clean water Connections

from raindrop to river

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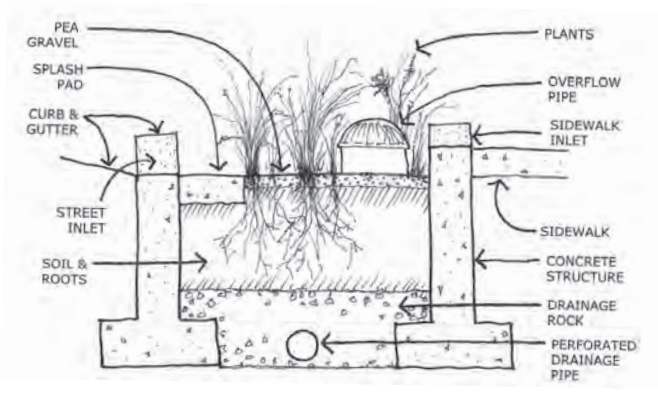
What's Inside

Stormwater Plantings: New Options Provide Many Benefits

You may have noticed that street design has been changing over the years. New crosswalks and bike lanes make roads safer for all users. Another change you may notice is in the parking strip between the street and the sidewalk. These street-side planting strips are stormwater planters, and are part of an on-going effort to improve water quality in Eugene. The planters are sunken along the sides of the street to intercept running water, and shaped to funnel polluted water through a living filtration system of plants and soil. These systems capture materials such as fertilizers, oil and dirt and slow down the water to help prevent erosion and flooding.



The stormwater planter at East 29th Avenue and Amazon Parkway (top) is designed to carry and filter runoff. Many native plants, including the spreading rush (above) are chosen for these planters as they can handle both our wet winters and dry summer months.

The soil in these filtration systems works to remove pollution and allow water to soak in. It contains mineral particles that help water to penetrate deeply, and organic matter to support plant health and trap pollution. Soil mixtures also contain microorganisms that contribute to breakdown of chemicals. Plant roots also add oxygen to the soil, creating chemical reactions that increase soil filtration. Pollutants such as trash and dirt can become tangled in the vegetation, while smaller pollutants can be locked into the soil or absorbed by plants.

The structural components of stormwater planters are carefully designed to support both plant health and filtration. The main component is concrete, a material that is durable and can be formed into any shape. Concrete is

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Small steps, big changes

Healthy yard care begins with thoughtful pest management

Are recent news stories about the health consequences and regulation of pesticides inspiring you to explore a more natural approach to yard care? Learn about less-toxic options and beneficial bugs on page 5.

Pesky bugs, unwanted weeds and unhealthy plants can be frustrating to even the most enthusiastic gardener. While garden centers and hardware stores have shelves overflowing with products to fix many of these common problems, you may want to consider a more long-term approach before loading up your cart (and emptying your wallet). Besides saving money, you'll be doing your family, pets and local waterways a favor too.

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Many native wetland plants from our region, including these featured here, are excellent at removing pollution and provide food and habitat for wildlife.

Plants shown—A. Slough sedge, B. Oregon grape, C. Osoberry, D. Oregon sunshine, E. Oregon iris

Stormwater Plantings *continued from page 1*

poured and formed so that water flows into and through the planter. Newer planters are designed with an inlet that allows large dirt particles to settle out before entering the planter. These inlets are cleaned on a monthly schedule by the Public Works Green Infrastructure Maintenance Team, increasing the longevity of the planter. Pea gravel is placed between plants to limit erosion and weed growth. Each planter also has an outlet pipe raised above the designed maximum water level to prevent flooding during large storms.

What makes the plantings so special?

Plants are carefully chosen for their ability to clean the runoff and to tolerate being partially submerged for a large portion of the year. Many native wetland plants are excellent at removing pollution and also provide benefits for wildlife. Other plant species are chosen based on drought tolerance, deep roots, hardiness and physical ability to catch trash and debris in their foliage. These plantings help the soil to absorb more water, absorb pollutants, create an environment where microorganisms can thrive, and add organic matter to the soil.

Since most of our rainfall occurs during the winter months when many plants are dormant, evergreen plants are often a better choice for providing water quality treatment. Studies have shown that the best filtration in a stormwater planting is achieved by having a diverse mix of plants which contribute to a diverse microorganism community. Some native plants that have been found to thrive in stormwater plantings include:

Slough sedge (*Carex obnupta*)

Sedges (Carex species) are valuable contributors to water quality and are able to live in the wettest parts of the planting. Slough sedge is a fast growing evergreen perennial plant with serrated shiny leaves that grows 2-5 feet tall. This plant can spread by roots as well as by seed and thrives in poorly drained areas. This species is one of the main plants in our stormwater planters. It thrives best in the full sun, but can also withstand some shady conditions. The tough, half-inch-wide, bright to dark green leaves of this plant have been used for basket weaving.

Spreading rush (*Juncus patens*)

Rushes (Juncus species) are evergreen perennials that provide excellent pollution filtration. Spreading rush is a tough drought-resistant plant that can handle full sun to partial shade and performs very well in the wettest portion of the planter. It grows to 2 feet tall and spreads by roots as well as seed. The spikey, upright foliage is a blue-green color, and the seeds form in May to August in small brownish-red clusters that attract birds.

Oregon sunshine (*Eriophyllum lanatum*)

Oregon sunshine is a perennial herb that grows 1-2 feet tall. The leaves are a woolly gray color with fine soft hairs. The bright yellow flowers are one-inch wide, bloom from May to August, and attract pollinators. This plant prefers full sun and can be planted along the side slopes near the waterline of a stormwater planting. Oregon sunshine is drought tolerant and spreads by roots and by seed.

Oregon iris (*Iris tenax*)

Oregon iris is a native perennial herb that grows to 8-12 inches tall. The leaves are thin, bright green and tough (tenax is latin for tenacious) and have been used to weave into animal snares. The bright purple-blue to lavender flowers bloom from April to June and attract pollinators. This low-growing plant spreads from rhizome (a root-like stem) and from seed, and does best on the well-drained side slopes of a stormwater planting.

Oregon grape (*Mahonia aquifolium*)

Oregon grape is a 2-8 foot tall native evergreen shrub that has dark green, tough, shiny, 2-3 inch long, holly-like leaflets. The yellow flower clusters that form from March to May are our state flower and turn into purple-blue, grape-like clusters of sour fruit. This shrub can handle some moist soil conditions and performs well on the sides of stormwater planters. Oregon grape can be found in the forest understory and at the edge of meadows, and has been used both medicinally and as a yellow dye for baskets.

Osoberry (*Oemleria cerasiformis*)

Osoberry is a native deciduous large shrub or small tree that can grow to be 15-20 feet tall. The lime green oval leaves are 3-5 inches long. The early blooming white flowers hang in clusters and turn into yellow and then purple fruit clusters that are edible. This plant is dioecious, which means a male and a female plant are needed in order to have fruit. Osoberry likes moist soil, and will perform well on the sloped edges of a stormwater planter. This shrub grows best in the shade, but can also tolerate full sun.

If you would like to learn more about stormwater planters, or would like to volunteer to help maintain them, please contact Fred Lockhart, stormwater services program analyst, at 541-682-4944.

For more information about plant selection, please contact Ted Shriro, stormwater services technical specialist, at 541-682-4924.