

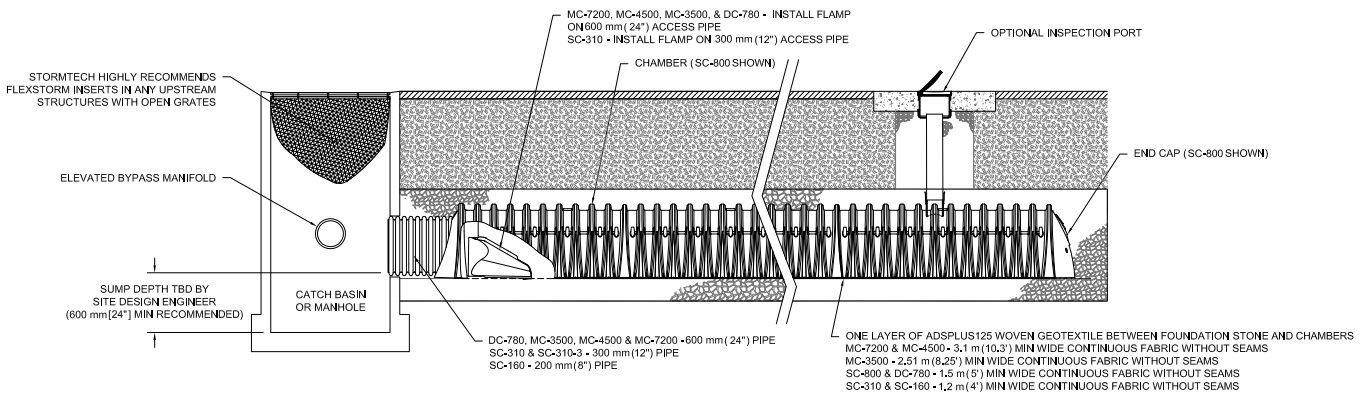
Green Infrastructure



StormTech and Stormwater Quality

StormTech's Isolator® Row is a row of chambers that has a continuous layer of ADS Plus fabric between the foundation stone and the chambers and is connected to a closely located manhole for easy access. The chambers provide for sediment settling and filtration as storm water rises in the Isolator Row Plus and passes through the filter fabric. The open bottom chambers allow storm water to flow out of the chambers. Sediments are captured in the Isolator Row Plus protecting the adjacent stone and chambers storage areas from sediment accumulation.

ISOLATOR ROW PLUS



Isolator Row Plus Field Verification Testing at the University of New Hampshire Stormwater Center

- Lab and field (TARP tier II protocol) tested.
- Removal efficiencies for TSS have improved as the filter cake has built up on the bottom fabric of the Isolator Row Plus.
- Removal efficiency of 80% for TSS which meets most municipal recommended levels for water quality treatment
- NJCAT Verified

Removal Efficiency Results:

- Total Suspended Solids = 80%
- Phosphorous = 49%
- Total Petroleum Hydrocarbons = 90%
- Zinc = 53%

This system achieves a removal efficiency of 80% for TSS which meets most municipal recommended levels for water quality treatment.

Inspection and Maintenance

- The Isolator Row Plus can be inspected through the upstream manhole or optional inspection port.
- Maintenance is easily accomplished with the JetVac process.
- The frequency of inspection and maintenance varies by location. Contact StormTech for assistance with inspection and maintenance scheduling.



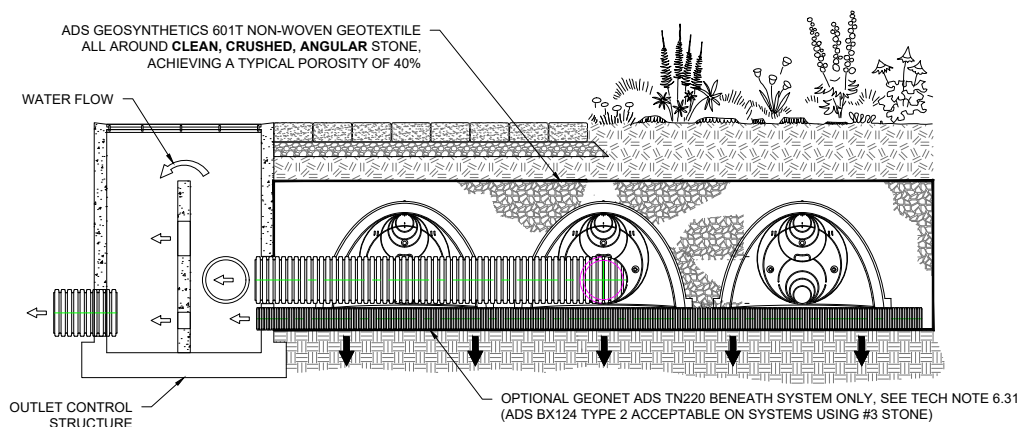
StormTech and Recycled Materials

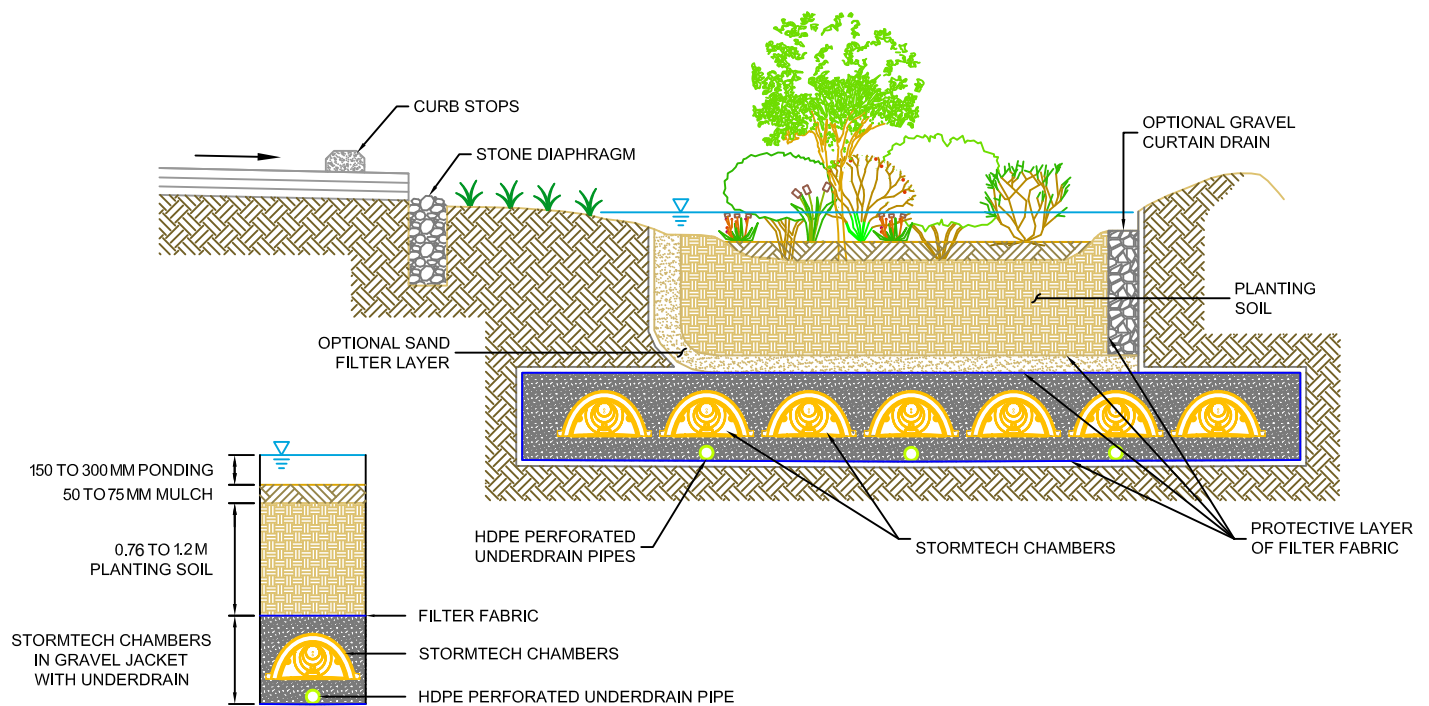
Recycled Concrete Structural Backfill

- Thermoplastic structures utilize aggregate for conveyance, strength and volume.
- Recycled, crushed concrete can be an excellent structural backfill.
- Care must be taken to ensure that the material is structurally competent before being used as a structural backfill for StormTech chambers.
- ADS Technical Note 6.20: Recycled Concrete Structural Backfill provides guidance for the acceptability of recycled crushed concrete and limestone when used as the structural foundation (bedding) and embedment materials for StormTech chambers.

StormTech and Downspout Applications

The StormTech chamber system can connect with roof downspouts for commercial and residential applications.





StormTech and Bioretention/Rain Gardens

What is a Rain Garden?

A shallow depression planted with suitable vegetation which is used to store and possibly treat stormwater runoff from impervious areas.

Benefits of Using Rain Gardens

- Bioretention
- Pollutant Removal – TSS, Phosphorous, Metals, Nitrogen, Hydrocarbons
- Groundwater recharge
- No standing water (proper design will allow water to infiltrate in a specified amount of time)
- Preserve pre-development hydrologic cycle
- Efficient land use & Aesthetics

Maintenance

- Plant watering initially until plants are established, weeding
- Removal of dead plant material and replacement of mulch as needed
- Regular inspection and cleaning of any overflow structures

Benefits of Rain Gardens and StormTech

- Increased storage capacity due to 100% chamber storage
 - Enables the use of rain gardens in areas with low soil permeability
- StormTech system can act as an emergency overflow to the rain garden

General Design Considerations

Always refer to local design specifications for rain garden design guidelines

Hydraulics:

- Soil infiltration rate
- Design flow rate (potential for erosion)
- Maximum ponding depth in rain garden
- Optional overflow bypass
- Proximity to buildings
- Depth to ground water

Planting:

- Native plants are best – see local specifications for plant recommendations
- Root systems may govern the depth of soil

Construction:

- Presoak soil for natural compaction after installation
- Limit compaction of soil during installation



StormTech and Pervious Pavements

What is a Pervious Pavement?

Paving methods for roads, parking lots and walkways that allow the movement of water and air through the paving material.



Pervious Pavement

Environmental:

- May assist in groundwater recharge
- Flood mitigation
- Reduce runoff temperature

Safety:

- Pervious pavement limits surface water
- No black ice
- Reduces hydroplaning

Economic:

- Higher initial cost
- Efficient land use
- In colder climates, the use of pervious pavement may save money on deicing salts

Maintenance

- Routine vacuum sweeping and/or jet hosing is required to prevent clogging which can reduce the infiltration rate of the pervious pavement.
- Installation of pervious pavement must be staged so no erosion or sediment debris enters pavement.

StormTech with Pervious Pavement

- StormTech Chamber provides 100% void, increasing storage volume
- Bare chamber volume allows increased storage. Relying only on stone does not provide long-term factor of safety.
- Enables the use of pervious pavement in areas with low soil permeability.
- Reduced footprint
- Allows pretreatment in conjunction with Isolator Row Plus

General Design Considerations

Always refer to local design specifications for pervious pavement design guidelines.

Hydraulics:

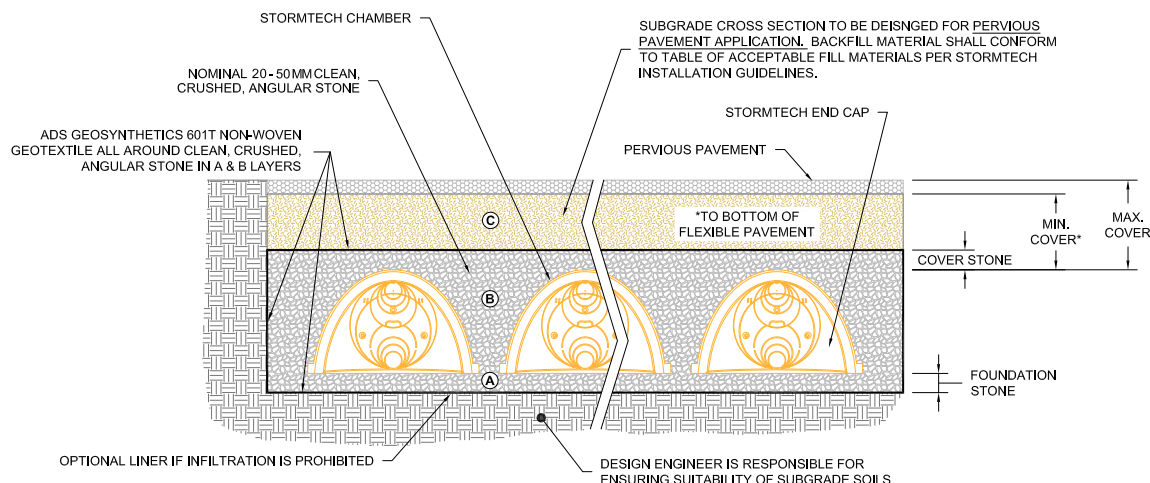
- Underlying soil properties
- Pervious pavement infiltration rate/max. slope for design
- Separation from seasonal high groundwater table
- Proximity to buildings

Construction:

- Contractor must be knowledgeable of pervious pavement installation
- Tight control must exist on batch quantities
- Pervious pavement can be installation sensitive
- Erosion and sediment control crucial

Environmental:

- Measures for frost protection should be taken
- Pervious pavement is not recommended for sites containing potentially hazardous runoff (gas stations, industrial sites, etc.). No pre-treatment mechanism!



NOTES:

1. FOR MINIMUM FILL REQUIREMENTS FOR LAYERS 'A', 'B' AND 'C', REFER TO STORMTECH DESIGN MANUAL
2. OVER DRAINS CAN BE UTILIZED TO PIPE WATER TO CHAMBERS - CALL STORMTECH FOR DETAILS

Save Valuable Land and Protect Water Resources



StormTech + Green Infrastructure Benefits

When used together, StormTech chambers and green infrastructure offer the most cost-effective method to save valuable land and protect water resources. Together they allow for a design that both treats a required water quality volume, while also providing attenuation for peak flow volumes.

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