
Save the Rain: Green Infrastructure Program Standard Maintenance Procedure (SMP)

SMP-14: Rainwater Harvesting Cistern Cleaning

Rainwater harvesting cisterns are structures used to capture runoff to be reused for landscape water or greywater uses inside buildings, such as toilet flushing. Cistern manufacturer maintenance requirements should be followed in addition to these procedures. In general, above ground cisterns should be emptied and taken offline from November-March to prevent potential damage due to ice/freezing.

Type of Maintenance: Preventative

Tools and Supplies

- Vacuum/Vactor truck/shop vac
- Safety cones, trash bags, gloves
- Screwdriver, wrench or similar tool for accessing cistern components (per manufacturer's instructions)

Frequency: Annually – 1x per year (Fall, to winterize)

Labor Requirements: 2 people for approximately 30 minutes per structure, varies by structure type and configuration.

Maintenance Procedure:

- 1.0 *Safety set-up:* Set up safety perimeter.
- 2.0 *Inspect:* Visually inspect cistern tank and adjacent area for any immediate damage or potential problems, including any upstream pollution sources or locations of existing or potential vegetation debris. Inspect cistern tank for signs of accumulated sediment, leaf litter, and/or debris. Look for signs of settlement and/or washout around structures and attached pipes. If possible, take photographs to document site conditions.
- 3.0 *Prepare site for servicing:* Ensure that cistern has been safely dewatered and taken offline for the winter. Remove any debris that has accumulated on top of the structure. Remove structure lid or access cover and set aside. Visually inspect interior of the cistern tank for defects.
 - 3.1 Examine interior of the cistern for any unintended or excessive debris. Remove any and all material accumulated in the cistern.
 - 3.2 Observe if the structure and or downspouts feeding it have a filter insert and follow separate guidelines in **SMP-05 Inlet Filters** for maintenance and replacement of filter insert.
- 4.0 *Cleaning:* If using a vacuum truck, clean the interior of the cistern and remove all debris or sediment contained in sump. Employees should be properly trained in use of the vactor truck and should follow all recommended guidelines for use by the vacuum truck manufacturer.
- 5.0 *Disposal:* Ensure that the removed waste/sediment is properly disposed of and securely contained as to not run back into the stormwater system. Follow guidelines for disposal of waste/sediment on the local, state, and federal levels.
- 6.0 *Record:* Make a note of any recorded observations.
- 7.0 *Replace:* Replace the cistern cover and confirm it is tightly secured.

8.0 *Safety completion:* Remove safety perimeter.