



CONTECH[®]
ENGINEERED SOLUTIONS

Terre Arch[™] Inspection and Maintenance Guide



Safety

Before entering into any storm sewer or underground retention/detention system, check to make sure all OSHA and local safety regulations and guidelines are observed during the maintenance process. Hard hats, safety glasses, steel-toed boots and any other appropriate personal protective equipment shall be worn at all times.

Inspection Frequency

Inspections are recommended at a minimum annually. The first year of operation may require more frequent inspections. Frequency of inspections will vary significantly on the local site conditions. An individual inspection schedule should be established for each site.

Inspections

Inspection is the key to effective maintenance, and is easily performed. Inspections may need to be performed more often in the winter months in climates where sanding operations may lead to rapid sediment accumulations, or in equipment washdown areas. It is very useful to keep a record of each inspection. A sample inspection log is included for your use.

The entire treatment train should be inspected and maintained. The treatment train may consist of an upstream sump manhole, or pre-treatment HDS device. Inspections should start at the upstream device and continue downstream to the discharge orifice if incorporated into the arch system.

Pre-Treatment Device Inspection

Inspection and maintenance procedures provided by the manufacturer should be followed for pre-treatment systems such as a CDS[®], Vortechs[®], VortSentry[®] or VortSentry[®] HS. Expected pollutants will be floatable trash, sediment, oil and grease. Pre-treatment devices are recommended for all detention/retention devices regardless of type.

Distribution Manifold Inspection

The distribution manifold spreads the incoming flows into the various rows of arches. The majority of sediment will be captured in the distribution manifold, due to the lower velocities induced which allows the particles to settle out.



A distribution manifold is typically located at one end of every row of arches. Inspection can be done through manhole access and visually inspecting the distribution manifold. When the depth of sediment accumulates over 4 inches (102 mm), cleanout is recommended.

Visual Inspection

Maintenance or further investigation may be required if any of the following conditions exist:

- Evidence of an unusual amount of silt and soil build-up on the surface
- Clogged outlet drainpipe
- System does not drain to the elevation of the lowest pipe in dry conditions
- Evidence of potholes or sinkholes

Maintenance

Underground stormwater retention/detention systems should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities rather than the size or configuration of the system. If accumulated silt is interfering with the operation of the detention system (i.e.: blocking outlet pipes or deposits significantly reduce the storage capacity of the system) it should be removed.

It is easiest to maintain a system when there is no flow entering. For this reason, cleanout should be scheduled during dry weather.

It is important to block the outlet pipe from the system prior to maintenance to limit the potential for pollutants to be flushed downstream.

A vacuum truck or other similar devices can be used to remove sediment from the treatment train and distribution manifold. Starting upstream, maintain manholes with sumps and any pre-treatment devices (following manufacturer recommended procedures). Once maintenance is complete, replace all caps, lids and covers. It is important to document maintenance events on the Inspection and Maintenance Log.

Terre Arch Row Maintenance

If maintenance to the arch rows is required, a JetVac truck utilizing a high pressure nozzle (sledge dredging tool) with rear facing jets will be required. Insert the nozzle from the distribution manifold into the arch row through the opening. Turn the water feed hose on and feed the supply hose until the nozzle has reached the end of the arch row. Withdraw the nozzle slowly.

The tool will backflush the arch row forcing debris into the distribution manifold. Use the stringer vacuum hose to remove the sediments and debris from the distribution manifold. Multiple passes may be required to fully cleanout the arch row. Use caution to minimize movement of stone bedding at the arch invert while performing this task; relevel stone as needed. Vacuum out the distribution manifold and remove all debris that may be clogging the outlet pipe.



Inspection & Maintenance Log Sample Template

Terre Arch			Location	
Date	Depth of Sediment	Accumulated Trash	Name of Inspector	Maintenance Performed/Notes



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