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Since 1928



# Barrett / LiveRoof® Designer's Checklist

Follow these basic guidelines for success, and avoid common green roof design mistakes.

## System Specifications and Drawings

- \_\_\_\_\_ Specifications are very fast and easily developed using Specwriter on LiveRoof.com in A & E section.
- \_\_\_\_\_ Choose sole spec. option to protect design integrity.
- \_\_\_\_\_ Use performance spec. for public jobs if sole spec is not allowed.
- \_\_\_\_\_ Be sure to overlay the green roof design over other rooftop design elements (such as lighting, electrical conduits, drains, mechanicals, etc.) to ensure compatibility.
- \_\_\_\_\_ Overlay design with 1' x 2' grid pattern to aid installer in take offs and budget development.

## Plant Material Specifications and Drawings

- \_\_\_\_\_ Plant material is integral to the functional, visual, and maintenance characteristics of the LiveRoof. Choose wisely and consult with your local LiveRoof grower for advice on pairing the plants with the particular rooftop environment. Ask your local grower to assist with and to review your plant list so as to make the best choices based upon such variables as; colors and patterns, sun and shade exposure, reflected light, strong winds or dead air, building height, climate, soil depth, irrigation, desired winter colors, etc.
- \_\_\_\_\_ Call out the plant selections, regardless of the system (Lite, Standard, Deep, or Maxx), specify the particular "base" plant material, and "accent" plants. Craft the plant selections in regard to light exposure and account for the specific exposures if there are multiple roofs. If there are accent plants in the mix, specify the density and position of the plants with a visual diagram so that bidders know what is required and the grower knows how to plant it.

## Irrigation

- \_\_\_\_\_ If a built in irrigation system is part of the design (a good idea for many installations), specify spray rotor type system. Note: This is far more effective than drip systems (see page 30 for explanation.)
- \_\_\_\_\_ If no irrigation, be sure to provide sufficient spigots so that a 50' hose can easily be manipulated to reach the various areas of the green roof.

## Bidding Contractors

- \_\_\_\_\_ Require contractors to be approved by the system supplier and to adhere to design and specifications.

## System Protection and Worker Safety

- \_\_\_\_\_ Specify and follow all safety, code, wind uplift, structural loading, and other important considerations. Be sure to have these items developed or reviewed by a structural engineer if needed.

## Water-tightness

- \_\_\_\_\_ Require Electric Vector Mapping (EVM) testing to insure membrane integrity prior to placement of green roof.

## Problem Areas - Avoid using plant material in the following locations:

- \_\_\_\_\_ Underneath roof lines unless there is built in irrigation.
- \_\_\_\_\_ Within 2 feet of south or west facing walls, unless irrigated weekly (during growing season), as reflected light will cause excessive loss of soil moisture.
- \_\_\_\_\_ Underneath downspouts and rooftop overhangs which cause soil erosion and plant loss.
- \_\_\_\_\_ In corners where snow tends to drift during winter.
- \_\_\_\_\_ In shady areas, those that get less than 3 hours of direct sunlight per day—too shady for sedums. Such locations require the Deep system and shade tolerant perennials such as Hosta, Epimedium, etc.
- \_\_\_\_\_ Locations with constricted air movement.
- \_\_\_\_\_ Areas where there is reflected light from white membrane, glass and skylights, unless there is a built-in irrigation system and access to water at least once per week.
- \_\_\_\_\_ Areas where there is excessive heat below roof deck, such as from steam or hot water pipes. Use pavers or stone ballast in such areas.
- \_\_\_\_\_ Any area where water pools on the roof.
- \_\_\_\_\_ Within 10 feet of the leeward side of wind screens unless they extend to the ground. If there is a gap, the wind will blow under it, accelerate, and dry out the plants.
- \_\_\_\_\_ Under landscape lighting that is close enough to plant material to throw heat onto the plant material.



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## Design for Longevity

- \_\_\_\_\_ Cover up all membrane so that it is protected from sunlight and will wear at a similar pace as the membrane under the green roof. It is suggested that flashing cover the membrane on the parapet and extend to 2 or 3 inches above the roof deck. Similarly, membrane around drains should be covered with a RoofEdge drainbox or 2" to 4" of round river rock to shelter it from sun.
- \_\_\_\_\_ The membrane surrounding drain boxes should be covered with slip sheet material as well as underneath the green roof system.

## Edging

- \_\_\_\_\_ Make it clear on the drawings where the LiveRoof RoofEdge<sup>®</sup> needs to be used for system integrity and enhanced wind uplift resistance. For example, around drains, mechanical units, etc. If the plant material runs from parapet to parapet, then RoofEdge is not required along parapet.

## Traffic Areas

- \_\_\_\_\_ RoofStone paver is integrated and recommended to be used with the LiveRoof Standard and Deep systems. It may be used for pathways and patios and follows the contour of the roof.
- \_\_\_\_\_ Provide for a landing area of RoofStone brand pavers so that visitors and maintenance workers may avoid trampling plants. A 10' x 10' area is suggested immediately bordering the roof access point.
- \_\_\_\_\_ If the roof serves as a means of egress during the winter months, specify that no de-icing chemical or salt be used. Instead specify that cat litter or sand be used for traction. Alternatively, an appropriate heat cable might be installed under the paver.
- \_\_\_\_\_ If windows will be washed from the roof, develop a maintenance strip using RoofStone pavers or gravel ballast so that plants are not destroyed by foot traffic.

## RoofStone Pavers

- \_\_\_\_\_ LiveRoof RoofStone pavers follow the roof contour and are compatible with Standard and Deep Systems (double base of paver with 6 in. Deep System), and require no pedestals or edging between paver and plant materials. However, if they are used in a perimeter application, they should be surrounded with edging to shield their bases from sunlight.

## Installation

- \_\_\_\_\_ Require installation contractor to flood test roof, or EFVM (Electronic Field Vector Map) and verify it is watertight, prior to green roof installation.
- \_\_\_\_\_ Require adherence to LiveRoof installation protocol.
- \_\_\_\_\_ Require installation contractor and general contractor, to prevent foot traffic, trampling, and equipment storage upon LiveRoof plants.
- \_\_\_\_\_ Require that irrigation protocol (how often/how much) be approved by local LiveRoof grower.

## Maintenance

- \_\_\_\_\_ Specify who will maintain the LiveRoof immediately after installation.
- \_\_\_\_\_ Require adherence to LiveRoof specified maintenance protocol beginning at the time of installation. If one year of maintenance is required as part of the installation package, state so definitively.
- \_\_\_\_\_ Provide sufficient tie off anchors for future maintenance if roof design or OSHA policy requires such safety measures for maintenance workers.
- \_\_\_\_\_ Provide for easy access by maintenance workers. Remember, maintenance personnel will at times need to access the roof with equipment, fertilizer, hoses, possibly even a lawn mower.
- \_\_\_\_\_ Specify that maintenance contractor is to subscribe to free LiveRoof biweekly maintenance newsletter.

## Canopy Roofs

- \_\_\_\_\_ With flat canopy roofs, specify the installation of heat cables in the drains and downspouts to prevent wintertime ice dams.

## High Rise Applications

- \_\_\_\_\_ WindDisc for Enhanced Wind Resistance see WindDisc in A & E section of this catalog. Contact us for wind uplift laboratory data.
- \_\_\_\_\_ Vegetation for High Rise Applications: Specify special plant mix for high rise applications. Consult your LiveRoof grower for the most wind/cold resistant varieties that can knit together and resist wind erosion during all 4 seasons.
- \_\_\_\_\_ Mandatory Irrigation System: Spray rotor irrigation system is considered mandatory as a key management tool to maintaining lush, full vegetation, for wind erosion resistance.
- \_\_\_\_\_ Maintenance Standard: Specify who will care for the roof and mandatory standard of 100 % coverage, weed free condition. This is important to resisting wind erosion.