What’s an MS4?

Presented by: Peter Bennett
What’s an MS4?

**Municipal Separate Storm Sewer System**

A conveyance or system of conveyances owned by a state, city, town, federal agency, or other public entity that discharges to waters of the U.S. and is:

- Designed or used for collecting or conveying stormwater
- Not a combined sewer
- Not part of a Publicly Owned Treatment Works (POTW)
Stormwater Pollution Prevention

Regulatory History

1972: Clean Water Act (CWA) established to restore and maintain the chemical, physical, and biological integrity of the waters of the United States.

The National Pollutant Discharge Elimination System (NPDES) program was established to control point source discharges to the “Waters of the United States”
What is a SWMP?

**SWMP** – Stormwater Management Plan
A program designed to reduce the discharge of pollutants to the maximum extent practicable (MEP) and effectively prohibit discharge of non-stormwater into the MS4.
MS4 Permit Requirements

(40 CFR 122.32)

EPA NPDES General Permit Requirement for Phase II MS4
smaller municipalities with populations less than 100,000

Program requirements:
✓ Notice of Intent (NOI)
✓ Stormwater Management Plan
   (Six minimum control measures)
✓ Evaluation/assessment efforts
   and recordkeeping
MS4 Permit Requirements (Cont.)

General Permit

States which the EPA has permitting authority:
Alaska, Permit # ALR040001
Idaho, Permit # IDR040001
Massachusetts, Permit # MAR04100001
New Hampshire, Permit # NHR040000
New Mexico Permit # NMR040000

All other states have authorization to implement the NPDES Stormwater program.
Six Minimum Control Measures

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

Implement a public outreach program by distributing educational materials about the impacts of stormwater discharges within our watershed.
1. Public Education and Outreach (cont.)

Examples:

- Classroom Education
- Community Events (Earth Day, State Fair, Science fairs etc.)
- Construction General Permit Education
- Public Service Announcements
- Pesticide Management
- Billboards/Outreach Campaigns
1. Public Education and Outreach (cont.)

**WHAT IS A WATERSHED?**

A watershed is the area of land that catches rain and snow and drains or seeps into a marsh, stream, river, lake or groundwater. Everyone lives in a watershed.

![Image of a watershed diagram]

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**A healthy environment starts with clean water. Only rain should go in the storm drains.**

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**El desagüe es solo para agua de lluvias**

Help Prevent Stormwater Pollution

*ONLY RAIN GOES IN THE STORM DRAIN*
2. Public Involvement/Participation

- Encourage public involvement and participation in the development and implementation of the Stormwater Management Plan. (SWMP)

- Involve the public in identifying the problems and solutions to stormwater pollution.

**Examples:**

- Great American Cleanup
- Trek for Trash/Toss no Mas
- Neighborhood and watershed group involvement
- Adopt a Highway
- Keep Las Cruces Beautiful
- Website
2. Public Involvement/Participation (cont.)

**Example:** Stormwater Pollution Prevention homepage where the public can access relevant information such as the Stormwater Management Plan and Annual Reports.

The city’s new stormwater webpage will include a public comment entry for areas of concern or for reporting illicit discharges and violations of the stormwater ordinance.
3. Illicit Discharge Detection & Elimination

- Develop, implement, and enforce a program to detect and eliminate illicit discharges into the small MS4.

- Develop a storm sewer system map, showing the locations of all stormwater infrastructure including outfalls, inlets, laterals, streets and structural BMPs.

- Visual inspections of stormwater infrastructure

- Adopt ordinances and regulatory measures prohibiting non-stormwater discharges to the MS4.
Field form for storm drain inspections and field observations.

**Illicit Discharge Detection & Elimination cont.**

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### Storm Drain Evaluation/Maintenance Field Form

<table>
<thead>
<tr>
<th>Date/Time Field</th>
<th>Address/location: Motel Blvd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspector(s):</td>
<td>Peter Bennett</td>
</tr>
<tr>
<td>Form completed by:</td>
<td>PB</td>
</tr>
<tr>
<td>Latitude:</td>
<td>32°17'47.35710&quot;N</td>
</tr>
<tr>
<td>Storm Drain Description</td>
<td>Municipal outfall pipe N. of Transfer Station off Motel Blvd./Amador Blvd.</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>72</td>
</tr>
<tr>
<td>Dry weather flow/Illlicit discharges:</td>
<td>Yes</td>
</tr>
</tbody>
</table>

(If a violation is discovered refer to the storm water ordinance #2940)

**Type of maintenance required:**
- [ ] Remove Trash/Debris
- [ ] Clean-out
- [ ] Requires Scheduled maint.
- [ ] Replace

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**Photos:**

[Place photo]

[Place photo]

[Place photo]
ArcGIS Mapping Software

Illicit Discharge Detection & Elimination cont.
4. Construction Site Stormwater Runoff Control

• Develop, implement and enforce an erosion and sediment control program for construction activities that disturb 1 or more acres of land.

• Site plan reviews/erosion control plans

• Site inspections/enforcement
What is a SWPPP?

SWPPP – Stormwater Pollution Prevention Plan
A SWPPP is a site-specific, written document that:

- Assesses existing and proposed conditions
- Identifies potential sources of stormwater pollution at the construction site.
- Describes and identifies Best Management Practices (BMPs) to reduce pollutants and the volume of stormwater leaving the construction site.
- Identifies procedures the operator will implement to comply with the terms and conditions of a Construction General Permit (CGP)
- Is a narrative describing the timing and installation of BMPs from project start to finish.
5. Post-Construction Stormwater Management in New Development/Redevelopment

- Design Standards
- Arroyo Preservation/Open Space
- Low Impact Development (LID)
- Capital Improvements
- 2040 Regional Planning Project
6. Pollution Prevention/Good Housekeeping for Municipal Operations

*Practice what you preach!*

City of Las Cruces Public Works, Engineering Services, 2008
Pollution Prevention/Good Housekeeping for Municipal Operations (cont.)

- **Municipal Operations;** City fleet/vehicle maintenance

- **Outfall Maintenance;** (Stormwater outfalls, street sweeping, stormwater structural BMP cleaning & maintenance.)

- **Hazard Communication;** (MSDS, chemical handling, spill remediation, etc.)

- **Municipal Employee Training**

- **Municipally-Owned Industrial Facility Inventory and Map**
  (Landfills, quarries, airports, transfer stations, concrete/asphalt batch plants, etc.)
Status of our SWMP

The City is currently revising our SWMP for several key reasons.

- To include a Monitoring Assessment Plan that corresponds to the approved TMDL that was released on June 11, 2007.

- In response to deficiencies as noted in the EPA SWMP Technical Review.

- BMPs and implementation schedules are being refined to be more comprehensive.
Questions?

Show some style, scoop up the pile.
Acronyms

**NPDES** National Pollutant Discharge Elimination System  
**Phase II MS4** Municipal Separate Storm Sewer  
**SWMP** (Stormwater Management Plan)  
**SWPPP** (Stormwater Pollution Prevention Plan)  
**BMP** (Best Management Practice)  
**TMDL** (Total Maximum Daily Load)  
**WLA** (Wasteload Allocation)  
**MEP** (Maximum Extent Practicable)  
**NOI** (Notice of Intent)  
**NOT** (Notice of Termination)  
**POTW** (Publicly Owned Treatment Works)  
**LID** (Low Impact Development)  
**GIS** (Geographic Information Systems)
Stormwater Pollution Prevention

Stormwater Links:

http://cfpub.epa.gov/npdes/

http://cfpub.epa.gov/npdes/stormwater/authorizationstatus.cfm


http://www.cicacenter.org/

http://www.stormwaterusa.com/stormwater_ccis.html

http://cfpub.epa.gov/npdes/stormwater/ enoi.cfm

http://www.epa.gov/owow/tmdl/