



THE Outfall

VOL 1, ISSUE 1

JUNE 2005

This issue's focus:

NEW DEVELOPMENT

Also:

- Training
- Plan Review News
- DSP Plan Update
- 8 Watershed Considerations
- Innovative Engineering

Presented by the:

Sacramento County Stormwater Quality Program

Information and updates on stormwater quality training, regulations, and approaches for Sacramento County employees

Helping You Achieve Your Training Goals



Cal Expo Swale. Learn about the benefit of using vegetated swales with a convenient online video.

Training Opportunities:

Grass Swale Video

See other plant options using different types of vegetation with this online video. Find it at: www.greenworks.tv/stormwater/vegetatedswales.htm

**If you have REALPlayer, right click on the "Watch a Video Now" link and save it to your desktop then run the video from there.*

Stormwater Treatment Tour

Date and Time to be announced

Join us for a tour of stormwater treatment devices. For details or to register, contact Summer Christensen at: christensens@saccounty.net.

Drainage Plan Review Update



Recent Additions to the New Development Web Page

Moving from word of mouth to the 21st century, we recently posted a brief overview of post construction stormwater quality treatment options and commonly requested information on the website at: www.msa.saccounty.net/sactostormwater/newdevelopment.asp

Available for download are:

- Storm Water Treatment Options Explained
- Standard Maintenance Agreement
- Pilot study Monitoring Protocol
- Swale Data Sheet

DSP: Where are you now?

The Development Standards Plan (DSP) outlines how Sacramento County will meet new state requirements. The Central Valley Regional Water Quality Control Board approved the DSP on May 18th. Over the next year the County will be working to implement the DSP with new requirements and technical guidance manuals.

Board Approves Update to Ordinance

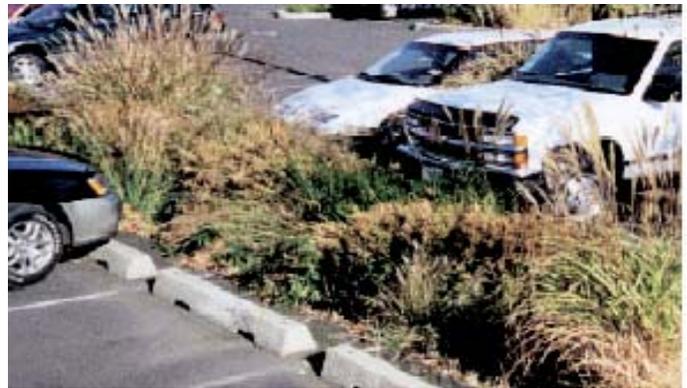
On April 19 the Sacramento County Board of Supervisors approved the updated Stormwater Quality Ordinance.

Eight Considerations For Watersheds

The Regional Board has recently focused on development patterns to help address many stormwater quality goals. The Regional Board has developed 8 guiding principles to be incorporated in the planning and design of new and re-development projects. Outlined below are principles that should be considered in planning a development. There are many ways to incorporate these principles in the design process. Below each principle are examples of common solutions.

1. Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment. Use on-site infiltration of runoff in areas with appropriate soils where the infiltration of storm water would not pose a potential threat to groundwater quality.

Tip: Disconnect impervious surfaces from the storm drain system when practical. Examples of disconnections include both a swale in a parking lot and redirecting downspouts from houses to lawns. Planning your site so that runoff flows through landscaped areas maximizes infiltration. Using the largest trees as much as possible helps to decrease and treat runoff.



Swales in a parking lots can help filtrate runoff

SOURCE: CITY OF PORTLAND, ENVIRONMENTAL SERVICES, STORMWATER LANDSCAPE SWALES

2. Implement pollution prevention methods supplemented by pollutant source controls and/or treatment controls. Where practical, use strategies that control the sources of pollutants or constituents (i.e., the point where water initially meets the ground) to minimize the transport of storm water and pollutants offsite and into MS4s.

Tip: Education is important in keeping pollution out of the system. Posting “Do Not Dump Signage” in neighborhoods is a great way to teach residents about pollution prevention.

Include wash areas that drain to the sanitary sewer and provide covers for areas that generate pollution. Directing runoff away from waste handling sites helps reduce stormwater pollution.

3. Preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones.

Tip: Incorporate waterways into parks and open areas. Provide trails and other overlooks so that the

community values and has a sense of ownership for these areas. Open spaces can be designed as buffer areas along streams. The wider the buffer area along a stream, the better the water quality. Buffer areas provide both water treatment and habitat.



4. Limit disturbances of natural bodies and natural drainage systems caused by development, including roads, highways, and bridges.

Tip: Using arch span bridges instead of culverts limits the intrusion for small crossings. Designing pier type bridges with room for trails and wildlife passage limits the impact of roads on the habitat of the creek.



Howe Avenue Park

5. Use existing drainage master plans or studies to estimate increases in pollutant loads and flows resulting from projected future development and require incorporation of structural and non-structural BMPs to mitigate the projected increases in pollutant loads in runoff.

Tip: The Sacramento County Stormwater Quality Program uses monitoring data and drainage studies to determine the most prevalent pollutants in our waterways. Also the County performs studies to better understand how pollution reaches our waterways and how to best implement controls.

Stormwater Quality Programs'

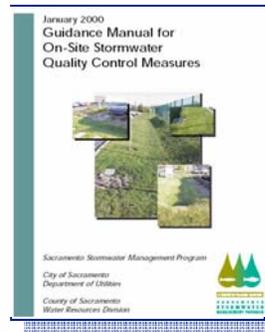
Top 5 Pollutants of Concern

- 1 Diazinon
- 2 Chlorpyrifos
- 3 Mercury
- 4 Copper
- 5 Pathogens

7. Implement source and/or treatment controls as necessary to protect downstream receiving water quality from increased pollutant loads in runoff

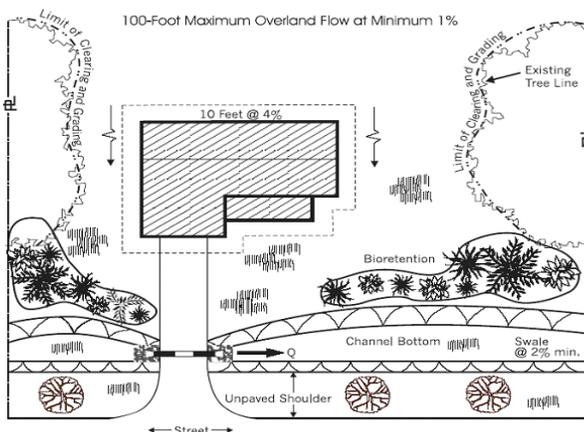
flows from new development and significant redevelopment.

TIP: Use the County's *Guidance Manual for On-Site Stormwater Quality Control Measures*. Considering stormwater quality early in planning and design will allow for more effective and inexpensive stormwater quality treatment options.



6. Identify and avoid development in areas that are particularly susceptible to erosion and sediment loss, or establish development guidance that protects areas from erosion and sediment loss.

Tip: Follow the County's *Land Grading and Erosion Control Ordinance*, taking particular care in areas with colloidal clays. Limit the area being disturbed whenever possible to save trees and vegetation that act as on-site erosion control and provide future treatment.



SOURCE: PRINCE GEORGE'S COUNTY, DEPARTMENT OF ENVIRONMENTAL RESOURCES

8. Control the post-development peak storm water run-off discharge rates and velocities to prevent or reduce downstream erosion, and to protect stream habitat.

TIP: Low Impact Development strategies and consultation with Department of Water resources staff can help plan developments that protect stream health and stability.



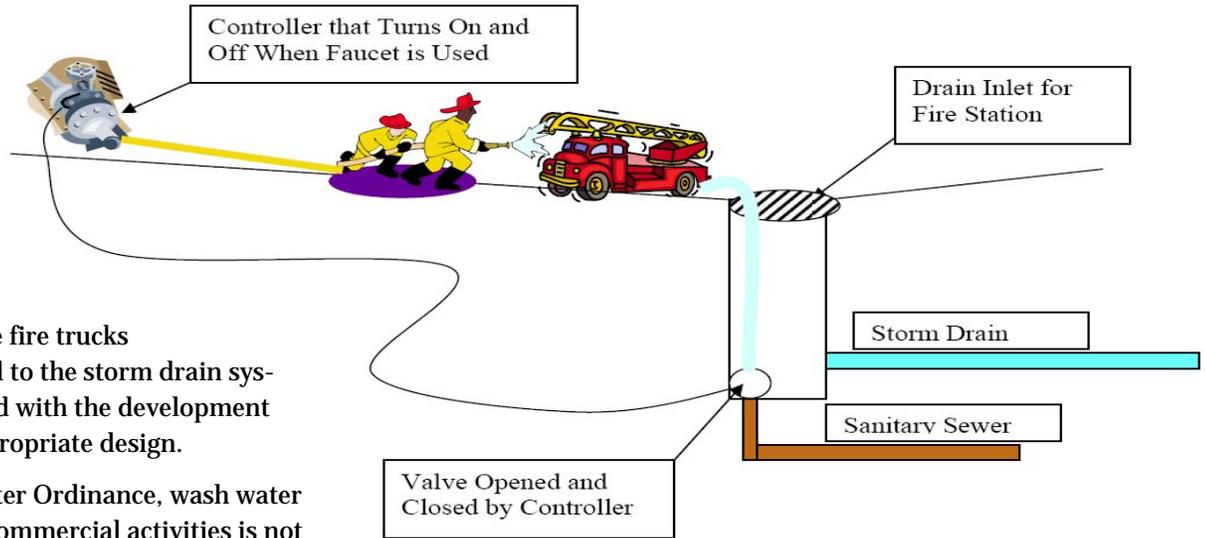
SOURCE: CALIFORNIA STORMWATER QUALITY ASSOCIATION, STORMWATER BEST MANAGEMENT PRACTICE HANDBOOK: NEW DEVELOPMENT AND REDEVELOPMENT

Elegant Design

Eliminating Illicit Discharge in the Design Phase

Two recent fire station designs crossed the desk of Michael Thompson, an Assistant Engineer of the Department of Water Resources. Realizing that wash water from the fire trucks would be discharged to the storm drain system, Michael worked with the development engineers on an appropriate design.

As per the Stormwater Ordinance, wash water from municipal or commercial activities is not allowed to be discharged to the storm drain system. The final design was able to achieve this by draining wash water to the sanitary sewer. However, since the fire trucks are washed outside, a design that keeps stormwater out of the sanitary sewer was needed. A roof was impractical due to the size and operation of fire trucks. Instead, with assistance from Dave Tamayo, a Supervising Industrial Waste Inspector of the Department of Water Resources, a specialized valve was selected.



The valve is attached to the wash water faucet. When the wash water is turned on, the valve opens the sanitary sewer connection. When the wash water is turned off, the sanitary connection closes and the drain works like a normal storm drain. The system is automatic so that training is not needed to open and close a manual valve. Also, it eliminates the concern that the manual valve would be forgotten and not used.

**Cleaner Storm Drains
Cleaner Rivers**

SACRAMENTO COUNTY STORMWATER QUALITY PROGRAM
MUNICIPAL SERVICES AGENCY • DEPARTMENT OF WATER RESOURCES

The Outfall is published by the County of Sacramento, Department of Water Resources, Stormwater Quality Program. The Outfall's goal is to provide timely and relevant information to County employees regarding storm water related training, updates, and approaches.

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