

FACT SHEET- LIVING ROOF

Universal BMP

Living Roof

Also know as: Green Roof, Roof Garden, and Vegetated Roof



DESCRIPTION

Living roofs are roofs that are entirely or partially covered with vegetation and soils. Living roofs function as a soil and plant-based filtration feature that removes pollutants through a variety of natural physical, biological, and chemical treatment processes. Areas treated with a living roof are exempt from the Volume Capture requirement.

ADVANTAGES

- Living roofs are excluded from Volume Capture calculations.
- Provides water quality treatment.
- Used in urban areas where space is limited.
- Used on sloped sites.
- Provides habitat for birds and attracts pollinators like butterflies and bees.
- Reduces building heating and cooling costs.
- Provides noise reduction.
- Reduces heat island effect.

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LIMITATIONS

- Need to be integrated into the overall building and structural design.
- Overflow requirements need to be considered in design.
- Building orientation and shading needs to be considered in design.
- Plants must be selected for shallow soil layer and fast draining soils.
- Can only be installed on relatively flat roofs.

KEY DESIGN FEATURES

- All vegetated roofs are assembled in layers. The top layer includes the engineered soils and the plants. The soil is a lightweight mix that includes some organic material. Under the soil is a drainage layer that includes filter fabric to keep the soil in place and a core material that stores water and allows it to drain off the roof surface. Next is the root barrier, which prevents the roots from puncturing the waterproof membrane that lies below it, and finally there is the roof structure.
- Include plants suited to the unique shallow soil conditions and design to achieve 51% minimum cover.
- Design for high flow as well as the water quality design storm.
- Underdrain or drainage system required.
- Designed to prevent standing water. All surface water must drain within 72 hours to prevent mosquito breeding.
- Select non-floatable surface mulching material to prevent clogging of downstream inlets.
- Building must be designed for the added weight of the living roof and all retained storm water.
- Seismic analysis may be necessary due to increased weight.
- Irrigation may be necessary for plant establishment and extended dry periods.

SIZING DESIGN

- **Water Quality Treatment** of 100% of the flow generated using the Rational Method and a known intensity of 0.20 inches per hour.
- Living roofs are excluded from Delta Volume Capture and Hydromodification calculations.
- All calculations shall be completed using the “Storm Water Calculator” available at www.srcity.org/stormwaterLID

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INSPECTION AND MAINTENANCE REQUIREMENTS

A maintenance plan shall be provided with the Final SWLID Submittal. The maintenance plan shall include; recommended maintenance practices, identify the parties responsible for maintenance and upkeep, specify the funding source for ongoing maintenance with provisions for full replacement when necessary, and provide site specific inspection checklist.

At a minimum inspection and maintenance shall include the following:

- Drainage features should be inspected and cleaned as necessary to remove any obstructions.
- Irrigation should be routinely inspected to ensure plant establishment and survival.
- Plants should be pruned, weeds pulled, and dead plants replaced as needed.
- Eroded areas should be repaired as needed