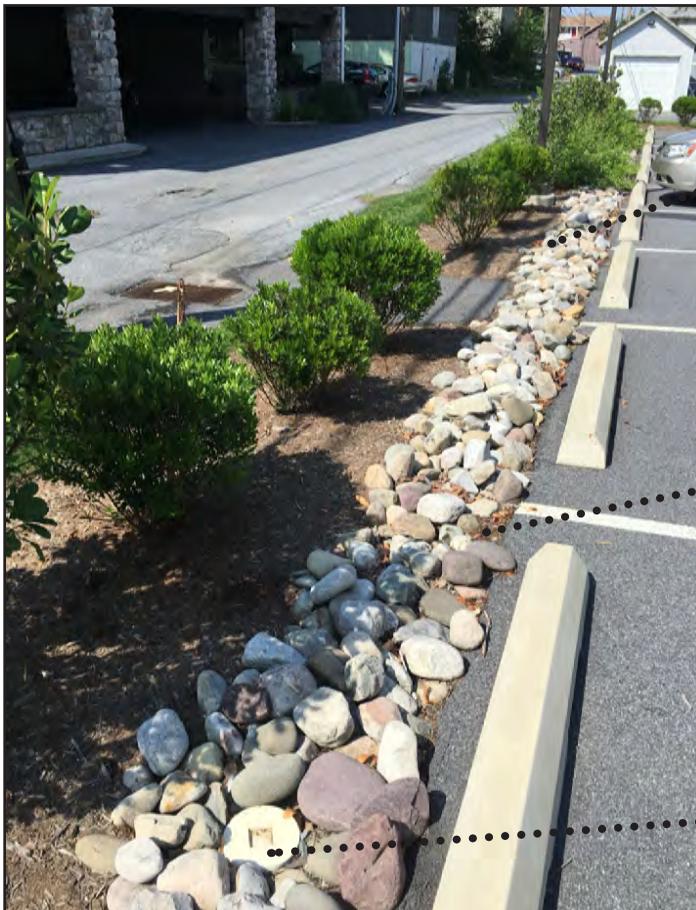


Stone Filter Trench

A stone filter trench is similar to an infiltration trench, but the underground perforated pipe in the trench is connected to storm sewer pipes instead of allowing stormwater runoff to purely infiltrate into the ground. As the name implies, the purpose of a filter trench is to collect stormwater runoff and filter out pollutants prior to discharge into the storm sewer system.



DECO STONE

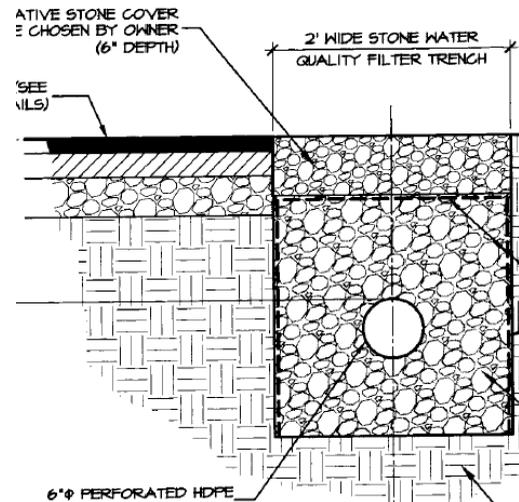
UNDERGROUND
PIPING

CLEANOUT



Deco Stone

- Stone bed on top of trench helps filter large particles and debris, while providing an aesthetically-pleasing landscape
- There is no absolute one type of rock that needs to be used for the stone bed. In turn, your filter trench can have a different type of rock, stone, or similar material.



Detail courtesy of ELA Group

Underground Piping

- Stormwater is filtered through the stone layers and collected by the underground perforated pipe connected to the storm sewer system.
- The underground pipe can be checked/inspected via the cleanout access points.



Cleanout

- Connection and access point to the underground piping in the trench.
- Point at which debris can be cleaned from underground piping and/or observe that water is draining from the trench area to the storm sewer piping.

Stone Filter Trench Maintenance

What to Look For

Invasive plants/weeds

Clogged piping

**Debris
(leaves, trash, etc.)**

Standing water

Important Fact Regarding Filter Trenches

With proper maintenance, the life span of a filter trench should be around 30-35 years. Based on influences from the surrounding area, the life span could be shorter or longer than the average. At the end of the life cycle, you may need to consider re-building the trench or installing a different BMP.

Signs of invasive weeds, accumulation of debris, and standing water should be checked at least monthly. Inspecting underground piping via the cleanouts can be performed annually.

Review your O&M Plan for alternate frequencies that may have been approved in the Site Stormwater Management Plan.

Typical Maintenance Indicators	Typical Maintenance Actions
Overgrown vegetation and invasive weeds/plants	Remove invasive plants and/or vegetation. Selective herbicides can be used if in accordance with local, state, and federal laws. Stone filter trenches should not have any vegetation growing in the stone areas. Presence of vegetation is also a sign that a significant amount of sediment has most likely accumulated in the deco stone and may be clogging the facility.
Signs of dumping (grease, piles of grass clippings, discolored grass, etc.)	Contact your local municipality to report a potential illicit discharge/illegal dumping.
Clogged piping	Pull debris from pipe via the cleanouts. If standing water is encountered in the pipes, there may be a clog at the connection from the perforated piping to the storm sewer system. Contact your local municipality regarding next steps to unclog a connection, which may entail a forced flushing if approved.
Accumulation of sediment, litter, or debris	Remove and properly dispose of accumulated materials such as trash, dirt, and landscape debris (leaves, etc.). Frequent accumulation and/or infrequent maintenance will require periodic replacement of the decorative stone and top of filter fabric (every 3-4 years).
Standing water (BMP not draining or runoff flows over the BMP and does not infiltrate) <i>If mosquito larvae are present and persistent, contact the PADEP. Mosquito larvicides should be applied only when absolutely necessary and then only by a licensed individual or contractor.</i>	Underground piping or stone is most likely clogged with debris, sediment, or other materials, or the rock under the deco stone has been compacted. Check and clean clogged piping or deco stone areas. If the rock has been compacted, the trench will need to be re-built.



Common Stone Filter Trench Issue That Should Be Addressed:

Accumulation of Debris and Sediment

- The deco stone in a filter trench is intended to capture debris, sediment/dirt, and other landscape waste to filter out the stormwater runoff. This built-up debris and waste (leaves, sediment, etc.) should be cleaned out periodically (annually at a minimum).
- Clogging of the voids/open spaces between the stones may result in stormwater ponding or flowing over the trench and causing flooding problems.
- Excessive debris may require removing the stones, cleaning out the debris and sediment, and re-setting the stones. If this is needed, the top layer of filter fabric should also be replaced (be careful not to compact the layer of rock under the filter fabric).