

**LAKE HAVASU CITY**



**(REVISED)  
STORMWATER MANAGEMENT  
PROGRAM**

**Incompliance with:  
Small MS4 General Permit (#AZG2002-002) and ADEQ  
*Consent Order dated March 5, 2013***

***March 2014***

# STORMWATER MANAGEMENT PROGRAM



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# STORMWATER MANAGEMENT PROGRAM



## 1.0: Introduction

Lake Havasu City Stormwater Management Program (SWMP) has been revised to satisfy the ADEQ Consent Order dated March 5, 2013 as well as the need to prevent or reduce discharge of pollutants to Water of the United States.

The Best Management Practices (BMP's) presented here have been proposed to address the Minimum Control Measures (MCM's) and are appropriate for Lake Havasu City's stormwater system. These MCM's are measurable, anticipated to make significant improvements in the City's stormwater quality and are achievable. For each BMP, achievable and appropriate goals are delineated along with a schedule indicating frequency of action items, objectives, and a date by which the BMP shall be implemented and established.

The goal of this program is to protect the water resources so many of our current and future residents can enjoy such as: fishing, boating, the beautiful aquatic and wildlife that calls this area home. By implementation and compliance with federal and state regulations, the community can control the adverse impact pollution can have on the receiving waters of Lake Havasu.

# STORMWATER MANAGEMENT PROGRAM



## 2.0: Stormwater Management Plan (SWMP)

### 2.1: Public Education & Outreach

The purpose of this public education and outreach program is to encourage, educate and involve the citizens of Lake Havasu City in the SWMP. In order to reach citizens with targeted messages regarding the City's SWMP and their role in it, the City will employ educational materials such as pamphlets, brochures and Lake Havasu City's website for an additional location for educational materials.

The targeted pollutants of this SWMP are floatables, sediment, greases, oils and other pollutants including trash, sewage, and illicit discharges. The target audience will be both the City's residents and the large seasonal population. It is estimated that this education program will reach 30,000 people annually. This anticipated public education program represents 58% of the fulltime residents of Lake Havasu City.

*An educated public can make significant reduction in targeted pollutants outlined in the Lake Havasu City Stormwater Management Plan.*

**Responsible Department(s):** *Operations (MSD)/ Community Services Department*

**Responsible Position(s):** *Operations Project Manager/ Community Services Director*

# STORMWATER MANAGEMENT PROGRAM



## 2.1.1: Distribute Educational Materials about Stormwater

Lake Havasu City, as part of its public education and outreach activities, will *continue to* distribute printed educational materials to the City's residents. These materials are an effective medium for educating the general public (including school-age children), and may be procured from the permitting authority or will be generated in-house.

**Permit Requirement Citation:** Part V, Section B.1.a

**Activity:** Distribute educational materials via brochures and pamphlets about stormwater to City residents.

**Objectives:** Educate the general public on the City's SWMP and raise general awareness of action the public can take to help protect water quality and minimize impacts of stormwater runoff. Contact information will be provided for the citizens to contact to enquire on questions or concerns.

### **Interim Steps and Schedule:**

Produce Educational Materials	June 24, 2007 Completed
Distribute Educational Materials	November 9, 2007- Ongoing
<i>Update Educational Materials</i>	<i>January 2014</i>

**Measurable Goals:** Printed educational materials will be available to the general public at City Hall, Library, Police and Fire Stations, as well as the City's official website. Brochures will also be distributed to Neighborhood Watch Programs and other community organizations. *Brochures will always be available on request through the Community Services Department located at City Hall.*

# STORMWATER MANAGEMENT PROGRAM



## 2.1.2: Publish Stormwater Materials on City's website

Lake Havasu City, as part of its public education and outreach activities, will maintain and add stormwater program information to the City's website. This will be a cost-effective and practicable way for the City to provide stormwater information to the general public.

*Information added in 2014 includes links to new Stormwater Ordinance, SWMP Update, Mohave County Design Criteria Manual, Development & Permitting Policies & Procedures, EPA Construction Site Guide,*

**Permit Requirement Citation:** Part V, Section B.1.a

**Activity:** Implement, maintain, and update as necessary stormwater educational materials via Lake Havasu City's website. Links to other appropriate web pages (examples: ADEQ and EPA) and contact information for the City's contact personnel.

**Objectives:** To provide a web base informational section on Lake Havasu City's website to discuss the City's SWMP and local storm water issues.

### **Interim Steps and Schedule:**

Research/Develop Materials	June 24, 2007 Completed
<i>Public Information added to Website</i>	<i>Ongoing</i>
<i>Update Website Materials</i>	<i>Ongoing</i>

**Measurable Goals:** To provide useful information on local stormwater issues, including a copy of the SWMP and links to other resources. *Lake Havasu City will also track the number of hits during the period of operation, as well as updating the information to keep current with the Arizona Pollutant Discharge Elimination System (AZPDES) general permit.*

# STORMWATER MANAGEMENT PROGRAM



## 2.2: Public Involvement & Participation

Public involvement differs from public education in that it empowers the public and codifies the involvement of the public with the municipality to achieve a unified common goal. Lake Havasu City believes that it is important to have the public's support behind the SWMP at the local level. Lake Havasu City complies with public notice requirements by offering an opportunity for the public to give advice and guidance on the BMPs and the overall SWMP. During the renewal process of this permit, the City will provide an opportunity for the public to provide input into the SWMP for the next permit cycle. For public accessibility, the City will post a copy of its SWMP and Notice of Intent (NOI) on the City's website at [www.lhcaz.gov](http://www.lhcaz.gov). *Annual reports will also be available to the public through the Community Services Department.*

Lake Havasu City is committed to involving the residents of the City to participate in the SWMP process. It is Lake Havasu City's experience that many residents and seasonal residents are dedicated to providing input and willing to serve as volunteers.

**Responsible Department(s):** *Operations (MSD)/ Community Services Department*

**Responsible Position(s):** *Operations Project Manager/ Community Services Director*

# STORMWATER MANAGEMENT PROGRAM



## 2.2.1: Continue Compliance with State & Local Public Notice Requirements

The City already complies with state and local public notice requirements.

**Permit Requirement Citation:** Part V, Section B.2.b

**Activity:** Comply with public notice requirements for any newly created or revised ordinances; public discussion of the SWMP and NOI with the City or any other opportunity for public input into the program.

**Objectives:** Make the public aware of new ordinances and allow the public to participate in adopting ordinances dealing with the SWMP.

### **Interim Steps and Schedule:**

Continue Compliance	Ongoing
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**Measurable Goals:** Continue compliance of public notice requirements document public meetings, notices provided, comments and input received, and report annually to the State.

# STORMWATER MANAGEMENT PROGRAM



## 2.2.2: Household Hazardous Waste Disposal

*Lake Havasu City Fire Department continues to provide information on the City website regarding Household Hazardous Waste. This site provides information on proper handling and disposal of Household Wastes and provides local locations for disposal or recycling of the waste.*

**Permit Requirement Citation:** Part V, Section B.2.c.ii

**Activity:** Continue to provide this website information to keep Lake Havasu City clean and safe.

**Objectives:** To provide a service to residents to dispose of hazardous materials in a safe matter.

### **Interim Steps and Schedule:**

<i>Household Hazardous Waste Disposal</i>	<i>Website updated 1/23/13</i>
<i>Continue Updates</i>	<i>Annually</i>

**Measurable Goals:** To help prevent illegal dumping of hazardous materials within Lake Havasu City. LHCFD will provide information on the website. If there are any questions regarding hazardous materials, please contact the LHCFD at (928) 855-1141.

# STORMWATER MANAGEMENT PROGRAM



## 2.2.3: Continue Keep Havasu Beautiful Clean Up Projects

The Keep Havasu Beautiful Organization and Lake Havasu City host an annual Spring Clean Up Day. The annual Spring Clean Up provides recycling for furniture, wood, tree/brush trimmings, and appliances.

**Permit Requirement Citation:** Part V, Section B.2.c.ii

**Activity:** Continue to provide these projects annually to keep Lake Havasu City clean and safe.

**Objectives:** To provide a service to residents to dispose of furniture, wood, tree/brush trimmings, and appliances in a safe matter.

### **Interim Steps and Schedule:**

Keep Havasu Beautiful Spring Clean Up	Completed Annually
Continue City Participation	Ongoing
Public Works Dept. Website	December 19, 2007

**Measurable Goals:** To help prevent illegal dumping of materials into Lake Havasu City's washes and other undeveloped areas with an emphasis on public involvement and attendance with the goal of increasing the previous year's volunteers and public participation.

# STORMWATER MANAGEMENT PROGRAM



## 2.2.4: Update the City Council on the City's SWMP Annually

The City intends to update the City Council each year in an effort to educate the Council and maintain community support.

**Permit Requirement Citation:** Part V, Section B.2.a

**Activity:** Update the City Council annually on the status of the SWMP's development and implementation, especially during the renewal process.

**Objectives:** Educate and involve the City Council and public in developing and implementing the SWMP.

### **Interim Steps and Schedule:**

Provide a Council update on SWMP	November 27, 2007 Completed
Continue Council update on SWMP	Annually

**Measurable Goals:** Update the Lake Havasu City Council annually to provide input into the annual report and for any amendments to the SWMP. Comments from Council and the general public will be reported in the annual report.

# STORMWATER MANAGEMENT PROGRAM



## 2.2.5: Coordinate a River/Wash Volunteer Clean Up Day

Lake Havasu City partners with its residents to conduct volunteer trash pickups along the Colorado River and the numerous washes throughout town. These events can be used to monitor floatable or other debris in the storm system and outfalls. Colorado River shoreline cleanups annually take place after all major holiday weekends.

**Permit Requirement Citation:** Part V, Section B.2.c.ii

**Activity:** Distribute stormwater educational materials to volunteers participating in the clean up.

**Objectives:** Involve the general public in volunteer stormwater activities, including visual inspections of outfalls. *Participating agencies include: Keep Havasu Beautiful Organization, Boy Scouts of America, Girl Scouts of America, and Neighborhood Watch Groups.*

### **Interim Steps and Schedule:**

Neighborhood Clean Up Events	Annually
Continue River/Wash Clean Up Event	Annually

**Measurable Goals:** To clean up outfall areas and washes within Lake Havasu City. Use this to monitor location and concentration of debris and floatable pollutants on an annual basis.

# STORMWATER MANAGEMENT PROGRAM



## 2.3: Illicit Discharge Detection & Elimination

Lake Havasu City recognizes the potential for illicit discharges to the MS4 and is committed to detecting the problem areas. Lake Havasu City codes and ordinances reference garbage, refuse, disposal and nuisance's specific to the City's MS4. *In 2014 Lake Havasu City adopted ordinance 8.28 STORMWATER and will continue to review codes and ordinances dealing with illicit discharges.*

Currently, Lake Havasu City through the LHCFD, has adopted the 1997 Uniform Fire Code and the LHCPD has received training through "Western States Hazardous Waste Project." These directly address the issues of environmental crimes. Lake Havasu City also utilizes "Arizona Criminal Law and Motor Vehicle Handbook" and City ordinances for further guidance. Lake Havasu City has adopted a zero tolerance policy for illicit discharge of any pollutants within the City boundaries. Lake Havasu City will continue to receive training in enforcement and update the methods of detection as the Standard Operating Procedures (SOP's) are reviewed. Lake Havasu City currently conducts random non-stormwater discharges as a result of the operations program. These non-stormwater discharges, as listed in Part I, Section C2 of the general permit are not considered to be a significant contributor of pollutants to or from the MS4. The following are additional regulations utilized by Lake Havasu City:

- **A.R.S. TITLE 49 "THE ENVIRONMENT"**
- **§ 13-1603 CRIMINAL LITTERING AND POLLUTION**
- **UNIFORM FIRE CODE UFC § 8001.5 ~ § 8001.5.2.5.**
- **LHC § 9.16.110 LITTERING**
- **LHC § 8.04.030 CONSTRUCTION LITTERING**
- **LHC § 8.28 STORMWATER**

Lake Havasu City will also implement enforcement strategies, which will prohibit the discharge of non-stormwater into the public drainage system and identification of non-stormwater discharges that are allowable.

Lake Havasu City will utilize the following detection methods:

1. Dry weather monitoring of outfalls *as outlined in the LHC document "Dry Weather Field Screening of Outfalls"*
2. Field Inspections: *Implement a LHC document "Standard Operating Procedures for Illicit Discharge Detection and Elimination"* a document for LHC employees to use in reporting any illicit discharge or illegal dumping to the MS4.
3. Lake Havasu City will keep documents of dry weather monitoring, inspection reports, and complaints by citizens.



## **STORMWATER MANAGEMENT PROGRAM**

Through the Public Education Minimum Control Measure, the City will educate the public and city employees on the hazards of illegal discharges and dumping in the drainage system. The following discharges, which are listed as Part I, Section C.2. of the AZPDES Small MS4 General Permit are allowable non-stormwater discharges (Part V.B.3.a.ii):

1. Pool Draining (In accordance with City Code)
2. Water Line Flushing
3. Landscape Irrigation
4. Diverted Stream Flows
5. Rising Ground Water
6. Uncontaminated Ground Water Infiltration
7. Uncontaminated Pumped Ground Water
8. Discharges from Potable Water Sources
9. Foundation Drains
10. Air Conditioning Condensation
11. Irrigation Water
12. Springs
13. Water from Crawl Space Pumps
14. Footing Drains
15. Individual Residential Car Washing
16. Discharge from Riparian Habitats and Wetlands
17. Charity Car Washes
18. Discharges or Flows From Emergency Fire Fighting Activities

**Responsible Department(s):** *Operations (MSD)/ Community Services  
Department*

**Responsible Position(s):** *Operations Project Manager/ Community Services  
Director/ Code Enforcement Officer*

# STORMWATER MANAGEMENT PROGRAM



## 2.3.1: Review and/or Develop City Ordinances

In the past Lake Havasu City adopted different codes and ordinances dealing with illicit discharges and a review and/or update of those codes and ordinances to address all requirements outlined in the AZPDES.

*In 2014 LHC adopted Chapter 8.28 STORMWATER which specifically addresses illicit discharges and stormwater.*

**Permit Requirement Citation:** Part V, Section B.3.a. and V.B.3.c

**Activity:** Review, develop and finalize City Codes and Ordinances that prohibit illicit discharges to Lake Havasu City’s stormwater system.

**Objectives:** To seek out and eliminate illicit discharges to the stormwater system in Lake Havasu City. Define and prohibit illicit discharges to the MS4. Allow the right of entry and inspection to find illicit discharges within the City. To establish penalties for dumping, spills, and willful illicit connections to the City's MS4.

**Interim Steps and Schedule:** Review, develop and adopt codes and ordinances.

<i>Ordinance 8.28 STORMWATER</i>	<i>January 14, 2014 adopted</i>
Continue Council Update on SWMP	Annually

**Measurable Goals:** Adopt a code or ordinance with enforcement strategies, such as fines or imprisonment that prohibits illicit discharges to the City’s MS4. These will empower the City to take action to detect and eliminate illicit discharges, address illegal dumping into the MS4, and provide for corrective actions.

# STORMWATER MANAGEMENT PROGRAM



## 2.3.2: Create an Outfall Inspection Program

Lake Havasu City intends to inspect all stormwater outfalls during dry weather as a part of the overall program to detect and eliminate illicit discharges. Illicit discharges found during inspection will be followed up and eliminated.

*LHC has developed an inspection program and policies & procedures for dry weather screening of outfalls and in conjunction with this program developed a Global Positioning System (GPS) data collection process to allow integration of the field data into the City's Graphical Information System (GIS) system. The outfalls are mapped and an associated data base developed.*

**Permit Requirement Citation:** Part V, Section B.3.f.

**Activity:** Inspect stormwater outfalls during dry weather to identify outfalls and determine the possible existence of illicit discharges or illegal dumping activities.

**Objectives:** Develop inspection procedures and identify possible illicit discharges to the City's stormwater system and investigate the point source of such discharges for the purpose of eliminating illicit discharges.

### **Interim Steps and Schedule:**

<i>Develop/ update inspection procedures</i>	<i>May 2013 -current</i>
<i>Inspect Outfalls to Lake Havasu</i>	<i>2013/ 2014</i>
<i>Continue Annual Inspection</i>	<i>Ongoing/Annually</i>

**Measurable Goals:** Perform dry weather outfall inspections of 25% of the City's stormwater outfalls annually. Initiate investigation of illicit discharges and illegal dumping activities within one work week of discovery of pollution at any given outfall.

# STORMWATER MANAGEMENT PROGRAM



## 2.3.3: Develop & Distribute Educational Materials on Illicit Discharges

Lake Havasu City *intends to develop and distribute* educational materials on illicit discharges to the public MS4 on what is an allowable non-stormwater discharge. The educational materials will target the residential population, cover topics such as how to correctly maintain septic systems and dispose of household hazardous materials.

**Permit Requirement Citation:** Part V, Section B.3.e.; Part V.B.3.a.ii  
Part V.B.3.g.iv & v

**Activity:** Procure educational materials regarding the hazards of illegal discharges to the stormwater system and distribute to the public, utilizing educational tools developed under the public outreach and education sections of this SWMP. These materials should also include incidental non-stormwater discharges that are not considered significant contributors to pollution in the MS4.

**Objectives:** Inform the public of hazards associated with illegal discharges to the stormwater system and what are allowable non-stormwater discharges within Lake Havasu City.

### **Interim Steps and Schedule:**

Develop Materials	June 1, 2007 Completed
Distribute Materials	November 26, 2007/ <i>ongoing</i>

**Measurable Goals:** Generate or procure educational materials regarding illegal discharges and distribute these materials utilizing the methods identified under Public Outreach and Education within this SWMP.

# STORMWATER MANAGEMENT PROGRAM



## 2.4: Construction Site Runoff Controls

Lake Havasu City recognizes that a stormwater runoff control program is needed in the City with the development of state lands and new subdivisions being constructed. ADEQ administers the Construction General Permit in Lake Havasu City. Through this SWMP, Lake Havasu City will develop and adopt an erosion and sediment control ordinance, with policies and procedures for plan reviews, technical guidance materials, inspection and enforcement program, and educational materials for the development of the community.

*In 2014 LHC adopted ordinance 8.28 STORMWATER included with in this ordinance are provisions to address erosion and sediment control.*

*Development and permitting policies and procedures were created and implemented for use by the development community and city staff.*

*Technical Guidance materials have been adopted via Ordinance 8.28 STORMWATER in which the Drainage Design Manual for Mohave County is referenced.*

*Inspection and enforcement provisions are included in the documents "Development and Permitting Policies and Procedures" and Ordinance 8.28 STORMWATER.*

**Responsible Department(s):** *Community Services Department*

**Responsible Position(s):** *Community Services Director/ Code Enforcement Officer*

# STORMWATER MANAGEMENT PROGRAM



## 2.4.1: Adopt an Erosion & Sediment Control Ordinance

Lake Havasu City will adopt an erosion and sediment control ordinance that will form the basis of the City's construction site runoff control program. The ordinance will address construction site waste management, as well as other components listed in the AZPDES permit language.

*In 2014 LHC adopted ordinance 8.28 STORMWATER included with in this ordinance are provisions to address erosion and sediment control for all development activities and provides technical guidance materials via the Drainage Design Manual for Mohave County.*

**Permit Requirement Citation:** Part V, Section B.4.b.

**Activity:** Establish an enforceable City ordinance to require erosion and sediment runoff controls at construction sites that disturb one or more acres. The ordinance shall also include site waste management requirements.

**Objectives:** Reduce polluted stormwater runoff from construction sites that disturb one or more acres as described in the General Permit Part V, Section B.4.

### **Interim Steps and Schedule:**

<i>Review, Research Ordinances</i>	<i>Completed 2013</i>
<i>Draft Ordinance &amp; Implement</i>	<i>January 14, 2014</i>

**Measurable Goals:** Adoption of a construction site management control program including necessary ordinances, with enforcement strategies such as fines or imprisonment. Site inspection and evaluation of recurring problems and issues, recommended changes for the regulatory process shall be considered prior to renewal of permit.

# STORMWATER MANAGEMENT PROGRAM



## 2.4.2: Develop Policies & Procedures for Plan Review

Once Lake Havasu City adopts the ordinance, City staff must begin to review plans for sites which result in a land disturbance of one or more acre complying with the ordinance. The City will develop written policies and procedures that address plan reviews and will train plan review staff.

*In 2013 LHC developed a stormwater document “Development & Permitting Policies & Procedures”. This document will be used for all permitting and land development activities. These Policies and procedures have been integrated in to the Community Services Department which is in charge of all permitting activities relative to development or re-development.*

**Permit Requirement Citation:** Part V, Section B.4.c.

**Activity:** Develop and implement policies and procedures for stormwater runoff control plan review and integrate them into existing plan review process.

**Objectives:** To ensure that construction site runoff is addressed before the City issues a construction permit and the Stormwater Pollution Protection Plan (SWPPP) and the AZDPES permit are followed during construction.

### **Interim Steps and Schedule:**

<i>Develop Policies &amp; Procedures</i>	<i>May-June, 2013</i>
<i>Implement Policies &amp; Procedures</i>	<i>June 2013</i>

**Measurable Goals:** Develop plan policies and procedures for review of stormwater runoff control policies and procedures. Include permit evaluation of plan review process in overall program evaluation prior to renewal of permit, making adjustments as needed to effectively administer this program.

# STORMWATER MANAGEMENT PROGRAM



## 2.4.3: Develop & Adopt Technical Guidance Materials

Lake Havasu City intends to develop and distribute technical guidance materials that define the design requirements for stormwater runoff control measures, as well as construction site SWPPP and BMP's. The materials shall be distributed to developers and builders when a construction permit is issued.

*In 2014 LHC adopted ordinance 8.28 STORMWATER included with in this ordinance are provisions to address erosion and sediment control for all development activities and provides technical guidance materials via the Drainage Design Manual for Mohave County.*

*In 2013 LHC developed a document "Development & Permitting Policies & Procedures". This document will be used for all permitting and land development activities. These Policies and procedures have been integrated in to the Community Services Department which is in charge of all permitting activities relative to development or re-development.*

*The Development Policies and Procedures Document references the Drainage Design Manual for Mohave County which is intended to provide all necessary technical guidance for planning, design and construction activities in LHC.*

**Permit Requirement Citation:** Part V, Section B.4.c.

**Activity:** Develop and adopt technical guidance materials for designing and maintaining stormwater runoff control plans in coordination with the adoption of the City construction site runoff ordinance. Along with reviewing the National Pollutant Discharge Elimination System's (NPDES) SWPPP plans and NOI to make sure development within the City of Lake Havasu is following all state and federal stormwater regulations.

**Objectives:** To provide guidance for developers and builders in reducing stormwater pollutant discharge from all construction sites despite the size of the project and to ensure that projects 1 or more acres are following the NPDES permitting process.

**Interim Steps and Schedule:** Develop and produce guidance materials specific to Lake Havasu City area. Adopt the guidance materials and distribute them to the developing community and require SWPPP plans to be submitted during the Pre-Application process.

<i>Develop Policies &amp; Procedures</i>	<i>May-June 2013 Completed</i>
<i>Implement Policies &amp; Procedures</i>	<i>June 2013</i>

**Measurable Goals:** Develop, adopt and distribute technical guidance materials coinciding with the plan review process (3.4.2) and enforcement strategies (3.4.4). The City will also track the number of SWPPP's and NOI's submitted annually and include those numbers in the annual report.

# STORMWATER MANAGEMENT PROGRAM



## 2.4.4: Develop a Construction Site Inspection & Enforcement Program

Lake Havasu City intends to develop written policies and procedures for inspecting construction sites and enforcing stormwater runoff controls. This will include developing inspection checklists or reports, and enforcement tools. The City will train inspectors and implement inspections.

*In 2013 LHC developed a document “Development & Permitting Policies & Procedures”. This document outlines construction and inspection procedures and an enforcement policy.*

**Permit Requirement Citation:** Part V, Section B.4.d.

**Activity:** Prepare standard procedures for inspecting sites and enforcing stormwater runoff controls, train inspectors for these procedures and conduct inspections.

**Objectives:** Effectively inspect construction sites for compliance with stormwater runoff controls.

### **Interim Steps and Schedule:**

<i>Develop Policies &amp; Procedures</i>	<i>May-June 2013</i>
<i>Implement Policies &amp; Procedures</i>	<i>June 2013</i>

**Measurable Goals:** Generate inspection and enforcement policies and procedures, and implement the inspection and enforcement program in coordination with plan review policies and procedures. Evaluate the overall program review, prior to permit review, and then recommending appropriate changes as needed.

# STORMWATER MANAGEMENT PROGRAM



## 2.5: Post-Construction Site Runoff Control

Lake Havasu City Code contains ordinances about retaining stormwater for new construction. These ordinances establish methods and standards for retention for new construction within the City. These would be modified to control post-construction flooding rather than stormwater runoff.

*In 2014 LHC adopted ordinance 8.28 STORMWATER. Included within this ordinance are provisions to reference the Drainage Design Manual for Mohave County. The Drainage Design Manual for Mohave County directs that new development and re-development provide for stormwater storage (Chapter 15)*

**Responsible Department(s):** *Community Services Department*

**Responsible Position(s):** *Community Services Director/ Code Enforcement Officer*

# STORMWATER MANAGEMENT PROGRAM



## 2.5.1: Develop & Adopt a Post-Construction Stormwater Runoff Ordinance

Lake Havasu City will develop an ordinance and a successful post-construction stormwater runoff program, including educational material as well as identification of BMP design criteria.

*In 2014 LHC adopted ordinance 8.28 STORMWATER. Included within this ordinance are provisions to reference the Drainage Design Manual for Mohave County. The Drainage Design Manual for Mohave County directs that new development and re-development provide for stormwater storage (Chapter 15)*

**Permit Requirement Citation:** Part V, Section B.5.c

**Activity:** Create and adopt an ordinance that addresses post-construction runoff from new development and redevelopment projects, identifying approved BMP's for structural and nonstructural controls that impacts new and redevelopment projects as defined in the General Permit Part V, Section B.5.

**Objectives:** Minimize impacts of new development or redevelopment projects on stormwater quality through effective controls for stormwater discharge management.

### **Interim Steps and Schedule:**

Identify Program Goals	December 2007
Implementation	June 2013

**Measurable Goals:** Adopt a post-construction stormwater runoff ordinance to address new development and redevelopment projects as defined in the AZPDES Small MS4 General Permit Part V, Section B.5. by the renewal of this permit.

# STORMWATER MANAGEMENT PROGRAM



## 2.5.2: Develop & Adopt Technical Guidance Materials

Lake Havasu City intends to develop and distribute technical guidance materials that define BMP design and maintenance requirements. Once the design goals are established for the ordinance, the technical guidance materials can be developed.

*In 2014 LHC adopted ordinance 8.28 STORMWATER included with in this ordinance are provisions to use the Drainage Design Manual for Mohave County which contains or references other documents intending to provide technical guidance for design and maintenance of BMP's.*

*In 2013 LHC developed a document "Development & Permitting Policies & Procedures". This document provides direction during the permitting process that requires a "Stormwater Management Facilities Operations & Maintenance Agreement". Sites requiring Post Construction (permanent) BMPs shall be required to provide to the City an agreement identifying parties responsible for operation and maintenance of the BMP(s) and also granting access to the City for inspection of the facility.*

**Permit Requirement Citation:** Part V, Section B.5.e.iii.

**Activity:** Develop and adopt technical guidance materials for design, installation and maintenance of structural post-construction stormwater runoff BMP's.

**Objectives:** To reduce the pollutants in post-construction site runoff to the maximum extent practicable (MEP).

**Interim Steps and Schedule:**

<i>Develop Materials</i>	<i>May-June 2013</i>
<i>Distribution of Materials</i>	<i>On-going</i>

**Measurable Goals:** Develop, adopt and distribute technical guidance materials and distribute to the developing community.



# STORMWATER MANAGEMENT PROGRAM



## 2.5.3: Develop Policies & Procedures for Plan Review

Lake Havasu City intends to establish written policies and procedures for plan review of new development projects for post-construction BMP's. Once these policies and procedures have been developed, plan review staff will be trained.

*In 2013 LHC developed a document "Development & Permitting Policies & Procedures". This document will be used for all permitting and land development activities. These Policies and procedures have been integrated in to the Community Services Department which is in charge of all permitting activities relative to development or re-development.*

*The purpose of this document is to provide direction for the development community, architects, engineers, contractors and City staff to assure proper BMP's for stormwater controls are included on plan documents.*

**Permit Requirement Citation:** Part V, Section B.5.e.iii.

**Activity:** Develop policies and procedures for post-construction stormwater runoff plan review for all new development and redevelopment projects that affect one or more acres as defined in the General Permit Part V, Section B.5.

**Objectives:** Effectively implement a program to reduce pollutants in post-construction stormwater runoff to the MEP for new development or redevelopment projects as defined in the General Permit Part V, Section B.5.

### **Interim Steps and Schedule:**

<i>Develop Policies &amp; Procedure</i>	<i>May-June 2013</i>
<i>Implementation</i>	<i>June 2013</i>

**Measurable Goals:** Develop policies and procedures for plan review for post-construction stormwater runoff controls and implement by renewal of permit and continue to update and review annually.

# STORMWATER MANAGEMENT PROGRAM



## 2.6: Pollution Prevention/Good Housekeeping

Lake Havasu City recognizes that a successful SWMP requires diligent pollution prevention and good housekeeping. Lake Havasu City Code already contains many pollution prevention components. The City is committed, through policy and procedure, in good housekeeping for stormwater management. Lake Havasu City also realizes that evaluating and refining good housekeeping and pollution prevention is beneficial. Therefore, the City is committed to the BMP's and schedules described below:

1. Maintenance of City Streets
2. Equipment Maintenance Shops
3. Stormwater Collection System Annual Clean Up
4. Parks Department Maintenance Operations
5. Solid Waste Collection and Disposal
6. Fire Department Routine and Emergency Operations
7. Storage and Maintenance Facilities

All facilities mentioned will collect and dispose of all materials appropriately as per Federal, State, and local environmental regulations.

*LHC Street Maintenance Division evaluated the activities at the Public Works Maintenance Facility (PWMF) and reported on May 23, 2013 that a Multi-Sector General Permit is applicable. A written report to ADEQ was submitted on July 23, 2013. NOI was filed on August 22, 2013*

*Since reporting LHC Operations is moving on rectifying issues at the PWMF as well as holding in-house education meetings for employees. Stormwater Training for field personnel was held at the PWMF on September 27, 2013 and approximately 60 attended. A sign in sheet was filled out.*

*In December of 2013 LHC Street Maintenance Division evaluated the activities at the Sweetwater Yard and prepared a report outlining associated BMP's to be implemented at this site.*

**Responsible Department:** *Operations (MSD)*

**Responsible Position:** *Operations MSD manager*



# STORMWATER MANAGEMENT PROGRAM



## 2.6.1: Evaluate Street Sweeping Policies & Procedures

Lake Havasu City intends to have written policies and procedures for Street Sweeping to help prevent floatables and sediment from reaching the stormwater system. The City will evaluate its street sweeping practices from a standpoint of stormwater runoff and will make changes if necessary.

**Permit Requirement Citation:** Part V, Section B.6.a.ii.

**Activity:** Evaluate street sweeping practices and schedule to determine effectiveness in addressing public street runoff impacts on stormwater quality.

**Objectives:** Evaluate the City's street sweeping program to determine if operations should be revised in order to minimize pollutant discharges to the MS4. To develop written policies and procedures for street sweeping and any revisions to it to achieve performance goals established in the evaluation.

### **Interim Steps and Schedule:**

Review Policies	May 14, 2007 - Completed
Develop Policies & Procedure	December 2007
Implementation	December 2007

**Measurable Goals:** Review the City's street sweeping program; recommend changes or modifications to street sweeping procedures, equipment, schedules and priorities. Implement changes to the street sweeping program by December 2007 and continue to review annually.

# STORMWATER MANAGEMENT PROGRAM



## 2.6.2: Train City Employees about Pollution Prevention

Lake Havasu City will incorporate into existing training programs staff training on pollution prevention and the SWMP.

*LHC in conjunction with creation of Policies & Procedures for: Illicit Discharge Detention and Elimination, Development and Permitting, and Dry Weather Outfall Inspections performs various training to educate employees responsible for various aspects of the above noted activities and how these activities help prevent pollution to the City's storm water.*

*General Stormwater Training for field personnel was held at the PWWF on September 27, 2013 and approximately 60 attended. A sign in sheet was filled out.*

**Permit Requirement Citation:** Part V, Section B.6.b.ii.

**Activity:** Train Lake Havasu City employees regarding general water quality issues, as well as the City's pollution prevention program and SWMP.

**Objectives:** Inform City employees of water quality issues related to the City's operations to reduce pollution from municipal operations. Empower employees to carry out their responsibilities day to day with the goal of minimizing impacts on water quality.

### **Interim Steps and Schedule:**

<i>Develop Training Tools</i>	<i>Ongoing</i>
<i>Conduct Training Sessions</i>	<i>Ongoing</i>

**Measurable Goals:** Develop and implement employee training program by December 2007, then have annual refresher courses. Tracking of employees trained, materials covered, and evaluation of program for updates for following year.

# STORMWATER MANAGEMENT PROGRAM



## 2.6.3: Develop & Implement a Municipal Pollution Prevention Program

Lake Havasu City will evaluate municipal facilities for potential to contribute to pollutant loading and determine pollution prevention measures to be installed through a pollution prevention plan for the facility. The goal is to reduce the potential pollutant loading from municipal facilities with an emphasis on sediment, oils and floatables.

*LHC Street Maintenance Division evaluated the activities at the Public Works Maintenance Facility (PWMF) and reported on May 23, 2013 that a Multi-Sector General Permit is applicable. A written report to ADEQ was submitted on July 23, 2013. NOI was filed on August 22, 2013*

*In December of 2013 LHC Street Maintenance Division evaluated the activities at the Sweetwater Yard and prepared a report outlining associated BMP's to be implemented at this site.*

*LHC will evaluate all municipal facilities by the end of 2014 for pollution potential and determine appropriate BMP's necessary to reduce or eliminate pollution to the MS4.*

**Permit Requirement Citation:** Part V, Section B.6.a.

**Activity:** Evaluate City operation and maintenance activities, as well as City owned facilities to determine if stormwater pollutants are being reduced to MEP.

**Objectives:** Reduce the potential for pollutant discharge from municipal operations and facilities owned by Lake Havasu City.

**Interim Steps and Schedule:** Identify City operations and facilities to prioritize evaluations. Evaluate and identify operations and facilities, then develop pollution prevention plans or activities if needed. *Evaluate as many activities/facilities as possible by December 2013. After the renewal process, reevaluate four activities/facilities annually.*

**Measurable Goals:** *Evaluate all operations and facilities by December 2014 and then continue inspections annually. Modify and implement pollution prevention plans, as needed, per evaluation findings in a timely manner. Provide*

employee training on stormwater management plan and pollution prevention to each site after inspection.

# STORMWATER MANAGEMENT PROGRAM



## 3.0: Definitions:

**AZPDES – Arizona Pollutant Discharge Elimination System:** Arizona Department of Environmental Quality’s (ADEQ) version of NPDES program.

**BMPs – Best Management Practices:** Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

**Control Measure:** refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to the waters of the United States.

**CWA – Clean Water Act:** is the Federal Water Pollution Control Act, 33 U.S.C.1251 et sq.

**Illicit Connection –** Any manmade conveyance connecting a discharge directly to a municipal separate storm sewer (MS4) which was not authorized by Lake Havasu City.

**Illicit Discharge –** Any discharge to a municipal separate storm sewer system (MS4) that is not composed entirely of storm water except a discharge pursuant to a NPDES permit (other than the municipal separate storm sewer) and discharges resulting from fire fighting activities.

**MCM – Minimum Control Measures:** the minimum required by law.

**MEP – Maximum Extent Practicable:** the removal of pollutants to the best of the MS4’s ability.

**MS4 – Municipal Separate Storm Sewer System:** A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curb, gutters, ditches, washes, man-made channels, or storm drains).

**NOI – Notice of Intent:** Form submitted to permitting authority (ADEQ) to be covered under general permit for discharge activities.

**NPDES – National Pollutant Discharge Elimination System:** National program for issuing, modifying, revoking and reissuing, terminating, imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of Clean Water Act (CWA).

**Outfall –** the point where a municipal separate storm sewer discharges to waters of the United States.

**Phase II –** In 1990, Phase I of the Storm Water program regulated industry, construction projects greater than 5 acres, and large municipalities (Scottsdale, Glendale, Mesa and Tucson). The second phase of the storm water regulation expanded the regulating community to include MS4’s and small construction sites 1-5 acres in size.

**Point Source:** the source of a pollutant is traced back to.

**Redevelopment –** Alterations of a property that change the footprint of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land.

**SWPPP – Storm Water Pollution Prevention Plan:** A plan prepared in accordance with the Arizona Discharge Elimination System and the National Pollution Discharge Elimination System regulations as established by the Clean Water Act to eliminate the contribution of pollutants.

**TMDL – Total Maximum Daily Loads:** the maximum allowed daily amount of a specified pollutants or parameters of concern.

# STORMWATER MANAGEMENT PROGRAM



## 4.0: Acronyms & Abbreviations

<b>ADEQ</b>	ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
<b>ADOT</b>	ARIZONA DEPARTMENT OF TRANSPORTATION
<b>AZPDES</b>	ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM
<b>BMP</b>	BEST MANAGEMENT PRACTICE
<b>BOD</b>	BIOCHEMICAL OXYGEN DEMAND
<b>CIP</b>	CAPITAL IMPROVEMENT PROJECT
<b>CWA</b>	CLEAN WATER ACT
<b>EPA</b>	ENVIRONMENTAL PROTECTION AGENCY
<b>FR</b>	FEDERAL REGISTER
<b>GIS</b>	GEOGRAPHIC INFORMATION SYSTEM
<b>HMC</b>	HAVASU MUNICIPAL CODE
<b>HHW</b>	HOUSEHOLD HAZARDOUS WASTE
<b>HOA</b>	HOMEOWNERS ASSOCIATION
<b>IC</b>	ILLICIT CONNECTION
<b>ID</b>	ILLICIT DISCHARGE
<b>IPP</b>	INDUSTRIAL PRETREATMENT PROGRAM
<b>LHCPD</b>	LAKE HAVASU CITY POLICE DEPARTMENT
<b>LHCPW</b>	LAKE HAVASU CITY PUBLIC WORKS
<b>LHCFD</b>	LAKE HAVASU CITY FIRE DEPARTMENT
<b>MEP</b>	MAXIMUM EXTENT PRACTICABLE
<b>MS4</b>	MUNICIPAL SEPARATE STORM SEWER SYSTEM
<b>NOI</b>	NOTICE OF INTENT
<b>NOT</b>	NOTICE OF TERMINATION
<b>NPDES</b>	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
<b>P2</b>	POLLUTION PREVENTION
<b>PSA</b>	PUBLIC SERVICE ANNOUNCEMENT
<b>SIU</b>	SIGNIFICANT INDUSTRIAL USER
<b>SOP</b>	STANDARD OPERATING PROCEDURE
<b>SWMP</b>	STORM WATER MANAGEMENT PROGRAM
<b>SWPPP</b>	STORM WATER POLLUTION PREVENTION PLAN
<b>TMDL</b>	TOTAL MAXIMUM DAILY LOADS