

The Storm Water Pollution Prevention Bulletin is prepared by the Storm Water Compliance Review Task Force to aid all projects and operations in maintaining compliance with the National Pollutant Discharge Elimination System (NPDES) permit requirements.

Concrete sawing, coring, grinding, and grooving produce waste in the form of concrete dust and slurry (the combination of cement, sand, and water). Although these activities are generally confined to small areas of the project, the waste they produce—if introduced into the storm drain system or a natural watercourse—has a far-reaching potential as pollutants. Concrete and concrete wastes are highly alkaline (high pH) and are highly toxic to fish and other aquatic life. A Canadian study showed that concentrations of portland cement concrete (PCC) in water could kill rainbow trout in less than 30 minutes.

This bulletin reviews the Best Management Practices (BMPs) from the *Caltrans Storm Water Quality Handbooks, Construction Contractors Guide and Specifications*, for preventing storm water pollution from the concrete wastes generated from these activities.

Concrete Waste Management – CD16(2)

This BMP identifies four elements that are critical for effective concrete waste management:

- Washout procedures
- Containment
- Disposal
- Maintenance and Inspection

Washout Procedures

One major challenge for reducing or eliminating pollutants from sawing, grinding, core drilling and grooving work tasks is the cleanup of equipment and tools that are used to perform these tasks. This can be achieved by identifying, and enforcing the use of designated washout areas. BMPs for concrete washout areas include:

- Designate specific concrete washout areas.
- Locate washout areas at least 15 m (50 ft) from storm drain inlets, drainage facilities, and watercourses.
- Clearly mark the washout areas using signs and lights (for night work).
- Discuss the washout locations and procedures with the work crew *before* work starts.
- Have the contractor designate a foreman or supervisor responsible for overseeing and enforcing the proper use of the washout areas.

Containment

The second challenge is to contain concrete wastes to prevent them from entering the storm drain system or natural waters. To contain wastes, use one or more of the following BMPs:

- Isolate the work area using temporary berms or sandbags to capture and contain slurry runoff.
- Use small vacuums or shovels to remove slurry or concrete dust into appropriate containers to transport to the washout area. Residue and slurry generated from grinding and grooving shall not be allowed to flow across or be left on the surface of the pavement, in accordance with the Standard Specifications, Sections 42-1.02 and 42-2.02.



Vacuum designed to collect concrete slurry waste directly into 55-gallon drums for transport and disposal.

Containment also involves the protection of storm drain inlets and receiving waters adjacent to the work area, using the following BMPs:

- Place sandbags or gravel bags around drain inlets. Construction and maintenance details are shown in CD38(2), Sandbag Barriers.
- To prevent concrete dust from entering drainage inlets, cover the inlets with a filter fabric, plastic sheeting, or plywood, as described in CD40(2), Storm Drain Inlet Protection.

Disposal

Concrete waste that is properly contained must also be disposed of appropriately.

- Allow concrete slurry in washout areas and temporary pits to dry.
- Break up the dried slurry residue and dispose of in accordance with CD13(2), Solid Waste Management.
- Onsite disposal must be in conformance with Standard Specifications, Section 15-3.02, Removal Methods.

Maintenance and Inspection

As with any job to be done on the construction site, management commitment and ongoing oversight are necessary for success. CD16(2) requires the foreman/supervisor to monitor concrete working tasks, and onsite concrete waste storage and disposal procedures, at least weekly.

Storm Water Protection During Concrete Sawing, Grinding, Core Drilling and Grooving



Additional information is available in the *Caltrans Storm Water Quality Handbooks*. Questions or comments may be directed to:

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