Attachment 10

Westport Weston
Health District

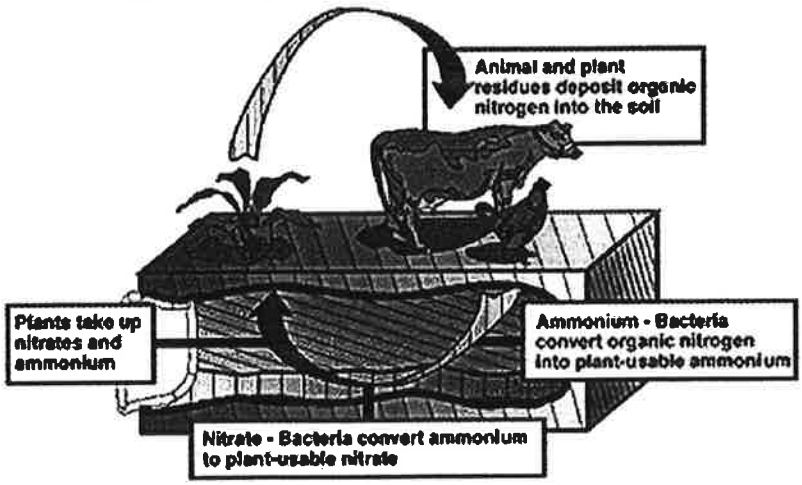
April 12, 2017

Mark Harper, Animal Control Officer
Town of Weston
Weston Town Hall
Weston, Ct. 06883

Dear Mr. Harper:

In response to your telephone inquiry this morning regarding concerns about dog urine from the proposed dog park, I researched the available literature and drew upon the experience of my Director of Health colleagues across the state to evaluate the potential threat from Weston's proposed dog park.

The concern with urine is with the nitrogen it contains. Nitrogen tends to disperse through more diverse pathways in the urban setting and somewhat more rapidly in the soil of a suburban and/or rural one such as the proposed park. It has been estimated that a dog produces about 20 ml of urine for each pound of body weight per day, relieving themselves 3 to 5 times per day. Clearly, a smaller dog will produce less urine than a large one. It is impossible to try and calculate the added nitrogen loading to the environment from the proposed dog park without knowing how many dogs will be visiting, what



their body weights might be, etc. But keep in mind that all added nitrogen becomes part of the natural nitrogen cycle and that a good portion is taken up by plant roots to grow, develop and produce seed. Areas with trees and other such vegetation that have deep roots will utilize more of the nitrogen before some "escapes" deep into the soil and can impact water quality. Nitrogen movement through the environment is a complex matter. It undergoes many complex chemical and biological changes and gets diluted with rain water before it impacts groundwater quality.

It is my opinion, that the added nitrogen from dog urine at the proposed park, a 3 to 4 acre fenced area surrounded by a large area of natural vegetation, would be diminutive with no off site impact.

A few things to consider:

An average person produces about 1500 ml (or about 1.5 liters) of urine a day. An average dog weighing 30 lbs would produce about 600 ml of urine a day. For the sake of our discussion, let

us assume that the average person above urinates exclusively at home and that the average dog above urinates exclusively at the dog park, every day. We also need to assume the natural forces of nitrogen dispersal and plant up take are equal at both locations. Trying not to make this too complicated, but I would think that in the average household, there are more people that produce urine than there are pets. The experience of Directors of Health across the state, in areas of intensive development on small lot sizes (1/2 to 1 acre in size), served by private on-site well and septic systems, if such nitrogen loading were to be problem, the wells should be loaded with nitrogen at unacceptable levels. They are not. Keep in mind the modern regulatory separation between a

private well and septic system is 75 feet. There are many older wells that are as close as 50 feet from septic systems without excessive nitrogen levels. Additionally, for those pet owners who do not go to dog parks, the pets generally urinate in their own (or neighbors yard), without the nitrate showing up in well water.

Can nitrogen be a problem generally in the environment and water? Absolutely. In urban areas with little natural soil and networks of paved streets with storm drains, pet waste is getting into storm water systems and impacting waterways. Improper well construction can be a factor with whatever is applied to lawns effecting well water quality and there are areas in the country where the soils are not effective in soil and/or plant attenuation of nutrients. Numerous studies have shown that lawn fertilizers can be a major contributor of nitrogen and phosphorous to surface waters. Consider that a typical bag of 16-4-8 lawn fertilizer, something you can buy just about anywhere, contains 8 pounds of nitrogen, 2 pounds of phosphorous and 4 pounds of potassium. How many bags of this stuff gets spread out on the lawns of America each Spring? But again, we do not find excessive nitrogen or phosphorous levels in properly constructed wells, from any source.

Should you have any additional questions regarding this matter, please feel free to contact me.

Very truly yours,

Mark A.R. Cooper, Director of Health
Westport Weston Health District

c: John Conte P.E., Town Engineer