County of San Bernardino Stormwater Program

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Municipal Activities Pollution Prevention Strategy (MAPPS)

Volume I – General Stormwater Training



Course Description

This course provides an overview of stormwater pollution problems and outlines the regulatory requirements associated with storm water runoff from municipal facilities. Most importantly, this course provides information on how to identify storm water issues at your facility and steps you can take to prevent storm water pollution. It is primarily designed for personnel working in San Bernardino County.





Topics covered in this training

The objectives of this course are to educate municipal employees on the importance of storm water management and on the environmental requirements applicable to County and City facilities in San Bernardino County.

After completing this course, you should be able to:

- Understand the basic elements of a storm water management program
- Identify common sources of storm water pollution
- Identify steps that can be taken to prevent storm water pollution at work and at home

Federal Mandate

The 1987 amendments to the Clean Water Act defined urban stormwater runoff as a point source discharge of pollutants to surface waters, which is subject to following NPDES permits

- Municipal Separate Storm Sewer System (MS4) permits
- Construction General Permits, Linear Underground Permits (LUP)
- Industrial General Permits



Municipal Stormwater Permit Requirements

The MS4 permit outlines a schedule for:

- Promoting conditions designed to reduce pollutants in stormwater discharges
- Establishing and implementing best management practices (BMPs)
- Monitoring requirements

County/City departments and employees are legally required to implement the MS4 permit. Failure to do so could incur large fines and/or penalties for violating Permit requirements.

What is stormwater pollution?

It occurs when runoff from a storm event travels over land surfaces, picking up pollutants and delivering them to water bodies.



Where does stormwater go ?

What goes into a storm drain is flushed with rainwater or urban runoff ….





…and flows untreated into our rivers, lakes and oceans…

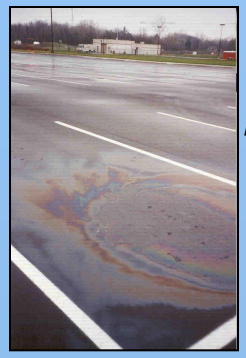
…and pollutes our waters.





The path of stormwater pollution…

Pollutants fall on impervious surface



Oil in parking lot



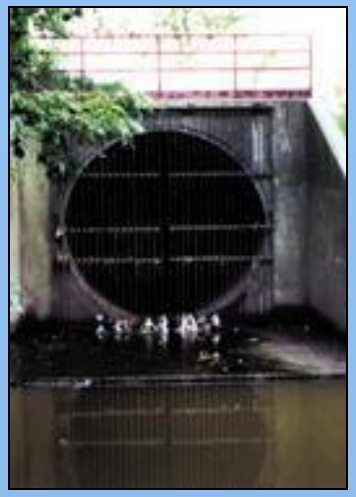
Failed silt fence

Polluted storm water enters storm drain



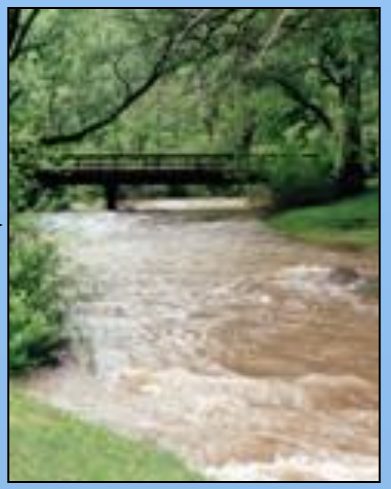
Typical roadside catch basin

Storm water enters waterway



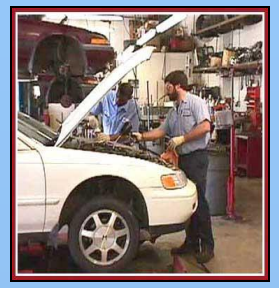
Storm drain outfall

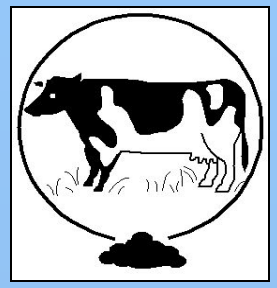
Impaired waterway



Sedimentation and flooding during rain event

Be aware of what causes water pollution







Used Motor Oil and Grease – Caused by automotive maintenance, urban housekeeping, yard and warehouse activities, construction, spills and illegal dumping

Trash – Such as foam cups, plastics, cigarette butts and paper from littering, illegal dumping

Bacteria/Viruses – Caused by animal waste, illegal connections to storm drains, leaking septic tanks, and sewer spills

Sediment – Such as erosion from construction, landscaping, building and ground maintenance

Antifreeze, cleaners, and solvents – Caused by automotive maintenance, urban housekeeping and landscaping, spills, illegal dumping

Activities that have the potential to pollute



Outdoor cleaning and maintenance activities like power washing, sandblasting, and car washing that produce large volumes of wastewater into the stormdrain.

Vehicle repair especially when these activities occur outdoors or when wastewater is released outside the building.



Activities that have a potential to pollute

Construction activities that disturb land, exposing loose dirt and sand.





Commercial properties and residential lawns where fertilizers and pesticides are used.

Activities that have a potential to pollute

Storage and use of chemicals, including chlorine

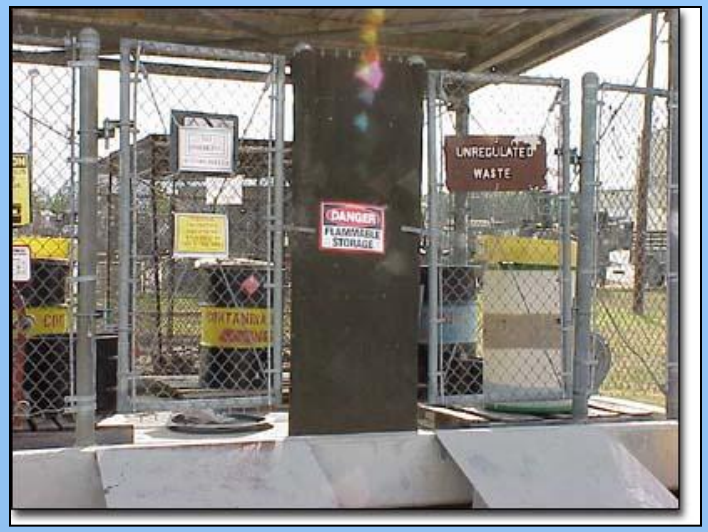




Disposal of washwater on to the street, sidewalk or into a stormdrain

Activities that have a potential to pollute

Loading, unloading, handling and storage of potentially hazardous materials





Dispensing fuel and filling of underground/aboveground storage tanks

…effects of stormwater pollution

Reduces our quality of life

Costs taxpayers millions of dollars for cleanup

Harms freshwater and marine habitats

Clogs stormdrains and causes flood conditions

Causes illness in swimmers, waders, and surfers

Closes our beaches

Harms tourism

Stormwater Pollution

Identifying sources of storm water pollution and keeping them off the ground (away from storm drains or roadside ditches) is the best and most economical way to keep storm water clean.
You can do this by:



- Washing equipment only in designated areas
- Cleaning surfaces without water whenever possible
- Covering and sandbagging material stockpiles

Regulatory Penalties

What if we don't comply?

Fines can be levied against the contractor, public agency or an individual.



- Fines to $32,500 per day/per violation

  - CWA 33 U.S.C. 1319

- "Any person who **knowingly violates**" can be fined $10,000 or imprisoned up to 2 years:

  - CWA Section 13385 (b)(1)

- Current Regulatory Atmosphere

  "The learning curve is over"

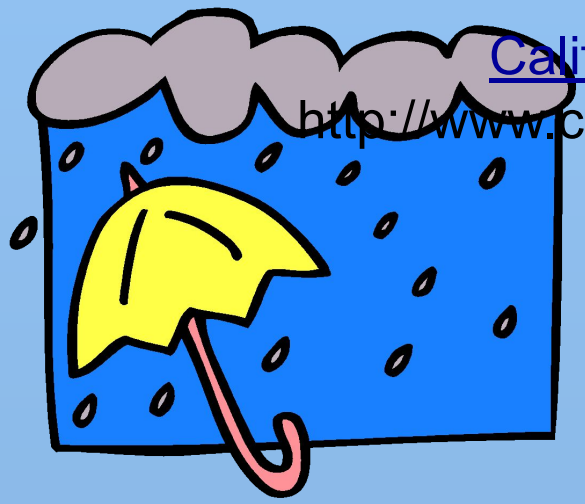
Notification Requirements

Any government employee who obtains information in the course of his official duties revealing an illegal discharge or threatened illegal discharge …that may cause substantial injury to the public health or safety should immediately notify their supervisor or agency stormwater coordinator.

Other sources of information…

San Bernardino County Stormwater Program

Santa Ana Regional Water Quality Control Board
http://www.swrcb.ca.gov/rwqcb8/



California Stormwater Quality Association (CASQA)
http://www.cabmphandbooks.com