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May 8, 2013

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COUNTY SOLICITOR

Thomas Starosta
Pennsylvania Dept of Environmental Protection
Bureau of Point and Non-Point Source Management
P.O. Box 8774
Harrisburg, PA 17105-8774

Re: Proposed PA DEP Guidance for On-Lot Septic Systems in HQ/EV Watersheds
Doc #385-2208-001

Dear Mr. Starosta:

As Commissioners of Pike County, PA it is our responsibility to be good stewards of our land and water, protect our natural environment, and to provide for economic growth and stability. We have made great strides and invested heavily in the protection of our environment. We enjoy arguably the cleanest water in the northeast. Your proposed guidance regarding denitrification is unnecessary and severely damaging to our economy. It attempts to fix a problem that does not exist, and it actually creates new problems for our County.

On-lot septic systems in our area have worked very well to preserve our natural resources. Our water quality reports prove it. Existing practices currently in use include an in-depth Sewage Facility Planning Module approval process and monitoring by municipal SEO's. The repair and replacement of malfunctioning systems also ensures minimal impact to the environment. A nitrate problem does not exist in Pike County, therefore, we consider these BMP's unnecessary and punitive.

It was stated in the webinar series that Pike/Wayne county's site-specific approaches were considered acceptable in lieu of the BMP's provided in the guidance. These Pike/Wayne watershed approach allowances are to be included in the final draft. This updated draft should be submitted for review as soon as possible with the allowance of another public review period.

We offer the following concerns and possible alternatives to the non-degradation issue:

Environmentally related comments

1. Studies of Pike County's waters indicate that we have minute nitrate levels ranging from 0.19mg/L to trace levels. Pike County's waters are cleaner than rain. Pike County's rainfall was 1.24mg/L in 1999 and .84mg/L in 2010
2. Since the nitrate issue stems from an EHB case in a small watershed, it should not have widespread relevance and ramifications statewide. Every watershed has differing needs and environmental concerns. Pine Creek is a very specific case in a small watershed that is impacted by large scale agricultural uses. We have no such similarity in Pike County. Further, the guidance applies only to EV and HQ watersheds. These watershed designations have no bearing on the ability of on-site soils capabilities in treating sewage flows for an on-site system.
3. The guidance and the technology BMP's provided, are not based on any scientific studies in Pennsylvania. PA DEP should make decisions and policy based on proven scientific facts on our soils. On page 7 of the guidance, "Septic systems generally are not capable of affecting surface waters to the

degree where the 10 mg/L limit may be threatened, but for the purpose of this guidance, a more stringent standard applies.” This is unsubstantiated and unreasonably restrictive.

4. There has been no research to target nitrates as a significant impact to our EV and HQ watersheds. In fact, nitrates are not an issue as it relates to septic systems and this proposed guidance as nitrate loading from septic only accounts for 4%. The major sources of nitrates are predominately from agriculture (38%) and atmospheric deposition (27%).

Municipal/Administrative Related

1. PA DEP and municipal staff may need to be increased to permit and track these BMP's. Under this guidance the most valuable land—which is adjacent to lakes and streams—will become undevelopable and restricted in use. This could result in land values being reduced because of the restrictions on the use of this land. The result is likely to be a decreased tax base that will burden counties, municipalities and school districts as tax revenues decline.
2. On page 19, IV Planning, paragraph 2. You state “The BMP's recommended in this guidance can be required through local zoning or subdivision and land development ordinances.” The sentence implies that the policy suggest municipalities change their land-use ordinances so that compliance with Policy can be achieved. What authority does DEP have to regulate land use?
3. Most municipalities already address lot size in their land-use ordinances. Also, lot density is already addressed as a BMP in the sewage planning process when lot density of less than 1 acre per EDU is proposed, the site is considered to have marginal conditions and more restrictive conditions are placed on the approval. This seems to be a cost-effective and reasonable approach to antidegradation implementation.
4. This proposed policy would place unnecessary burdens on municipalities through the requirements of increased staffing and administration costs for buffer tracking, water ways and wetland inventories for non-mapped streams and SEO's expanded scope of responsibilities. In the current economy, most municipalities are already budget strapped.
5. This “guidance” seeks to regulate land use via required buffers and minimum lot sizes. These development limitations should be decided by elected officials through land-use ordinances, not dictated by arbitrary and unjustifiable DEP guidelines. These guidelines usurp local municipal land use control.
6. The policy provides (as a sample), a riparian forest buffer ordinance that municipalities can choose to enact. Since DEP has provided these sample ordinances, it is suggestive of the desire to control land use and mandate buffers in all special protection watersheds, regardless of its water quality benefits, or lack thereof, related to the BMP for a specific project.

DEP Draft Guidelines Related

1. The “guidance” is worded as policy/regulations. It requires more technology, land, and overall expense as compared to existing regulations.
2. Orenco de-nitrifying systems remove 60-70% of nitrates but the guidance only allows for 50% credit.
3. This proposed policy leaves too much to the subjective discretion of the DEP. For instance, if this policy is supposed to be applied to new individual or community onlot systems approved through the planning process, why does it also state that the policy and practices contained in the guidance are “recommended for replacement residential or community onlot systems installations in HQ and EV watersheds as well”. Who at the DEP will have the authority to determine whether or not to follow the “recommendation”?
4. The PRB is neither reasonable nor cost-effective in Pike County and would do more environmental harm than the intended benefits. Guidelines state that the PRB needs to be installed to 2' below the seasonal low water table. USGS Groundwater Watch has the average water level below land surface at 51' in Pike County. In order to dig this “barrier”, major earth moving would need to occur. Since a permeable reactive barrier has not even been designed, tested, or even implemented in our region (and to this extreme depth), how is this a viable option?

Economic Related


1. The policy would greatly impact local economic development. We understand that PA DEP does not wish to base its decision on the financial impact to a region, however, we provide the following information as economic consequences to Pike County:

- A typical on-lot septic system costs \$12-15,000. Implementation of these nitrate BMP's can inflate the cost to over \$40k with PRB and a nitrate removal system.
 - If the State of Pennsylvania is to have economic growth and development, these kinds of arbitrary regulations must be stopped. Projects that have substantial job creation will go to other states before incurring these additional costs and land use restrictions. In fact this proposed policy could cause many of our current residents to leave Pennsylvania for a more friendly state to live in. This will also cause many of our young people to leave Pennsylvania because they would not be able to afford a home.
2. Riparian Forest Buffers of 150' severely diminish the aesthetic, and resultant economic, value of constructing within proximity of a water body.
 3. This policy will create unbuildable lots and owners will seek a lower tax assessment
 4. This policy will add additional costs to municipalities that are already struggling financially in the current economic conditions. Most municipalities are already burdened with tight budgets, understaffing and a loss of tax base due to foreclosures. This document assigns costs for the individual BMP's proposed, but it makes no mention of the cost that municipalities will incur in enforcing this burdensome policy.
 5. The cost for the implementation of this policy has not been fully evaluated. This cost would likely be borne by local municipalities and residents. Also, implementation of this policy would require changes in all local ordinances. Has this been planned or funded?

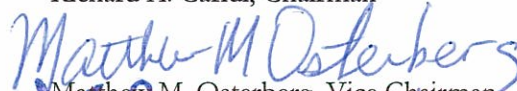
Pike and Wayne counties, and other pristine portions of the Commonwealth, are being singled out due their EV and HQ waters. In short, the guidance is punishment for our exceptional efforts to keep our waterways at such pristine levels. We are being singled out while the worst offenders are free to continue their reckless destruction unimpeded. We know that this cannot be the intent of DEP. This is why we believe that these guidelines are severely flawed and require an alternate direction. We demand that DEP rescind this new policy addressing a nitrate problem that does not exist. Enclosed is a copy of the water quality report for Pike County from the USGS Service.

Thank you for your consideration.

Respectively submitted,
Pike County Board of Commissioners



Richard A. Caridi, Chairman



Matthew M. Osterberg, Vice Chairman



Karl A. Wagner Jr., Commissioner

cc: Chris Abruzzo, Acting Secretary
Robert Pitcavage, Local Govt Liason
Michael D. Bedrin, Regional Director
Governor Thomas Corbett
Lt. Governor Jim Cawley
Stephen S. Aichele, Chief of Staff
Harry Forbes, Director
Senator Lisa Baker
Representative Rosemary Brown
Representative Mario Scavello
Representative Michael Peifer
Brian Smith, Wayne County Commissioner Chair
Douglas Hill, CCAP

Groundwater-Quality Assessment,
Pike County, Pennsylvania, 2007

By Lisa A. Senior

In cooperation with the Pike County Conservation District

Scientific Investigations Report 2009-5129

U.S. Department of the Interior

U.S. Geological Survey

Nitrate and Other Nutrients

Nitrogen and phosphorus compounds occur naturally and are essential nutrients for plant growth. Nitrogen and phosphorus compounds also are present in elevated concentrations in domestic and municipal wastewater. Elevated concentrations of nutrients may result in impairment of surface waters (where impairment is related to algal growth) and may pose a health risk when consumed in drinking water. The principal soluble nitrogen compounds of nitrate (NO₃⁻), nitrite (NO₂⁻), and ammonia (NH₄⁺) were included in analyses of groundwater samples collected in 2007. Orthophosphate (PO₄⁻), a soluble form of phosphorus, was also analyzed in the samples. The laboratory analyses determine nitrite plus nitrate so nitrite concentrations must be subtracted to obtain nitrate concentrations.

Ammonia is a reduced form of nitrogen, it is the predominant nitrogen compound in septic-tank effluent, and it oxidizes to nitrate in the presence of oxygen. Nitrite (NO₂⁻) is a less-oxidized form of nitrogen than nitrate (NO₃⁻) and may be formed during an intermediate step in nitrification, a process in which ammonia is oxidized. Nitrite also may accumulate in groundwater during denitrification (Smith and others, 2004), a process in which nitrate is reduced to nitrogen gas usually in the absence of oxygen. Nitrification and denitrification reactions generally are biologically mediated. In low-oxygen environments, ammonia and nitrite will be more stable than nitrate. Conversely, where oxygen is present in higher quantities, nitrate is the more stable form.

Low concentrations of ammonia, nitrite, nitrate and orthophosphate were measured in most of the 20 groundwater samples, and no drinking-water standards for these compounds were exceeded (table 3). Ammonia concentrations were less than the reporting level of 0.02 mg/L as N in all but 6 groundwater samples that had concentrations ranging from 0.025 to 0.063 mg/L as N. Nitrite concentrations were less than or equal to the reporting level of 0.002 mg/L as N in all but two groundwater samples that had concentrations of 0.005 and 0.47 mg/L as N, respectively. The highest concentrations of nitrite and ammonia were measured in samples that had low dissolved oxygen concentrations (0.2 or less mg/L)

Nitrate concentrations (calculated by subtracting nitrite concentration from the reported sum of nitrite plus nitrate concentration) were less than 0.8 mg/L as N in all but one groundwater sample that had about 2 mg/L as N, suggesting that most nitrate concentrations are within the range of estimated natural background levels. An estimated concentration of nitrate derived from precipitation (table 2) in recharge is up to about 0.8 mg/L as N, assuming no nitrogen loss and that all ammonia was converted to nitrate. Nitrate can be reduced, however, in low-oxygen environments such as were observed in 9 (45 percent) of the 20 well samples that had dissolved oxygen concentrations less than 1 mg/L. Many of the low nitrate concentrations might be attributed to nitrate reduction in soils and in the groundwater system.

Orthophosphate concentrations were less than 0.02 mg/L as P in all but five groundwater samples that had concentrations ranging from 0.02 to 0.055 mg/L as P. Concentrations of orthophosphate greater than 0.02 mg/L in eastern Pennsylvania commonly represent slight enrichment from human-related sources (Andrew Reif, U.S. Geological Survey, oral commun. 2008).