

Post-Construction Storm Water Management/Ground-Mounted Solar: Wisconsin Department of Natural Resources Guidance Memorandum



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The Wisconsin Department of Natural Resources (“WDNR”) issued a document titled:

Post-Construction Storm Water Management for Ground-Mounted Solar (“Guidance”)

See EGAD Number: 3800-2022-OX.

The site design of a solar project can impact whether it will improve or negatively affect water quality. Existing federal and state stormwater requirements have generally not been developed taking into consideration of ground-mounted solar energy facilities.

Note that the Virginia Department of Environmental Quality issued a [policy document](#) in March 2022 addressing this issue.

WDNR’s stated rationale for issuing the *Guidance* is the increasingly frequent construction of these facilities and its belief there is a need for:

... an approach to post-construction stormwater management that meets the post-construction performance standards in ss. NR 151.122 to 151.124, Wis Adm. Code that reflects the unique hydrological conditions created by large areas of ground-mounted solar and is simple to implement.

The stated objective of the *Guidance* is to identify the conditions under which the vegetation under and around ground-mounted solar arrays may be considered a stormwater management practice sufficient to satisfy post-construction performance standards.

In addressing background issues/definitions, the *Guidance* states:

- Areas under solar arrays are generally vegetated, creating a landscape that is a combination of meadow/impervious surface
- Former land uses associated with newly sited solar array installations are often row crops
- Emerging research on hydrologic response of solar installations confirms a reduction in runoff from predevelopment to post-development conditions (noting limitations of research)
- Tools used to estimate runoff and pollution control better assess pervious areas and different types of vegetation

The *Guidance* specifically addresses certain performance standards which cover:

- Total Suspended Solids

- Peak Flow
- Infiltration performance standards
- Conditions in the Guidance are based on:
- WinSLAMM modeling of a series of pitched roof source areas in series with vegetated buffer strips and TR-55 hydrologic modeling methodology
- Description of a test case
- Analysis of differences between turf and prairie for purposes of defining scenarios with or without pollutant trading (with the assumption prairie will be used in all cases)

The *Guidance* describes in detail what is required to satisfy post-construction performance standards for the vegetation under, between, and around ground-mounted solar arrays within the cited Wisconsin Administrative Code.

A copy of the *Guidance* can be downloaded [here](#).