



# Phase II MS4 Program

Annual Report

Year 9

July 1, 2016 to June 30, 2017



**Public Works**

Project Development

700 North Main Street Las Cruces, New Mexico 88001

[www.las-cruces.org/stormwater](http://www.las-cruces.org/stormwater)

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# MS4 Annual Report Permit Information

## **A. Permittee Information**

Permit Number: NMR040000

Permittee: City of Las Cruces

Mailing Address: 700 North Main Street

City, State and Zip Code: Las Cruces, New Mexico 88001

Have any areas been added to the MS4 due to annexation or other legal means?

No

## **B. Reporting Period July 1, 2016 to June 30, 2017**

## **C. Program Areas (Attachments)**

*As an attachment, address each of the following items for each of the six program areas (public education, public participation/involvement, illicit discharge detection and elimination, construction, post-construction, and good housekeeping for municipal operations.) The status of each program area must be addressed, even if the program area was completed and fully implemented in the previous reporting year. Help on the items is included in italics.*

*If another entity does not have its own permit but is instead covered under your permit, the Annual report information under Section C must also be provided for each such entity. (Depending on the size of the MS4 and the complexity of the programs, the attachments for this section will likely comprise 1 to 5 pages per program area.)*

## Figure 1: U.S. Census, 2013 Las Cruces Population

<http://las-cruces.maps.arcgis.com/apps/LocalPerspective/index.html?appid=728a88c8e743499c9eb18eaa14c4fa0e>

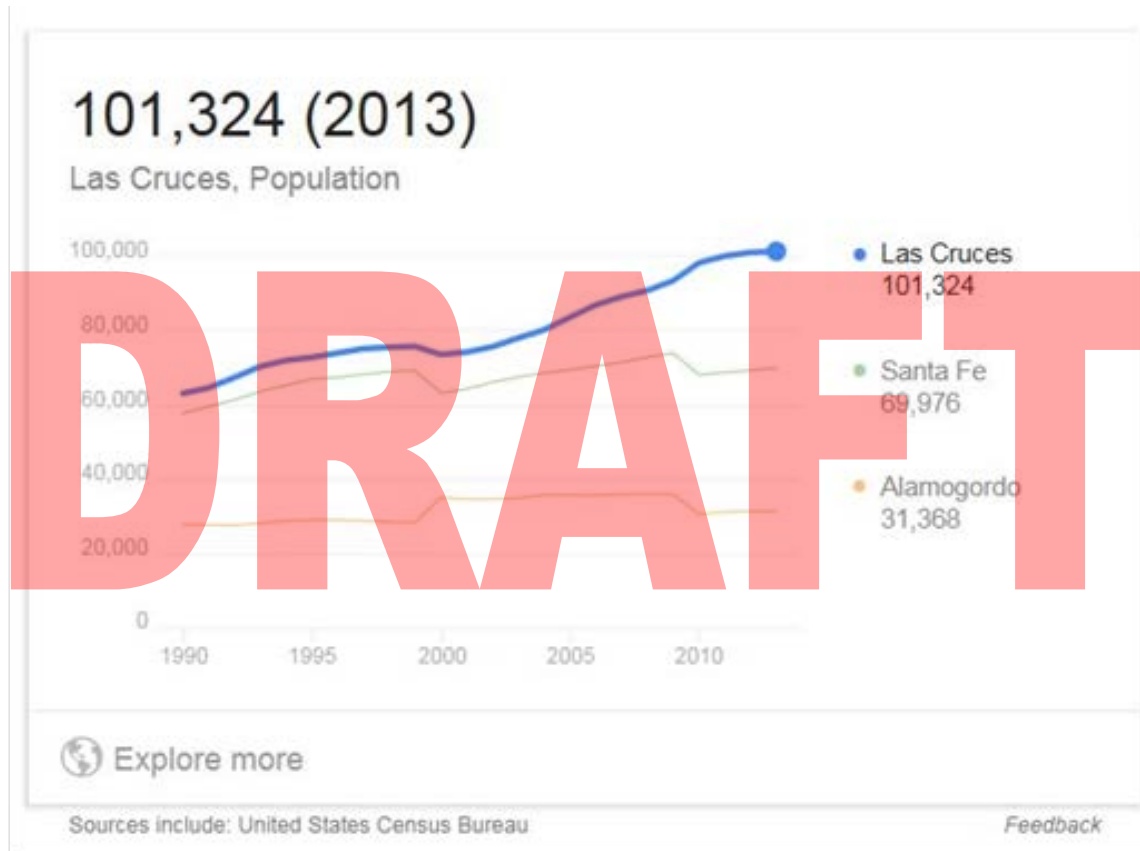


Figure 1: Population of the City of Las Cruces from the U.S. Census Bureau

## Figure 2: Annexation Map

<http://las-cruces.maps.arcgis.com/apps/MapTools/index.html?appid=ed0cb1036e0e46c082de26328251ba05>

### Las Cruces Annexation History by Decade

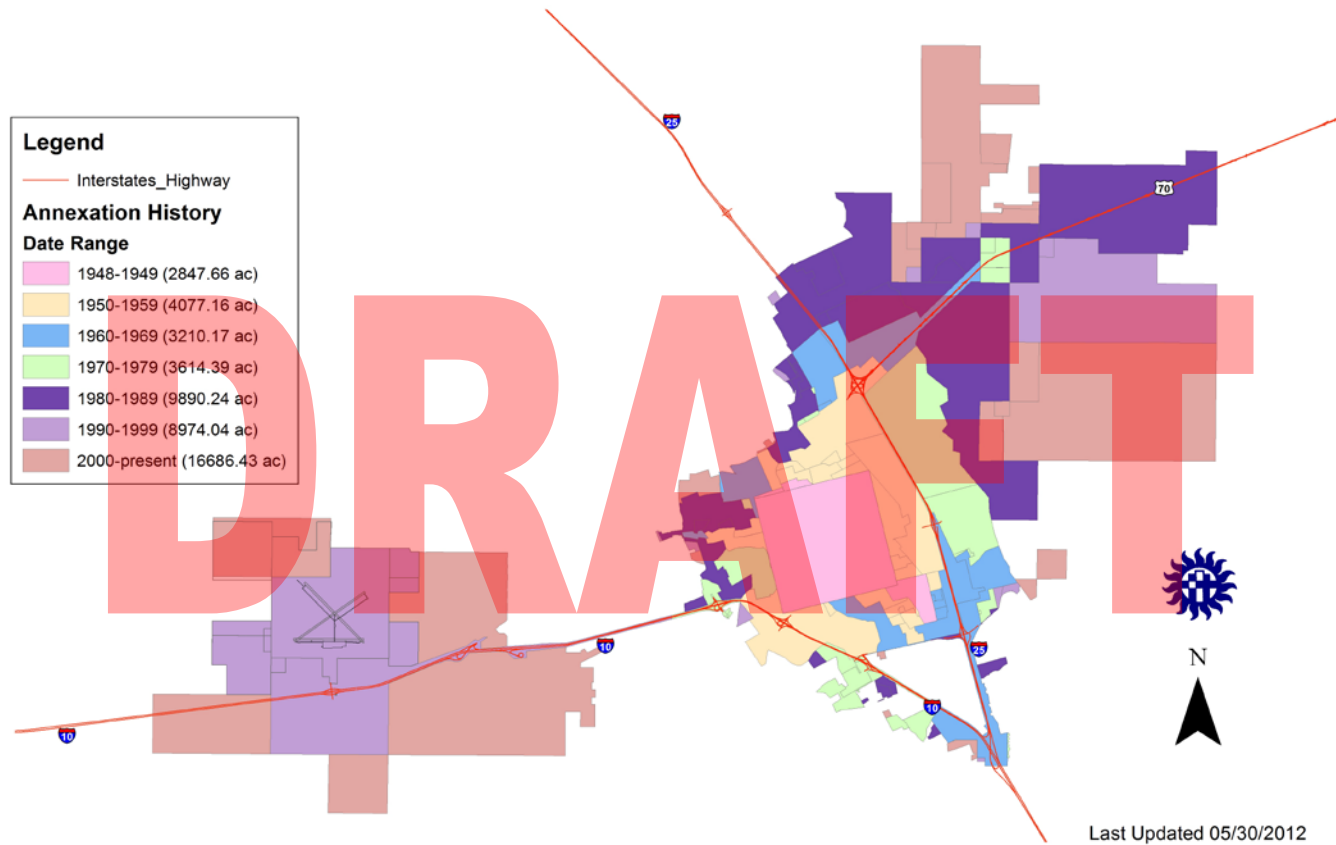


Figure 2: CLC annexation history by decade

### Figure 3: Las Cruces Urbanized Area Map and Storm Drain System (Detail)



Figure 3: CLC storm drain system (detail) ArcMap





The City must show measurable goals and improvement in six minimum areas. Record of these results and improvements will be the responsibility of each city department. Each control measure is listed below with the corresponding 1<sup>st</sup> year tasks (BMP) and the status of the BMP.

## BMP Summary and Summary Tables

(\*Items marked in blue are new for the permit year)

(\*Items marked in red have not been implemented)

### **MCM #1 Public Education and Outreach on Storm Water Impacts.**

<b>BMP/YEAR 8</b>	<b>STATUS/DESCRIPTION</b>
<b>BMP 1.1</b> <b>Development of Educational Materials</b> Revise and update materials as needed.	New bilingual Citizen Guide for stormwater pollution prevention. Updated SWPPP Guide. Updated bilingual Watershed booklet for kids.
<b>BMP 1.2</b> <b>Community Events</b> Water Festival, 4/13/17 Career Day, 5/12/17 Learning Celebration 5/25/17 Farmers market, 4/26/17, 5/12/17	Stormwater pollution prevention outreach activities were provided to the community. Interactive models of a watershed and floodplain were used to teach students about pollution prevention and urban runoff.
<b>BMP 1.3</b> <b>Billboards</b> <b>Public Service Announcements</b>	No PSA's were produced during this permit year.
<ul style="list-style-type: none"> <li>• <b>BMP 1.4</b></li> <li>• <b>Las Cruces Public Schools Outreach</b></li> <li>• Schedule school presentations as feasible</li> </ul>	Presentations on watershed and floodplain management were given to 3 <sup>rd</sup> 4 <sup>th</sup> and 5 <sup>th</sup> grade elementary schools.
<b>BMP 1.5</b> <b>Distribute brochures w/business registration</b>	Brochures are handed out with business registration for the auto and restaurant industry. Brochures have useful information such as grease management (F.O.G.), recycling oil and stormwater pollution prevention.
<b>BMP 1.6</b> <b>Offer presentation to construction organizations</b> <b>Distribute brochure w/contractor registrations</b>	

<p><b>BMP 1.7</b>  <b>Education material at City Hall</b></p>	<p>Education material is available at City Hall, Public Works, and various departments.</p>
<p><b>BMP 1.8</b>  <b>If appropriate, use DVD for employee training and public education</b></p>	<p><i>Ground Control, SWPPP for Construction Sites</i> by Excal Visual, <i>From Sea to Summit, A Journey through the Watershed</i> by Surfrider Foundation and <i>After the Storm</i> by the Weather Channel are DVDs used for training and education purposes.</p>
<p><b>BMP 1.9</b>  <b>If other entities participate, develop and education program targeted at possible bacteria sources in the watershed.</b></p>	<p><i>Bacteria in the Rio Grande Basin</i> is a factsheet produced by the Paso del Norte Watershed Council to educate the public about E. coli.</p>

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**MCM #2 Public Participation and Involvement**

BMP/YEAR 8	STATUS/DESCRIPTION
<p><b>BMP 2.1</b>  <b>Public Notices and meetings</b>                      Publish public notice of the SWMP and Annual Report                      Present the SWMP annual report to the City Council</p>	<p>The cities' Storm Water Management Plan (NOI) revisions and Annual Report are available on the City's website at the following address:  <a href="http://www.las-cruces.org/departments/public-works/project-development/stormwater">http://www.las-cruces.org/departments/public-works/project-development/stormwater</a></p>
<p><b>BMP 2.2</b>  <b>Stormwater report line</b>                      Publicize the report line</p>	<p>The report line was posted on brochures and on the Stormwater web page.</p>
<p><b>BMP 2.3</b>  <b>Website Availability of the SWMP and NOI</b>                      Maintain and update web page.</p>	<p>The Stormwater Web Page is periodically updated and revised.  <a href="http://www.las-cruces.org/departments/public-works/project-development/stormwater">http://www.las-cruces.org/departments/public-works/project-development/stormwater</a></p>
<p><b>BMP 2.4</b>  <b>Community Clean-up Activities</b>                      Sponsor and advertise community clean-up event                      The 24<sup>th</sup> Annual Great American Cleanup</p>	<p>Keep Las Cruces Beautiful - Codes Enforcement. Over two thousand volunteers help clean up trash throughout the city. <i>(See appendix B for data)</i></p>

**MCM #3 Illicit Discharge Detection and Elimination**

<b>BMP/YEAR 8</b>	<b>STATUS/DESCRIPTION</b>
<p><b>BMP 3.1</b>  <b>Visual Inspection Screening</b>                      Respond to citizen complaints of illicit discharges                      Visually inspect for discharges during NFIP inspections.                      Develop and implement tracking system for reported illicit discharges.</p>	<p>Currently the City responds to citizen complaints of illicit discharges. Departments that are involved in responding to complaints include: Utilities and Public Works. Storm drain infrastructure is inspected by drop inlet maintenance crews, Blue Stakes, GIS mapping and NFIP inspections. The City’s Industrial Pollution Prevention Inspectors are responsible for responding to and recording illicit discharges.</p>
<p><b>BMP 3.2</b>  <b>GIS Mapping</b>                      Map Outfalls adjacent to EBID structures                      BMP 3-2 cont.                      Map U.S. waters within the city.</p>	<p>Many outfall structures were mapped using GIS technology but are still an ongoing project. <i>Three basins within the city were mapped using survey grade equipment. Points and polygons were imported into an existing GIS stormwater database. (see appendix F)</i></p>
<p><b>BMP 3.3</b>  <b>Ordinance to Remove/Correct Illicit Discharges</b>                      Use revised municipal code to eliminate illicit discharges.</p>	<p>Fully Implemented (See Attached) Spreadsheet, MS4 Program Comparisons                      Revisions to the stormwater ordinance are currently being developed. <i>Waiting for the new MS4 stormwater permit to be issued before adopting a revised ordinance.</i></p>
<p><b>BMP 3.4</b>  <b>Household Hazardous Waste Recycling</b>                      Accept Household Hazardous Waste at the City’s Recycling Center  <a href="http://www.scswa.net/">http://www.scswa.net/</a></p>	<p>Fully Implemented  <b>AMADOR AVENUE RECYCLING CENTER</b>                      2865 W. Amador Ave                      We accept paints, stains or any item considered ignitable, poisonous or corrosive), florescent light bulbs, E-Scrap (computers and other electronics) and tires (for a fee, depending on size). All the recyclables listed above PLUS: old appliances and scrap metal, household hazardous waste (household cleaners, pesticides, herbicides, motor oil, cooking oil, antifreeze, rechargeable batteries, vehicle batteries.</p>
<p><b>BMP 3.5</b>  <b>Septic Tank Identification and Prioritization</b>                      Design and construct new sewers as funds allow.</p>	<p>Ongoing  <b>Utilities-New Connections</b>                      680 North Motel Boulevard                      Las Cruces, NM 88007 (575) 528-3657   <a href="http://www.las-cruces.org/departments/utilities/technical-support/sewer-installation-projects">http://www.las-cruces.org/departments/utilities/technical-support/sewer-installation-projects</a></p>

**MCM #4 Construction Site Storm Water Runoff Control**

<b>BMP/YEAR 8</b>	<b>STATUS/DESCRIPTION</b>
<p><b>BMP 4.1</b>  <b>Plan Review</b>                      Review Erosion control and Sediment Control Plans</p>	<p>The City of Las Cruces has a plan review team that reviews erosion control plans that are required by the City’s design standards. (<i>See Design Standards for details</i>)  <a href="https://www.municode.com/library/nm/las_cruces/codes/land_development_code?nodeId=PTIIDECO_CH32DEST">https://www.municode.com/library/nm/las_cruces/codes/land_development_code?nodeId=PTIIDECO_CH32DEST</a></p>
<p><b>BMP 4.2</b>  <b>Inspection and Enforcement</b>                      Implement new inspection and enforcement procedures. Evaluate feasibility of construction Inspector position contract.</p>	<p>New inspection and enforcement procedures have been implemented for construction stormwater compliance as well as municipal stormwater ordinance compliance. Inspection books were created for logging in inspection details and escalation processes. A Codes Enforcement Officer has been assigned to work mainly on stormwater inspections and compliance. A full time Environmental Compliance Inspector whose responsibilities are monitoring construction sites for stormwater pollution has been implemented. This full time inspector focuses mainly on EPA-NPDES permit requirements as well as local municipal ordinances. Areas such as erosion and dust associated with construction activity has been an important area of concern here in the arid southwest.  <a href="http://www.las-cruces.org/departments/community-development/building-and-development-services/construction-pollution-prevention">http://www.las-cruces.org/departments/community-development/building-and-development-services/construction-pollution-prevention</a></p>
<p><b>BMP 4.3</b>  <b>Public Reports of Construction Problems</b>                      Post information on website encouraging public reporting of construction site problems.</p>	<p>Implemented  <a href="http://www.las-cruces.org/departments/community-development/building-and-development-services/construction-pollution-prevention">http://www.las-cruces.org/departments/community-development/building-and-development-services/construction-pollution-prevention</a></p>



**MCM #5 Post-Construction Storm Water Management in New Development/Redevelopment**

<b>BMP/YEAR 8</b>	<b>STATUS/DESCRIPTION</b>
<p><b>BMP 5.1</b>  <b>Structural BMPs</b>                      Enter existing ponding areas into GIS. Update GIS ponding area inventory as plans are stamped "Permit Set"                      A proposed Stormwater Management Plan for the Las Cruces Dam watersheds and Sandhill Arroyo. Las Cruces constructed wetland project.</p>	<p>Fully Implemented                      The City enforces design standards through the Community Development Dept. (Permitting) and through the Codes Enforcement Dept. The Sandhill Dam was inspected and a drainage report was completed. The drainage report included a probable maximum flood study for the purpose of public safety.</p>
<p><b>BMP 5.2</b>  <b>Open Space Program</b>                      Arroyo Plan, Landscape ordinance, Las Cruces Trail Systems and the</p>	<p>Arroyo Plan has gone through several drafts and has been made available to all departments and the public for review and input.                      Landscape ordinance was developed and is still under review. Park &amp; Recreation Master Plan to be adopted will contain park/pond and trail systems.</p>
<p><b>BMP 5.3</b>  <b>Capital Improvement Program</b>                      Include evaluation of water quality in design contracts.</p>	<p>Water quality evaluation in design contracts not implemented.                      More discussion on evaluating water quality in design contracts although there is still no policy or requirement.</p>
<p><b>BMP 5.4</b>  <b>MS4 Operation and Maintenance program</b>                      Continue operation and maintenance program</p>	<p>Public Works inspectors meets with street maintenance regularly to make sure storm drains and infrastructure are maintained. New inspection forms and spreadsheets were developed to track maintenance of stormwater infrastructure. <a href="#">Munis software is now being used to submit and track work orders for stormwater infrastructure maintenance.</a></p>
<p><b>BMP 5.5</b>  <b>Low Impact Development (LID) Education</b>                      Distribute LID brochure to developers and their engineers. Place LID brochure in dispenser where construction plans are submitted for review. If feasible, host a LID workshop with NMSU and DAC.</p>	<p>Meetings to discuss LID and green infrastructure were established through the Community Development Department. <b>Currently no guidance documents or literature has been created for LID practices.</b></p>

**MCM # 6 Pollution Prevention/Good Housekeeping for Municipal Operations**

<b>BMP/YEAR 7</b>	<b>STATUS/DESCRIPTION</b>
<p><b>BMP 6.1</b>  <b>Good Housekeeping Practices</b>                      Implement Good Housekeeping Procedures.                      Revise the procedures when activities change.</p>	<p>Material safety data sheets are kept for all stored chemicals, personnel are trained in proper handling and storage of potentially hazardous substances. Records are kept to identify and assure substances are properly stored and handled.</p>
<p><b>BMP 6.2</b>  <b>Hazard Communication Program</b>                      Train employees</p>	<p>Employee training is tracked and recorded by individual departments. The Risk Management Department is responsible for any training that involves safety and hazards in the municipal environment.</p>
<p><b>BMP 6.3</b>  <b>Municipal Training</b>                      Obtain training video</p>	<p>Training was provided for city staff. Presentation: <a href="#">Stormwater Pollution Prevention for Municipal Operations - 8/3/16</a></p>
<p><b>BMP 6.4</b>  <b>Pesticide, fertilizer, and herbicide Management</b>                      Require city applicators to be appropriately licensed.                      Implement the study's recommendations</p>	<p>All city Pesticide Applicators are licensed and properly trained. <b>No formal study has been done to improve pesticide, herbicide and fertilizer management.</b> The city does use organic fertilizers to help reduce the negative impacts on the environment.</p>

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# 1. Implementation Status

## A. General Summary

This past year the City of Las Cruces has continued to carry out the activities and goals of the cities' Storm Water Management Plan (SWMP).

The plan was submitted in compliance with the Environmental Protection Agency's (EPA) Phase II Storm Water Final Rule (64 FR 68722, 8Dec99) to improve storm water quality in accordance with the Clean Water Act of 1972. The 5-year program will serve to develop, implement, and enforce a storm water management program designed to reduce the discharge of pollutants to the maximum feasible extent possible. The EPA has identified six minimum control measures which must be specifically addressed within this plan. These six minimum areas are listed below and involve several City departments. This report documents the results of the first year's efforts.

- 1) Public Education and Outreach on Storm Water Impacts.
- 2) Public Participation and 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

## B. Program elements changed or refined since previous report or permit application.

*Include a summary of any changes made in accordance with Part 5.5 of the permit.*

There are no changes to the Stormwater Management Plan since the city revised the Stormwater Management Plan in 2009.

## C. Status of Measurable Goals (See tables before each minimum control measure)

*i. The measurable goals completed during the reporting period*

*(See tables before each minimum control measure)*

*ii. An explanation for any measurable goals scheduled for completion during the reporting period that were not completed. (Any modified goals/deadline should be listed in item 5, below.)*

Measurable goals that were not completed are: (See BMP Summary for items marked in red.)\*

**BMP 2-1 Public Notices and meetings, Annual Report was not presented to the City Council**

## 2. Overall compliance with permit conditions.

*a. Assessment of the appropriateness of the identified BMPs.*

*Factors to consider in determining appropriateness include, but are not limited to, effectiveness for local population, pollution sources, receiving water concerns, and integration with local management procedures.*

*b. Progress towards achieving the statutory goal of reducing the discharge of pollutants to the Maximum Extent Practicable (MEP). Include a general discussion on your assessment of the program effectiveness at protecting water quality.*

**3. Results of information collected and analyzed, if any, during the reporting period, including any monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP.**

*Discharge monitoring is not a requirement under the permit. However, if you did collect any monitoring data for stormwater discharges within your jurisdiction, or if any program element included data collection of some sort, you must submit a short summary of the information and any analysis completed. Examples of data sources include survey/polling results, miles of riverbank cleaned up, number of hits on a website before and after a public education campaign, etc. (Data recorded under Item 1.c, Measurable Goals, does not need to be repeated here.)*

Water quality sampling program was performed by the Paso del Norte Watershed Council. The following is a Brief Overview of Sampling Strategy. At each site, samples were taken in triplicate or quadruplicate and E. coli was enumerated using the EPA-approved m Coli-blue method. When samples had greater than 200 E. coli / 100mL, E. coli colonies were shipped to the IEH labs for source track analyses. The sources of between 5 and 20 E. coli were identified from each sample date, and between 62 and 127 E. coli isolates were source-identified from each of the four sample sites. Source track data is reported as the percent identified for each source from the total numbers of E. coli that were source-tracked from each sample. - Data Summary 3/18/12 - Dr. Geof Smith (See website for complete sampling results and data)

<http://www.pdnwc.org/>

**4. Brief summary of stormwater activities you plan to undertake during the next reporting cycle (including an implementation schedule).**

*Provide a short summary based on your existing Stormwater Management Program implementation schedule. If any changes are planned from the original descriptions provided in the application or previous reports, they should be summarized in Item 5.* The activities for the next reporting cycle will stay the same. Adopt Municipal Code Revisions. For the next reporting cycle, we plan to add weather stations and begin a basic stormwater monitoring program and flood hazard warning system. Continued efforts with GIS establishing a comprehensive database that documents storm drainage facilities and infrastructure is another important activity that is ongoing. City staff have been meeting with other MS4 managers within the urbanized area to discuss and prepare for the next Lower Rio Grande permit. Possible collaboration on program elements such as stormwater sampling and education and outreach have been discussed. City staff will continue to meet with other MS4's on a monthly basis to discuss options for watershed based planning.

**5. Proposed changes to the program area.**

*a. Changes to BMPs*

*b. Changes to Measurable Goals*

*See revised BMP chart*

**6. Statement, if not included in previous reports or application that you are relying on another government entity to satisfy some of your permit obligations (if applicable)**

*Another entity may be relied on to perform requirements of your MS4 permit. However, as the permittee, you remain liable for compliance with the terms of the permit if the requirements are not fulfilled. You must complete this Annual Report for the geographic areas covered under your*

*permit, for all program areas, even if one or more program elements is being performed by another entity. (However, if you are performing a program element for another permittee, you do not need to include that activity in this report.)*

The City of Las Cruces will continue being a major stakeholder with the Paso del Norte Watershed Council in the areas of water quality monitoring/sampling and applying best management practices, education/outreach, and watershed health management.

**7. A summary of the number and nature of inspections and formal enforcement actions performed.**

*Site-specific information may also be included, but is not required. (Information recorded under Item 1.c, Measurable Goals, does not need to be repeated here.)*

See Appendix

**8. Documentation on compliance with public access, review, and comment provision of Part 1.3 of the permit.**

*Describe when and how the public had the opportunity to review and comment on the Annual Report and Stormwater Management Program. Summarize any public comments and your response to those comments.*

A public notice will be sent out to two media sources as well as be posted on the stormwater web page for viewing. Comments are encouraged.

<http://www.las-cruces.org/departments/public-works/project-development/stormwater>

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## Signature of Permittee

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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Signature of Permittee (legally responsible person)

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Date Signed:

---

Name & Title (printed):

Loretta M. Reyes, P.E.  
Public Works Director  
City of Las Cruces

# MCM #1. Public Education and Outreach

## BMP 1.1 Revise and Update Materials as Needed

New for this permit cycle are storm two brochures. Stormwater Pollution Prevention, *A Citizens Guide* (bilingual) and *A Guide for Construction Sites* (updated).



Figure 4: Bilingual Citizen Guide (outside)

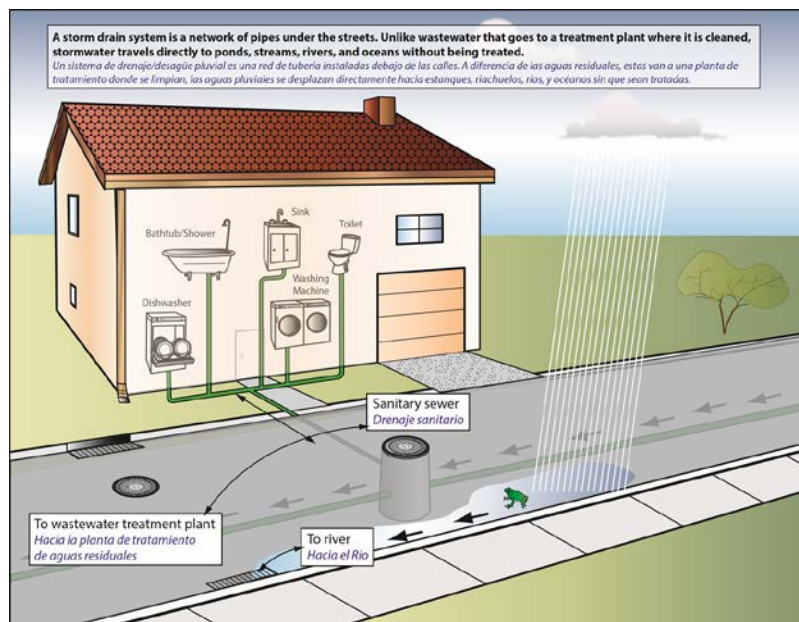


Figure 5: Bilingual Citizen Guide (inside)

### Federal and Local Requirements

The City of Las Cruces requires all construction site operators engaged in clearing, grading, and excavating activities that disturb one acre or more land, including smaller sites in a common plan of development or sale, to obtain coverage under the National Pollutant Discharge Elimination System (NPDES). The City also requires operators to submit an Erosion and Sediment Control Plan in the plan set, 18"x24" minimum.

**Each operator must file a form called a Notice of Intent (NOI) and prepare a Stormwater Pollution Prevention Plan (SWPPP)**  
This must be done prior to any land disturbance.


Failure to implement effective best management practices outlined in the erosion control plan or the SWPPP may result in enforcement issued by the EPA, State, or local enforcement.  
*(Refer to the Stormwater Management Plan and the Erosion Control Ordinance.)*

**Commencement of Construction Activities**

The following is required for sites that will disturb 1 acre or greater:

- Notice of permit coverage pursuant with Section 1.5 of the 2017 Construction General Permit.
- A SWPPP must be located onsite. If keeping a copy of the SWPPP onsite is infeasible, the location and point of contact must be provided to obtain a copy.

**For more information visit:**  
[www.las-cruces.org/stormwater](http://www.las-cruces.org/stormwater)  
<https://www.epa.gov/npdes>  
<https://cdx.epa.gov/>  
<https://www.env.nm.gov/swqbs/StormWater/>  
[www.cicaenter.org](http://www.cicaenter.org)





**It is illegal to put anything but stormwater down the storm drain.**


Dumping of wash water, paints, drywall, concrete or any other construction related material is prohibited. All discarded construction materials and waste must be properly disposed of in designated waste receptacles.

**Do Your Part**  
Report Illegal dumping  
Call (505) 528-4100  
City of Las Cruces Codes Enforcement

**For more Information please contact:**

<b>Community Development</b> 700 N. Main St. Las Cruces, NM 88001 575-541-2008 <a href="http://www.las-cruces.org">www.las-cruces.org</a>	<b>Public Works</b> 700 N. Main St. Las Cruces, NM 88001 575-528-3333 <a href="http://www.las-cruces.org">www.las-cruces.org</a>
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## Stormwater Pollution Prevention

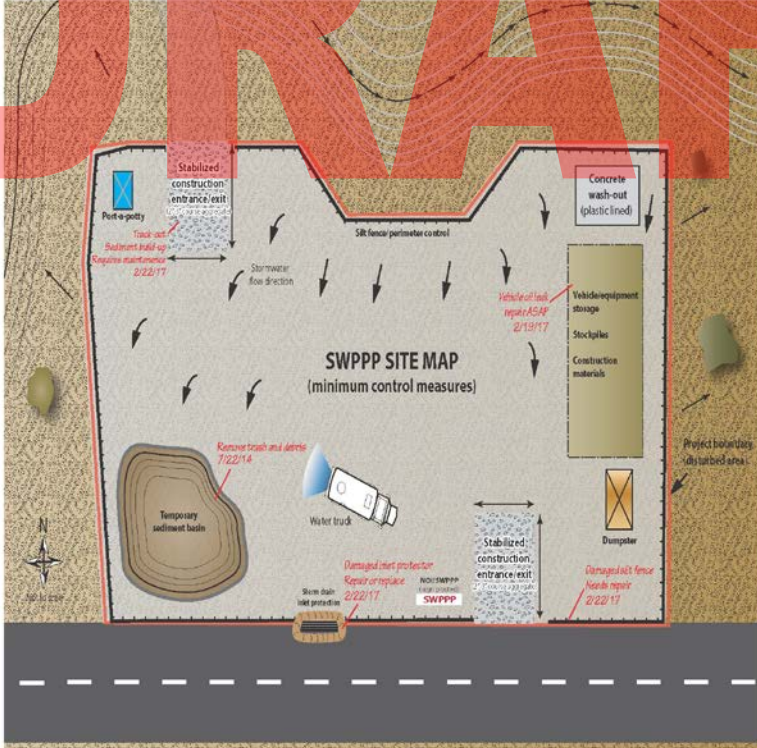
### A Guide For Construction Sites

Visit:  
[www.las-cruces.org/stormwater](http://www.las-cruces.org/stormwater)



**City of Las Cruces**  
PEOPLE HELPING PEOPLE

Figure 6: Updated Construction Guide (outside)



**SWPPP SITE MAP**  
(minimum control measures)

#### Example Site Map

Site maps should show the construction activities and stormwater management practices for each major phase of construction. (For example, initial grading, construction, and final stabilization.) As conditions change at the construction site, such as the locations of BMPs, your SWPPP Site Map must reflect those changes. (See example mark-ups in red)

#### Minimum Control Measures

1. Minimize disturbed area
2. Phase construction activity
3. Control stormwater flow within project site
4. Stabilize soils and slopes
5. Establish silt fence/perimeter controls
6. Protect storm drain inlets
7. Install stabilized construction entrance/exit
8. Contain and maintain trash and debris
9. Designate and establish a concrete wash-out station
10. Implement dust control measures
11. Inspect and maintain control measures/BMPs

#### Wind Control BMPs

In areas where dust control is an issue, your SWPPP should include BMPs for wind-erosion control. These consist of mulching, wet suppression (watering), and other practices.

- Project Boundary (disturbed area)
- Silt Fence
- Vehicle/Equipment Storage
- Flow Path
- ~ Contours

Figure 7: Updated Construction Guide (inside)



## BMP 1.2 Community Events

The City of Las Cruces participated in the Water Festival, April 13, 2017 to promote stormwater pollution prevention and watershed education for 3rd and 4th graders. Students learned about water resources topics with hands-on interactive booths. Attendance was approximately 2000 students. An interactive watershed model was used to illustrate how stormwater travels and picks up pollutants. Children were taught about what activities they can do to minimize pollutants in their watershed.



Figure 8: CLC staff model stormwater and watershed activities to students.

## BMP 1.3 Billboard and Public Service Announcements

No billboards or PSAs during this permit cycle.

## **BMP 1.4 Schedule school presentations as feasible**

See BMP 1.2

## **BMP 1.5 Distribute Brochures with Business Registration**

Brochures with BMPs for commercial businesses are included with registration.

## **BMP 1.6 SWPPP Workshop for Codes Enforcement Officers**

No training was provided during this permit cycle.

## **BMP 1.7 Education Material Dispenser at City Hall (Public Works)**

Brochures and educational materials are provided at the reception area to Public Works on the second floor of City Hall, 700 North Main Street.

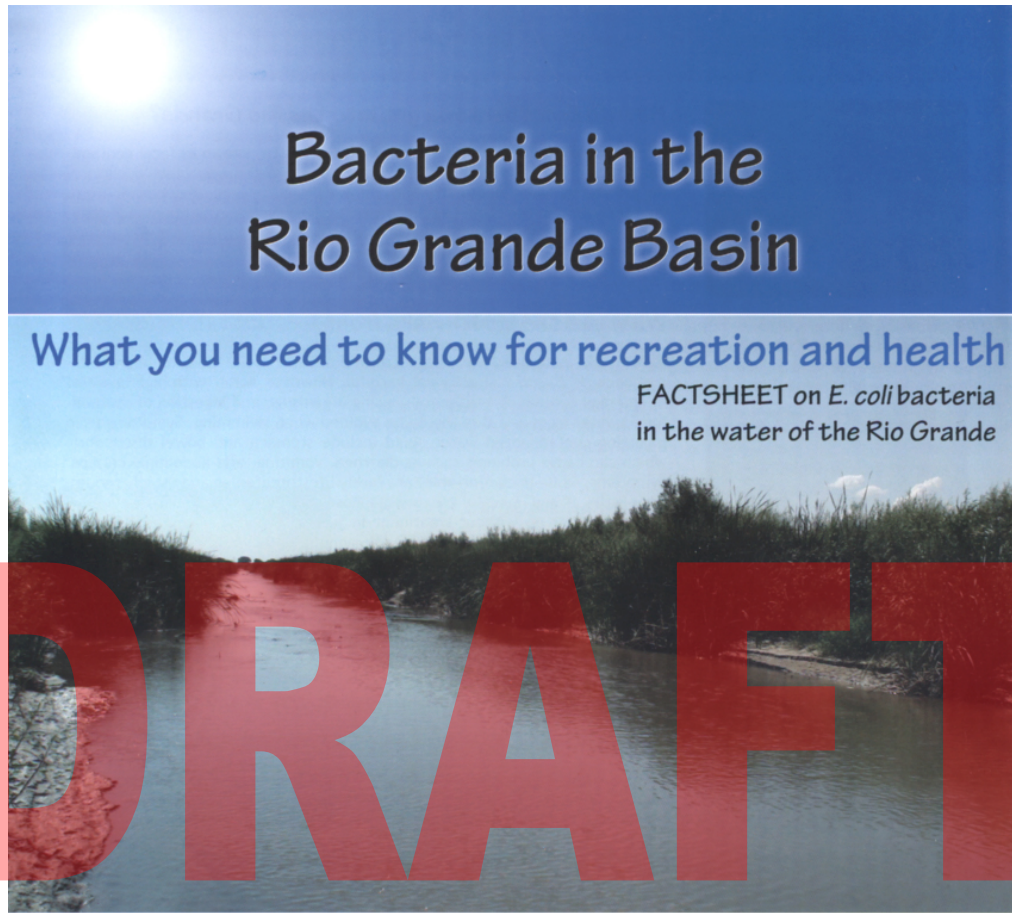
## **BMP 1.8 DVD for Employee Training and Public Education**

Several DVD videos are used for training municipal employees, school children and the general public. Videos titles include: *Ground Control, SWPPP for Construction Sites* by Excal Visual, *From Sea to Summit, A Journey through the Watershed* by Surfrider Foundation and *After the Storm* by the Weather Channel.

## **BMP 1.9 Watershed-Based Education for Potential Bacteria Sources/Use Questionnaires at Presentations/Collect and Monitor Floatables**



The Paso del Norte Watershed Council produced a factsheet titled, Bacteria in the Rio Grande Basin which is used to educate the public about E. coli in the watershed. This factsheet is given out at public events and is made available at City Hall, Public Works Department.



## What you need to know for recreation and health

FACTSHEET on *E. coli* bacteria  
in the water of the Rio Grande

The Rio Grande downstream of El Paso, Texas

### What are *E. coli* bacteria and why are they important?



Photo by George Dikovskii

*Escherichia coli* (*E. coli*) is a type of bacteria that is present naturally in the environment and in the digestive systems of humans and warm-blooded animals. Humans and animals excrete these bacteria in their waste. *E. coli* is what the U.S. Environmental Protection Agency (EPA) uses as their indicator for fecal contamination of water. Elevated levels of *E. coli* have been found in several places in the Rio Grande in both Texas and New Mexico.

### Why is *E. coli* a concern?

Most strains of bacteria, including *E. coli*, are not harmful to humans, but they may indicate the presence of other possible disease-causing organisms that also live in human and animal digestive systems. These organisms (which include viruses and protozoans) can cause diseases such as typhoid fever, hepatitis A, dysentery and cholera. These disease-causing organisms are usually present in low numbers in water and are very expensive and difficult to test for. Most agencies consider the presence of *E. coli* in water samples as an indicator of disease-causing organisms in recreational, drinking and flood waters.

## MCM #2 Public Participation and involvement

### **BMP 2.1 Public Notices**

Advertisements were placed in the Las Cruces Sun News and The Las Cruces Bulletin for a 60-day comment period concerning the revised Stormwater Management Plan. The City's Storm Water Management Plan (NOI) revisions and Monitoring Assessment Plan are available on the City's stormwater website at the following address:

<http://www.las-cruces.org/Departments/Public%20Works/Services/Engineering%20Services/Stormwater%20Information/Resources.aspx>

### **BMP 2.2 and 2.3 City of Las Cruces Public Works, Engineering Services Stormwater Web Page and Report Line**

The Stormwater Pollution Prevention Homepage was developed to give citizens access to important documents such as, SWMP, stormwater ordinance, design standards and construction site compliance information, and a citizen report line.

<http://www.las-cruces.org/departments/public-works/project-development/stormwater>

### **BMP 2.4 Great American Cleanup (Annual Event)**

Keep America Beautiful Great American Cleanup is a community event held every year. Other clean-up events and programs include: Trek for Trash, Toss no Mas and Adopt-A-Spot. More information about these city community clean-up events and programs can be found at the following web site address: <http://www.las-cruces.org/departments/parks-and-recreation/parks/community-wellness/keep-las-cruces-beautiful>



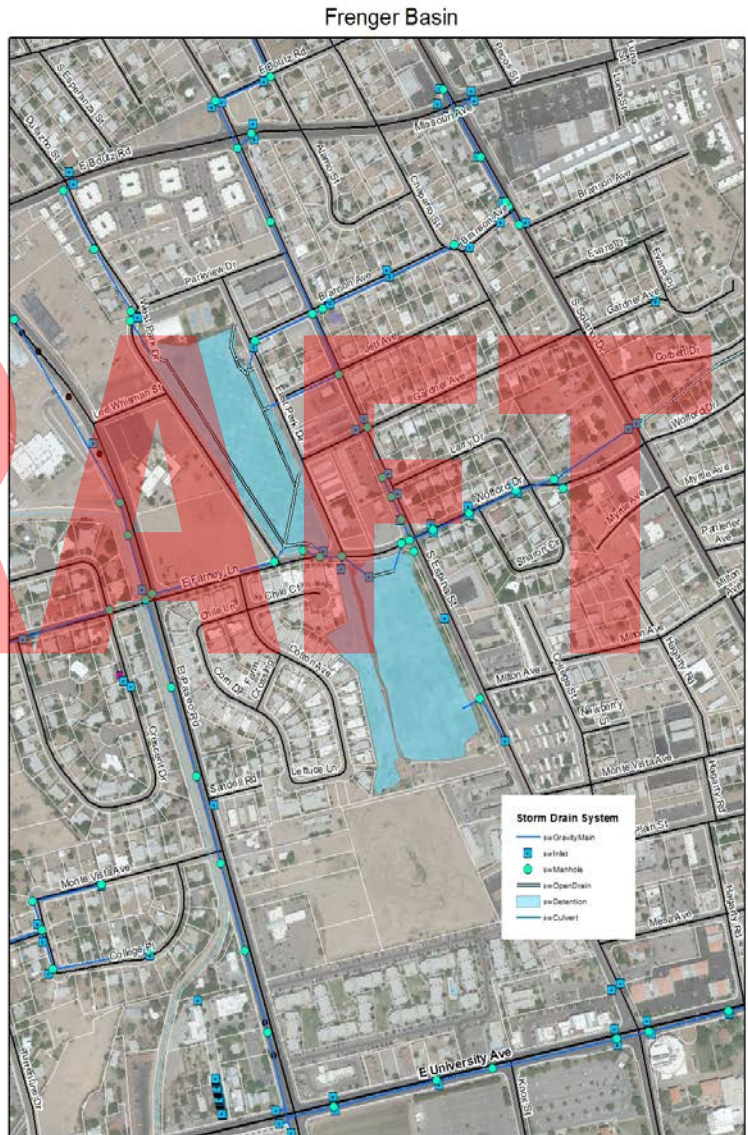


## MCM #3. Illicit Discharge Detection and Elimination

### **BMP 3.1 and 3.2 Map outfalls, storm drains, arroyos, laterals and other stormwater facilities that transport or temporarily hold stormwater.**

The City of Las Cruces Public Works Project Development section is working with a consultant to develop an updated, geospatially linked storm water database. This database will integrate with the City's new asset management system Lucity™, which will house essential information of storm drains' such as physical locations, types, sizes, and depths.

As the City maps the storm water infrastructure within City limits, City engineers can perform more accurate hydraulic modeling and analysis of the existing system and plan future storm water and street construction to avoid flooding. Additionally, this data will enable the City Project Development Storm Water Team to more precisely monitor and inspect the existing storm water system, which must be maintained to ensure the City's compliance with the Environmental Protection Agency's Municipal Separate Storm Sewer System (MS4) permit.



This map is for visual reference only. It is the responsibility of the design engineer, developer, and/or property owner to verify the actual location, size, material, and function. The location of the facilities can be determined by calling New Mexico One Call (NMOCC) 811.

**Figure 9: Frenger Basin Map**

The first phase of the data collection process encompassed what is called the Frenger Basin. The boundaries of this basin extend from University Avenue on

the south to Montana Avenue on the north. The eastern boundary is delineated by Interstate 25 to just west of Main Street. Now that this first phase has been completed, Phase 2 will extend to Lohman Avenue to the north under contract with the same consultant.

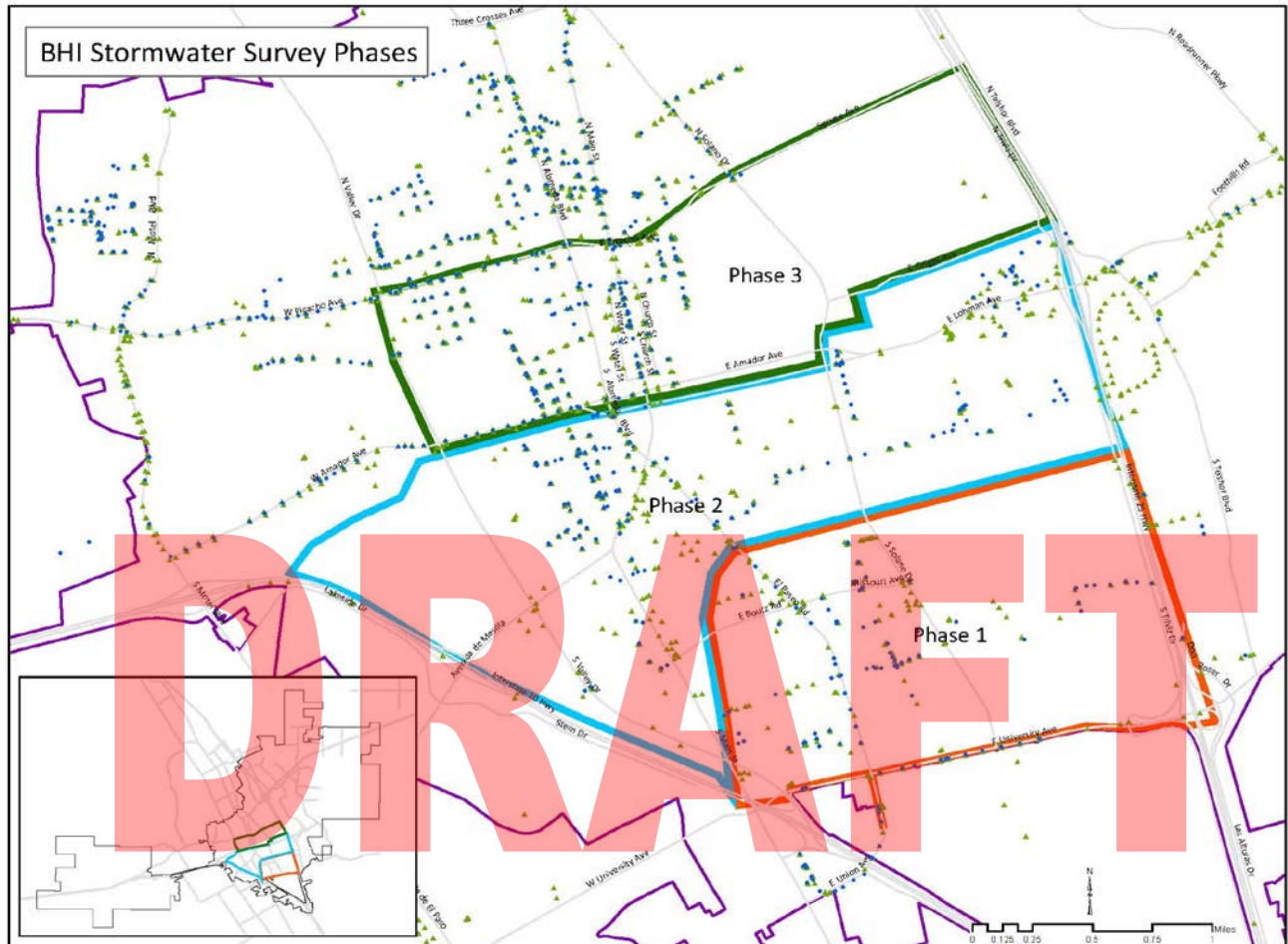


Figure 10: Bohannon Huston Stormwater survey Phases

## BMP 3.3 Ordinance to remove/correct illicit discharges

The City's Utilities, Environmental Services section manage four programs that include: regulatory compliance, environmental programs and projects, laboratory services, and pollution prevention. Industrial Inspectors that are responsible for detecting and correcting illicit discharges work in the pollution prevention program area. The pollution prevention team includes backflow prevention, grease interceptor, and industrial pretreatment programs.

## **BMP 3.4 Accept Hazardous Waste at the City's Recycling Center**

The City accepts household hazardous waste at its Recycling Center which is located at 2855 W. Amador Avenue. <http://www.scswa.net/household-hazardous-waste-hhw/>

## **BMP 3.5 Design and Construct New Sewers as Funds Allow**

A septic tank ID and prioritization study was done in 2007 in order to establish a listing of all septic tanks still in use within the City. The City of Las Cruces identified an estimated 1880 parcels located within the existing City limits that are on septic tank systems and not served by the City's wastewater collection and treatment system. The City is using GIS software to record, track and update septic system information.

## **MCM #4. Construction Site Stormwater Runoff Control**

### **BMP 4.1 Review erosion and sediment control plans**

The City of Las Cruces requires an erosion control plan for construction activities that disturb 1 acre or more land. The erosion control plan is a required under City Design Standards (Sec. 32-104. Specific analysis requirements section D.) City Ordinance, Article III, Stormwater Management, Sec. 34-125 Purpose,

### **BMP 4.2 and 4.3 Inspection and Enforcement/Public Reports of Construction Problems**

The City of Las Cruces recently assigned a Codes Enforcement Officer specifically to inspect and enforce the City's Erosion and Dust ordinance for construction activity. Inspection log books for field observations and for enforcement escalation procedures were created to track construction site stormwater compliance. Citizen calls concerning erosion, sediment, dust and any stormwater pollution problems are handled by a visit from the Codes Enforcement Officer and the MS4 Stormwater Managing Technician. The City's website also has a report line listed on the stormwater website under resources/construction. <http://www.las->



## MCM #5. Post-Construction Stormwater Management in New Development and Redevelopment

### **BMP 5.1 Structural BMPs**

The Las Cruces Constructed Wetlands project in collaboration with the Army Corps of Engineers. Under the authority of Section 1135 of the Water Resources Development Act of 1986, the U.S. Army Corps of Engineers (Corps) with collaboration with the City of Las Cruces finished the 1<sup>st</sup> phase of the Las Cruces Dam Environmental Restoration Project in the spring of 2014. The total Project area includes the restoration of 72 acres of Chihuahuan Desert Arroyo Riparian habitat, 3.6 acres of playa habitat, 6.35 acres of Cottonwood-Willow Riparian habitat, and the construction of two one-acre emergent wetland cells. The proposed action also includes the implementation of recreational features such as new trail systems, improvements to existing trails, pedestrian crossings, interpretive signage, and wildlife viewing blinds. The City of Las Cruces Utilities Department provided reclaimed wastewater infrastructure (Purple pipe) for supplementing the wetland and riparian areas. Without this infrastructure, the constructed wetland could not function year round in the arid southwest. The LC Dam restoration project meets the criteria of multi-use, open space while incorporating many green infrastructure methods. The goal is to slow down stormwater runoff from major arroyo systems, the Alameda and the North & South Las Cruces Arroyos. Once the wetland and riparian areas are established they will function as both a filter and sediment trap that will help mitigate stormwater pollution and also prevent sediment transfer to the dam.

### **BMP 5.2 Open Space Program**

*(Information gathered from the Las Cruces Park & Recreation Department, Parks & Recreation Master Plan & Park Impact Fee Update)*

The City of Las Cruces' vision is to establish a community which is supportive and pursues the furtherance of the quality of life residents and visitors envision and desire. In support of this, the City should endeavor to create a built environment which is compatible with and communicates sensitivity to the natural environment. The design and layout of our City should:

- Effectively promote compatibility among differing land uses;
- Preserve desirable vistas/views and open space as appropriate;
- Allow for efficient travel through the use of adequate transportation routes;

- Communicate through building and landscape design, aesthetic quality and established Southwest architectural vernacular and heritage, whether through traditional or contemporary expressions;
- Promote the creation of safe neighborhoods that offer affordable housing opportunities for all socio-economic groups;
- Convey a unified planning strategy with adjacent communities; and finally,
- Provide opportunities for growth in all vital economic sectors of our community in order to sustain the types of services needed to preserve and strengthen community vitality.

The 2005 Strategic Plan identified 25 core goals in five major categories of focus including affordable housing, economic development, infrastructure, natural resources and public safety. Specific objectives included establishing a regional open space authority, developing a regional open space master plan, updating the parks, recreation and open space master plan, and assessing opportunities to preserve open space for informal, recreational, aesthetical, agricultural and natural uses.

**A Vision: Open Space and Trail System for Doña Ana County (2005)**

Prepared by the Citizens’ Task Force for Open Space Preservation, this Vision document outlines an interconnected open space and trail system for Doña Ana County designed to conserve and enhance the natural and cultural heritage of the region. The Vision describes the components of the open space and trail system and provides implementation recommendations. To the extent possible, the Vision document builds upon existing protected areas, planned projects or agency plans that have already been approved.

**BMP 5.3 Include Evaluation of Water Quality in Design Contracts**

(Not implemented at this time)

**BMP 5.4 and 5.5 Continue Operation and Maintenance Program/LID Conference**

Water quality evaluations have not yet been implemented into the design contracts. The operation and maintenance program is ongoing. An LID workshop titled *Low-Impact Development, Green Infrastructure & Rainwater Harvesting* was given on December 2-3, 2016.

of single-stream recyclables.

## MCM #6. Pollution Prevention/Good Housekeeping for Municipal Operations

### **BMP 6.1 Implement Good Housekeeping Procedures/Train Employees in Good Housekeeping Procedures**

Safety and Good housekeeping procedures are handled by the Risk Management Section.  
<http://www.las-cruces.org/departments/risk-management>

### **BMP 6.2 Hazard Communication Program**

Currently, each department within the City tracks their employee training history and notifies the employee when it is time to renew certifications or take refresher courses. Training for is employees are tracked using Munis software by Tyler technologies.

### **BMP 6.3 Municipal Training**

Training is offered to municipal employees on an as needed basis. For example, when the new 2017 Construction General Permit was released, training was given to employees to notify them of changes and new regulatory requirements. Training will also be offered to municipal employees involved with construction stormwater compliance as well as any changes or revisions to the City's stormwater ordinance.

### **BMP 6.4 Require City applicators to be appropriately licensed**

All City workers that apply pesticides, fertilizers, and herbicides are licensed by the New Mexico Department of Agriculture (NMDA) Pesticide Compliance Section. Parks & Recreation does not track the locations and amount of pesticides, herbicides, and fertilizers used. Only the amounts purchased and used are documented. Ideally, locations and quantity of chemicals should be documented using existing GIS technology for data input and reporting.

## Appendix A: Recycling Data

<http://www.scswa.net/>

Curbside recycling for CLC in 2015 generated 6,896 tons of single-stream recyclables.

Curbside recycling for CLC in 2016 was 6,612.73 tons of single-stream recyclables.

### **Stormwater Pollution Prevention Plan**

South Central Solid Waste Authority (SCSWA) owns and operates the Amador Avenue Transfer Station (Transfer Station) and operates the Amador Recycling Center (Recycling Center). The operations at both of these facilities are considered industrial activities that have the potential to impact stormwater quality. Therefore, these facilities are required to have a National Pollutant Discharge Elimination System (NPDES) permit. SCSWA has applied for coverage under the Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP) (effective June 4, 2015). This Stormwater Pollution Prevention Plan (SWPPP) is required by the MSGP and its purpose is to describe SCSWA's program for complying with all of the requirements in the MSGP.

Stormwater Pollution Prevention Plan for Amador Avenue Transfer Station is available [here](#).

Stormwater Pollution Prevention Plan for Corralitos Landfill is available [here](#).

Stormwater Pollution Prevention Plan for County Collection/Convenience Centers is available [here](#).

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## Appendix B: Great American Cleanup Data

<http://www.las-cruces.org/departments/parks-and-recreation/parks/community-wellness/keep-las-cruces-beautiful>

### KLCB Clean-up Events 4-year Comparison Toss No Mas / The Great American Clean-up

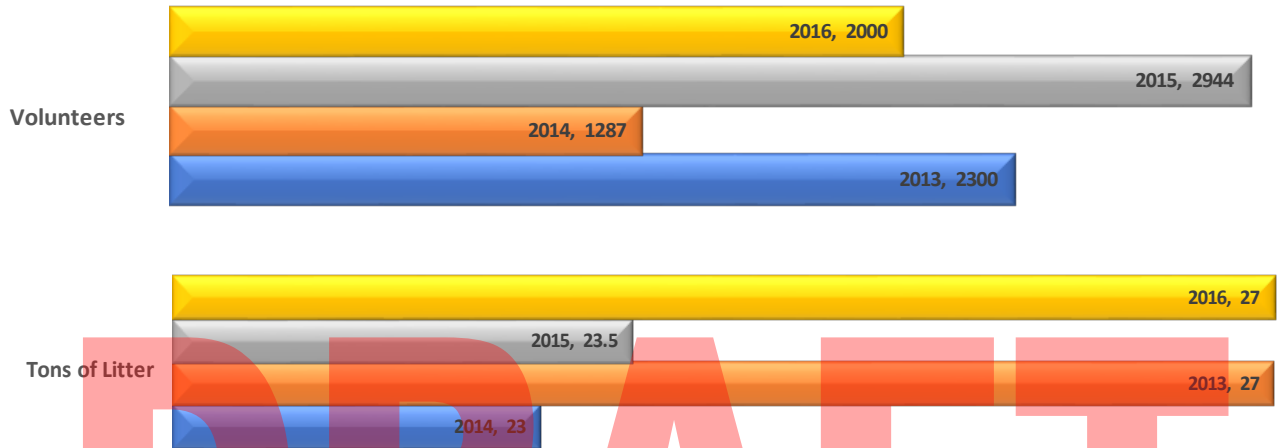


Figure 11: KLCB Clean-Up Events 4 Year Comparison



## Appendix C: Water Conservation

<http://www.las-cruces.org/departments/utilities/water-conservation>

- In 2016, the Annual Children’s Water Festival educating and informing 3rd & 4th grade school children about water conservation, while offering hands on exhibits and presentations in an outdoor venue.
  - Demonstration Garden displaying efficient irrigation methods and native plants for public presentations such as our “Spring Stroll” and self-guided tours.
  - Water Conservation Compliance Program
  - Water Waste “Hotline”
  - Outreach and education to students and adult groups.
  - Free Indoor and Outdoor Water Audits.
  - Home Buyers Indoor/Outdoor Water Efficiency Evaluation, encouraging water efficient WaterSense labeled, and EnergyStar qualified products.
  - Research in water treatment processes and efficient water technologies
  - Lush and Lean is a series of workshops utilizing multi agency and institutional collaborations in their field of expertise, under the water conservation umbrella.

In addition, the Lush and Lean Workshop free program continues where the Water Conservation Coordinator teaches the public about water conservation. These events are publicized in various forms such as the City Website, paper pamphlets, and news articles in the Las Cruces Sun News as well as the Las Cruces Bulletin. Water Conservation has participated in other City sanctioned events by handing out water conservation information and providing education through verbal and written communication.

Water Conservation Staff has been collaborating with Parks Dept. staff, to help them meet City water restrictions within their ball fields, parks and medians. In addition, irrigation management training has been provided to Parks personnel, adjustments have been made to several irrigation schedules which helps reduce evapotranspiration. Parks is in the process of obtaining quotes to implement both new and upgraded central controllers along Hadley Drive and a Smart controller at Young Park which will increase water monitoring and efficiency as well as reduce labor hours.

Installation of 3 Irrigation Smart controllers at City Hall, Meerscheidt Rec Center and Johnson Park. Also at Johnson park sprinklers were changed out with more efficient models and retrofitted with flow sensors, this will help eliminate water leaving the property and water waste from slow shut down and broken pipes. Several city buildings were retrofitted with low flow toilet and evaporative cooler upgrades.

Las Cruces Utilities continues enforcement of the Water Conservation Ordinance and Regulations with Water Conservation Interns to field reported water waste calls on the water waste hotline. In addition, observance of water waste by canvassing the city and monitoring water waste violations, to notify and enforce upon infractions of

the water conservation ordinance.

To date 3,481 new AMR meters have been installed, replacing older meters, generating better accuracy of revenue water. New meter reading equipment has been received and training on this equipment is in place. Hydrant flushing and leak detection accountability continues. Installing meters at well heads has been implemented at several sites to continue to account for water diverted during start up and shut down of wells.

## Appendix D: Stormwater Reporting Data

The following graph illustrates the violations of the City’s stormwater ordinance (Article III, Stormwater Management, Sec. 34-125) during the reporting year.

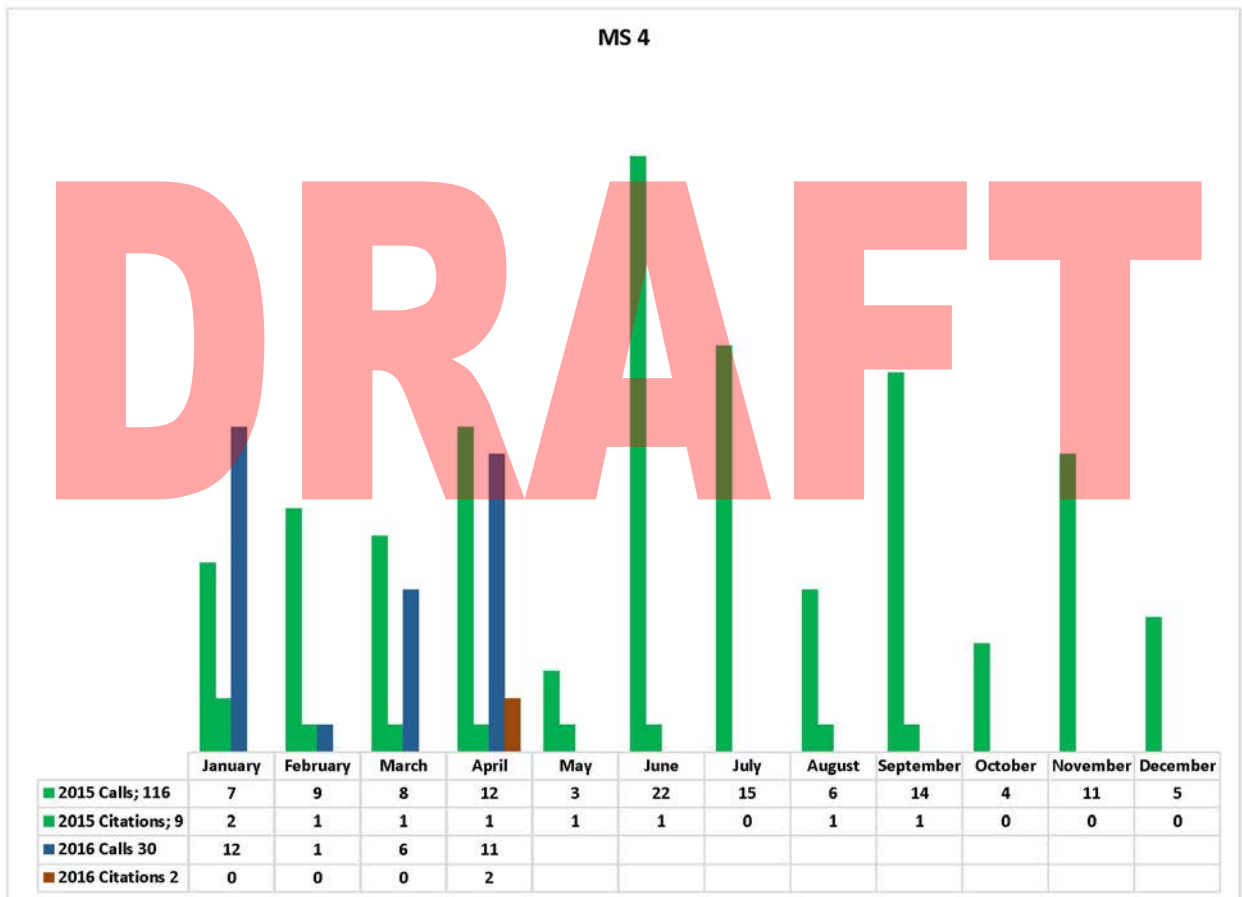
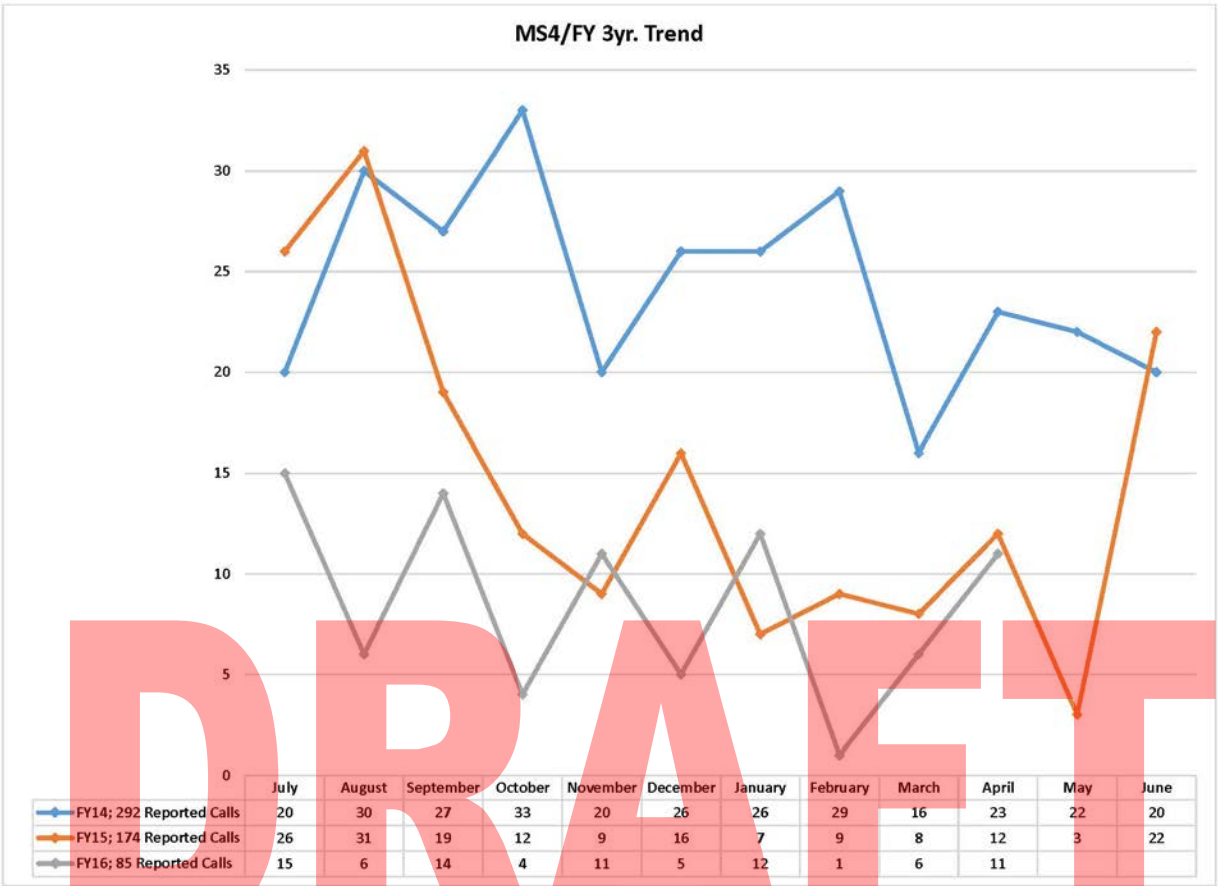


Figure 12: MS4 Calls

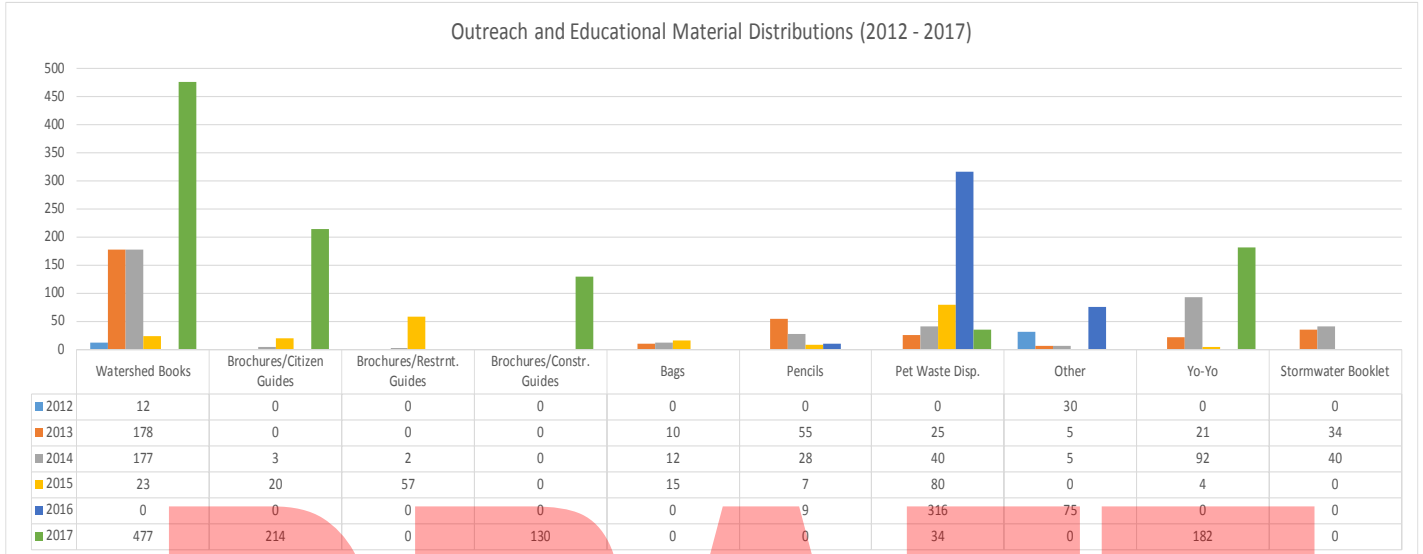
The following graph illustrates the violations of the City’s stormwater ordinance (Article III, Stormwater Management, Sec. 34-125) over a three-year period.



**Figure 13: MS4 3 Year Trend for code violations**

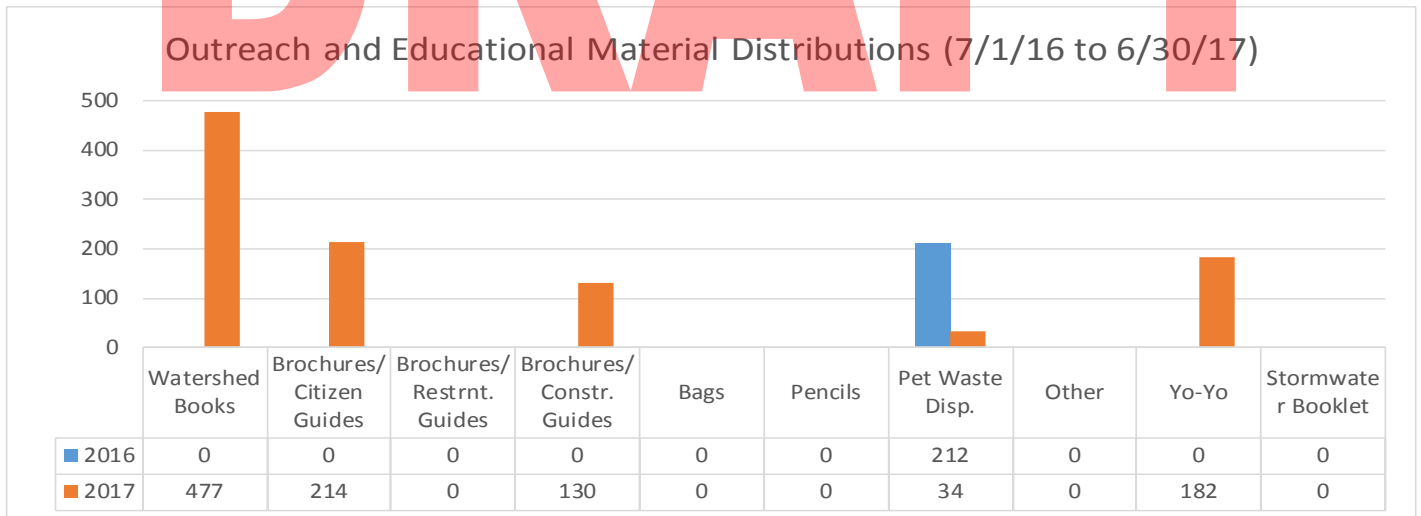
## Appendix E: Media Distribution

The following graph illustrates the media distribution of educational and outreach materials from 2012 to 2016.



**Figure 14: Outreach and educational material from 2012 to 2017**

The following graph illustrates the media distribution of educational and outreach materials between July 1, 2016 and June 30, 2017.



**Figure 15: Outreach and educational material distributions from July 1, 2016 to June 30, 2017**

# Appendix F: Hadley Ave., Magg Field Green Infrastructure Bioswale

A bioswale was installed at Maag Field on Hadley Ave. for the purpose of collecting stormwater runoff and slowing it down from adjacent parking lots and streets. Green infrastructure captures, cleans and allows stormwater to soak into the ground. Benefits include reduced heat island effect, shade, aesthetic beauty, open space, recreation, bird watching, wildlife habitat and improved stormwater quality.

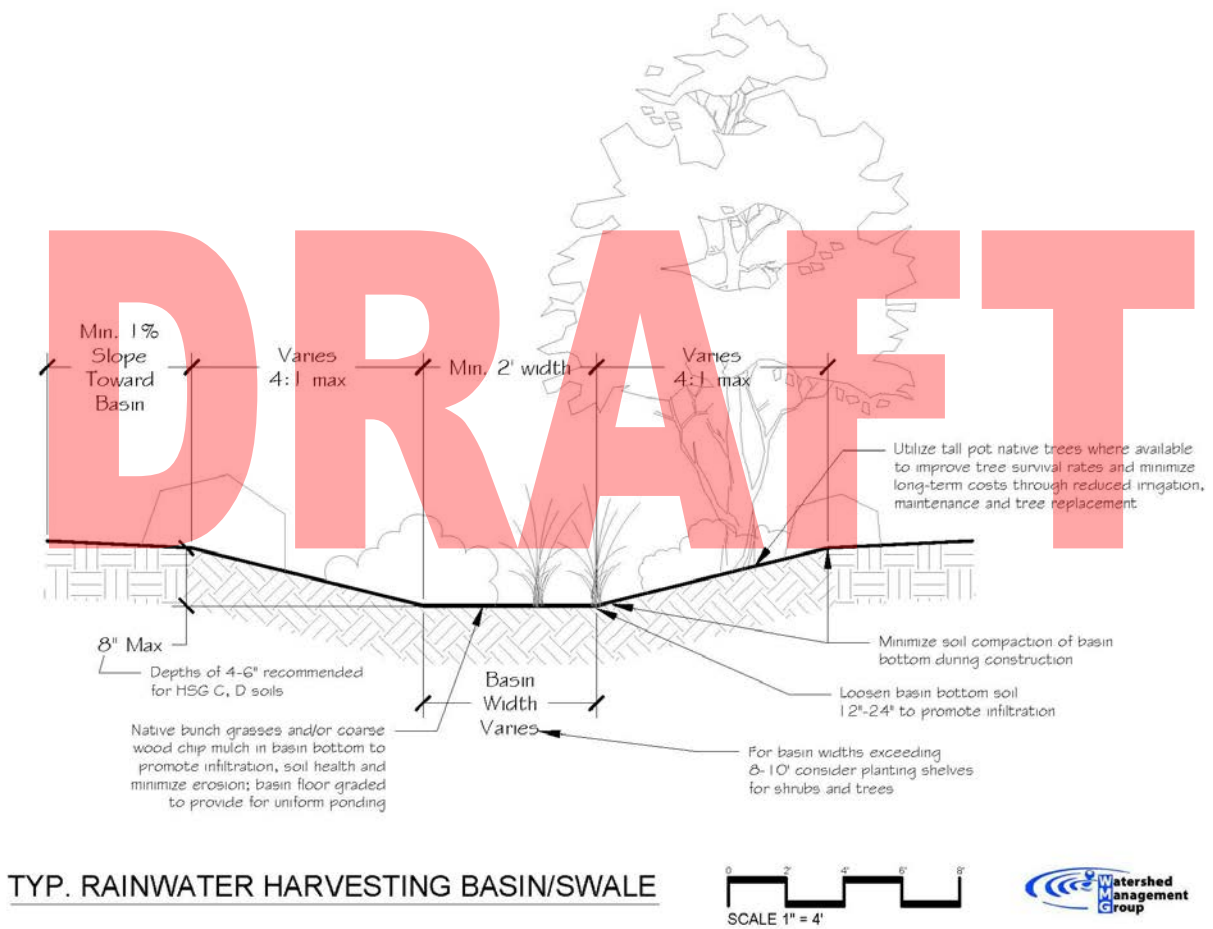


Figure 16, Bioswale Drawing/Description



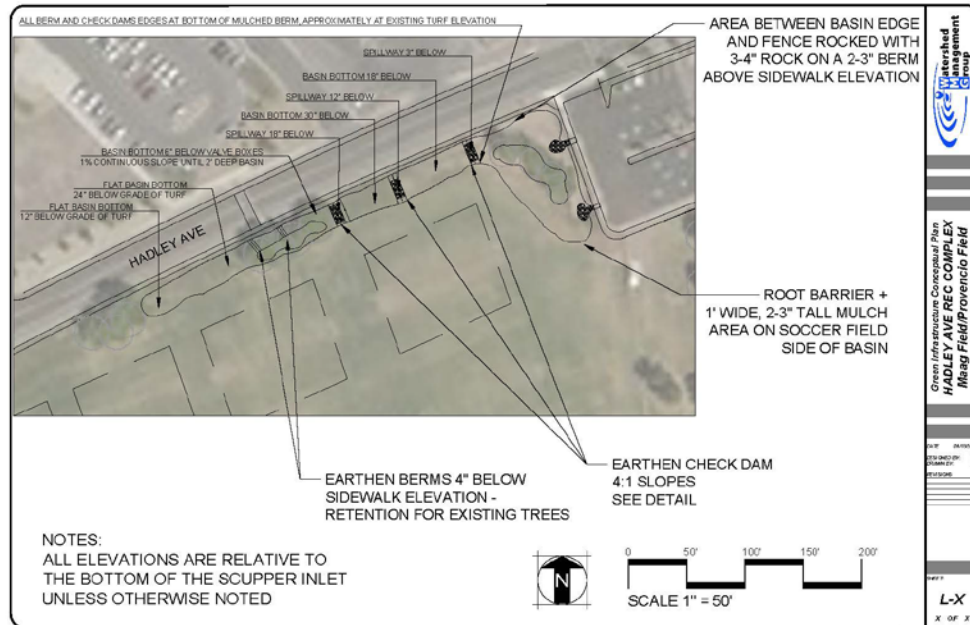


Figure 17, Maag Field Bioswale Elevations Diagram

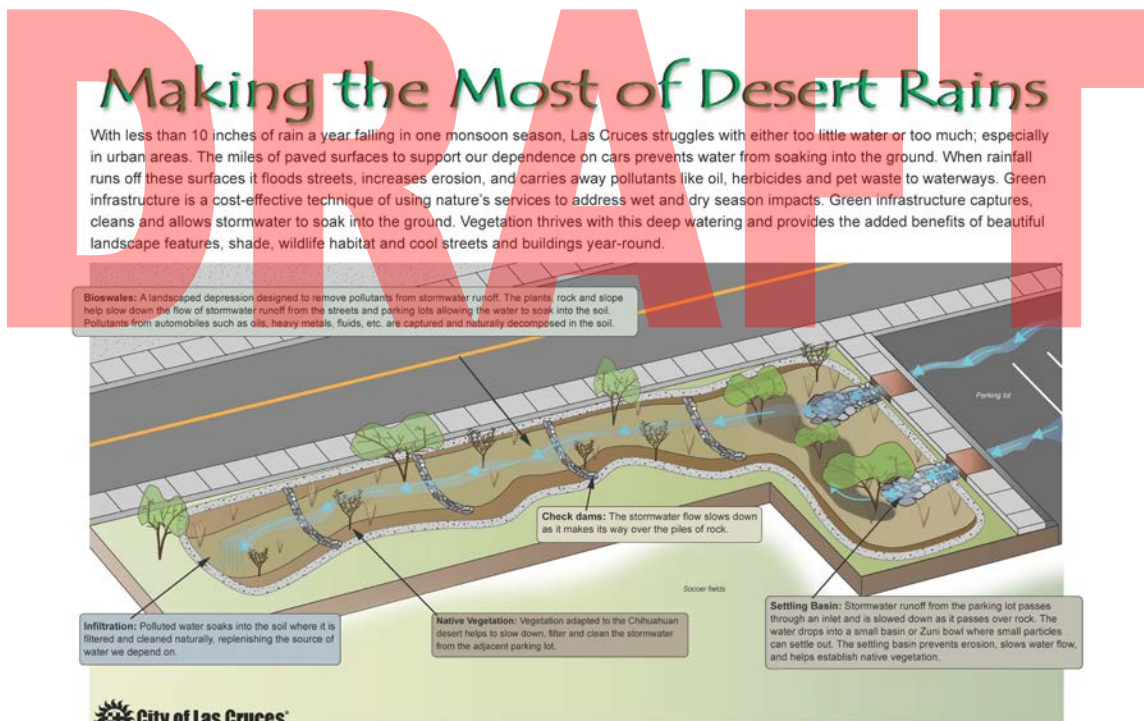


Figure 18, Maag Field Bioswale Public Signage



Figure 19 Maag Field Bioswale

## Appendix G: MS4 Cooperative Group Meetings and Agendas

In preparation for the new NPDES MS4 permit for the lower Rio Grande, the City of Las Cruces has been meeting once a month with other MS4 entities to discuss possible shared program requirements. The following MS4s have been in attendance: New Mexico State University, the City of Las Cruces, the New Mexico Department of Transportation, Doña Ana County, the City of Anthony, and the City of Sunland Park.

Program components such as stormwater quality sampling and education and outreach are areas that may benefit from a shared collaborative approach. CLC staff have also attended meetings in the Middle Rio Grande Albuquerque area to see how MS4s are handling their shared permit responsibilities.

### **Lower Rio Grande MS4s-Contacts:**

- a) Las Cruces/El Paso MS4s
  - i) Dona Ana County
    - (1) Renee Molina 575-525-6170, [renem@donaanacounty.org](mailto:renem@donaanacounty.org)
    - (2) vacant – 575-647-7142
  - ii) Las Cruces
    - (1) Peter Bennett – 575-528-3075, [pbennett@las-cruces.org](mailto:pbennett@las-cruces.org)

- (2) Tony Trevino –575-528-3168, [ttrevino@las-cruces.org](mailto:ttrevino@las-cruces.org)
- iii) Anthony – Diana Trujillo, Mayor 575-618-7297
- iv) Santa Teresa
- v) Sunland Park
- vi) NMDOT D1
  - (1) Leo Montoya III 575-640-6806 [Leandro.MontoyaIII@state.nm.us](mailto:Leandro.MontoyaIII@state.nm.us)
  - (2) Gene Paulk 575-544-6554 [Gene.Paulk@state.nm.us](mailto:Gene.Paulk@state.nm.us)
- vii) Town of Mesilla
- viii) NMSU
  - (1) Primary: Jack Kirby, 575-646-7102, [jkirby@nmsu.edu](mailto:jkirby@nmsu.edu)
  - (2) Secondary: Polly Wagner, 575-6466899, [pwagner@nmsu.edu](mailto:pwagner@nmsu.edu)

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