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A Wet Pond as a Storm Water Runoff BMP—Case Study

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ABSTRACT

The California Department of Transportation (Caltrans) has initiated a five-year study in San Diego to examine the benefits, technical feasibility, costs, and operation and maintenance requirements of using a wet pond to treat storm water runoff from an existing freeway. The purpose of this program is to study the opportunities and constraints, relative to siting, design, construction, operation and maintenance, associated with retrofitting highways with this type of stormwater Best Management Practice (BMP) and to evaluate the efficiency of the device for removing pollutants of concern. Automated monitoring stations have been installed at the site upstream and downstream of the BMP. Constituents monitored in the runoff include: suspended solids (e.g., sediment), metals, nutrients, and organics (e.g., gasoline). Vectors (i.e., mosquitoes), vegetation, and protected and endangered species are also being monitored. A comprehensive operation and maintenance program is in place to ensure the BMP operates at peak performance. Construction and maintenance costs are being documented. Over the past three years, the project has been sited, designed, constructed and monitored (for the first year). Even though pollution-removal data are not yet available, Caltrans' experience indicates that there are substantial challenges in retrofitting wet pond BMP technology into transportation infrastructure.