



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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MEMORANDUM

To: All Members of the Stormwater Management Development/Design Community,
All Local Virginia Stormwater Management Program Administrators

From: Michael S. Rolband, PE, PWD, PWS Emeritus
Director, Department of Environmental Quality 

Date: March 29, 2022

Subject: Post-development Stormwater Management at Solar Projects

Dear All:

To date, the Department of Environmental Quality (DEQ) has not required solar projects that are subject to Virginia Stormwater Management Program (VSMP) requirements to account for the imperviousness of the solar panels when applying the Commonwealth’s post-development stormwater management technical criteria. When performing water quantity (rainfall-runoff) calculations, DEQ’s practice has been to consider only the solar panel support posts and beams as impervious areas. However, this approach has the potential to underestimate the post-development runoff volume or runoff rate from solar panel arrays, which in turn has the potential to negatively impact downstream waterways or properties. Additionally, the Environmental Protection Agency’s (EPA) Chesapeake Bay Program considers the solar panels to be impervious areas for the purposes of performing water quality modeling/calculations for the Chesapeake Bay Total Maximum Daily Load.

To safeguard the protection of downstream waterways and properties as well as ensure consistency with EPA’s Chesapeake Bay Program, DEQ will be implementing a stronger post-development stormwater management policy for solar projects that are subject to VSMP requirements. The new policy will go into effect **immediately** (i.e., the policy applies to all stormwater management plans not approved prior to the date of this memorandum regardless of the stage of design), and is as follows:

1. **Water Quantity.** Solar panels are to be considered unconnected impervious areas when performing post-development water quantity calculations using the hydrologic methods specified in the Virginia Stormwater Management Program Regulation, 9VAC25-870-72. Current information regarding the application of unconnected impervious areas can be found in Chapter 9 (Hydrologic Soil-Cover Complexes), Part 630 (Hydrology) of the Natural Resource Conservation Service's National Engineering Handbook.
2. **Water Quality.** Solar panels are to be considered impervious areas when performing post-development water quality calculations using the Virginia Runoff Reduction Method (VRRM). To account for the disconnection of the solar panels from the overall drainage system, the area of the solar panels may be entered into the applicable "Simple Disconnection" stormwater best management practices section of the VRRM compliance spreadsheet (i.e., 2a – Simple Disconnection to A/B Soils or 2b – Simple Disconnection to C/D Soils).
3. **Alternative Methods.** This policy does not prohibit any alternative method. If alternative proposals are made, such proposals will be reviewed and accepted or denied based on their technical adequacy and compliance with the appropriate laws and regulations.

DEQ staff are currently preparing an agency guidance document to provide additional clarity on the implementation of this memorandum. Until the guidance document is finalized, please feel free to contact Drew Hammond (Andrew.Hammond@deq.virginia.gov or 804-698-4101) or Erin Belt (Erin.Belt@deq.virginia.gov or 757-374-4621) should you have any questions.