TO: TANYA SPANO (CHAIR), WASTEWATER TREATMENT WORKGROUP

NING ZHOU (COORDINATOR), WASTEWATER TREATMENT WORKGROUP

FROM: MARYLAND DEPARTMENT OF ENVIRONMENT, SCIENCE SERVICES ADMINISTRATION

SUBJECT: QUESTIONS/COMMENTS REGARDING THE RECOMMENDATIONS OF THE EXPERT PANEL TO DEFINE REMOVAL RATES FOR STREET AND STORMDRAIN CLEANING PRACTICES

DATE: SEPTEMBER 13, 2016

CC: VIC D'AMATO, TETRA TECH
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Maryland commends the panelists who assisted in the development of the report, "Nutrient Attenuation in Chesapeake Bay Watershed Onsite Wastewater Treatment Systems," and thanks them for the opportunity to provide comments. This report outlines a rational approach for estimating the surface water nitrogen contributions from Onsite Wastewater Treatment Systems (OWTSs).

Given the compressed review schedule and the need to be thorough in our evaluation of this report, Maryland cannot give full approval at this time, but can instead offer a limited, tentative approval for the duration of the Beta 4 calibration process only. Maryland's approval is contingent on a commitment from the Wastewater Treatment Workgroup that the report be formally approved after a 30-day review period, following the receipt of documentation requested below. If consensus on this report cannot be achieved by the deadline for the subsequent model calibration the Phase 5.3.2 attenuation methodology should be reinstated.

Maryland is submitting the following comments to the Expert Panel for comment. Due to the compressed review schedule, these comments are not as in-depth, or as thorough as we would ordinarily provide. Furthermore, we apologize in advance if the answers to any of these questions are addressed within the body of the report.

Comment 1. Spatial Data

Due the partnership's expedited review schedule, MDE requested that the expert panel provide soils and geomorphology spatial data relating to its recommendations, concurrent with the release of the report. To date, MDE has not received the requested data. Please provide spatially-explicit data regarding how the Zone 1 and Zone 3 attenuation rates will be applied.

Comment 2. Watershed Technical Workgroup Review

Given the sophisticated approach for estimating subsurface nutrient attenuation based on two spatially defined parameters, and the fact that newly-constructed OSDSs and OSDS BMPs will need to follow these conventions for annual progress reporting, this report should be submitted to the WTWG for full, formal review and approval.

Comment 3. Zone 1 Characterization

The expert panel recommends calculating reductions in Zone 1—*the Soil Based Treatment Zone*—using three soil texture groupings, sandy, loamy and clayey, based on USDA soil texture classifications. It is unclear how the soil texture will be assessed and assigned for a given OSDS. Two potential approaches, using a spatial data

set like those produced by USDA or using a statistical approach based on OSDS administrative data, both carry different strengths and weaknesses. The spatial data set, for example, might mischaracterize the Zone 1 soil by either misrepresenting the soil stratum into which the OSDS discharges or failing to account for anthropogenic soil disturbances such excavation and backfill. Administrative data from drain field soil testing might be limited by data quality, consistency and availability. The basis for this decision should be clearly described in within the report. Given its importance, this detail cannot be left to the discretion of a workgroup or modelers as a "means and methods" decision.

Comment 4. Scale

Page 40: "[…] the Panel concludes that estimating OWTS TN load delivery based on subwatershed (i.e., land-water segment) scale characteristics is scientifically justified."

Soil uncertainties, such as anthropogenic disturbances and stratum depths with respect to OSDS discharges would limit the applicability of these generalizations at a fine scale. In addition, the NRCS Web Soil Survey, states that their soil maps are only accurate to a scale of 1:12,000. Delineations of the Coastal Plains subregions were done at a relatively coarse 1:1,000,000 scale.

Can the Expert Panel provide any guidance at what scale are these generalizations would no longer be justifiable?

Comment 5. Nitrogen attenuation and distance

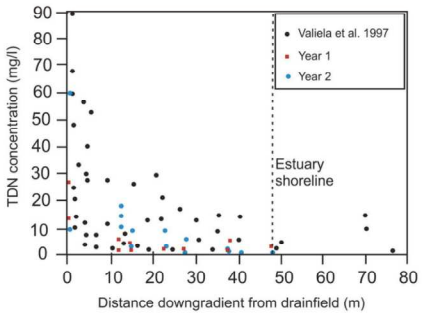

Figure 7 in the report shows an inverse relationship between distance from drainfield and TDN concentration. The report says this is, "due to a variety of processes including dilution, dispersion, cation exchange, biological uptake, denitrification, and annamox." The distance relationship approach was not adopted by the panel since similar studies were all done in similar sandy soils in the Coastal Plain. Is there any evidence to indicate that this relationship would not occur in other soil textures or hydrogeomorphic regions?

Comment 6. MDE, not MDEP

We're the Maryland Department of the Environment (MDE), not the Maryland Department of Environmental Protection (MDEP).