored to reduce pollution from the City's municipal operations.

### **8.2. Industrial Facilities**

At the present time, the City of Peoria does not currently own or operate any industrial facilities that are subject to the Multi-Sector General Permit (MSGP), or an Individual NPDES permit.

### **8.3. Impacted Municipal Operations**

The City of Peoria will strive to comply with the objectives of the Pollution Prevention/Good Housekeeping for Municipal Operations minimum control measure through the selection of appropriate BMPs. The municipal operations and BMPs, which the City of Peoria has selected, are outlined in Table 8-1 Impacted Municipal Operations. A detailed description of each of the municipal operations and BMPs, along with a description of how it will help to meet the City's goals, is also provided. These BMPs



have been specifically tailored to meet the conditions found in the City of Peoria’s municipal operations facilities.

**Table 8-1 Impacted Municipal Operations**

<b>Municipal Operation</b>	<b>Responsible Party*</b>
Municipal Training Program	Engineering
Automobile Maintenance	Public Works-Fleet Services Division
Vehicle Washing	Public Works- Fleet Services
Illegal Dumping Control	Solid Waste & Fire Dept
Roadway & Bridge Maintenance	Public Works- Streets & Engineering
Street Sweeping	Public Works- Streets
Storm Drain System Cleaning	Public Works- Streets
Used Oil Recycling	Public Works-Fleet Services
Material Management	Finance Department- Materials Management Division
Hazardous Material Storage	Finance Department- Materials Management Division
Storm Water Basin Management on City Properties	Public Works & Community Services

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in Table 2-1 Responsible Departments and Parties.

**8.3.1. Municipal Training Program**

The City of Peoria will be implementing a municipal employee training program. The purpose of this program will be to explain the municipal and environmental problems associated with polluted storm water runoff. The training program will also address methods that the municipal employees may take to reduce potential hazardous runoff. Potential training items may include, proper storage and handling of municipal materials, identifying and reporting illicit discharges, etc. The training program will be established based on the identified needs of the municipal employees.

Specific actions that will occur under this BMP include:

- Identify storm water topics for municipal employees.
- Develop a training program.
- Train municipal staff.

**8.3.2. Automobile Maintenance**

Automotive repair is the leader in number of hazardous waste generators, as well as the quantity of total waste produced for small quantity generators of hazardous waste. Many of the common repair and cleaning activities at maintenance shops have the potential for polluting storm water runoff. The purpose of this BMP is to target municipal fleets (public works, school buses, fire, police, and parks) involved in automobile maintenance, and to establish alternative methods and procedures that will help to reduce pollution.

Automotive repair and maintenance facilities conduct many activities that have the potential for generating storm water pollution. Such activities include the cleaning of



parts, changing of vehicle fluids, and replacement and repair of equipment. In order to help prevent storm water pollution, various practices will be evaluated at the City's maintenance facilities.

The EPA has developed a set of recommendations for various activities which will help minimize the storm water impact of automotive maintenance. The City of Peoria will evaluate their fleet maintenance program to determine which of these activities can be effectively implemented. These practices are shown in Table 8-2 Recommended Pollution Prevention Methods for Automotive Maintenance.

**Table 8-2 Recommended Pollution Prevention Methods for Automotive Maintenance**

<b>Pollution Prevention Method</b>	<b>Suggested Activities</b>
Waste Reduction	<ul style="list-style-type: none"> <li>• The number of solvents used should be kept to a minimum to make recycling easier and to reduce hazardous waste management cost.</li> <li>• Do all liquid cleaning at a centralized station to ensure that solvents and residues stay in one area.</li> <li>• Locate drip pans and draining boards to direct solvents back into solvent sink or holding tank for reuse.</li> </ul>
Using Safer Alternatives	<ul style="list-style-type: none"> <li>• Use non-hazardous cleaners when possible.</li> <li>• Replace chlorinated solvents with nonchlorinated ones like kerosene or mineral spirits.</li> <li>• Recycled products such as engines, oil, transmission fluid, antifreeze, and hydraulic fluid can be purchased to support the market for recycled products.</li> </ul>
Spill Clean Up	<ul style="list-style-type: none"> <li>• Use as little water as possible to clean spills, leaks, and drips.</li> <li>• Rags should be used to clean small spills, dry absorbent material for larger spills, and a mop for general cleanup. Mop water can be disposed of via the sink or toilet to the sanitary sewer.</li> </ul>
Good Housekeeping	<ul style="list-style-type: none"> <li>• Employee training and public outreach are necessary to reinforce proper disposal practices.</li> <li>• Conduct maintenance work such as fluid changes indoors.</li> <li>• Update facility schematics to accurately reflect all plumbing connections.</li> <li>• Parked vehicles should be monitored closely for leaks and pans should be placed under any leaks to collect the fluids for proper disposal or recycling.</li> <li>• Promptly transfer used fluids to recycling drums or hazardous waste containers.</li> <li>• Do not pour liquid waste down floor drains, sinks, or outdoor storm drain inlets.</li> <li>• Obtain and use drain mats to cover drains in the event of a spill.</li> <li>• Store cracked batteries in leak proof secondary containers.</li> </ul>
Parts Cleaning	<ul style="list-style-type: none"> <li>• Use detergent-based or water-based cleaning systems instead of organic solvent degreasers.</li> <li>• Steam cleaning and pressure washing may be used instead of solvent parts cleaning. The wastewater generated from steam cleaning can be discharged to the on-site oil/water separator.</li> </ul>

Specific actions that will occur under this BMP include:



- Emphasize proper disposal practices.
- Evaluate current practices and update with “storm water friendly” procedures.
- Employee training to explain pollution prevention methods.

### 8.3.3. Vehicle Washing

Outdoor vehicle washing is a common practice that has the potential to introduce many contaminants into the storm drain system. While commercial car washing facilities must recycle their wash water, when vehicles are washed outdoors, oil, grease, soap, and many other chemicals can be released into the storm drain system.

In order to help prevent storm water pollution caused by the washing of municipal fleet vehicles, the City of Peoria will construct a vehicle washing facility with the capability of recycling the wash water. This will help to prevent the polluted vehicle runoff from entering the storm drain system. The City’s washing facility will be used to wash heavy equipment and containers. The fleet automobiles will be taken to an approved washing facility that recycles their wash water.

Specific actions that will occur under this BMP include:

- Construct a vehicle washing facility.
- Map on-site storm drain locations to avoid discharging to these locations.
- Wash heavy municipal vehicles at the vehicle wash facility.
- Wash fleet automobiles at an approved facility that recycles wash water.

### 8.3.4. Illegal Dumping Control

Illegal dumping occurs when a contaminant is intentionally introduced into the storm drain system. Oftentimes, illegal dumping occurs due to a lack of accessibility to proper disposal sites. The City of Peoria will strive to reduce illegal dumping within its boundaries by providing public education and outreach as described in Section 3. This education and outreach will inform residents about the hazards of illegal dumping, as well as identifying convenient and cost effective methods for disposing of household hazardous waste. In addition, the City of Peoria will institute measures for tracking illegal dumping.

In order to help reduce illegal dumping, the City intends to make the disposal of household hazardous wastes more convenient; the City will be implementing a hazardous waste collection program. The hazardous waste collection program will consist of two parts:

- Drop Off Event
- Special pickups

The City of Peoria will implement the program by scheduling multiple Drop Off Events each year. The exact number of events held will be determined based on the public response, and anticipated demand of the residents. The Drop Off Events will be scheduled at various locations throughout the City, and will provide residents with the opportunity to properly dispose of their hazardous wastes.



The second program that the City of Peoria will implement will be a Special Pickup program. This program allows residents to call and schedule an appointment for a technician to collect household hazardous waste from their home. When the resident calls to schedule a pickup, they will be instructed how to properly prepare their items for pickup.

For both of the events listed above, City personnel will receive adequate training in handling and transporting hazardous waste. In addition, the City's municipal operations staff will dispose of the wastes properly.

Specific actions that will occur under this BMP include:

- Implement household hazardous waste drop off events.
- Schedule household hazardous waste pickups.
- Train City personnel on proper handling of hazardous wastes.

### 8.3.5. Roadway and Bridge Maintenance

A large portion of the land use within the City of Peoria consists of roadway infrastructure. The automobiles traveling daily along these roads and bridges generate a substantial amount of pollution. This combination presents a large potential for polluting storm water runoff. Many potential pollutants can enter the storm water from roadways. Table 8-3 Highway Runoff Constituents and their Sources provides an EPA list of common pollutants which are found in highway runoff as well as their most likely sources.

**Table 8-3 Highway Runoff Constituents and their Sources**

<b>Constituent</b>	<b>Primary Sources</b>
Particulates	Pavement wear, vehicles, atmosphere
Nitrogen, Phosphorus	Atmosphere, roadside fertilizer application
Lead	Tire wear, auto exhaust
Zinc	Tire wear, motor oil, grease
Iron	Auto body rust, steel highway structures, moving engine parts
Copper	Metal plating, brake lining wear, moving engine parts, bearing and bushing wear, fungicides and insecticides
Cadmium	Tire Wear, insecticides
Chromium	Metal plating, moving engine parts, brake lining wear
Nickel	Diesel fuel and gasoline, lubricating oil, metal plating, brake lining wear, asphalt paving
Manganese	Moving engine parts
Sulphate	Roadway beds, fuel, deicing salts
Petroleum	Spills, leaks or blow-by of motor lubricants, antifreeze and hydraulic fluids, asphalt surface leachate

Due to the many potential contaminants on the roads and bridges, the City of Peoria feels that it is important that these roadways are properly maintained. The City of Peoria will work with ADOT to provide inspections of the transportation infrastructure located within the City.

Specific actions that will occur under this BMP include:



- Maintaining roadways and bridges within the City of Peoria.
- Inspect roadways and bridges for damage or disrepair.

#### 8.3.6. Street Sweeping

Due to the large amount of pollutants that can be found on roadways, the City of Peoria will implement a street sweeping program as one of their best management practices. It is believed that street sweeping will remove sediment buildup on the roadways and in the gutters, and will therefore reduce the pollutant load during a storm water event.

As part of this BMP, the City of Peoria will work to identify the optimal sweeping interval. In order to receive the optimum benefit from the street sweeping program, the operators of the street sweepers will receive training on the proper operation of the machines.

Specific actions that will occur under this BMP include:

- Evaluate street sweeping program.
- Sweep city streets.
- Continue training of the street sweeper operators.

#### 8.3.7. Storm Drain System Cleaning

As discussed in other sections of this SWMP, the City of Peoria receives an average rainfall of 7-inches per year. With such a minimal amount of rainfall received, the potential exists for sediments and debris to accumulate in the storm sewers during times of inactivity. It is therefore important that routine cleaning of the storm drains be performed to reduce the amount of pollutants, trash, and debris that may be clogging the storm drain system. According to the EPA, some of the benefits of storm drain system cleaning include increased dissolved oxygen and reduced levels of bacteria polluting storm water runoff.

The City of Peoria will implement a storm drain system cleaning program within the City. The City will purchase a vactor truck to use for storm drain cleaning. All operators of the vactor truck will receive proper training on storm drain cleaning procedures. In addition to physically cleaning the storm drains, part of this BMP includes determining the optimum interval for storm drain system cleaning, as well as tracking the drains which have been cleaned.

Specific actions that will occur under this BMP include:

- Identify and purchase a vactor truck.
- Determine storm drain cleaning intervals.
- Regularly maintain the storm drain system.
- Provide training on proper storm drain cleaning methods.

#### 8.3.8. Used Oil Recycling

The improper disposal of used motor oil poses a large threat to the environment. It has been estimated that one gallon of oil will contaminate 1,000,000 gallons of drinking water. Additionally, improperly disposed motor oil is responsible for 40% of the pollution



in America's waterways. In order to help reduce the potential for pollution caused by used motor oils, the City of Peoria will be implementing an oil-recycling program. As part of this BMP, City staff will provide an example to residents by recycling the used motor oil from their municipal fleet.

Specific actions that will occur under this BMP include:

- Recycle used motor oil from the City's fleet vehicles.

#### 8.3.9. Hazardous Material Storage

As a municipality, the City of Peoria handles various hazardous materials throughout the course of their normal operations. Failure to properly store these materials increases the potential for polluting storm water runoff. For this reason, the City of Peoria has implemented hazardous material storage procedures.

The EPA has outlined various procedures which can be implemented to aid in more effective hazardous material storage. These procedures are as follows:

- Ensuring sufficient aisle space to provide access for inspections and to improve the ease of material transport.
- Storing materials well away from high-traffic areas to reduce the likelihood of accidents that might cause spills or damage to hazardous material containers.
- Stacking containers in accordance with the manufacturers' directions to avoid damaging the container or the product itself.
- Storing containers on pallets. This facilitates inspection for leaks and prevents the containers from coming into contact with wet floors, which can cause corrosion.
- Delegating the responsibility for management of hazardous materials to personnel trained and experienced in hazardous substance management.

As part of this BMP the City of Peoria will be evaluating their hazardous material storage procedures. These procedures will be evaluated in order to minimize the probability of storm water contamination.

Specific actions that will occur under this BMP include:

- Continuation of current City hazardous material storage procedures.
- Update procedures to minimize the probability of hazardous materials coming in contact with storm water.
- Store hazardous materials in accordance with the newly defined procedures.



### 8.3.10. Materials Management

Another BMP that the City of Peoria will implement that goes hand in hand with the Hazardous Material Storage BMP is the Materials Management BMP. As a growing municipality of over 100,000 people, City staff handles various materials which have the potential to pollute storm water. By responsibly managing common chemicals such as fertilizers, solvents, paints, cleaners, and automotive products, polluted storm water runoff can be significantly reduced.

In order to better manage the materials that the City is responsible for, the City will look at implementing some basic material management procedures. These procedures include improving maintenance of industrial machinery, establishing material storage and inventory controls, improving routine cleaning and inspection of facilities where materials are stored, maintaining organized workplaces, and properly training City staff that handles the materials. Additionally, the City of Peoria will look at using cost-effective alternative products that do not pose as large a threat to the environment.

In order to implement this BMP, the City of Peoria will be creating an inventory of its stored materials. In creating this inventory, the City plans on following the three major steps defined by the EPA. These steps include:

- Identify all hazardous and nonhazardous substances present in a facility. This can be accomplished by reviewing all purchase orders for the facility and walking through the facility itself. Compile a list of all chemicals present in the facility and obtain a Material Safety Data Sheet (MSDS) for each one.
- Label all containers with the name of the chemical, unit number, expiration date, handling instructions, and health or environmental hazards. This information can typically be found on the MSDS.
- Create a special note on the inventory of hazardous chemicals that require special handling, storage, and disposal.

Specific actions that will occur under this BMP include:

- Create a materials inventory of products commonly used by the City.
- Evaluate alternative products for use in place of the hazardous materials.
- Train City staff members in the proper handling and tracking of hazardous materials.

### 8.3.11. Storm Water Basin & Drywell Management on City Properties

The City of Peoria utilizes storm water basins to collect their storm water, and drywells to aid in the drainage of the retention basin. A drywell is a bored, drilled, or driven hole, whose depth is greater than its width, and is used for the disposal of storm water. As part of this BMP, the City will be managing their storm water basins and drywells. These management programs include maintaining a proper inventory. This inventory will identify the locations of the City owned basins and drywells, their current maintenance status, and any maintenance that needs to be performed.



Specific actions that will occur under this BMP include:

- Create an inventory of the City owned basins and drywells within the City, along with their current maintenance status.

#### **8.4. Implementation Goals**

The City of Peoria is responsible for tracking their progress on the SWMP through the development of measurable goals. These measurable goals must include specific actions that will aid the City in establishing and implementing the BMPs outlined in this section. The actions, which have been established for these measurable goals, must also include a specific time frame within which they will be accomplished.

In order to track the City's progress on the implementation of their selected BMPs, the City of Peoria has defined specific measurable goals. The City will strive to implement these programs within the time frame specified. Table 8-4 Measurable goals for pollution prevention/good housekeeping measure provides an outline of the actions that the City plans to take, as well as the time frame by which the goals will be completed. In the City's annual reports, an accounting will be made of the progress and implementation of the selected BMPs. Where feasible, readily quantifiable data will be collected and maintained for each of the BMPs. The name and title of the person responsible for ensuring the implementation of each of the BMPs is listed by department in Table 2-1 Responsible Departments and Parties.



**Table 8-4 Measurable goals for pollution prevention/good housekeeping measure**

Measurable Goal	Permit Year					Start Date	End Date	Responsible Party*
	04	05	06	07	08			
<b>Municipal Training Program</b>								
Identify storm water topics for municipal employees		X				7/04	6/05	Engineering
Develop a training program			X			7/05	6/06	
Train municipal staff				X		7/06	6/07	
<b>Automobile Maintenance</b>								
Emphasize proper disposal practices		X	X	X	X	7/04	6/08	Public Works- Fleet Services
Evaluate and update maintenance procedures			X	X	X	7/06	6/08	
Employee training to explain pollution prevention methods	X	X	X	X	X	7/04	6/08	
<b>Vehicle Washing</b>								
Construct a vehicle washing facility	X					4/03	6/04	Solid Waste Dept
Wash municipal vehicles at the vehicle wash facility				X	X	7/06	6/08	
Map Municipal Operations Center storm drain locations				X		7/06	6/07	Public Works- Fleet Services
Wash municipal cars at an approved facility	X	X	X	X	X	4/03	6/08	
<b>Illegal Dumping Control</b>								
Continue household hazardous waste drop off events	X	X	X	X	X	4/03	6/08	Solid Waste Dept Fire Department
Schedule household hazardous waste pickups	X	X	X	X	X	4/03	6/08	
Train City personnel on proper handling	X	X	X	X	X	4/03	6/08	
<b>Roadway and Bridge Maintenance</b>								
Inspect roadways and bridges for damage or disrepair	X	X	X	X	X	4/03	6/08	PW- Streets & Engineering
<b>Street Sweeping</b>								
Continue to evaluate street sweeping program	X	X	X	X	X	4/03	6/08	Public Works- Streets
Continue to sweep city streets	X	X	X	X	X	4/03	6/08	
Provide training to the street sweeper operators	X	X	X	X	X	4/03	6/08	
<b>Storm Drain System Cleaning</b>								
Identify and purchase a vactor truck		X				7/04	6/05	Public Works- Streets
Determine storm drain cleaning intervals		X				7/04	6/05	
Regularly maintain the storm drain system			X	X	X	7/05	6/08	
Provide training on proper storm drain cleaning methods			X	X	X	7/05	6/08	
<b>Used Oil Recycling</b>								
Recycle used motor oil from the City's fleet vehicles	X	X	X	X	X	6/03	6/08	PW- Fleet Services
<b>Hazardous Material Storage</b>								
Evaluate City hazardous material storage procedures		X				7/04	6/05	Finance Department Materials Management Division
Update procedures to minimize contact with storm water			X			7/05	6/06	
Store hazardous materials according to new procedures				X	X	7/06	6/08	
<b>Materials Management</b>								
Develop a materials inventory of commonly used products			X			7/05	6/06	Finance Department Materials Management Division
Evaluate alternative materials				X		7/06	6/07	
Train City staff on proper handling and tracking of materials	X	X	X	X	X	4/03	6/08	
<b>Storm Water Basin and Drywell Management on City Properties</b>								
Create an inventory of City owned basins & drywells	X	X				4/03	6/05	Public works & Community Services

\*The name and title of the person responsible for ensuring the implementation of the BMPs for each department is listed in Table 2-1 Responsible Departments and Parties.

## **Appendix**

### Appendix

#### Appendix A Small MS4 Documents

- Appendix A-1 Small MS4 General Permit
- Appendix A-2 Small MS4 General Permit Fact Sheet
- Appendix A-3 Small MS4 Notice of Intent (NOI)
- Appendix A-4 Small MS4 Notice of Termination (NOT)
- Appendix A-5 Response to comments provided by ADEQ on the SWMP
- Appendix A-6 Storm Water System Maps

#### Appendix B Small Construction General Permit Information

- Appendix B-1 Small Construction General Permit
- Appendix B-2 Small Construction Notice of Intent (NOI)
- Appendix B-3 Small Construction Notice of Termination (NOT)
- Appendix B-4 Small Construction General Permit Fact Sheet

**Appendix A Small MS4 Documents**

Appendix A-1 Small MS4 General Permit

<http://www.azdeq.gov/environ/water/permits/download/ms4small.pdf>

Appendix A-2 Small MS4 General Permit Fact Sheet

<http://www.azdeq.gov/environ/water/permits/download/ms4fact1.pdf>

Appendix A-3 Small MS4 Notice of Intent (NOI)

<http://www.azdeq.gov/enviro/water/permits/download/ms4noi.pdf>

Appendix A-4 Small MS4 Notice of Termination (NOT)

<http://www.azdeq.gov/environ/water/permits/download/ms4not.pdf>

Appendix A-5 Response to comments provided by ADEQ on the SWMP



## City of Peoria

### Engineering

9875 N. 85<sup>th</sup> Avenue, Peoria AZ 85345  
Ph: 623-773-7210 Fax: 623-773-7211

September 2, 2008

Arizona Department of Environmental Quality  
Attn: Mr. Christopher M. Henninger, Supervisor  
1110 W. Washington Street  
Phoenix, AZ 85007

Re: Summary of unresolved SWMP Deficiencies and the NOV issued on June 9, 2008

Dear Mr. Henninger:

In response to your letter dated August 8, 2008, please consider the following as Peoria official's response. Additionally, as agreed upon via conference call, this letter will be added to the appendix of the City of Peoria's Stormwater Management Program (SWMP). As such, no further revisions to the plan will be done other than incorporating this letter and thus is considered as part of the plan. The City's response is keyed to the specific items outlined in your letter which were originally referenced in the March 2006, letter issued by your Department.

1. The SWMP should focus directly on Stormwater BMPs to reduce the discharge of pollutants to and from the storm sewer system to the maximum extent practicable. Several BMPs in the SWMP are unrelated to the control of stormwater pollutants. Several other BMPs are not within the City's control. Please review carefully the intent of the permit and revise your SWMP to focus on Stormwater BMPs within the City's control. You may not **subtract** BMPs from your SWMP, however you may **replace** BMPs that are not stormwater related or those that are outside the City's control (ineffective or infeasible) with alternatives (Permit Part V.E.2).

*Although the City of Peoria is of the opinion that the original permit intent was that **Once a plan is approved** the MS4 may not subtract BMPs for their SWMP, but may replace BMPs. However, to put a close on this matter, the City will agree that if we replace any BMP(s) with the understanding (as discussed with you earlier) that implementation of any of these new BMP(s) will not occur until the next permit cycle and as such, will be incorporated in the next SWMP as well. However, the City has elected not to replace any BMPs, but selected to work with Maricopa County on an IGA, which was suggested by ADEQ as an acceptable BMP.*

2. The SWMP indicates that the Stormwater Ordinances (pet waste management, illicit discharge, construction, and post-construction) were due to be completed in June 2005. However, the 2005 Annual Report states that this effort will be completed in Year 3 (presumed to be 2006). Please revise the SWMP to reflect the new implementation dates. Once the Stormwater Ordinances have been adopted, please include a citation or simply

attach the ordinances to your revised SWMP (Permit Part V.B.3.g.ii, Part V.B.4.e.i, and Part V.B.5.e.ii), and please revise your SWMP to describe the enforcement policies available to ensure compliance with the ordinances (Permit Part V.B.3.g.iii, Part V.B.4.e.ii, and Part V.B.5.e.iii).

*A copy of the Draft ordinance is attached here in. Final version of the ordinance is anticipated to be adopted by City council by the end of this calendar year.*

Response related to comments regarding minimum control measures and corresponding BMPs and measurable goals:

1. Public Education and Outreach on Stormwater Impacts

- d. The SWMP includes the City's Water Conservation Program as a stormwater BMP. Although water conservation is an important effort, please explain how this program will prevent or reduce the discharge of pollutants to waters of the United States, thereby improving the quality of stormwater runoff discharged by your storm sewer system.

*It is the City of Peoria's belief that all water conservation efforts have an impact on stormwater quality although to differing degrees. The main premise here is that most of the water conservation efforts relate to reduction of landscaping watering, the promotion of Xeroscape designs. As such, these types of efforts have a direct impact on the stormwater quality.*

2. Public Involvement/Participation

Part 4.1 of the SWMP states that the only requirement under the Public Involvement/Participation minimum control measure is to comply with public notice requirements. This is not accurate as there are several other permit conditions for this minimum control measure. Please review Permit Part V.B.2 and revise the SWMP to include all permit requirements. Specific deficiencies in this part of the SWMP are described below.

- d. Page 21 of the SWMP indicates that the SWMP and NOI were made available on the Town's website. However, on July 23, 2007, ADEQ staff was not able to find these documents on the City's website. Please confirm that these documents are available on the website. Posting these documents on the website could be included in the SWMP as a BMP.

*As we have discussed, these items will be posted on the City's website within 7 business days after receiving written approval of the SWMP from ADEQ.*

- c. The SWMP describes BMP 4.2.2. Watershed Organization (STORM) as a public involvement/participation BMP. Please explain how this BMP will allow the public to provide input and assistance to the City of Peoria's Stormwater Management Program.

*As part of the group STORM, public events are held which allow for public participation and involvement. Since these activities are part of STORM, STORM can be defined as an involvement/participation BMP. Clearly, STORM activities cover more than this single BMP and as such STORM has been used to meet the requirements of several BMPs. Although Peoria disagrees with ADEQ philosophically on this issue, the City will insure that any future planned activities highlight more public involvement and participation.*

3. Illicit Discharge Detection and Elimination

The SWMP states that ADEQ “recommends” certain components of this minimum control measure. ADEQ has not made recommendations on these components; in fact, some of these components are Permit requirements. Please review the Permit requirements for this minimum control measure and revise the SWMP to include all requirements. Specific deficiencies in this section of the SWMP are described below.

*Duly noted. It is hereby noted that some of the items reflected on the SWMP are not recommendations of ADEQ but rather a requirement. Please note that the City of Peoria does not allow any discharges in our MS4 other than stormwater and/or any discharge that has been separately permitted by ADEQ for such a discharge. Our drainage crew, as part of Public Works, has field crews that routinely go out and perform visual inspection on dry weather discharges as well as respond to complaints received from our citizens thru our Hansen System.*

*Once a possible discharge is identified, the drainage crew will investigate the source via visual methods utilizing cameras and other devices deemed necessary. Once the source is identified, the owner is contacted to ensure correction of the situation has been implemented.*

- d. The SWMP includes Sewage from Recreational Activities (i.e. boating in Lake Pleasant) as a stormwater BMP. Please explain how this program will improve the quality of stormwater runoff discharged to or from your storm sewer system. Furthermore, the SWMP states that this BMP would involve no more than the City’s recommendation to Maricopa County. A BMP may be a prohibition of practices, however, simply recommending a BMP to another MS4 does not constitute a BMP for the City of Peoria’s Stormwater Management Program. Please replace this BMP with an appropriate illicit discharge detection and elimination BMP within the City’s control.
- e. The SWMP includes Sanitary Sewer Overflows (SSOs) as a stormwater BMP. However, the SWMP states that Maricopa County is responsible for the detection and elimination of SSOs. Again, simply recommending a BMP to another MS4 does not constitute a BMP for the City of Peoria’s Stormwater Management Program. Please replace this BMP with an appropriate illicit discharge detection and elimination BMP within the City’s control.

*As we have discussed on several occasions, the purpose of originally including reference to Maricopa County is intended as informational only. These activities are not with the City jurisdictional authority even though they occur with our City limits. Additionally, Peoria will consider the possibility of entering into an agreement with Maricopa County or provided a more concentrated effort to coordinate activities within the agencies now that Maricopa County has established some BMPs.*

*As part of this agreement with Maricopa County the following will be items of coordination. The City of Peoria will work with Maricopa County to ensure that they implement the following Requirements for recreational sewage:*

- *Pumpout Installation and Operation—Pumpout stations are an efficient method to control sanitary discharges from boating activities. Pumpout facilities collect waste from on-board MSDs, which are recommended for vessels over 25-feet.*

*EPA Region 4 suggests on facility for every 200 to 250 boats with holding tanks.*

- *No-discharge area designations—No-discharge areas are zones where it is illegal to discharge sanitary waste from vessels whether it is treated or untreated. The only type of marine sanitation device than can be legally used in these areas are Type III MSDs (holding tanks). The benefit of the no discharge contamination from illegal discharges of vessel waste.*
- *Signage—Signs marking pumpout station locations and hours of operation will be placed in prominent places where boater tend to gather. Self-service pumpout stations will include a sign that provides operating guidance. Applicable codes and penalties will also be posted.”*

*As discussed, once the IGA is adopted, this will become an Alternative BMP to the once reflected in our original SWMP.*

*Please note that he City is responsible for SSO from the city’s sewer system that we own and maintain. The updated Table 5-1 addresses this BMP for those areas that the City has jurisdiction.*

Table 5-1 is revised to reflect the following:

<i>BMP</i>	<i>Responsible Party*</i>
<i>Industrial/Business Connections</i>	<i>Industrial Waste Groups &amp; Utilities</i>
<i>Sewage from Recreational Activities</i>	<i>Utilities &amp; County</i>
<i>Sanitary Sewer Overflows</i>	<i>Maricopa County</i>
<i>Identifying Illicit Connections</i>	<i>Public Works/Streets &amp; Engineering</i>
<i>Wastewater Connection to Storm Drain System</i>	<i>Engineering &amp; County</i>
<i>Illegal Dumping</i>	<i>Solid Waste, Fire Department, Code Enforcement</i>
<b><i>Illegal Dumping/Illicit Discharge Ordinance</i></b>	<b><i>Engineering/Public Works</i></b>

4. Construction Site Stormwater Runoff Control

- d. Part 6.2 of the SWMP indicates that the City will require a Stormwater Pollution Prevention Plan (SWPPP) be prepared for construction activity. Please clarify in the SWMP if this is the SWPPP as required by the AZPDES Construction General Permit or a separate document required by the City (Part V.B.4.c).

*The City intended for this requirement to apply to the SWPPP as required by the AZPDES Construction General Permit.*

*“The SWPPP shall contain, at a minimum:*

- *General project information (nature of activity, area of disturbance, etc.)*
- *General location and site map*
- *Narrative site description (describe and quantify discharges, etc.)*
- *Goals and criteria statements*
- *Description of stabilization practices*
- *Description of structural practices*
- *Description of post-construction storm water management*
  
- *Description of any other control measures used*
- *Approved state and local plans”*

*This language was approved by ADEQ and per our discussion; this language will not be inserted in the final SWMP, but will be highlighted in the executive summary that it exists in this appendix.*

6. Pollution Prevention/Good Housekeeping for Municipal Operations

- d. The Municipal Training BMP should focus directly on achieving a reduction in stormwater pollutants from municipal operations (Part V.B.6.b.ii). The training program described in the Annual Reports includes topics such as blood borne pathogens. More appropriate topics to reduce stormwater pollutants would include how to incorporate pollution prevention/good housekeeping techniques into operations such as park and open space maintenance (i.e. fertilizer, herbicide, insecticide application and disposal of landscaping waste), fleet and building maintenance, and storm water system maintenance. To satisfy the general requirement of Maximum Extent Practicable (Part V.A), this training should be offered annually as a “refresher”, to address any new operations, equipment or protocols, and for new employees. Please revise this BMP to address stormwater pollutants specifically and include the frequency of training.

*The City does offer annual inspector training based on the American Public Works Association (APWA) program. As part of this training stormwater training is added. Per our discussion, this fact will not be inserted in the final SWMP, but will be highlighted in the executive summary that it exists in this appendix.*

The City of Peoria greatly appreciates the openness and the cooperation of ADEQ to improve the quality of stormwater in our community with fiscal responsibility. Please feel free to contact me at (623) 773-7502, or via E-mail at [maher.hazine@peoriaaz.gov](mailto:maher.hazine@peoriaaz.gov) if these issues need further clarification.

Sincerely,

Maher M. Hazine, P.E., CFM  
Assistant City Engineer

*Attachment*

c: Carl Swanson, City Manager  
John Gibbons, ADEQ Water Quality Compliance Section

MH:jb  
I:\Stormwater\letter\_ADEQ\_Henninger\_SWMP



## City of Peoria

### Engineering

9875 N. 85<sup>th</sup> Avenue, Peoria AZ 85345  
Ph: 623-773-7210 Fax: 623-773-7211

April 23, 2009

Arizona Department of Environmental Quality  
Attn: Mr. Christopher M. Henninger, Supervisor  
1110 W. Washington Street  
Phoenix, AZ 85007

Re: Summary of unresolved SWMP Deficiencies

Dear Mr. Henninger:

As a follow up to the discussion between ADEQ and the City of Peoria, please consider the following as Peoria's official response based on those discussions. This letter will be added to the appendix of the City of Peoria's Stormwater Management Program (SWMP) with the letter dated September 2, 2008. As such, no further revisions to the plan will be done other than incorporating these letters and thus is considered as part of the plan. The City's response is keyed to the specific items outlined in your letter which were originally referenced in the March 2006, letter issued by your Department.

2. Public Education and Outreach on Stormwater Impacts

- e. The SWMP includes the City's Water Conservation Program as a stormwater BMP. Although water conservation is an important effort, please explain how this program will prevent or reduce the discharge of pollutants to waters of the United States, thereby improving the quality of stormwater runoff discharged by your storm sewer system.

*In an effort to quantify the effects of the Water Conservation Program the City will report on the square footage of lawns reduced to Xeriscaping and the equivalent reduction in water that would have entered into the storm drain system.*

2. Public Involvement/Participation

Part 4.1 of the SWMP states that the only requirement under the Public Involvement/Participation minimum control measure is to comply with public notice requirements. This is not accurate as there are several other permit conditions for this minimum control measure. Please review Permit Part V.B.2 and revise the SWMP to include all permit requirements. Specific deficiencies in this part of the SWMP are described below.

- e. Page 21 of the SWMP indicates that the SWMP and NOI were made available on the Town's website. However, on July 23, 2007, ADEQ staff was not able to find

these documents on the City's website. Please confirm that these documents are available on the website. Posting these documents on the website could be included in the SWMP as a BMP.

*As we have discussed, the SWMP and NOI will be posted on the City's website within 7 business days after receiving written approval of the SWMP from ADEQ.*

6. The SWMP describes BMP 4.2.2. Watershed Organization (STORM) as a public involvement/participation BMP. Please explain how this BMP will allow the public to provide input and assistance to the City of Peoria's Stormwater Management Program.
  - I. *The City will be more involved in STORM events where we can provide information to the public and speak one on one with citizens about the stormwater program. The City will attend events that attract citizens of Peoria (such as events at the Phoenix Zoo) or events that are located in Peoria.*
  - II. *The City of Peoria will work with our Neighborhood Services division to coordinate neighborhood pride events for wash clean up and other related events.*
  - III. *The City of Peoria will utilize events such as household hazardous waste collection as an opportunity to inform the public of the direct effect this has on stormwater by handing out stormwater flyers at the collection event. The City will also look into using citizens or civic groups to assist in this effort.*

The City of Peoria greatly appreciates the openness and the cooperation of ADEQ to improve the quality of stormwater in our community with fiscal responsibility. Please feel free to contact me at (623) 773-7502, or via E-mail at [maher.hazine@peoriaaz.gov](mailto:maher.hazine@peoriaaz.gov) if these issues need further clarification. The City is requesting a written approval of the SWMP from ADEQ so we may proceed with posting the appropriate information on our web site.

Sincerely,

Maher M. Hazine, P.E., CFM  
Assistant City Engineer

*Attachment*

c: Carl Swenson, City Manager  
John Gibbons, ADEQ Water Quality Compliance Section

MH:jb  
I:\Storm Water\letter\_ADEQ-Take Two\_Henninger\_SWMP.doc

**Appendix A-6 Storm Water System Maps**

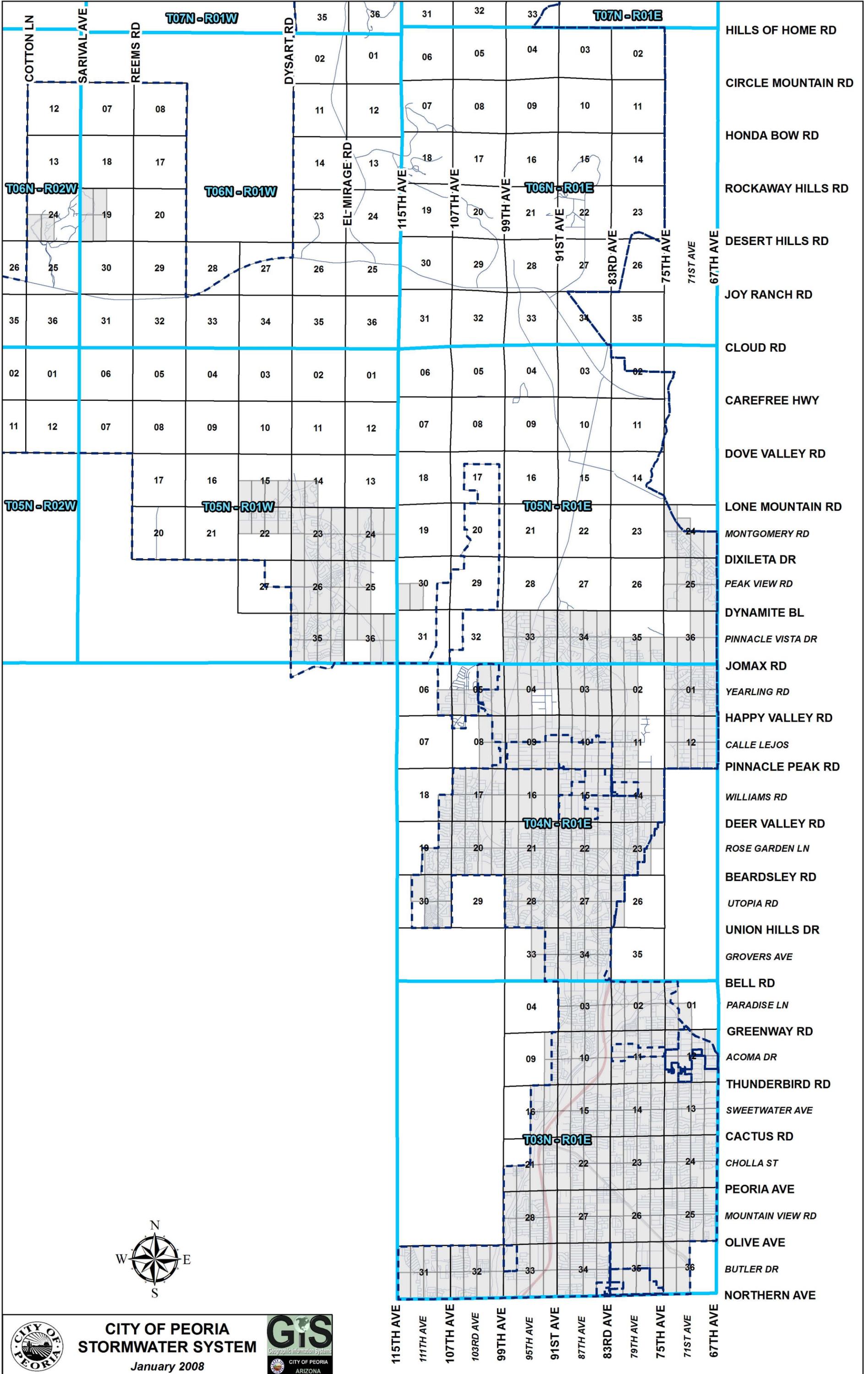
# City of Peoria Infrastructure Guide



## Storm Water System Quarter Section Map Book

Generated 1/2008

Each map sheet covers one-half of one quarter section.



**CITY OF PEORIA**  
**STORMWATER SYSTEM**  
 January 2008



## **Appendix B Small Construction General Permit Information**

**Appendix B-1 Construction General Permit**

[http://www.azdeg.gov/enviro/water/permits/download/2008\\_cgp.pdf](http://www.azdeg.gov/enviro/water/permits/download/2008_cgp.pdf)

Appendix B-2 Construction Notice of Intent (NOI)

<http://www.azdeq.gov/environ/water/permits/download/constnoi.pdf>

Appendix B-3 Construction Notice of Termination (NOT)

<http://www.azdeq.gov/enviro/water/permits/download/constnot.pdf>

Appendix B-4 Construction General Permit Fact Sheet

[http://www.azdeq.gov/enviro/water/permits/download/2008\\_fact.pdf](http://www.azdeq.gov/enviro/water/permits/download/2008_fact.pdf)