

Stormwater Management Program



Sierra Vista

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Introduction

The purpose of this Stormwater Management Program (SWMP) is to comply with Arizona Department of Environmental Quality's (ADEQ's) general permit (AZG2016-002) for the discharges of stormwater from the City's Municipal Separate Storm Sewer System (MS4). See Appendix A for a jurisdictional map. The City desires to discharge under that permit and thus has completed this updated SWMP in accordance with Part 5 of the permit. The City intends to fully implement the conditions in this SWMP in accordance with ADEQ's revised permit.

Stormwater Management Program

The City has evaluated the permit requirements for the six minimum control measures specified in Part 6 of the general permit. Based on that review, the City has selected best management practices (BMPs) for each control measure to accomplish the goal of reducing pollution from stormwater runoff to the maximum extent practicable (MEP). The City has identified dates by which implementation of each BMP will begin, targeted completion dates for full implementation of each BMP, measurable goals and responsible parties for each action.

The action plan is broken down by control measure.

1. Public Education and Outreach on Stormwater Impacts

TABLE 1 Public Education and Outreach: BMPs and Measurable Goals (Permit 6.4.1)

| Measurable Goal | Permit Year | | | | | Start Date | End Date | Responsible Party* |
|--|-------------|----|----|----|----|------------|----------|--|
| | 16 | 17 | 18 | 19 | 20 | | | |
| Hotline | | | | | | | | |
| Develop a community hotline for public reporting | X | | | | | 7/15 | 6/16 | Comm. Dev/Neighborhood Officer |
| Identify MS4 Program Manager to review and respond | X | | | | | 7/15 | 6/17 | Director - PW |
| Stormwater Pollution Prevention Brochures | | | | | | | | |
| Develop stormwater pollution prevention literature (bilingual) | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Distribute the stormwater literature | | | X | X | X | 7/17 | 6/20 | MS4 Program Manager |
| Develop and distribute ads/literature once a year (via different media) | | | X | X | X | 7/17 | 6/20 | MS4 Program Manager |
| Workshops/Demonstrations/Training | | | | | | | | |
| Develop 2 workshops geared toward school aged children | | | X | | | 7/17 | 6/18 | MS4 Program Manager |
| Host/facilitate workshops twice, annually | | | X | X | X | 7/17 | 6/20 | MS4 Program Manager |
| Develop training for residential and commercial developers | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Facilitate training for developers twice, annually | | | X | X | X | 7/17 | 6/20 | MS4 Program Manager |
| Educational Materials | | | | | | | | |
| Establish a library of printed materials for display and circulation in public areas | | X | X | X | X | 7/16 | 6/20 | MS4 Program Manager |
| Stormwater Website | | | | | | | | |
| Develop/maintain City's stormwater web page | | X | X | X | X | 7/16 | 6/20 | MS4 Program Manager with assistance from PAO |
| Create a Kids' corner/school resource center | | | X | X | X | 7/17 | 6/20 | |
| Storm Drain Stenciling | | | | | | | | |
| Develop and administer storm drain stenciling program | | | | X | X | 7/18 | 6/20 | MS4 Program Manager |

* Link to table: [Goals tables.xlsx](#)

Public Education and Outreach: Plan

Permit section 6.4.1 OBJECTIVE: The permittee shall implement an education program that includes educational goals based on stormwater issues of significance within the MS4 area. The program shall include a focus on pollutants of concern for impaired and TMDL waters, and priority waters that receive a discharge from the MS4. The ultimate objective of a public education program is to increase knowledge and change behavior of the public so that pollutants in stormwater are reduced.

The City of Sierra Vista is a fast growing city with approximately 15,000 households and 1,000 businesses. An MS4 Program Manager has been identified to aid in the development of an education and outreach program which will be presented to various targeted audiences made up of school groups, residential and commercial developers/operators, restaurants, service stations, homeowners associations, and other groups/organizations representative of the character and make-up of the community. The purpose is to educate and inform the City's population of the hazards and repercussions of improper disposal of various household and/or construction chemicals and waste, pet waste, gasoline spills, sedimentation, erosion, etc.

The education and outreach will be conducted by a variety of methods. These methods may include in-service training programs; distribution of brochures; newspaper articles; workshops and activities and events. They will be conducted by City staff; members of the City Council; and other volunteer groups, organizations and individuals within the community.

The storm drain stenciling program presents a clear and consistent message to the residents of Sierra Vista. The City of Sierra Vista will be responsible for ordering the storm drain markers and maintaining the maps and lists identifying the areas which have been marked. Additionally, the City of Sierra Vista will update their standard specification for storm drain inlets, requiring the placement of a marker on all new inlets.

To measure the success and impact of the education and outreach efforts, the MS4 Program Manager will develop a stormwater public awareness survey to be administered to the various targeted audiences at the beginning, during, and at the end of the permit term.

Documents and information relevant to the MS4 program will be made available to the public online, on the City's webpage, or by contacting the MS4 Program Manager at the City's Public Works Department at 520-458-5775, ext 8521.

2. Public Involvement/Participation

TABLE 2 Public Involvement/Participation: BMPs and Measurable Goals

| <i>Measurable Goal</i> | <i>Permit Year</i> | | | | | <i>Start</i> | <i>End</i> | <i>Responsible Party*</i> |
|--|--------------------|-----------|-----------|-----------|-----------|--------------|-------------|--------------------------------|
| | <i>16</i> | <i>17</i> | <i>18</i> | <i>19</i> | <i>20</i> | <i>Date</i> | <i>Date</i> | |
| Community Hotline | | | | | | | | |
| Develop a stormwater hotline | X | | | | | 7/16 | 6/17 | Comm. Dev/Neighborhood Officer |
| Establish a response procedure for complaints | | | X | | | 7/17 | 6/18 | MS4 Program Manager/Comm Dev. |
| Establish a Volunteer Corps | | | | | | | | |
| Revamp and administer adopt a wash program | | | X | X | X | 7/18 | 6/20 | Comm. Dev/Neighborhood Officer |
| Promote participation in rainfall monitoring network | X | X | X | X | X | 7/15 | 6/20 | MS4 Program Manager |

* Link to table: [Goals tables.xlsx](#)

Public Involvement/Participation: Additional Information: Plan

Permit section 6.4.2 OBJECTIVE: The permittee shall provide opportunities to engage the public to participate in the review and implementation of the permittee's SWMP.

The City of Sierra Vista is home to approximately 44,000 people. The City has long-established procedures for making the public aware of involvement and participation opportunities within the community. These opportunities are published in posted notices, newspapers, and/or listed on the City webpage. Generally, the City business meetings are open to the public, and the public can attend and voice comments on the proceedings. All relevant public comments are considered.

The City will continue to provide opportunities for public involvement through programs such as Adopt-a-Wash, rain gauge monitoring and the implementation of a community hotline. Participation in these programs will be open to the general public, local schools, businesses, homeowners' associations, or any interested group who may wish to participate.

The Adopt-a-Wash program actively engages the public in illicit discharge detection and provides a remedy for removing debris and other pollutants from the washes. The City will recognize the volunteer organizations in various ways.

Citizens may participate in the rainfall monitoring network specified in Table 2.1. The data collected through this network will be used for a variety of applications, including watershed management activities.

The use of a community hotline will also be implemented to aid in preventing illegal dumping and stormwater pollution. The hotline will provide a method through which Sierra Vista's residents may report illegal dumping into storm drains, dry weather discharges, or other instances of stormwater pollution or concerns. When a report is filed, City staff will be alerted to the receipt of the complaint and will be responsible for documenting it, reviewing the information and responding in accordance with City policy within a two week period. Appropriate responses may include: providing information, inspection, documentation, and enforcement as outlined in the City's ordinance 2008-017, passed 10/9/08.

Once these programs are established they will continue through the permit period.

3. Illicit Discharge Detection and Elimination

TABLE 3 Illicit Discharge Detection and Elimination: BMPs and Measurable Goals

| Measurable Goal | Permit Year | | | | | Start Date | End Date | Responsible Party* |
|---|-------------|----|----|----|----|------------|----------|--|
| | 16 | 17 | 18 | 19 | 20 | | | |
| Industrial/Business Connections | | | | | | | | |
| Develop a plan to identify illicit industrial/business | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Establish an inspection procedure for new developments | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Establish a response procedure for complaints | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Identify Illegal Connections | | | | | | | | |
| Establish a priority ranking for detecting illicit discharges | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Establish field inspection and documentation procedures | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Perform/maintain mapping of storm drain system | X | X | X | X | X | 7/15 | 6/20 | Engineering |
| Institute mandatory inspections for new projects | | | X | X | X | 7/17 | 6/20 | Eng./Comm. Dev. |
| Wastewater Connections to Storm Drain System | | | | | | | | |
| Establish an inspection procedure for both illicit connections and good housekeeping practices, as well as appropriate penalties for violations | | | X | | | 7/16 | 6/17 | MS4 Program Manager |
| Illegal Dumping | | | | | | | | |
| Create/distribute educational materials about illegal dumping | | X | | | | 7/16 | 6/17 | MS4 Program Manager/ Code Enforcement |
| Monitor known dumping sites and post warnings | X | X | X | X | X | 7/15 | 6/20 | Code Enforcement |

* Link to table: [Goals tables.xlsx](#)

Illicit Discharge Detection and Elimination: Additional Information: Plan

Permit section 6.4.3 OBJECTIVE: The permittee shall implement an IDDE program to systematically find and eliminate sources of non-stormwater to and from its municipal separate storm sewer system and to implement procedures to prevent illicit connections and discharges.

The City of Sierra Vista is currently developing an IDDE program to systematically find and eliminate sources of non-stormwater to and from its MS4. The program will outline the City's responsibilities, processes procedures, and enforcement actions and authority regarding illicit discharges into and from the MS4. The Written IDDE program shall be complete before March 2017, as required by the 2016 permit.

Annual training on the IDDE components and how to detect, inspect and document illicit discharges will be given to City staff involved in the IDDE program. Regular inspections will be performed to identify and correct improper and/or illegal discharges to the storm drain system. Citizens will also have the ability to report incidences of illicit discharges.

Visual monitoring will be an essential component of the City's illicit detection program and will occur as follows.

- Dry weather monitoring of random and/or problematic locations--quarterly
- Stormwater Discharge Monitoring - five outfalls, representative of its stormwater discharges, minimum of two monitoring events during each wet season

If a discharge is determined to be hazardous, the City of Sierra Vista 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, enforcement procedures will begin.

Once an area is identified as requiring further investigation, an illicit connection inspection will be performed on facilities in that area, and the area/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 public 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.

4. Construction Site Stormwater Runoff Control

TABLE 4 Construction Site Stormwater Runoff Control: BMPs and Measurable Goals

| <i>Measurable Goal</i> | <i>Permit Year</i> | | | | | <i>Start</i> | <i>End</i> | <i>Responsible Party*</i> |
|--|--------------------|----|----|----|----|--------------|-------------|---------------------------|
| | 16 | 17 | 18 | 19 | 20 | <i>Date</i> | <i>Date</i> | |
| SWPPP Checklist | | | | | | | | |
| Develop a SWPPP Checklist | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Distribute SWPPP Checklist to developers | | X | X | X | X | 7/16 | 6/20 | MS4 Program Manager |
| Construction Site Inspections | | | | | | | | |
| Train inspectors on SWPPP requirements | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Inspect construction sites for SWPPPs and BMPs | | X | X | X | X | 7/18 | 6/20 | Trained inspectors |
| Construction Plan and SWPPP Review | | | | | | | | |
| Review plans and SWPPPs | | X | X | X | X | 7/16 | 6/20 | MS4 Program Manager |

* Link to table: [Goals tables.xlsx](#)

Construction Site Stormwater Runoff Control: Plan

Permit section 6.4.4 OBJECTIVE: Minimize or eliminate pollutant discharges to the MA4 from construction activities disturbing one (1) or more acres of land, including sites less than one (1) acre that are part of a common plan of development or sale.

In accordance with this stormwater management program and the Arizona Department of Environmental Quality Small MS4 General Permit the City of Sierra Vista requires a Stormwater Pollution Prevention Plan (SWPPP) be prepared for construction on any disturbance more than one acre. The program also requires a SWPPP for sites disturbing less than one acre if that disturbance is part of a larger, common plan of development or sale that will ultimately disturb one acre or more, regardless if the construction activities occur at different times. In order to provide guidance for forming an effective SWPPP, and to help reduce unnecessary costs, the City of Sierra Vista will develop a Construction Site Stormwater Runoff Program that will include a SWPPP template and instructions. The program information and template will be available on the City's website. Templates can also be picked up from the MS4 Program Manager's office, at the City's Public Works location. The program will be fully developed and in place no later than September 2017, as required by the 2016 permit.

As part of the City's Construction Site Stormwater Runoff Program all staff who conduct activities related to implementing the program will receive proper training. Trained City inspectors will perform regular inspections of the inventoried construction activities, based on site prioritization, to ensure the BMPs specified in the contractor's SWPPP are being implemented. The City will develop an Enforcement Response Plan and implement it before September 2018. This will lay out the actions of the inspectors in the event a construction site is determined out of compliance. The public is also able to report potential violations using the community hotline. All public reports will be investigated and handled in accordance with the City's ERP and ordinances.

5. Post Construction Stormwater Management in New Development and Redevelopment

TABLE 5 Post Construction Stormwater Management in New Development and Redevelopment: BMPs and Measurable Goals

| <i>Measurable Goal</i> | <i>Permit Year</i> | | | | | <i>Start</i> | <i>End</i> | <i>Responsible Party*</i> |
|--|--------------------|----|----|----|----|--------------|-------------|---------------------------|
| | 16 | 17 | 18 | 19 | 20 | <i>Date</i> | <i>Date</i> | |
| Post-Construction Ordinance | | | | | | | | |
| Enforcement | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Development Education Program | | | | | | | | |
| Develop a post-construction runoff control check list | | X | X | X | X | 7/16 | 6/20 | |
| Develop/distribute post-construction BMP information materials | | X | X | X | X | 7/16 | 6/20 | MS4 Program Manager |

* Link to table: [Goals tables.xlsx](#)

Post Construction Stormwater Management in New Development and Redevelopment: Plan

Permit section 6.4.5 OBJECTIVE: Permittees shall implement and enforce a program to address post-construction stormwater runoff from new development and redevelopment projects that disturb one or more acres of land (or less than one acre if part of a common plan of development) that discharge into the permittee's MS4.

Uncontrolled, post-construction runoff has a significant impact upon water resources and the health, safety and general welfare of the community and diminishes the public enjoyment and use of natural resources. Specifically, uncontrolled post-construction runoff can:

1. Degrade physical stream habitat by increasing stream bank erosion, increasing streambed scour, diminishing groundwater recharge, diminishing stream base flows and increasing stream temperature.
2. Diminish the capacity of streams to support fish, aquatic life, recreational and water supply uses by increasing pollutant loading of sediment, suspended solids, nutrients, heavy metals, bacteria, pathogens and other urban pollutants.
3. Alter wetland communities by changing wetland hydrology and by increasing pollutant loads.
4. Reduce the quality of groundwater by increasing pollutant loading.
5. Threaten public health, safety, property and general welfare by overtaxing storm sewers, drainageways, and other minor drainage facilities.
6. Threaten public health, safety, property and general welfare by increasing major flood peaks and volumes.
7. Undermine floodplain management efforts by increasing the incidence and levels of flooding.

The City of Sierra Vista will implement and enforce a program to address stormwater runoff from the new and redevelopment projects meeting the program criteria. The program will include a site plan review process and inventory system, ensuring a long-term operation and functionality of the post construction stormwater BMPs.

6. Pollution Prevention/Good Housekeeping for Municipal Operations

TABLE 6 Pollution Prevention/Good Housekeeping for Municipal Operations: BMPs and Measurable Goals

| Measurable Goal | Permit Year | | | | | Start Date | End Date | Responsible Party* |
|---|-------------|----|----|----|----|------------|----------|------------------------|
| | 16 | 17 | 18 | 19 | 20 | | | |
| Municipal Training Program | | | | | | | | |
| Identify stormwater topics for municipal employees | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Develop a training program | | | X | | | 7/17 | 6/18 | MS4 Program Manager |
| Train municipal staff | X | X | X | X | X | 7/15 | 6/20 | MS4 Program Manager |
| Automobile Maintenance | | | | | | | | |
| Enforce proper disposal practices | | X | X | X | X | 7/16 | 6/20 | Fleet Administrator |
| Evaluate and update maintenance procedures | | | X | X | X | 7/17 | 6/20 | Fleet Administrator |
| Employee training to explain pollution prevention methods | X | X | X | X | X | 7/15 | 6/20 | Fleet Administrator |
| Vehicle Washing | | | | | | | | |
| Wash municipal vehicles at the vehicle wash facility | X | X | X | X | X | 7/15 | 6/20 | Public Works |
| Map municipal operations center storm drain locations | | X | X | X | X | 7/16 | 6/17 | MS4 Program Manager |
| Illegal Dumping Control | | | | | | | | |
| Continue household hazardous waste drop off events | X | X | X | X | X | 7/15 | 6/20 | Refuse Supervisor |
| Schedule special waste pickups | X | X | X | X | X | 7/15 | 6/20 | |
| Train city personnel on proper handling | X | X | X | X | X | 7/15 | 6/20 | |
| Street Sweeping | | | | | | | | |
| Continue to evaluate street sweeping program | X | X | X | X | X | 7/15 | 6/20 | Streets Supervisor |
| Continue to sweep city streets | X | X | X | X | X | 7/15 | 6/20 | Streets Employees |
| Provide training to street sweeper operators | X | X | X | X | X | 7/15 | 6/20 | Streets Supervisor |
| Storm Drain System Cleaning | | | | | | | | |
| Determine storm drain cleaning schedule | | X | | | | 7/16 | 6/17 | Streets Supervisor |
| Maintain storm drain system | X | X | X | X | X | 7/15 | 6/20 | Streets |
| Provide training on proper storm drain cleaning methods | | | X | X | X | 7/17 | 6/20 | MS4 Program Manager |
| Used Oil Recycling | | | | | | | | |
| Recycle used motor oil from the City's fleet vehicles | X | X | X | X | X | 7/15 | 6/20 | Fleet Administrator |
| Hazardous Material Storage | | | | | | | | |
| Evaluate City hazardous material storage procedures | | X | | | | 7/16 | 6/17 | MS4 Program Manager |
| Update procedures to minimize contact with stormwater | | | X | | | 7/17 | 6/18 | MS4 Program Manager |
| Store hazardous materials according to new procedures | | | | X | X | 7/18 | 6/20 | All Departments |
| Materials Management | | | | | | | | |
| Develop a materials inventory of commonly used products | | | X | | | 7/17 | 6/18 | Section Supervisors |
| Evaluate alternative materials | | | | X | | 7/18 | 6/19 | MS4 Program Manager |
| Train City staff on proper handling and tracking of materials | X | X | X | X | X | 7/15 | 6/20 | PW Management Analysts |
| Stormwater Basin and Drywell Management on City Properties | | | | | | | | |
| Create an inventory of City owned basins | X | X | | | | 6/15 | 6/17 | Eng./Streets |

* Link to table: [Goals tables.xlsx](#)

Pollution Prevention/Good Housekeeping for Municipal Operations: Plan

Permit section 6.4.6 OBJECTIVE: The permittee shall implement an operations and maintenance program that includes a training component and has a goal of preventing or reducing pollutant runoff and protecting water quality from municipal operations that are not subject to industrial stormwater permitting under Arizona's Multi-Sector General Permit (MSGP).

The City of Sierra Vista has a public works facility, Environmental Operations Park and an airport facility, all subject to industrial stormwater permitting under Arizona's Multi-Sector General Permit. The MS4 Program Manager will implement an operations and maintenance program-- including a training component to address the proper use, storage and disposal of chemicals and other best practices relating to general, good housekeeping procedures for all other City owned facilities, parks and open spaces.

Qualifying State or Local Program

The City has developed new best management practices in response to the need to apply for a municipal stormwater discharge permit. The City is not aware of any qualifying local or state programs that would adequately address the requirements of the Small MS4 General Permit.

Sharing Responsibility

The City will have the responsibility to implement all measures within this SWMP.

Reviewing and Updating the SWMP

The City will review the SWMP in June of each year starting in June 2017 and evaluate the implementation status of the SWMP components as well as the effectiveness of each component or combination of components. The City will determine how the SWMP needs to be revised, if at all. If the SWMP needs to be revised, the City will notify ADEQ of any additions. If components of the SWMP need to be replaced, the City will submit to ADEQ the proposed revisions with an explanation of why the practice is ineffective and why the replacement is expected to achieve the goals of the management practice.

Monitoring

The City will evaluate program compliance, the appropriateness of identified BMPs, and progress towards achieving identified measurable goals. The City storm sewer system drains off the land into the washes that flow west to east between the Huachuca Mountains and the (north flowing) San Pedro River. At this time, a Total Maximum Daily Load (TMDL) has not been established for the receiving water. Also, The San Pedro is not listed on Arizona's 303(d) list. Therefore, the City will not sample and analyze the discharge from the small MS4.

Annual Reports

Starting in 2017, the City will submit annual reports by September 30 of each year for the preceding period of July 1 through June 30. The City will report on the information required in section 8.3 of the permit.

Appendix A - Jurisdictional Boundaries Map

