Maintenance of StormChamber® Systems

StormChambers provide great flexibility in facilitating maintenance tasks through different arrangements of StormChamber system components. These can be used individually, or in combination, to best accommodate local requirements, hydrologic parameters, and engineering design constraints. Each is discussed individually below:

1) Pre-treatment devices.

Under normal circumstances, a pre-treatment device is not necessary. However, under certain conditions, or local requirements, pre-treatment devices can be useful. Filtering, swirl concentrators, or other types of pre-treatment devices can be installed up-stream of the StormChamber system for removal of sediment, floatables, oil and grease, etc. Their use is particularly helpful for stormwater "hot spot" areas, such as automobile repair shops, where abnormally high concentrations of pollutants such as oil and grease can be expected.

2) Vacuum truck tube through 10 inch clean-out riser.

The StormChambers are designed with a defined top portal area at the "down-flow" end of the chamber that can be cut out to accept up to a 10 inch diameter riser pipe (see drawings in this section). The 10 inch riser can be used as an observation well and for access of a vacuum truck tube that can be used to remove sediment. The "down-flow" ends of the StormChambers have end walls that are closed on the bottom (see enclosed drawings). The closed bottom functions similar to a coffer dam, with most of the sediment depositing prior to flowing into the next chamber, facilitating its removal through the riser pipe, which is positioned directly above this area. It is recommended, at a minimum, that clean-out risers be placed at the last chamber of each row of StormChambers which receive the flow from the stormwater inlet(s).

3) Sacrificial StormChamber row (in accommodation of the commonly utilized management practice of benign neglect).

An additional row of StormChamber can be added for accumulation of sediment with minimal effect on the stormwater storage requirements of the system. This would be utilized as the "first row" of chambers – the row that accepts the stormwater flow from the inlet structures. Because the flow from the first row of chambers will have to make 90 degree turns through connecting pipes into the adjacent row, velocity of flow will decrease and most of the transported sediment load deposits within the first row of StormChambers.

4) Grated inlet structures.

The use of fully grated inlet structures will keep the vast majority of debris out of the StormChamber system. (It is suggested that these be placed near the entrance to the establishment being constructed as an incentive for owner maintenance).

5) Inlet structures with sumps.

The use of inlet structures with a 2-4 foot sump is recommended. This will allow for additional capture of sediment that can easily be removed with a vacuum truck or other device before it gets into the StormChamber system. A sumped inlet structure placed at both ends of the first row of StormChambers can also be used to facilitate sediment removal within the StormChamber system. Under this alternative, one or more additional chamber(s) is added to the beginning and end of the first row, the end of each being inserted directly into the sumped inlet structures. This provides for physical access into the first row for maintenance (see "Example Configurations" section).

6) Protected stormwater inlets during construction.

It is highly recommended that, under any of the above alternatives, the StormChamber system not be opened to receive stormwater flows until construction of the site has been completed. Even then, all stormwater inlets must be protected from sediment loading until the site is completely stabilized. Complete stabilization implies that the construction site has been cleared of construction-related debris and has incurred at least two storm events sufficient to wash most soil and other particulate matter off impervious surfaces.

Inspection and Maintenance Schedule

Inspect through the risers quarterly and after each large storm event. It is recommended that a log book be maintained showing the depth of water in the StormChamber at each observation in order to determine the rate at which the StormChamber system dewaters after runoff producing storm events. Once the performance characteristics of the StormChamber have been verified, the monitoring schedule can be reduced to an annual basis, unless the performance data suggests that a more frequent schedule is required. Sediment should be removed when deposits approach within six inches of the invert heights of connecting pipes between StormChamber rows, or in sumped inlet structures.

Contact HydroLogic Solutions for technical assistance at 1.877.426.9128

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