

# NATURAL SYSTEMS

## SECTION 11: WATER

It is a frequent misconception that sustainably designed landscapes, or native plants in general, require little or no water. Managing rain or snowfall as well as supplemental water taken from municipal systems, wells, or rainwater harvesting devices requires awareness of some basic concepts, such as:

### 11.1 Water Use Considerations

1. Understand that not permanently relying on irrigation is a goal of sustainable landscape maintenance.
2. Be familiar with plants on-site and their hydric preferences.
3. Understand current water needs with respect to the landscape's establishment phase and adopt a water budget accordingly (in consultation with designer, installer, and client).
4. Know when plants were installed and be aware of any warranty expiration dates.
5. Understand that greater planting density and less exposed soil surface (even mulched) reduces evapotranspiration and water needs.
6. Be aware of any chemical additives that may be present in municipal water that could affect plant health.
7. Harvested rainwater is generally considered non-potable (not for drinking, watering edible crops, or for sand play in playgrounds). Check your local Health department for possible exceptions.
8. Plan optimal areas for stockpiling snow "in ways that limit degradation of water quality and surrounding plants and soil health."(SITES™ v2, Section 8.1, topic 7).

### 11.2 Watering Recommendations

1. Be aware of rainfall quantity (or lack thereof) on your site between maintenance visits.
2. Understand that less frequent yet deep watering encourages stronger root systems and discourages weeds.
3. Ideally, after plant establishment, only water during periods of extended drought.
4. When watering during drought, prioritize trees and shrubs over perennials and turf.
5. If watering manually, use proper equipment that delivers water to where it is specifically needed.
6. Direct water to the base of plants, not the leaves (which wastes water through evaporation).
7. Maximize infiltration by aerating soil or breaking up caked mulch (see Section 12).
8. If using slow release watering bags, fill them regularly and remove them from trees after the growing season.



Snow stockpile locations should be determined in advance to protect nearby planting areas and downstream water quality.

PHOTO: LEVEL GREEN LANDSCAPING

### 11.3 Irrigation Recommendations

Note that the following recommendations relate to maximizing sustainability in irrigation and are no substitute for more thorough training, including certification, in irrigation system operations and maintenance, including knowledge of public safety features like backflow prevention.

1. If an irrigation system was installed by a separate contractor, determine the maintenance responsibility that contractor currently has and coordinate as needed as part of the overall LMP.
2. Even if a separate irrigation company is on contract, monitor the effectiveness of the irrigation system and report any performance issues to the client as soon as they appear.
3. Assure that irrigation heads only direct water where desired, preventing water runoff onto walkways and other hardscape areas.
4. If you are the responsible party, schedule watering for early morning to reduce evaporation, and adjust water frequency on a monthly basis during the growing season to respond to seasonal water needs.
5. "Run times shall be sufficient to allow for saturation of the root zone without runoff. Allow adequate run times in drip irrigation zones." (Seattle Public Utilities, Landscape Maintenance Standards and Specifications, page 11.)
6. In coordination with the integrated design team, remove or disable any temporary irrigation system put in place during the landscape establishment phase when no longer essential.
7. Use a manual soil moisture sensor to monitor existing conditions, and as practicable, add soil moisture sensors and rain shut-off sensors to existing irrigation systems to conserve water.
8. Perform timely seasonal system start-up and shut-off in coordination with the client and integrated design team.



Landscape maintenance staff should alert the client and designer of this inappropriate 360 degree spray head and arrange with the irrigation contractor to replace it.

PHOTO: CHERYL CORSON

### 11.4 References

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- ecoPRO Certified Sustainable Landscape Professional: Guiding Principles and Sustainable Best Practices, Version 2b*, p. 12. 2014. Washington Association of Landscape Professionals and Washington State Nursery & Landscape Association.
- LaBranche et al. 2007. *Virginia Rainwater Harvesting Manual*. Salem, VA: Compiled by The Cabell Brand Center.
- Landscape Maintenance Standards and Specifications*. Section 7.1.3, pp. 10–11. 2009. Seattle Public Utilities.
- SITES™ v2 Rating System*. Section 8.1, Topic 1: Water, p. 100. 2014. Green Business Certification Inc. All rights reserved.
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