

Bioinfiltration Swales

WASTEWATER
MANAGEMENT

Informational Sheet SW-2

September 2009

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Stormwater runoff is rainfall and snowmelt events that flow over surfaces into a drainage system or infiltrates into the ground. As stormwater flows over various surfaces it combines with several contaminants and becomes pollutants. Treatment of storm water is becoming more demanding as land development and urbanization increases. Urbanization changes the dynamics of stormwater conveyance systems by increasing the amounts of impervious areas. Impervious surfaces (e.g. paved streets, parking lots, side walks) significantly reduce stormwater infiltration, resulting in increased stormwater runoff volumes and associated contaminant discharges. Since the early 1980's, the method of capturing and disposing of stormwater in the City of Spokane has changed. Runoff from both public and most private property must be treated prior to subterranean disposal, minimizing impacts on Spokane's precious aquifer.

What are swales?

They are a grassy depression used to collect and treat stormwater runoff from streets, driveways,



rooftops and parking lots. Stormwater enters swales through openings in the curb, sidewalk, or catch basins and then infiltrates through the grass and soil. The grass and soil remove pollutants such as sediments, nutrients, heavy metals, bacteria, oil and grease before percolating into the ground. It is imperative to maintain grassy swales as stormwater would go untreated and downstream property maybe adversely affected.

Where are swales located?

Typically these swales are located between curbs and sidewalks along streets. Also adjacent to the parking lot of a commercial business, in front of residential homes, businesses, and within separate land tracts.

Who is responsible for maintaining them?





An example of a swale with a drywell.



An example of overgrown grass at the inlet of a swale.



Proper maintenance of the swale inlet can prevent it from looking like this!



Maintaining your swale will keep it functioning properly and preventing it from looking like this!



- Design and construction: The developer of a subdivision is responsible for installing and/or constructing drywells, curb cuts, and for rough grading the drainage swale.
- Builder (Building Permit Applicant): Responsibility for the swale transfers to the builder upon issuance of a building permit. The builder is responsible for fine-grading the swale, installing sod and conducting a performance test.
- Property Owner: The property owner is responsible for the swale after the builder has completed the project. The owner is responsible for perpetually maintaining, repairing and restoring the swale to keep it in good working order.
- When replacing grass: remove the dead grass, rototill the soil and then re-seed or re-sod.
- Do not replace the grass with rock, bark, plants, or other vegetation other than grass.
- Remove trash and debris inside the swale.
- Do not dispose of any materials or chemicals in swales.
- Do not alter the shape of the swale.

Constructing a Swale?

If you are designing, constructing, or retrofitting a swale you must reference the *Spokane Regional Stormwater Manual*.

For more information contact us at:

**909 E. Sprague Ave.
Spokane, WA 99202
(509) 625-7900**

Or visit:

www.spokanewastewater.org

Maintenance Tips.

- Keep inlets open by removing sediment, debris, and over grown grass so water can flow in.
- Keep grass two to three inches long.
- Core aerate the grass as you would your lawn.
- Use fertilizer as directed on the package label.

Please note that while every effort is made to assure the accuracy of the information contained in this informational sheet, it is not warranted for accuracy. This informational sheet is not intended to address all aspects of regulatory requirements for a project and should serve as a starting point for your investigation.

