NEWSC Filtration Workshop

Panel Discussion-Department Review Approach

Intake

- Screen for Wetlands, Waterways, Threatened/Endangered Species, Archeological/Historic
- Review for Key Submittals
  - Wetland Delineation if needed
  - Soil Loss & Sediment Discharge Documents

Review Levels

- Low risk of impacts-issue on intake
- Moderate risk of impacts-10 minute 'red flag' review
- High risk of impacts-Detailed Review

"We can review anything, we don't review everything"

Fact Gathering

- Disturbed Area
- Type of Development-New, Infill, Redevelopment
- Percent Impervious
- Ch. 30 permits needed
- Slopes
- Proximity to resources
- Involved parties

Soils Evaluation

- Skip if redevelopment and not using infiltration

- Review <u>on-site</u> soils data

- Does it meet the clay soils exemption?

- Where are soil layers in relation to propose grade?

- Seasonally high ground water & bedrock

Infiltration

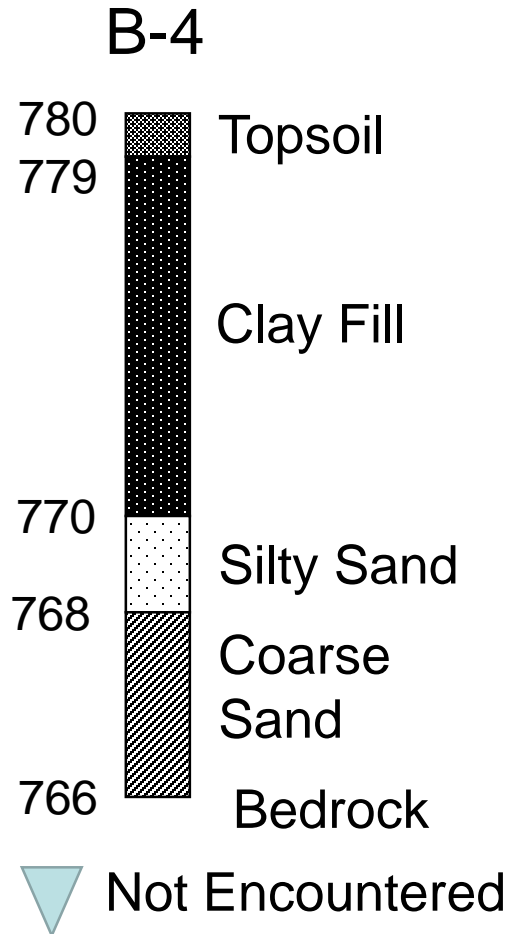**BUREAU OF WATERSHED MANAGEMANT PROGRAM GUIDANCE**

Storm Water Management Program

Meeting Infiltration Performance Standard of ch. NR 151, Wis. Adm. Code
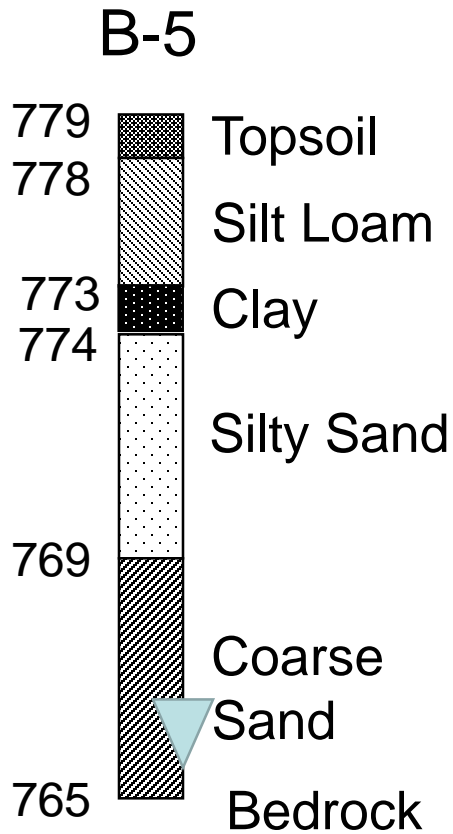
Effective March, 2014
Guidance #: 3800-2013-05

Purpose:

- Guide Department staff
- Encourage infiltration to Maximum Extent Practicable

Soils Data-Filled Areas

B-4

780 — Topsoil
779

Clay Fill

770

Silty Sand

768

Coarse Sand

766 — Bedrock

▽ Not Encountered

Filling and Compaction activities performed after October 1, 2004 will NOT justify an exemption from the infiltration requirements.

Soils Data-Thin Layers

B-5

779 — Topsoil

778 — Silt Loam

773 — Clay

774 — Silty Sand

769 — Coarse Sand

765 — Bedrock

Excavation of unsuitable soils is appropriate to access suitable soils within 5 feet below ground level.

Infiltration Performance Std

- Percent impervious
- Pre-development stay-on
- Post-development stay-on
- Percent of disturbed area serving as effective infiltration area
  - Bottom of biofilters/permeable pavement
  - Wetted perimeter of swales

Peak Flow

- Only review if applicable
- Areas consistent
- Appropriate Curve Numbers
- Reasonable Time of Concentration
- Offsite drainage area
- Post < Pre for 1 & 2 year storms

TSS Control

- Same area as peak flow evaluation
- Land use-appropriate level of disconnection
- Layout-prefer single WinSLAMM run
- Inputs match plans
- Untreated area addressed

BMP Modeling/Design

- Rainfall file, other input files
- Outlet matches plans
- Appropriate infiltration rate
- Engineered soil and rock depths
- Area draining to BMPs
- Pretreatment
- Vegetation-is there a plan?
- Ponding depth

Biofilter

Large Infiltration Basin

Erosion Control

Specific to infiltration/filtration:
- Notes on sequence
- Protection from compaction

Technical Standards

Post-construction standards	Number	Effective date
Bioretention for infiltration [PDF]	1004	Oct-14
Compost [PDF]	S100	Oct-17
Infiltration basin [PDF] Fig. 1 [PDF], Fig. 2 [PDF], Fig. 3 [PDF], Fig. 4 [PDF]	1003	Oct-04
Infiltration trench [PDF]	1007	May-12
Permeable pavement [PDF] Tech note [PDF]	1008	Feb-16
Proprietary storm water sedimentation devices [PDF]	1006	Apr-09
Rain Garden [PDF]	1000	Sep-18
Site evaluation for stormwater infiltration [PDF]	1002	Sep-17
Vegetated swale [PDF]	1005	Dec-17
Wet detention pond Part 1 [PDF], Part 2 [PDF]	1001	Oct-07

Errata and notes
- Process to assess and model grass swales (TSS reduction) (Nov-10) [PDF]
- Internally Drained Area Guidance (Apr-09) [PDF]

Business   Licenses & Regulations   Recreation   Env. Prote

Guidance

Additional information

- Water quality review procedures for additives [PDF]
- Allowable usage rates for water applied additives [PDF]
- Modeling post-construction storm water management treatment [PDF]
- Meeting infiltration performance standard of ch. NR 151 [PDF]
- Storm water construction technical standards
- Rain gardens
- Storm water basins using natural landscaping for water quality and aesthetics [PDF exit DNR]
- Turf nutrient management
- Storm water detention ponds site safety design [PDF exit DNR]
- Storm water best management practices fact sheets
- Establishment of protective areas in wetlands [PDF]
- Agricultural technical standards
- Runoff management models/guidance

Last revised: Tuesday September 11 2018

Maintenance Plan

- Who is responsible?
- What is expected?
  - Inspection frequency
  - Maintenance triggers
  - Description of expected actions
- Remedy if owner does not maintain?

Questions?