



Minnesota
Pollution
Control
Agency

Alternative Stormwater Treatment Systems

Frequently Asked Questions

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The NPDES/SDS (National Pollutant Discharge Elimination System / State Disposal System) General Stormwater Permit for Construction Activity (MNR100001, expires Aug. 1, 2013) has design requirements for permanent stormwater management systems. Any project that creates one or more acres of new impervious surface must treat a volume of one-half inch of runoff from those new impervious surfaces prior to the runoff leaving the construction site or entering surface waters located within the project site.

Standard Treatment

The NPDES/SDS permit has specific design requirements for wet sedimentation basins, infiltration / filtration systems, regional ponds or combinations of the above. If your project can meet these design requirements, in most cases you will be able to obtain permit coverage 7 days from the postmarked date of the application without a formal review of your design by the Minnesota Pollution Control Agency (MPCA).

Alternative Treatment

Any permanent stormwater management system that does not meet all the requirements for one of these systems (as outlined in Part III.C.) is most likely an alternative treatment method and subject to additional review and monitoring requirements. The Storm Water Pollution Prevention Plan (SWPPP) for the project along with information regarding the proposed alternative treatment method

must be submitted to the MPCA at least 90 days prior to the start of construction activity for agency review and approval. All calculations, drainage areas, plans and specifications for the proposed alternative method and a graphic representation of the area to be served by the method must be included in the submittal. The design of an alternative method must be able to achieve approximately 80% removal of total suspended solids on an annual average basis based on a NURP particle size distribution.

Monitoring Plan

The SWPPP for any project proposing an alternative method of treatment must include a two-year monitoring plan. The monitoring plan must include a discussion of the methods used to collect samples, location where samples will be taken (upstream and downstream of the proposed method), frequency of samples (minimum of six runoff events sampled), identify lab which will be used to analyze the samples and quality assurance and quality control methods to be used. Due to the variety of potential proposals, the details of the monitoring plan will need to be developed on a case-by-case basis. The regulated party is responsible for developing the plan, but the MPCA will provide assistance throughout the process.

The SWPPP for any project proposing an alternative method of treatment must include a mitigation plan that addresses how the water-quality volume will be treated in the event that the monitoring data shows the proposed alternative treatment method does not achieve

approximately 80% removal of total suspended solids (TSS) on an annual average basis. If the method fails to meet the 80% removal requirement, mitigation must occur.

Are there any exceptions to the alternative method permit requirement?

Yes. Areas of a project where there is no feasible way to meet the treatment requirements, other treatment, such as grassed swales, smaller ponds, grit chambers or other proprietary devices can be used without following the alternative treatment requirements. A cumulative maximum of three acres or 1% of the project size can be treated in this manner.

If bedrock precludes the construction of any permanent stormwater management practices outlined in the permit, use of any other treatment, such as grassed swales, smaller ponds, grit chambers or other proprietary devices can be used without following the alternative treatment requirements. Please note that all options should be explored (such as sand filters) before using this exception.

If lack of right of way on a road project precludes the installation of treatment systems that meet permit requirements, other treatment methods may be used.

If you are unsure if your project has a site limitation that would allow you to use other treatment systems and not comply with the additional requirements for an alternative method, call the MPCA help desk at 651-297-2274. They will be able to direct your call to someone who can help you with site specific questions.

Are there any other situations where a proprietary device or other new concept can be used without following the alternative treatment requirements?

Yes. All of the permanent stormwater management treatment requirements in the NPDES permit apply only to projects that are creating one or more acres of new impervious surfaces. For retrofit projects, that is, projects that are removing impervious surfaces such as buildings or roads and constructing new buildings or roads, no treatment of stormwater is required. Many cities and watersheds have long term projects to clean up rivers and lakes in developed areas and may have developed stormwater regulations for retrofit situations. Using proprietary devices, underground storage or other ideas are tools used to achieve water quality goals.

Please check with your local unit of government for other stormwater regulations.

Are rain gardens subject to the alternative treatment requirements?

Not necessarily. A system of rain gardens may be sized and designed to meet the permit requirements for an infiltration or filtration system (Part III C. 2). For example, each rain garden should be designed to hold a volume of water equal to one-half times the area of impervious surface that drains to it.

Infiltration/Filtration systems also include sand filters, organic filters, bioretention areas, enhanced swales, dry storage ponds with underdrain discharge, off-line retention areas and natural depressions.

What kind of mitigation plan is required?

If the system fails to remove approximately 80% of TSS on an annual average basis, mitigation must occur.

Alternative stormwater treatment methods are usually proposed because a site has unusual constraints. The MPCA wants to be flexible with construction proposals but the MPCA must also ensure that all new construction projects treat stormwater runoff to the level of other proven methods. Mitigation plans for different practices will vary greatly. Contact the MPCA for guidance on what your specific mitigation plan should contain.

The steps to comply with the alternative method section are new for us too. Get the MPCA involved early. We will be able provide guidance that will help expedite the development of an acceptable plan.

Contact Us

If you have additional questions regarding this process, please call the Stormwater Program at 651-757-2119 or toll-free at 800-657-3804.

Thank you for protecting Minnesota water!