

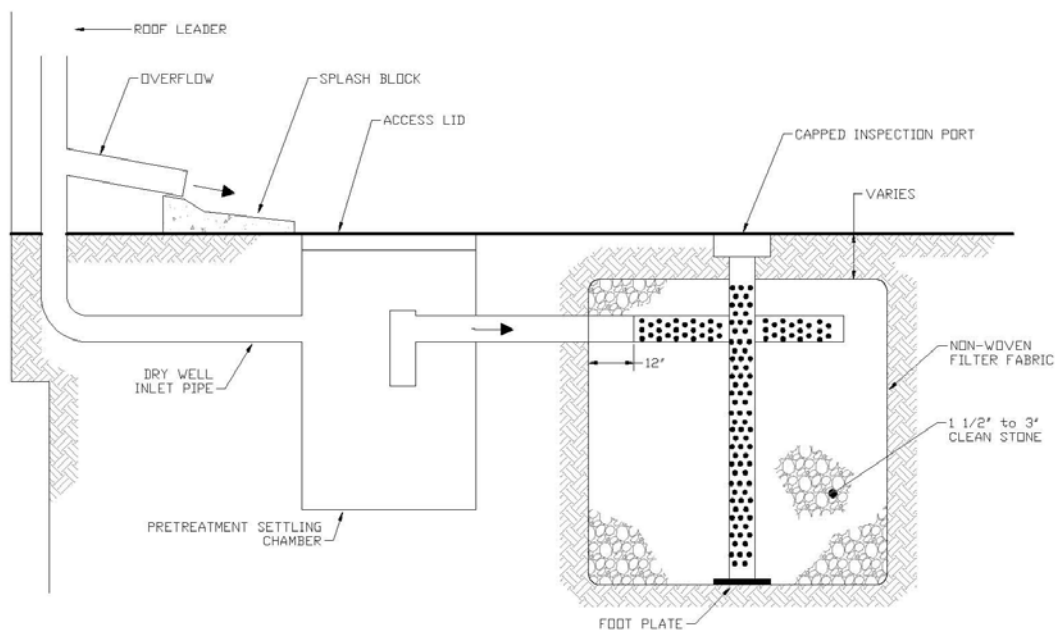
G. Appendix G – Infiltration Devices

APPENDIX G – INFILTRATION MANAGEMENT DEVICES

Treatment Suitability: Infiltration practices alone typically cannot meet detention and channel protection requirements, except on sites where the soil infiltration rate is greater than 5.0 in/hr. However, extended detention storage may be provided above an infiltration basin. Extraordinary care should be taken to assure that long-term infiltration rates are achieved through the use of post construction inspection and long-term maintenance.

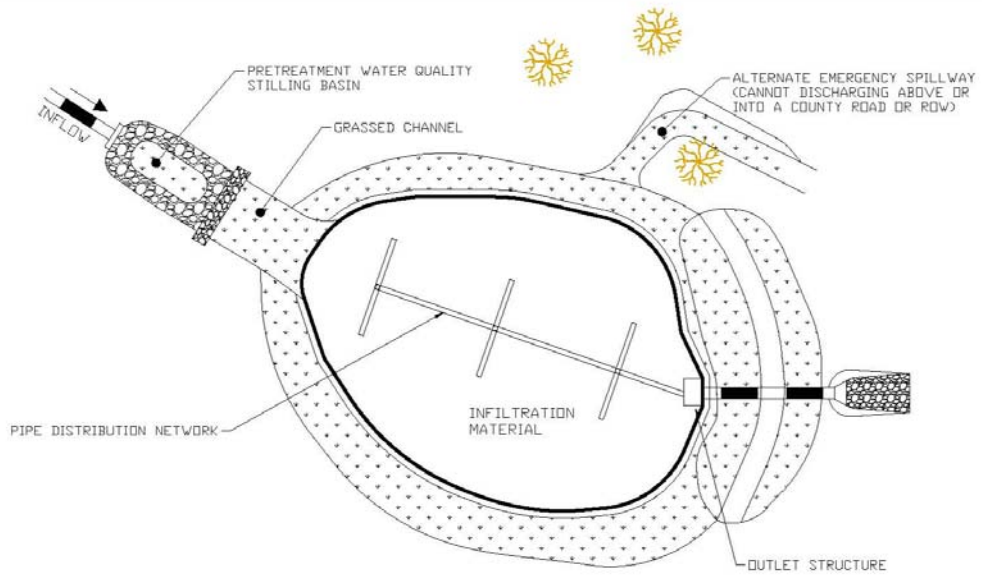
Considerations: Although there are numerous design considerations which must be evaluated by the engineer, below are some of the most commonly neglected.

- To be suitable for infiltration, underlying soils shall have an infiltration rate of at least 0.5 inches per hour. The minimum geotechnical testing is one test hole per 5000 sf, with a minimum of two borings per facility (taken within the proposed limits of the facility).
- Infiltration practices cannot be located on areas with natural slopes greater than 15%.
- Infiltration practices cannot be located in fill soils, except the top quarter of an infiltration trench or dry well.
- The bottom of the infiltration facility shall be separated by at least three feet vertically from the seasonally high water table or bedrock layer, as documented by on-site soil testing.
- Infiltration facilities shall be located at least 100 Feet horizontally from any water supply well.
- Infiltration practices cannot be placed in locations that cause water problems to downgradient properties. Infiltration trenches and basins shall be setback 25 feet downgradient from structures and septic systems. Dry wells shall be separated a minimum of 10 feet from structures.
- For dry wells, all flows that exceed the capacity of the dry well should be passed through the surcharge pipe.
- Stormwater Pretreatment Must be included prior to discharge into the infiltration device.
- An observation well shall be installed in every infiltration trench and dry well, consisting of an anchored six-inch diameter perforated PVC pipe with a lockable cap installed flush with the ground surface.
- Direct access shall be provided to infiltration practices for maintenance and rehabilitation. If a stone reservoir or perforated pipe is used to temporarily store runoff prior to infiltration, the practice shall not be covered by an impermeable surface.
- Because of additional challenges in cold climates, infiltration SMPs need design modifications to function properly. These modifications address the following problems: Reduced infiltration into frozen soils and Chlorides.
- Reduced Infiltration: Draining the ground beneath an infiltration system with an underdrain can increase cold weather soil infiltration, other alternatives are available and designers are encouraged to present creative design concepts.

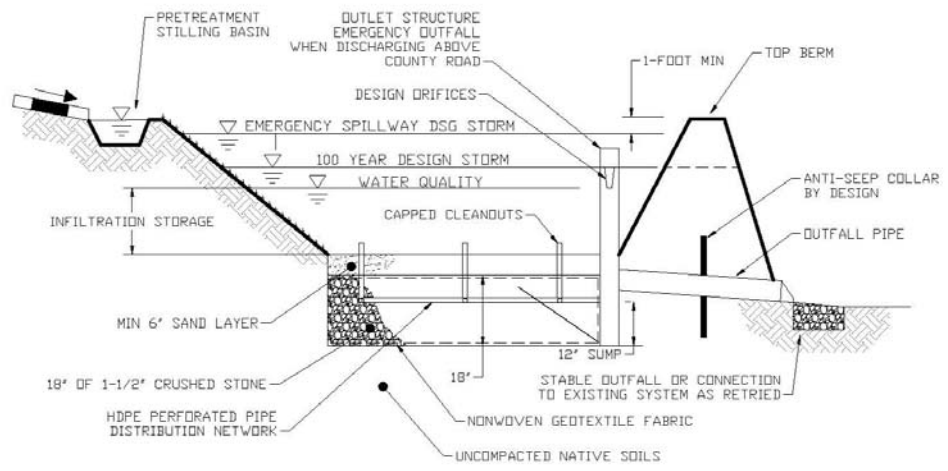


TYPICAL DRY WELL CONFIGURATION

SHEET 1 OF 3

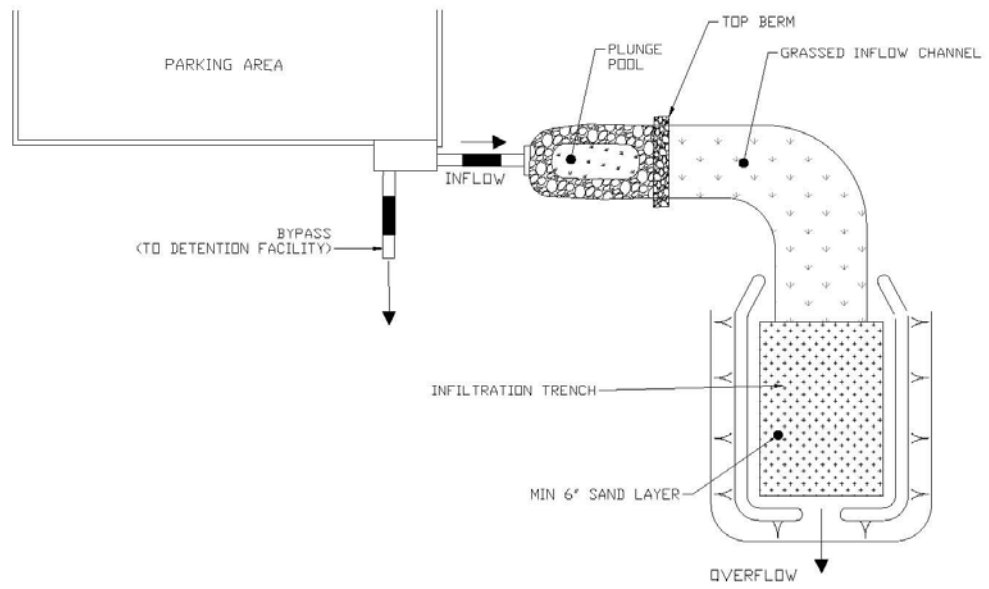


INFILTRATION BASIN - PLAN VIEW

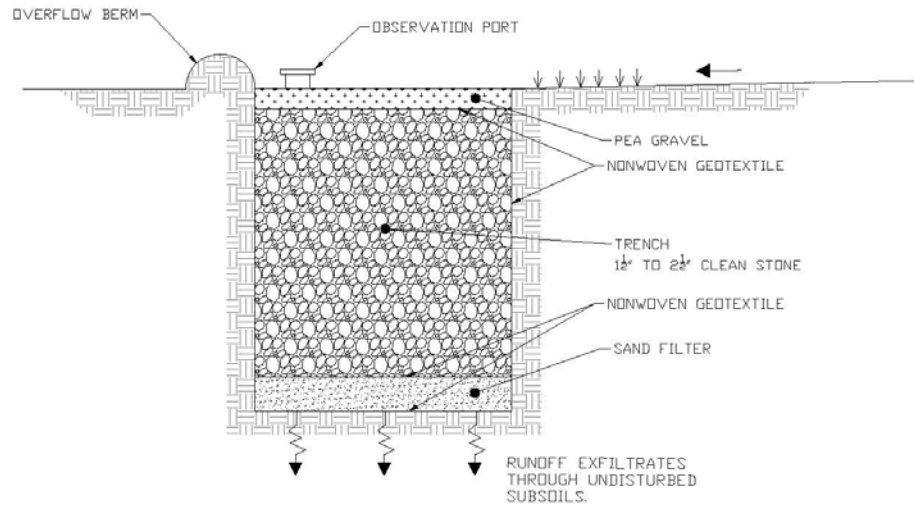


INFILTRATION BASIN - SECTION VIEW

SHEET 2 OF 3



INFILTRATION TRENCH - PLAN VIEW



INFILTRATION TRENCH - SECTION VIEW

SHEET 3 OF 3

