

Biological Storm Water Treatment

1. Building

- Roof water collection with cisterns
 - Grey water use to flush toilets (after made legal in Idaho)
 - Grey water use for plantings
- Green roofs
 - Slows runoff and naturally insulates buildings from extreme temperatures
- Folkewalls
 - Water filters through planted, hollow concrete, being cleansed by plant roots, allowing retention walls to be planted and more useful than traditional walls
 1. Provides vertical plant space
 2. Water can be collected at the bottom for non-potable use

2. Landscape

- Permeable surfaces where possible
 - Snow removable conflict – plows tearing up pavers
 - Heavy equipment conflict – high tech building 18-wheeler shipments
- Swales
 - Capture storm water run-off from roads and parking lots
 - Plantings in parking lots where water is allowed to drain
- Bio-retention pond
 - Further clean water before it gets into the water table and creek to the east
 - Permanent artificial water body
- Rain Gardens
 - Planted swales that filter pollution and sediments, cleansing runoff before it reaches natural water bodies
 - Curb cuts allow runoff to be directed where needed
 - Planted parking lot islands provide extra swale space while providing space for trees which in turn reduce heat island effect and provide shade for parking
- Constructed Wetlands
 - Subsurface flow
 1. Moves effluent from homes or businesses through a planted gravel or sand bed which cleanses the water
 2. Requires less land for water treatment
 - Surface-flow Wetlands
 1. Moves water through a swamp or marsh above ground, allowing for a wider variety of soils to be used
 2. Ecological conflict -- can become nesting grounds for mosquitoes