



Soakage Trenches

(infiltration trenches)

Pollutants of concern: pollutants carried by runoff from impervious surfaces, flood

Soakage trenches are shallow lined trenches backfilled with sand and coarse stone. The trench surface can be covered with grating, stone, sand, grass or similar vegetation. They accept stormwater runoff from roofs, parking lots, and other impervious surfaces, and can be placed under any ground level porous surface such as yards and landscaped areas. Stormwater runoff flows through an inlet pipe into an underground concrete 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. It is usually not necessary to have an overflow mechanism to a secondary disposal or conveyance system.



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

Benefits

Soakage trenches reduce the flow rate, volume, and temperature of runoff while recharging groundwater supplies. When designed with an ample amount of sand or soil they also provide filtration.

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 five 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 per trench.
- Install soakage trenches on slopes of less than 20 percent.
- Place the soakage trench at least 10 feet from the building foundation or basement and five 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 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 percent, City approval requires a stamped and signed geotechnical report addressing slope stability.

Example

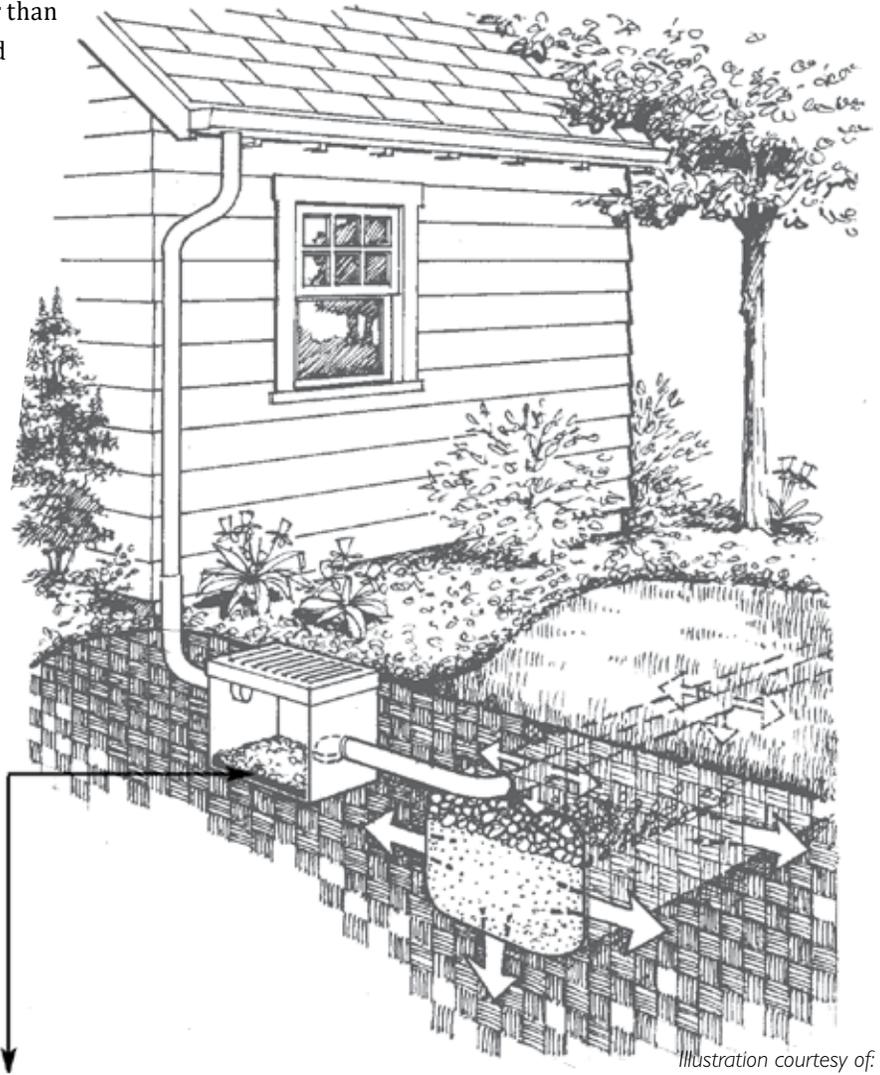


Illustration courtesy of:
Environmental Services,
City of Portland

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:

City of Eugene Public Works, Stormwater Management Program

541-682-8400 Web: www.eugene-or.gov/stormwater