STORWATER BMPS: STREET SWEEPING & ROAD MAINTENANCE

AFFECTED FACILITIES

These BMPs apply at all municipal and county roads, streets, medians and rights-of-way where sweeping, repair work, painting, striping or maintenance is performed and at all locations where debris is transferred from sweepers or temporarily stored prior to permanent disposal. These BMPs also cover sweeping and maintenance of municipal parking lots, sidewalks and other municipally-owned large outdoor paved surfaces.

BACKGROUND

Streets, roads, highways and other large paved surfaces are significant sources of pollutants in storm water discharges. Operation and maintenance practices, if not conducted properly, can contribute to the problem. Street sweepings can contain sediments, organics and oil and grease. Maintenance work like concrete repair, saw cut slurry, asphalt repair and painting can also be a source of storm water pollution. This BMP is designed to control the sweeping, collection and disposal of street sweeping wastes and maintenance wastes and to keep them out of storm water.

BEST MANAGEMENT PRACTICES

Street Sweeping

- Operate all sweepers to get optimal debris removal. This includes adjusting sweeper speed, brush alignment and rotation rate, and sweeping pattern. Conduct sweeping at optimal frequencies.
- If storm drain plugging or high pollutant loadings occur in certain areas, schedule additional sweeping in those areas.
- Schedule sweeping immediately after special events like street fairs, art shows and parades where additional debris is likely to have accumulated.
- Schedule sweeping immediately after street repair projects that involve saw cutting, chip sealing or other operations that might have left wastes or debris on road surfaces.
- Schedule sweeping after leaf collection in the fall and after salt/sand application in the winter.
- Schedule additional sweeping during new construction projects involving temporary storage of construction materials like dirt, sand and road base along the roadway.
- Schedule sweeping to immediately follow median grass cutting operations.
- Sweeper wastewater should be decanted to the sanitary sewer.
- Ensure that debris from sweeper hoppers is collected and taken to a temporary storage area or directly to its' permanent disposal site.
- The sweeper debris 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 run-off, run-on and 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.

- Do not empty sweeper hoppers even temporarily near storm drains or surface water bodies or where wind or rain could re-entrain or scatter the debris.
- Avoid conducting sweeping operations during rainstorms.
- Do not wash down any streets or curbs (fine water spray for dust control is acceptable but it should use as little water as possible).
- Consider using street signage or windshield flyer placements advising residents of “No Parking: Street Sweeping” days. Consider enforcement for parked vehicles that consistently ignore the no parking days.

Street or Road Maintenance

- Schedule painting, striping, marking and asphalt and concrete cutting or repair activities for dry weather. Do not conduct these activities during or immediately after a rainfall.
- Protect nearby (within 25 feet) storm drain inlets from maintenance work (e.g. preparing the surface for an asphalt cap, chip sealing, concrete breaking or saw cutting). Place covers, straw bales, sand bags, filter fabric or plastic around or over inlets to protect them from entry of wastes, dusts, overspray or slurry.
- Sweep up wastes after all field operations and dispose of the wastes appropriately. Do not sweep or hose down wastes into storm drains.
- When saw cutting concrete, use the minimum amount of water. Let the waste slurry dry and then sweep it up before leaving the location. Alternately, a small wet vacuum may be used to pick up the waste slurry immediately after cutting is complete.
- Store maintenance supplies including cement bags, sealants and tars under cover (such as a tarp) and away from drainage areas. Secure or cover open cement bags to prevent the wind from spreading cement dust.
- When working on bridges, transport paint and materials to and from the job site in containers with secure lids and tied down to the transport vehicle. Do not transfer or load paint over water.
- Capture waste, scraps, rust or paint from any sandblasting or painting projects. It may be necessary to suspend nets or tarps below the bridge to catch falling debris. If sanding, use a vacuum bag attachment.
- Do not spray herbicides on roadways or along curbs. Use a heat lance or manual methods to control weeds.

Snow Plowing and Deicer Application

- Never plow, push, blow or store excess snow, deicer, or other debris into creeks, watercourses or storm drainage systems.
- If possible, reduce plowing speed in sensitive areas (near creeks, wetlands or other water courses) to prevent snow and deicing materials from entering waterways.
- If truck-applying sand/salt mixture or liquid magnesium chloride, use the lowest application rate that will be effective. Ensure that the equipment is calibrated to optimum levels according to manufacturer’s instructions.
- Avoid applying liquid or solid salt products near creeks, rivers or other water bodies.
- Avoid snow storage on pavement, concrete or other impervious surfaces unless storm drains are protected from sediment and debris from melting snow.
- Minimize salt or deicer application directly on bridges or over water bodies.

- When loading salt/sand mix or liquid deicer, care should be taken not to overfill the truck or tank. Loading areas and yards should be swept frequently to prevent salt or sand build-up and run-off. Place berms or waddles where runoff leaves the yard to contain any salt waste.

REQUIRED STRUCTURES AND EQUIPMENT

- Use high-efficiency, vacuum-assisted or regenerative air sweepers whenever possible.
- Snow disposal areas should be located at least 500 feet from any storm drain inlets, drainage ditches, ponds, creeks or wetlands.
- Provide for erosion and/or sediment control on all areas subject to erosion.

INSTALLATIONS REQUIRED FOR NEW CONSTRUCTION OR RENOVATIONS

- During road construction projects, control erosion to the maximum extent possible. Provide permanent erosion control that will remain effective for the life of the street. Refer to KICP new and post construction standards for guidance.
- If renovating municipal service yards, design the sweeper and vac truck debris dumping area to be covered and on an impervious surface that drains to sanitary sewer.

REQUIRED EMPLOYEE AND CONTRACTOR TRAINING

- Train all current employees who perform street sweeping or maintenance on this BMP.
- Train all new hires and job transferees who will perform street sweeping or maintenance on this BMP.
- Conduct refresher training on this BMP for all employees and contractors who perform street sweeping or maintenance as needed.
- Train all employees and contractors who might work with concrete pouring or finishing on the proper practices. See *BMP: Concrete Pouring & Finishing*.
- Contracts should stipulate that all contracted employees are trained in stormwater pollution prevention.

REQUIRED MAINTENANCE

- Inspect and maintain all sweepers, vehicles, and striping/painting equipment according to manufacturer's recommendations.
- Inspect and maintain any temporary debris storage areas. If debris is stored in containment or under covers, repair any cracks or splits that might allow debris to escape back into the environment.
- Maintain all erosion or sediment control devices or equipment installed in erosion-prone areas in road construction projects.

RECORDS

- Record the number of curb miles of streets swept.

- Record the amount of debris collected/disposed of and any waster analysis results.
- Keep a list of street sweeping road priorities and schedule.
- Keep records of employee and/or contractor trainings.

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. *PACE Street Smart Fact Sheet, Partners for a Clean Environment/Keep it Clean Partnership,*
http://www.bouldercolorado.gov/www/pace/documents/StreetSmart_FactSheet.pdf