

Soakage Trenches

Soakage trenches are shallow lined trenches backfilled with drain rock. The trench surface can be covered with grating, stone, sand, grass or hard surfaces such as a driveway. They accept stormwater runoff from roofs, parking lots, and other impervious surfaces, and can be placed under any ground level surface such as landscaped areas and driveways. Stormwater runoff flows through an inlet pipe into an underground collection box that removes sediment and debris. The runoff then enters the trench through a perforated pipe that allows it to drain through the backfill material and soak slowly into the underlying soil.

A soakage trench can pollute groundwater if not properly sited, designed, and operated. Soakage trenches are regulated under the federal Underground Injection Control (UIC) program. Contact the Oregon Department of Environmental Quality (DEQ) for DEQ permitting requirements.

Benefits

Soakage trenches reduce runoff flow rate, volume, and temperature, and recharge groundwater. With a sufficient amount of sand for filtration, they may be used to meet the City's pollution reduction requirements.

Vegetation

Grasses, small plants, or shrubs can be used over the soakage trench. Trees or other deep-rooted plants may damage the piped conveyance system.

Maintenance

Inspect soakage trenches periodically and after major storm events to ensure proper operation and structural stability. Maintenance needs include controlling erosion and debris accumulation; cleaning, repairing, or replacing the piping and filter fabric as needed; removing sediment from the silt basin or collection box; and replacing clogged aggregate. With proper construction and maintenance, a soakage trench can last up to 30 years.

Safety and Siting Requirements

- Soils must have a tested infiltration rate of at least 0.5 inches per hour. The bottom of the drain rock portion of the soakage trench shall be no less than 4 feet above the seasonal high ground water elevation.
- A soakage trench, sized to City of Eugene standards, can serve a maximum of 15,000 square feet of impervious area.
- Install soakage trenches on and near slopes of less than 20%.
- Place the soakage trench at least 10 feet from building foundations or basements and 5 feet from any property lines.
- Install the trench in native soil level with and parallel to the site contour.
- Eugene's **Stormwater Management Manual** provides details on sizing, placement, and design of soakage trenches.

Permits

- All soakage trenches, with the exception of those that drain residential rooftops only, must be registered with the Oregon Department of Environmental Quality.
- The City of Eugene's Public Works Engineering Division must approve soakage trench siting and sizing.
- New or altered plumbing connections require a plumbing permit.
- For soakage trenches sited on slopes of greater than 20%, City approval requires a stamped and signed geotechnical report addressing slope stability.

Example

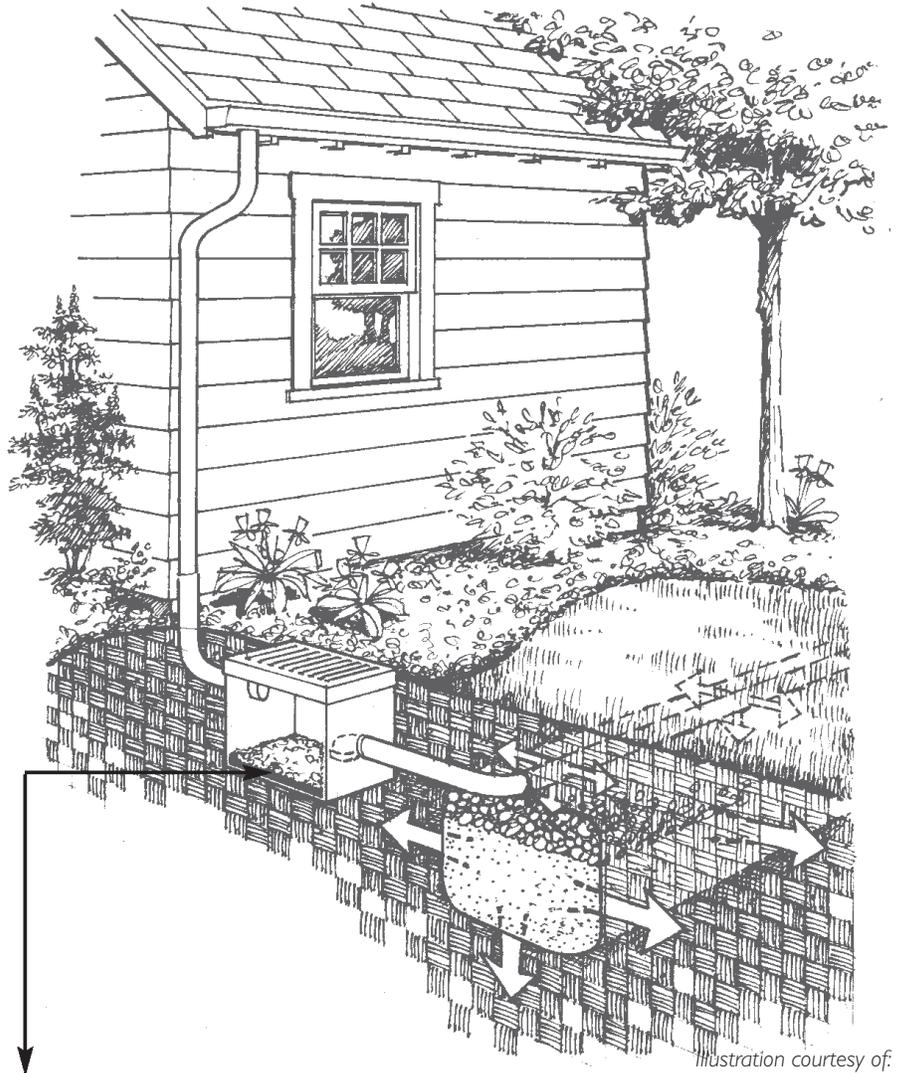


Illustration courtesy of:
Environmental Services,
City of Portland

Note:

Silt basin/collection box or an equivalent pre-treatment device is optional but recommended for both residential and commercial roof runoff.



For more information contact Public Works staff at the Permit Information Center (PIC).

In person: 99 W. 10th Ave. (Atrium Building) from 9 a.m. to 5 p.m., Mon.-Fri.

Voice-mail: 541-682-8400

Email: cwepic@ci.eugene.or.us

Web: www.eugene-or.gov/stormwater

(See section 2.9 of the City of Eugene's Stormwater Management Manual for details.)

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