

# LAKE HAVASU CITY STORMWATER MANAGEMENT PROGRAM



## **Development & Permitting, Policies & Procedures**

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 and proper inspections are performed with the ultimate goal of minimizing pollution from new development and redevelopment.

This document provides general procedural guidance, policies and procedures pertaining to Lake Havasu City's development process in regards to construction and post construction stormwater management.

The objectives of the program are:

- To protect Lake Havasu and its upstream washes from sedimentation and other pollutants that may result from development activities.
- To rely first on erosion controls and phasing to reduce the potential for off-site sedimentation;
- To comply with the requirements of the Arizona Pollutant Discharge Elimination System General Permit for Discharge from Municipal Separate Storm Sewer Systems (MS4s)

Contact the City Development Services Division if you have any questions regarding this document.

## **Background Information & Policy**

Chapter 8.28 of the Lake Havasu City Code includes adoption of the Drainage Design Manual for Mohave County (DDM). All new city development and re-development shall be required to be in compliance with this chapter of the code.

The DDM mandates appropriate erosion & sediment controls at all construction sites. The DDM identifies the mandated technical guidance for erosion control during construction shall be in accordance with the Flood Control District of Maricopa County Erosion Control Manual.

The DDM provides direction for technical guidance for all aspects of stormwater management anticipated within Lake Havasu City. These guidelines shall be followed for all new development or redevelopment.

A check list for commercial, industrial and residential (R3 & above) building permitting is provided (included here in Table 3) to permittees at the time of plan submittal and shall be used as a general guide by permittees and city staff to assure appropriate BMP's for stormwater controls are included on site plans.

The DDM mandates all development provide stormwater storage (considered a post construction BMP). Technical guidance is provided in the DDM for stormwater storage including provisions for Storm Water Quality (SWQ)

Erosion and Sediment control general plan requirements are provided in Table 1 (included here). Erosion and Sediment Control Inspection requirements are provided in Table 2 (included here).

### **Construction and Inspection**

Prior to land disturbance the permittee/ owner shall contact Lake Havasu City to perform an initial inspection to assure appropriate BMPs are properly installed.

Permittees/ owners shall provide for inspections as noted in Table 2.

Based on the results of the inspection the plan shall be revised and implemented in no case later than seven calendar days following the inspection.

Inspections shall look for evidence of or the potential for pollutants entering the drainage system or leaving the site and shall include disturbed areas of the construction site that may not have been finally stabilized, areas used for storage of materials, structural and non-structural control measures, and locations where vehicles enter or exit the site.

The owner shall provide a report summarizing the areas inspected, name(s), and titles of personnel making the inspection, the dates of the inspection, major observations, and corrective actions taken shall be made and retained as part of the plan. Where the inspection does not identify any incidents of non-compliance, the report shall contain a certification that the site is in compliance with the plan and permit.

### **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.

### **Enforcement Policy**

Violation of any provision of Chapter 8.28 of the Stormwater Code is outlined in Section 8.28.160 of that code. Non-compliance is subject to the issuance of a stop-work order and/or fines however it is the City's goal to have owners provide mitigation immediately upon recognition of their non-code compliance or notification from the city of the non-compliance. Any code enforcement, if deemed necessary, may include verbal or written warnings, administrative actions, fines, cost recovery, and/or legal action.

# Table 1

## EROSION & SEDIMENT CONTROL PLAN REQUIREMENTS

<u>Size of Site</u>	<u>Plan Required</u>	<u>Comments</u>
< 1 acre	yes	<p>at minimum the site plans shall identify that BMPs are required through construction until final site stabilization. Plan shall provide notes to identify proper inspection and maintenance of BMPs. Smaller areas &lt; 1 acre may develop a site specific plan.</p> <p>Plan shall provide notes to assure inspections at least weekly and within 24 hours of storm events to confirm BMPs have performed adequately or maintenance is required.</p>
1 acre or greater	yes	<p>Site specific Storm Water Pollution Prevention plans are required.</p> <p>Notice of Intent shall be filled with ADEQ and proof (ADEQ permit number must be provided prior to City permit issuance) provided to Lake Havasu City.</p> <p>Plan shall provide notes to assure inspections at least weekly and within 24 hours of storm events to confirm BMPs have performed adequately or maintenance is required.</p>

## Table 2

### EROSION & SEDIMENT CONTROL INSPECTION REQUIREMENTS

<u>Size of Site</u>	<u>Inspection Required</u>	<u>Comments</u>
< 1 acre	yes	<p>a formal inspection in not required</p> <p>Per site plan requirements (Table 1) provide inspections at least weekly and within 24 hours of storm events to confirm BMPs have performed adequately or maintenance is required.</p> <p>City &amp; owner will perform an initial pre-land disturbance inspection and a final inspection at Certificate of Occupancy (CO).</p>
1 acre or greater	yes	<p>Documented formal inspections are required and shall meet all ADEQ requirements.</p> <p>Per site plan requirements (Table 1) provide at least weekly and within 24 hours of storm events to confirm BMPs have performed adequately or maintenance is required.</p> <p>To be performed by qualified persons.</p>

## Table 3

### STORMWATER SITE PLAN REVIEW CHECKLIST

**Project Name/ Location:** \_\_\_\_\_

**Date:** \_\_\_\_\_

The purpose of this checklist is to expedite and facilitate the review process. These are the minimum requirements for review by Lake Havasu City. This checklist shall be submitted for all site development. All items shall be checked as included or marked N/A. The omission of required information may be cause for rejection of the submittal without review.

#### **General Stormwater - requirements**

- \_\_\_ Location of existing streams, ponds, channels
- \_\_\_ Existing & Proposed Contours
- \_\_\_ Existing. & Proposed Utility & Drainage Easements
- \_\_\_ Drainage Arrows
- \_\_\_ Existing & Proposed Drainage Structures
- \_\_\_ Drainage Areas w/ flows (on & off-site)
- \_\_\_ 100 Year flood plain
- \_\_\_ 100 Year High Water Elevation
- \_\_\_ Minimum. Finished Floor or Opening Elev.
- \_\_\_ Outlets & Channels w/ Velocities over 5 ft/s are reinforced
- \_\_\_ Unprotected channels non-erosive velocity
- \_\_\_ Storm Details
- \_\_\_ Inlet Drain Areas
- \_\_\_ Inlet Type
- \_\_\_ Inlet Grate & Invert Elev.
- \_\_\_ Prop. Pipe Length, Size, Grade, Type, Number
- \_\_\_ Channel & Pipe Calculations
- \_\_\_ Headwater at Culvert Pipes
- \_\_\_ Pipe & Channel Profiles for through drainage

#### **Stormwater Pollution & Prevention Plan/Erosion Control & Sediment Prevention**

- \_\_\_ Area of Disturbance
- \_\_\_ Detailed SWPPP Checklist Items
- \_\_\_ Standard Erosion Control Notes
- \_\_\_ Acres Disturbed
- \_\_\_ Legend
- \_\_\_ Copy of SWPPP

- \_\_\_ Copy of NOI (If 1 acre or larger) w/ ADEQ issued permit number provided.
- \_\_\_ Public Right-of-Ways, adjoining property owners, & ex. drainage ways protected from sediment

**Post-Construction Stormwater Management Plan**

- \_\_\_ Water Quality Volume Calculations.
- \_\_\_ Treat Manage First Flush (0.5”)
- \_\_\_ BMP locations
- \_\_\_ BMP description & installation
- \_\_\_ BMP treatment capacities
- \_\_\_ BMPs meet efficiency criteria
- \_\_\_ BMP maintenance schedule
- \_\_\_ BMP details
- \_\_\_ BMP maintenance instructions

**Submittals/Additional Information (if applicable)**

- \_\_\_ Detention Analysis (Include Checklist)
- \_\_\_ Stormwater Maintenance Agreement
- \_\_\_ Other (specify): \_\_\_\_\_

**Agreements & Permits**

All plans must be approved by the City prior to issuance of permits or any land disturbance.

A Stormwater Management Facilities Operations & Maintenance Agreement assuring perpetual maintenance of privately owned stormwater management facilities for quantity & quality shall be signed by the owner.