

District Guidance on Storm Water Modeling of Synthetic Turf Fields

The use of synthetic turf systems is becoming a popular option for the design of new or renovated athletic fields. Recently, the Milwaukee Metropolitan Sewerage District (District) has received several storm water management plans (SWMP) for projects that include synthetic turf fields.

Generally, there are two acceptable methods for storm water modeling of a synthetic turf field:

1. Treat the field as a pond, modeling “underdrains” as pond outlet pipes
2. Treat the field as a “subarea” (either separately or as part of a larger area) with an assigned curve number (CN) and time of concentration (T_c)

SWMP's submitted to the District have varied significantly in terms of the inputs to the storm water models and assumptions made for synthetic turf fields. Therefore, the District offers the following guidance on SWMP's submitted to the District, for developments or redevelopments which incorporate these types of fields:

1. A detail drawing of the construction method for the field should be submitted with the SWMP, showing the surface and subgrade materials, including the type of drain pipe used.
2. A manufacturer's specification indicating the void ratio of the subgrade should be submitted, which should match the void ratio used in the model, if applicable.
3. If the field is modeled as a “subarea”, a brief justification for the time of concentration (T_c) and curve number (CN) assigned to the field should be provided.
4. If the field is modeled as a pond, a brief explanation of the method used and any assumptions made should be provided.