

# City of Santa Monica Urban Watershed Management Program

## Low Impact Development Strategies:

# Westside Water Quality Improvement Project

McLaughlin Avenue/Palms Boulevard • Mar Vista Park • Los Angeles, CA



← [Sawtelle Channel Diversion Dam, i.e. “speed bump”]



← [Bio Clean Baffle Box™ with floatables, i.e. trash and debris, removed from runoff]

[StormFilter® unit] →



[Transverse Diversion Weir Flow Split Vault] →



Opened in the Fall 2006, the Westside Water Quality Improvement Project (Project) treats urban runoff from the eastern portion of the City of Santa Monica and parts of west Los Angeles with state-of-the-art treatment technology. The runoff comes from approximately 220 acres within Santa Monica’s Centinela Sub-Watershed area and 2,280 acres from parts of west Los Angeles. Other goals include improving and preserving water quality entering the Ballona Creek and the Santa Monica Bay, and protecting beneficial uses of our coastal waters. Runoff from this area flows into the Creek, which then flows into the Bay.

The Project incorporates Low Impact Development strategies to harvest dry and wet weather runoff from the Sawtelle Channel for treatment through two Best Management Practices (BMPs). After treatment, the urban runoff is returned to the Channel, but without much of the pollution, i.e. heavy metals, organic chemicals, trash, debris, oil and grease, and pathogens.

The Project, which operates only on gravity flow, is capable of treating all dry weather runoff up to 3 cubic feet per second (cfs) and stormwater runoff up to 33 cfs in a 24-hour period. Runoff is diverted out of the Sawtelle Channel by a concrete “speed bump” diversion weir in the floor of the culvert (PHOTO top left) and into the upstream diversion vault, which then flows into a 36” diversion pipe that runs a couple hundred feet to a transverse diversion weir (PHOTO bottom right). The weir splits the flows to the two BMP treatment devices and also has a screen to remove trash. The treatment train facility utilizes three separate processes to treat and improve the quality of runoff: screening, sedimentation, and direct filtration. Direct filtration takes place in the Contech Stormwater Solutions StormFilter® unit (PHOTO bottom left), which removes oil and grease, dissolved heavy metals, herbicides and pesticides. It has over 90 individual cartridges to filter (each up to 15 gallons per minute) runoff, a total of up to 3 cubic feet per second. Removal of floatables and suspended particulates by sedimentation and screening occurs in the transverse weir, StormFilter®, and the Bio Clean Nutrient Separating Baffle Box™ (PHOTO top right), which has a flow capacity of 33 cubic feet per second. Water that has transited the treatment train is then returned to the Sawtelle Channel via the downstream isolation vault.



# Planning for a Cleaner Bay

Urban runoff flowing through storm drains is the single greatest source of pollution to the beaches and near shore waters of the Santa Monica Bay. Unlike sewage and discharges from industrial sources, urban runoff is not generally adequately treated before it reaches the bay and our beaches.

The City of Santa Monica passed an ordinance that is designed to reduce the amount of urban runoff pollution that reaches our storm drain system and the Santa Monica Bay. The ordinance requires a reduction in urban runoff flowing off of all impermeable surfaces from newly developed or retrofitted parcels within the city.

Reducing the amounts of urban runoff and of pollutants contained in the runoff is essential for the health and safety of our community. A cleaner bay means a healthier marine ecosystem and improved quality of life for residents, and increases Santa Monica's appeal to visitors and businesses.

By implementing post-construction Best Management Practices (BMPs) and making these strategies part of our daily lives, we can make a genuine difference - and clean the bay!



## Putting the LID on Urban Runoff, the Santa Monica Way

In the city's efforts to reduce runoff pollution through the use of BMPs, we can manage, use and redevelop our lands in a more sustainable manner through the use of Low Impact Development (LID) and smart growth design strategies, and BMPs. LID is an economically and environmentally responsible strategy to site development which still allows land development, but in a long-term cost-saving manner that also mitigates potential environmental impacts. Whether employed at a single-family home or large commercial or public project, LID integrates land planning, and site design practices and techniques to mitigate development impacts to land, water and air, to conserve and protect natural resources and ecosystems, and to reduce infrastructure costs, e.g., storm drain systems.

This strategy views each development project as a small micro-watershed, part of the greater watershed or drainage basin of a particular area. The strategy promotes the concept of "start at the source," that is, to keep as much precipitation on each parcel to minimize the amount of runoff or waste water leaving a site. In the end, watershed management must include the individual and each parcel, and LID approaches should be used in planning and designing phases. The results of these strategies will be to maximize onsite rainwater and runoff harvesting, retention and use, and to minimize runoff pollution in reaching the bay.

For more information contact **310-458-8223** or visit **[sustainable-sm.org](http://sustainable-sm.org)**



### Urban Runoff & Watershed Management Program

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