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Memorandum

TO: Sussex County Council
The Honorable Michael H. Vincent, President
The Honorable John L. Rieley, Vice President
The Honorable Cynthia C. Green
The Honorable Douglas B. Hudson
The Honorable Mark G. Schaeffer

FROM: Hans Medlarz, P.E., County Engineer

RE: ***Nexus between DNREC Stormwater Regulations and Land Clearing/Grading Activities***

DATE: September 21, 2023

While the Delaware Sediment & Stormwater Regulations do not explicitly state that clearing and grading of forests is a condition of compliance, the compliance requirements set forth in Sections 5.3.3 and 5.4.3 elicit design scenarios with only one option which doesn't involve off site analyses. Please refer to the excerpt of the regulations at the end of the memorandum.

The Sub-Sections 5.3.3.1 & 5.4.3.1 exclusively establish compliance with Conveyance Event (Cv) and Flooding Event (Fv) storm events respectively through site design by demonstrating "no adverse impact". Under these sections runoff must be captured and managed on site limiting impacts to the downstream water surface elevation at the point of analysis to no more than a 0.05 feet (<5/8inches) increase. Therefore, almost the entire site to be developed must be captured through grading and various conveyance methods for attenuation in stormwater BMP facilities before being discharged off site.

Please note that all land, including forest lands generates varying amounts of runoff especially during Fv magnitude storm events. Hence management of all site runoffs is key to limiting adverse impacts at the point of analysis or analyses. In other words, runoff from existing forest lands should not count if the State is serious about preserving forest lands. A suggested DEREK Stormwater Regulation change could read as follows:

Any runoff during Cv & Fv events from a wooded preexisting undisturbed project area is considered de minimis and does neither have to be managed nor included in the analysis.



DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL**Division of Watershed Stewardship****5101 Sediment and Stormwater Regulations**

Excerpt:

5.4.3 Compliance with Flooding Event (Fv) Criteria shall be accomplished through the following provisions:

- 5.4.3.1 The Fv shall be managed using BMPs as set forth in Section 11.0 such that there is **no adverse impact by limiting the increase in the downstream post-developed water surface elevation to no more than 0.05 feet**; or
 - 5.4.3.2 **Improving the existing downstream conveyance system** so that the downstream condition meets the "no adverse impact" criteria of subsection 5.4.3.1; or
 - 5.4.3.3 Provisions will be made or exist for a non-erosive **conveyance system to tidal waters** by either a closed drainage system or by open channel flow that has adequate conveyance for the Fv; or
 - 5.4.3.4 Demonstration that the location of a project within a watershed would aggravate downstream flooding or channel erosion by the imposition of peak control requirements, as evidenced by a **downstream analysis that shows the inflection point of the site hydrograph occurs prior to the peak of the upstream hydrograph**; or
 - 5.4.3.5 The **site LOD comprises 10% or less of the total upstream contributing drainage area** at the point of discharge for sites that discharge directly to a natural stream, waterbody, or tax ditch; or
 - 5.4.3.6 The proposed project will **generate only a de minimis discharge** and will have no adverse impact on the receiving wetland, watercourse, or downstream property as determined on a case-by-case basis.
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