

Solving Runoff Problems & Using Permeable Surfaces



Importance of Water Shed

A watershed is a land area that drains rain and other water into a creek, river, lake, wetland, bay or groundwater aquifer. Water from your neighborhood also enters the watershed through the storm drain system and flows directly to local creeks and the Bay without any treatment. It often is contaminated by pollutants that can be toxic to fish, wildlife, and people.

Stormwater Runoff

Stormwater runoff is the water that flows over paved surfaces or landscaping after rain (a storm), irrigation, or other water use which

produces more water than the ground can absorb. As the runoff travels, it can pick up litter, pesticides, fertilizers, pet waste, motor oil, and other pollutants, washing these substances into our neighborhood creeks and the San Francisco Bay. Replacing non-permeable surfaces with permeable material, any material that allows water to flow through, greatly helps with absorption and reducing runoff. Materials such as sand and gravel, can be installed in pathways to control runoff and improve water quality by filtering pollutants through the ground. The end result is cleaner, healthier waterways in our community.



Home Steps to Protect the Water Shed:

- 1. Clean up outside your home** including trash, leaves, yard clippings and pet waste.
- 2. Water the yard only as needed** and avoid spraying streets, sidewalks, and driveways to prevent water from carrying pollutants directly into storm drains.
- 3. Divert rainspouts and garden hoses away from paved surfaces.** Provide landscaping next to sidewalks and driveways to help collect and filter rain runoff.
- 4. Control erosion around your property** to prevent dirt and debris being carried into the storm drain.
- 5. Read labels on pesticides, herbicides, and fungicides** prior to use and follow instructions carefully. Try Integrated Pest Management (IPM) as a less toxic alternative for yard pest management. www.ipm.ucdavis.edu

Dry Creek Beds

Water coming through the landscape can be funneled into dry creek beds with catch basins.



City of San José: the IPM
Innovator Award Winner 2010



From Impermeable to Permeable

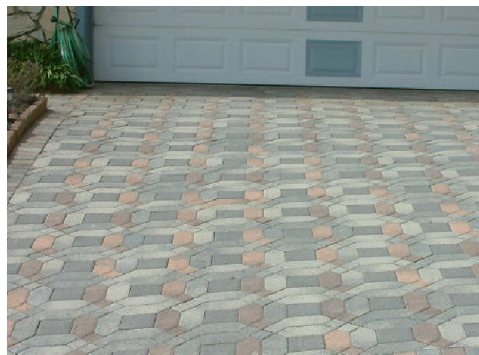


If you have impermeable paving that you would like to make permeable, there are two main methods for doing so:

- Break up hard paved surfaces to create spaces for water to seep through
- Remove and replace the surfaces with permeable paving

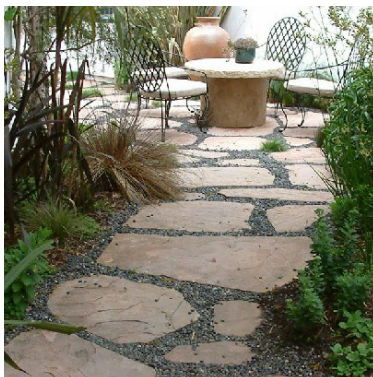
Either method allows water to soak into the soil, reducing runoff and increasing groundwater recharge. This practice also helps reduce the heat island effect (an increase in ambient temperature from heat-retaining buildings and paved surfaces). These methods will lower the surrounding temperature and reduce the need for air conditioning.

Contouring the landscape to hold water back in places helps generate percolation.



Walkways

Walkways that use materials like bark or gravel are permeable. Stepping stones can be used with a permeable filler like gravel or mulch.



Driveway Examples

Concrete and asphalt driveways can be replaced with permeable asphalt, pavers and drive on surfaces.



Watering Harvesting

Water from down spouts can also be captured in rain barrels.

Additional Resources

The Water Shed Project <http://www.thewatershedproject.org/home.php>

Surfrider Association <http://www.surfrider.org/pages/6077>

My Water Shed Watch <http://www.mywatershedwatch.org/>

Soak It Up http://mywatershedwatch.org/pdfs_downloads/Soak_it_up_Factsheet-FINAL-March20113.pdf

You're The Solution to Water Pollution <http://mywatershedwatch.org/wbrochure.html>

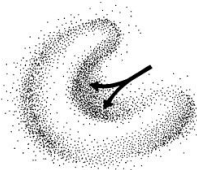
Rain Gardens http://www.scvurppp-w2k.com/pdfs/1213/BASMAA_Rain_Garden_Fact_Sheet_11_26_12_CORRECTED_online_ver.pdf

Rain Barrels http://www.scvurppp-w2k.com/pdfs/1213/BASMAA_Rain_Barrel_Fact_Sheet_082312_APPROVED_online_ver.pdf

Pervious Paving http://www.scvurppp-w2k.com/pdfs/1213/BASMAA_Pervious_Paving_Fact_Sheet_082312_APPROVED_online_ver.pdf

reduce waste and prevent pollution.

• Info on rain barrel systems: http://www.sanfranciscuito.org/runoff/techniques/Rainbarrel_Workshop.htm.



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