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Watch That Dirty Water

Construction sites now face strict monitoring requirements, too

BY RALPH VASQUEZ

If you're a developer beginning a new construction project in 2002, what you don't know about the latest storm water regulations could cost you a fortune.

The State Water Resources Control Board recently adopted a resolution to the statewide National Pollution Discharge Elimination System Permit, commonly referred to as the "General Permit," for storm water discharges associated with construction activity.

Builders are required to "implement specific sampling and analytical procedures to determine whether best management practices implemented on a construction site are: preventing further impairment by sediment in storm waters discharged directly into waters listed as impaired for sediment or silt; and preventing other pollutants, that are known or should be known by permittees to occur on construction sites and that are not visually detectable in storm water discharges, from causing or contributing to exceedances of water quality objectives."

In other words, for construction activities approved or taking place, storm water pollution prevention plans must be revised to include monitoring and sampling, and new notice-of-intent applicants must develop storm water pollution prevention plans that include both monitoring and sampling.

Existing and new permittees who fail to meet the new compliance requirements face heavy fines by the State Water Resources Control Board. Some construction activities within the board's jurisdiction have already been fined up to $500,000 for noncompliance.

The State Storm Water Quality Task Force has put together a guidance document, which is available online at www.stormwatertaskforce.org/swqtf/CSWSAGD.pdf, which outlines basic guidelines for the sampling process.

Developers may want to consider contacting an environmental consultant or other qualified professional with expertise in storm water sampling, as well as in compliance laws and regulations.

The modifications to the General Permit are in compliance with a writ of mandate issued by the state superior court in September 2000, following several lawsuits filed against the State Water Resources Control Board by the San Francisco Bay Keepers and other environmental groups.

The groups claimed that the existing General Permit, originally adopted in 1999, did not sufficiently meet the mandates of the federal Clean Water Act. The General Permit will not be reviewed again until it expires in 2004.

Targeted Sites

According to the revised General Permit, construction sites that may now require sampling and analysis include sites that are known to have contaminants spilled or spread on the ground; sites where construction practices include the application of soil amendments, such as gypsum, that can increase the pH of the runoff; or sites having uncovered stockpiles of material exposed to storm water.

Visual observations before, during, or after storm events may trigger the requirement to collect samples.

Construction sites have been targeted because the activities conducted there have a high potential to increase storm water runoff. The process of grading removes the protective layer of vegetation of the area, thereby allowing rainfall and runoff to carry sediments off the site. The runoff may go right into the closest storm drain or drainage channel and flow directly into the nearest large body of water -- usually the ocean.

Pollutants carried by sediment can include motor oil and gasoline, pesticides, fertilizers, paint, masonry wastes and cleaning chemicals.

Plan Modifications

Specifically, developers must now modify storm water pollution prevention plans to identify a sampling and analysis strategy, and a sampling schedule for discharges from construction activities that discharge directly into water bodies considered "impaired," according to the state 303(d) list, which is undergoing modification by the Regional Water Quality Control Board.

A similar plan must be developed for discharges that have been discovered through visual monitoring to be potentially contaminated by pollutants that are "not visually detectable" in the runoff. Nonvisible pollutants can include pH levels, hazardous chemicals or residuals, historic land use remnants, and agricultural pollutants such as fertilizer, pesticides and herbicides.

Moreover, developers will now have to show discharge points -- locations designated for storm water sampling-- on their site plans, as well as the location of the nearest water body.

Sampling Requirements

Should monitoring indicate that the potential for "not visually detectable" pollutants exist in the discharges, samples should be collected and analyzed for the suspected pollutant. Developers must also describe the sampling procedure, location and rationale for obtaining the contaminated sample of storm water.

Storm water discharged directly to an impaired water body must undergo a rigorous sampling and analysis program for the pollutants causing the impairment. In other words, should the receiving water body be listed on the Clean Water Act 303(d) list as impaired for sediment, sediment must be part of the analytical protocol.

Specifically, samples must be collected during the first two hours of every rain event that results in direct discharge. Samples should be collected during daylight hours -- up to four samples per month -- and should be representative of prevailing conditions for the nearest water body. Personnel trained in water quality sampling procedures should collect storm water samples, and samples should be recorded on a chain-of-custody form.

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Samples are sent to a properly credited laboratory for analysis to determine whether pollutants are present. For laboratory analysis, all field samples must be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed. Portable meters should be calibrated according to the manufacturer's specification. All field and/or analytical data should be kept in the site's storm water pollution prevention plan document, which is to remain at the construction site at all times.

Developing a Plan

If pollutants have been detected from laboratory analysis, the location and source of the pollution must be determined. Storm water pollution prevention plans must then be updated accordingly. The goal of sampling and analysis is to determine whether the best management practices employed and maintained on-site are effective in preventing the potential pollutants from coming in contact with storm water and causing or contributing to an exceedance of water quality objectives in the receiving waters. Best management practices, such as incorporating a treatment system before water is discharged, may need to be modified to improve the site.

A sampling and monitoring plan takes two to three weeks to develop. The cost depends mostly on the complexity of the site. Samples and analytical costs can range anywhere from $500 to $1,500 per discharge point for every rain event that results in runoff.

It is critical that builders understand and comply with the mandates of the revised General Permit for both existing and new construction activity. It could save them thousands of dollars this year.