San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

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Re: SFPUC Stormwater Design Guidelines Supplement: Accepted Hydrologic Calculation Methods

Combined Sewer Areas (CSS Areas):

Quantity Control Calculations for LEED 6.1 shall demonstrate how the system is sized to meet peak discharge rate and quantity[1] requirements for the required design storm[2].

1. **Preferred:**
   - SF Stormwater Design Guidelines, Appendix B: CSS BMP Sizing Calculator.
     - Allowed for project sites < 2 acres (one drainage area discharge); or
     - project sites < 5 acres (w/ multiple drainage area discharges < 2 acres).
   - Single-event hydrologic modeling software[3] or continuous simulation modeling software (e.g. EPA SWMM, or equal).

2. **Acceptable (for drainage areas with simple BMP systems or estimating systems with BMPs in series or network):**
   - The Rational Method to predict the peak flow rate, and the Simple Method to estimate volume. (Only allowed for project sites < 1/2 acres)
   - An industry-standard engineering method for generating runoff hydrographs (e.g., the SCS Unit Hydrograph Procedure or the Santa Barbara Urban Hydrograph Method).
     - Only allowed for project sites < 2 acres

Separate Sewer Areas (MS4 Areas):

Water Quality Calculations for LEED 6.2 shall demonstrate how the system is sized to capture and/or treat 90% annual rainfall volume. San Francisco qualifies as a Semi-arid Watershed and therefore 0.75 inches of rainfall shall be used.

1. **Preferred:**
   - SF Stormwater Design Guidelines Appendix B: MS4 BMP Sizing Calculators.
   - Continuous simulation modeling software (e.g. EPA SWMM, or equal).

2. **Acceptable (for drainage areas with a simple BMP systems or estimating systems with BMPs in series or network):**
   - The industry-standard Rational Method may be used for flow based sizing, and the Simple Method may be used to estimate treatment volumes.
     - Only allowed for project sites < 2 acres

[1] The UWMP interprets the quantity requirements of this credit as permanent stormwater volume reduction, NOT temporary stormwater volume reduction, i.e. detention. For more information, contact UWMP staff.
[2] San Francisco 1-yr and 2-yr 24-hr design storm data is available online. http://sfwater.org/sdg
[3] The SFPUC does not endorse any particular proprietary software. Acceptable software include, but not limited to: Pondpack, HydroCAD, Civil 3D, or equivalent.