

# STORMWATER BMPs: STORM DRAINAGE SYSTEM MAINTENANCE

## AFFECTED FACILITIES

This BMP applies at all municipal storm drainage structures. This includes storm drain inlets, catch basins, sumps, storm sewer lines, manholes, drainage ditches, structural BMPs, outfalls and detention areas.

## BACKGROUND

As a consequence of its function, the storm water conveyance system collects and transports urban runoff and snowmelt that may contain certain pollutants. Any pollutant that might wind up on a street or parking lot can wind up in the storm drain. This may include oil and grease, nutrients, trash, organics and oxygen depleting compounds. Maintaining catch basins, storm water inlets and other storm water conveyance structures on a regular basis will remove pollutants, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capability and ensure the system functions properly to avoid flooding.

## BEST MANAGEMENT PRACTICES

- Inspect the municipal storm drain system for cracks, leaks and other conditions that would lead to breakdowns in the system at least yearly.
- Develop an inspection and cleaning schedule for the municipal storm drain system including detention ponds and permanent BMPs.
- Clean out storm sewer systems according to a pre-determined schedule with maximum activity preferably in late winter and early spring. If there are certain runs that are prone to fast sediment build-up such as runs without sufficient slope, schedule them more frequently.
- Use Vactor truck to suck up flush water downstream from flushing inlets.
- Inspect and repair any storm sewers found to be leaking or damaged as soon as possible.
- Report any suspected illegal connections or dumping to the city storm water coordinator. (See *BMP: Illicit Discharges*)
- Do not discharge any contaminated stormwater or storm sewer flush water into surface waters. (Contaminated wastewater must be disposed at an approved disposal facility depending on the type and concentration of contaminants.)
- Discharge decanted wastewater to sanitary sewer.
- Ensure that debris from vac trucks is collected and taken to a secure temporary storage area or directly to its permanent disposal site. The storage area should be more than 100 feet from and at a lower elevation than any water body, creek, river, ditch or storm drain inlet. Ensure that any temporary storage areas for debris are protected from wind or rain re-entrainment.
- Disposal of debris should be done on a regular basis and debris should not be allowed to accumulate. The number of loads or cubic yards disposed of should be tracked.
  - If temporary storage is required before pick-up, store wastes in containers (dumpsters or dump trucks) or on a paved, bermed area with containment

at least 100 feet from or at a lower elevation than any storm drain inlets or ditches.

- Do not empty vac trucks, even temporarily, near storm drains or surface water bodies or where wind or rain could re-entrain or scatter the debris.
- Periodically sample the collected sediments to determine if they can be disposed in a sanitary landfill. Also samples can be tested for possible illegal discharges if they are suspected.
- If oil, antifreeze or other wastes are discovered in any catch basins, the wastes removed may be hazardous or require special disposal. Dispose of contaminated debris properly.
- Mow drainage ditches periodically although vegetation can be left long unless it restricts flow or causes backing-up. During mowing, inspect ditches for signs of erosion.
- Do not spray pesticides, herbicides or fertilizer on drainage ditches or onto roadways or curbs.
- Do not disturb wetlands or sensitive wildlife habitat without checking with the state Dept. of Fish & Wildlife and US Army Corp of Engineers.

#### **REQUIRED STRUCTURES AND EQUIPMENT**

- Stencil, mark or place decals or medallions on all storm drain inlets with warnings not to dispose of any materials or wastes.

#### **INSTALLATIONS REQUIRED FOR NEW CONSTRUCTION OR RENOVATIONS**

- Grade and size all new storm sewers and drainage ditches for optimal channel hydraulics.
- When upgrading or modifying an existing storm sewer, check for illegal connections or dumping: staining, discoloration, unusual odors, or connections from unknown origins. Report all such discharges to the city storm water coordinator.
- Install swales and filter strips in drainage ditches to act as a bio-filter.
- Design Vactor truck waste dumping areas to be concrete-lined and plumbed to sanitary sewer for dewatering.

#### **REQUIRED EMPLOYEE AND CONTRACTOR TRAINING**

- Train all current employees who perform maintenance or cleaning of storm drainage systems on this BMP. Include training on the required recordkeeping associated with this BMP.
- Train all new hires and job transferees who will perform maintenance or cleaning of storm drainage systems on this BMP.
- Conduct refresher training on this BMP for all employees who perform maintenance or cleaning of storm drainage systems as needed.
- All contracts should stipulate that contracted employees are trained in stormwater pollution prevention BMPs.
- Train employees who perform maintenance, cleaning, modifications, or new system installation on how to recognize and report illegal connections or dumping.

## **REQUIRED MAINTENANCE**

- Inspect and repair or replace any defective drain inlets, catch basins, catch basin lids, sumps, clean-out grates and outfall grates.
- Where signs of erosion or cracking of concrete are noted in drainage ditches, make appropriate modifications: re-seeding, re-grading, diversion, repairing etc.
- Maintain and replace faded, damaged or missing stencils, markings, decals or medallions on drain inlets.

## **RECORDS**

- Keep accurate records of the number of sumps and catch basins cleaned and where these inlets are located. Record the amount of waste collected and disposed of.
- Keep a schedule of storm drain and system cleaning. Schedule inlet or catch basin cleaning based on priority areas and/or time of the year.
- Keep records of employee and contractor trainings.
- Keep records of repairs and maintenance performed on storm drainage systems.

## **EXAMPLES**

## **REFERENCES**

1. Colorado's Phase II Municipal Guidance, October 2001
2. *California Stormwater BMP Handbook*, January 2003
3. *Knoxville (TN) BMP Manual, Activities & Methods*, January 2001
4. *City of Tacoma: Surface Water Management Manual (Vol. IV Source Control BMPs)*, January 2003
5. *Municipal Facility Runoff Control Plan* (City of Lakewood, CO)
6. *Best Management Practices for Industrial Storm Water Pollution Control* (Santa Clara Valley, CA)
7. Storm Water Fact Sheet: Catch Basin Cleaning, US EPA (832-F-99-011), Set. 1999