

3.7.1 Hydraulic Methodologies (Open and closed conveyance analysis):

- Where step-backwater hydraulic computations are required for open stream channels including bridges and culvert roadway crossings, the US Army Corps of Engineers HEC-2 or HEC-RAS models are preferred and recommended for most applications. Where significant closed conduits represent the stormwater conveyance system, EPA's SWMM model is recommended, if a detailed hydraulic analysis is required for development of the SWM Plan.
- For simple hydraulic analyses, where applicable, the Manning's Equation and other hydraulic relationships (e.g., Hydraulic and Energy Grade Line calculations) may be applied where appropriate assumptions for use are satisfied and the results will be conservative.
- Other hydraulic analysis methods may be allowed if the designer demonstrates that the alternatives are appropriate for the intended purpose.

4 SECTION 4: SELECTING THE RIGHT BMP

4.4 Comparison of BMP Treatment Capabilities

Table 4-1 of the State BMP Manual presents the TSS, N, and P removal efficiencies of the various BMPs discussed in the State BMP Manual and in the City's supplement. Fecal coliform reduction is currently regulated as a narrative requirement and as part of the NPDES Phase II permit. After Phase II requirements are adopted by City Ordinance any proposed high density development within North and South Buffalo Creek Watersheds must be designed to drain to a high efficiency device for Fecal Removal Ability to the maximum extent practical.

Table 4-3 Sand filter construction cost is variable depending upon the type; ranges from low to high.