



flow-through
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temporarily
store
runoff-
cleaning it
before it
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to a
conveyance
system

FLOW-THROUGH PLANTERS

Flow-through planters are structures or containers with impervious bottoms or placed on impervious surfaces. They do not infiltrate into the ground. They can be placed in or above the ground level. Flow-through planters are filled with gravel, soil, and vegetation and are typically waterproofed. They temporarily store stormwater runoff on top of the soil and filter sediment and pollutants as water slowly infiltrates down through the planter. Excess water collects in a perforated pipe at the bottom of the planter and drains to a destination point or conveyance system. Flow-through planters come in many sizes and shapes, and are made of stone, concrete, brick, plastic lumber or wood.

Benefits

Because flow-through planters can be built immediately next to buildings, they are ideal for constrained sites with setback limitations, poorly draining soils, steep slopes, or contaminated areas. Flow-through planters reduce stormwater flow rates, volume, and temperature, and improve water quality. They can also provide shading and energy benefits when sited against building walls. They can be an attractive landscape feature and provide wildlife habitat.

Vegetation

Flow-through planters can contain a variety of shrubs, small trees, and other plants appropriate for seasonally moist and dry soil conditions. Summer irrigation and weed pulling may be required in the first one to three years. Minimize the need for permanent irrigation as much as possible by using native and well-adapted plants.

Maintenance

Inspect plants and structural components periodically. Maintenance is similar for all container plantings. Other maintenance needs may include removing sediment, cleaning and repairing pipes, and maintaining proper drainage. Downspouts, curb cuts, and other features where debris may obstruct flow must be inspected and cleaned periodically.



Cost

The cost of flow-through planter boxes varies depending on size and materials. For new development and redevelopment, they are often less expensive than conventional stormwater management facilities.

Safety and Siting Requirements

- Flow-through planters are recommended for compact sites because their size can vary.
- Facility storage depth must be at least 12 inches, unless a larger-than-required planter square-footage is used. Minimum planter width is 18 inches. Planter slopes must be less than 0.5%.
- Flow-through planters can be located next to building foundations or in other situations where infiltration is a concern.
- They are ideal for sites with soil that does not drain well, and are suitable to all soil types.
- Refer to Portland's Stormwater Management Manual for details on sizing, placement, and design.

Permits

- Flow-through planters that alter existing plumbing such as downspouts, or add new pipes for disposal require a plumbing permit from the Bureau of Development Services (BDS).
- Depending on the area of ground disturbance, in-ground systems may need a clearing and grading permit from BDS.
- The stormwater management portion of the facility will need review from the Bureau of Environmental Services (BES).

- Stormwater systems on non-residential sites need a commercial building permit.

Examples

Pearl Court Apartments, 920 NW Kearney St.

Rebuilding Center of Our United Villages,
3625 N. Mississippi Ave.

George Middle School, 10000 N. Burr

Portland State University-Helen Gordon Child
Development Center, SW 12th and Mill and
SW 13th and Market

PSU Stephen Epler Hall

