

Surface Water Management Plan

Appendix M2—Infiltration Best Management Practice Guidelines

Outlined below are the city of St. Louis Park’s infiltration guidelines for stormwater management. The city reserves the right to allow or deny infiltration practices-based site evaluation or professional judgement.

1. Acceptable Infiltration Best Management Practices (BMPs)

Volume reduction practices (e.g., infiltration or other) to retain the water quality volume on-site must be considered first when designing a permanent stormwater treatment system. Wet sedimentation basins and filtration systems are not considered to be volume reduction practices but may be considered if the practice is in a prohibited infiltration area.

Green infrastructure techniques and practices (including, but not limited to, infiltration, evapotranspiration, reuse or harvesting, conservation design, urban forestry, and green roofs) will be given preference as design options consistent with zoning, subdivision, and planned unit development requirements. Alternative practices must follow requirements and recommendations in the most current version of the Minnesota Stormwater Manual at the start of project design.

2. Infiltration Stormwater Design Criteria

The following must be included in the design for infiltration BMPs (see the Design Requirement Checklist for a comprehensive list):

1. Infiltration systems will meet volume control standards set by the city.
2. Filtration systems will achieve approximately 80 percent removal of total suspended solids.
3. Pretreatment practices are required for filtration and infiltration basins.
4. Appropriate on-site testing is required for development and redevelopment projects consistent with the recommendations in the most current version of the Minnesota Stormwater Manual at the start of project design. Testing shall be conducted to verify soil types and infiltration capacity characteristics and to ensure a minimum of three feet of separation from the seasonally saturated soils (or from bedrock) to the bottom of the proposed infiltration system.
5. Overflow design should be considered for events greater than the storm sewer system design event.
6. During construction of the infiltration or filtration practice, the following should be noted:

- a. Infiltration or filtration systems should not be excavated to final grade until the contributing drainage area has been constructed and fully stabilized.
- b. During construction of infiltration or filtration systems, rigorous erosion prevention and sediment controls (e.g., diversion berms) should be used to keep sediment and runoff completely away from the infiltration or filtration area.
 - i) The area must be staked off and marked so that heavy construction equipment will not compact the soil in the proposed infiltration or filtration area.
 - ii) Contributing drainage areas must be stabilized prior to completion of basins.

3. Alternative Stormwater Management Sequencing

The applicant will attempt to fully comply with the appropriate performance goals described in Appendix M2 and with the aforementioned design criteria. Where the entire water quality volume cannot be treated within the existing right-of-way, a reasonable attempt to obtain additional rights-of-way, easements, or other forms of permissions to treat the stormwater during the project planning process must be made. If additional rights-of-way, easements, or other permissions cannot be obtained, the owners of the construction activity must maximize the treatment of the water quality volume prior to discharge from the MS4 and address the Mitigation Provisions for Sites with Limitations described below.

If full compliance is not possible because of any of the factors listed below, the permittee must document the reasons in the SWPPP.

4. Prohibited Infiltration Areas

Infiltration systems are prohibited when the BMP would be constructed in any of the following areas:

1. Areas that receive discharges from vehicle fueling and maintenance areas, regardless of the amount of new and fully reconstructed impervious surface
2. Areas where high levels of contaminants in the soil or groundwater may be mobilized by infiltrating stormwater. To make this determination, the owners or operators of construction activity must complete the agency's site screening assessment checklist, which is available in the most current version of the Minnesota Stormwater Manual, or they must conduct their own assessment. This assessment must be retained with the site plans.
3. Areas where soil infiltration rates are more than 8.3 inches per hour unless soils are amended to slow the infiltration rate below 8.3 inches per hour
4. Areas with less than three feet of separation from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock
5. Predominately Hydrologic Soil Group D (clay) soils

6. Within a drinking water supply management area (DWSMA). Construction is prohibited if the system will be located in any of the following areas:
 - a. In an Emergency Response Area (ERA) within a DWSMA as defined in Minn. R.4720.5100, Subp. 13, classified as having high or very high vulnerability as defined by the Minnesota Department of Health
 - b. In an ERA within a DWSMA classified as moderate vulnerability unless a regulated MS4 permittee performed or approved a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater
 - c. Outside of an ERA within a DWSMA classified as having high or very high vulnerability, unless a regulated MS4 permittee performed or approved a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater
7. Within 1,000 feet up-gradient or 100 feet down-gradient of active karst features.
8. Areas that receive stormwater runoff from these types of entities regulated under NPDES for industrial stormwater: automobile salvage yards; scrap recycling and waste recycling facilities; hazardous waste treatment, storage, or disposal facilities; or air transportation facilities that conduct deicing activities

See “higher level of engineering review” in the most current version of the Minnesota Stormwater Manual for more information [Minn. R. 7090].

5. Mitigation Provisions for Sites with Limitations

In the case that volume reduction cannot be implemented on the site, the applicant must take steps to mitigate stormwater runoff volume and rate and to ensure pollutant reduction. This may include off-site or regional treatment for additional volume retention or additional pollutant reduction. The city engineer and all permitting agencies must approve all mitigation projects and document who is responsible for long-term maintenance of the facility.

The city will select mitigation project areas in the following order of preference:

1. Locations that yield benefits to the same receiving water body that receives runoff from the project
2. Locations within the same watershed area as the original project
3. Locations in the next adjacent upstream watershed
4. An alternate location within the city

Mitigation projects must satisfy the following requirements:

1. Mitigation projects must involve the creation of new structural stormwater BMPs, the retrofit of existing structural stormwater BMP, or the use of a properly designed regional structural

stormwater BMP.

2. Routine maintenance of structural stormwater BMPs already required by this permit cannot be used to meet mitigation requirements of this part.
3. Mitigation projects shall be completed no later than 24 months after the start of the original construction activity. If the permittee determines more time is needed to complete the treatment project, the permittee must provide the reason(s) and schedule(s) for completing the project in the annual report.
4. The city's engineering department will determine and document who will be responsible for long-term maintenance on all mitigation projects of this part.
5. If a regional project has been identified, the city may consider a cash payment from the owner or operator of a construction activity for mitigation purposes in lieu of the owner or operator of that construction activity meeting the conditions for post-construction stormwater management. Upon receipt of a cash payment in lieu of on-site treatment, a project must be implemented with the designated funds. Mitigation projects must be completed within two years of the start of construction of the project.