



NEWSC Filtration Workshop

Non-Proprietary Devices Panel Discussion

Filter Strip

- Pollutant reduction based on:
 - effective flow length
 - slope (max 8%)
 - soil permeability
 - type, density, and height of vegetation
- Runoff volume reduction based on:
 - runoff rate
 - wetted area
 - dynamic infiltration rate



Vegetated Swale

- Effectiveness based on:
 - swale length
 - tributary drainage area
 - soil permeability
 - type, density, and height of vegetation
- Permanent ditch checks where grade $> 4\%$
- Infiltration requires bottom above seasonally high ground water level



Bioretention (biofiltration)

- Effectiveness based on:
 - ponding area
 - engineered soil depth
 - soil permeability
- Filtration only with low permeable soils or liner
- Infiltration requires bottom above seasonally high ground water level
- Native plants recommended
- Maintenance includes vegetation management and sediment removal



Permeable Pavement

- Underdrain may be necessary for maximum 72 hour drain down
- Design for infiltration dependent on soil type and infiltration rate and requires pretreatment by
 - surface voids less than 25%
 - minimum 5 inches of coarse aggregate for pavers
 - minimum of 12 inches of aggregate storage layer
- Maintenance includes twice annual regenerative air or vacuum sweeping



Infiltration Trench

- Requires pretreatment:
 - 60% TSS reduction for residential
 - 80% TSS reduction for commercial, industrial & institutional use
- Design dependent on soil type and infiltration rate
- Maintenance includes periodic water level observation



Infiltration Basin

- Requires pretreatment:
 - 60% TSS reduction for residential development
 - 80% TSS reduction for commercial, industrial & institutional development
- Practices should avoid infiltration of high chloride runoff



Infiltration Basin

- Design dependent on soil type and infiltration rate
- Native vegetation encouraged
- Maintenance includes vegetation management and chisel plowing



Rain Garden

- Best suited to residential areas, primarily roof runoff
- Maximum tributary area: 5,000 square feet total
3,000 square feet impervious
- Setback from buildings, wells, and septic systems
- Minimum 1-foot separation from high ground water level or bedrock
- Maximum ponding depth 8 inches

Spaight Street

