

**Minutes of the Carlisle Board of Health  
March 31, 2016**

Bills  
Administrative Reports  
Bills  
Minutes of 2/23/16, 2/25/16, 3/15/16  
Administrative Reports  
Horsley-Witten Groundwater Study - discussion

**DISCUSSION ITEMS**

Board of Health Candidate – Todd Brady  
Benfield Farms Waste Treatment Systems – 3/15/16 email

- Laboratory Test Results Spreadsheet Summary
- O&M Clear Water Industries (Perc-Rite)

Library Well and Septic #2

- Technical Consulting Group (Frado) memo 3/23/16
- Nitrate Results 3/16/16

Voluntary Well Testing – Proposals #3  
FY17 Budget warrant article #4  
Site Plan Review – proposed bylaw changes for review #5  
Town Hall Evening Hours - discussion  
Public Records Requests – new fees

The meeting was called to order by the Chairman at 7:00 pm at Carlisle Town Hall. Present were Board members Bill Risso (Chairman), Lee Storrs, Catherine Galligan, Todd Thorsen and Donna Margolies. Also present Linda Fantasia (Health Agent), Tony Mariano and Steve Hinton (Water Quality Subcommittee)

**BILLS – payrolls and sharps containers for sale. It was moved (Galligan) and seconded (Margolies) to approve the bills submitted. Motion passed 5-0-0.**

**MINUTES**

**It was moved (Galligan) and seconded (Thorsen) to approve the minutes of 2/23/16 as amended. Motion passed 5-0-0.**

**It was moved (Thorsen) and seconded (Margolies) to approve the minutes of 2/25/16 as amended. Motion passed 5-0-0.**

**It was moved (Margolies) and seconded (Galligan) to approve the minutes of 3/15/16 as amended. Motion passed 5-0-0.**

The Board agreed to have Rob Frado attend the next meeting to discuss the Horsley-Witten report.

**ADMINISTRATIVE REPORTS**

**Zika Virus Update** – MDPH weekly update; Middlesex Tick Task Force event on May 12<sup>th</sup>, 7-9 Bedford Town Hall “Ticks and Mosquitoes from A – Z (Anaplasmosis to Zika); presenters Dr. Catherine Brown, State Public Health Veterinarian and Larry Dapsis, Barnstable County Entomologist. Towns are asked to contribute to cover travel costs for Larry Dapsis (\$200). The Board agreed to contribute up to \$50 from the Training budget.

**Septic Plan Review Flow Chart** – for review. The Board suggested some changes which will be incorporated into the next draft.

**Region 4A Deliverables Update** – Carlisle has met all deliverable deadlines. This is necessary in order to receive funding from the Region.

**Rabies Clinic April 9, 2016 from 2-4.** Tiffany Rule, DVM has prepared an article for the Mosquito. Dr. Brooks will be the veterinarian since Dr. Rule is not available. The Board suggested putting the article on the Board’s website.

**Liability Workshop** – Town counsel will present a workshop on employee liability on 4/6/16 at 7 pm.

**HORSLEY-WITTEN GROUNDWATER STUDY** - Steve Hinton and Tony Mariano of the Water Quality Subcommittee were present for the discussion.

Risso explained that this discussion was a follow-up of the March 15 presentation by Scott Horsley on the Groundwater Report. The Board needs to decide whether to include Horsley's recommendations in its septic and well regulations. The main recommendation is a 600' long by 50' wide setback between a septic system and a down gradient well.

Thorsen was concerned that such a margin of safety would be difficult to meet for many properties. He also felt the model needed more detail. Risso said the model did not account for dilution in the overburden which will affect treatment. Storrs was concerned that the model is tied to the size of the house (number of bedrooms) but this does not necessarily correlate to the number of people living in the house. It might be difficult to site an eight bedroom house on a two acre lot based on the model. If the intent is to protect the environment from large multi-family dwellings, applying the model universally would also impact any fairly large single family home. This could be considered an unintended consequence. Risso said Horsley's model used three people per dwelling.

Hinton pointed out that the rule would only apply when a well is down gradient from a septic system, otherwise standard setbacks are would be used. Thorsen felt the model could have major consequences on a neighbor's property, similar to a restrictive easement. The abutter would be limited on what he could do within this cone of protection. Galligan was concerned about unintended consequences to other owners. She suggested that another option could be mandatory annual pumping of septic tanks. Unfortunately this would not reduce the amount of urine contained in the wastewater, only solids so there might still be issues with nitrogen loading. Risso said one of the goals was to justify that the existing regulations makes sense and that there is a scientific basis for being more restrictive. Hinton said it is generally accepted that a larger treatment area provides better treatment. This was the basis for requiring 1.5 times leaching area for systems with garbage grinders which can be harmful to a system.

Mariano, who had not attended the presentation, said he was concerned about the article in the Mosquito. He did not believe many lots in town would be able to meet the model. Having a well down gradient from a septic system is a worst case scenario and may not happen that often. Most wells in Carlisle are bedrock wells supplied through fractures in the bedrock. Groundwater that travels through bedrock is a very complex system and not easily defined. Well construction provides some protection from contaminants since a well must be cased to bedrock and screened to filter out unwanted materials in the rock. If a well is constructed properly, Mariano did not see the need for additional protections beyond the current ones. He agreed that it might be different if the aquifer was in the overburden and not bedrock but this is not the case for most Carlisle wells.

Risso said the Zoning Board of Appeals (ZBA) would like to have good data to support the recommendations made by the Board, particularly in high density developments such as 40Bs. Previous studies done by the town have very little supporting data. Hinton noted that it is not easy to state that the overburden is or is not connected directly to bedrock cracks. However, recent consultants before the ZBA have suggested that well water is mainly from bedrock fractures that are relatively close to the well so consideration of the overburden is a rational assumption. Therefore it is not unreasonable to include assumptions that the overburden does interact with a well. This is not the same as saying that the overburden always has this connection.

Board members questioned what would happen if an applicant was unable to produce sufficient data to support granting a waiver and how down gradient is defined. There will always be a circular spread of the waste water from a leaching field. This needs to be accounted for in the model. Hinton said that the proposal is not a mechanistic model that can be understood by its individual parts. The model is intended to provide guidance based on empirical knowledge about groundwater flows that could be used by the Board to support its regulations. It is similar to the state's 100' setback between a well and a leaching area which is also more or less based on assumptions rather than specific data. The Board noted that some of Horsley's assumptions are based on Nantucket geology which may not be relevant to Carlisle.

Hinton said the ZBA would like more data in support of conditioning 165 gpd in a decision. The Horsley Witten study addresses some of the considerations but does not conclusively justify the 50% increase the way a very shallow overburden supports the need for a larger leaching area. Board members discussed whether a developer might try to overcome the regulatory model by artificially shifting the contour lines in order to eliminate down gradient sites. Rather than taking such an extreme measure, a developer would most likely apply for a waiver.

Mariano said there has not been any history of nitrates in the center wells which have been tested throughout the years. If any area were prone to contaminants it would be the center due to its density. Mariano is more concerned about the town's water supply than contaminants. Hinton said there was a case on Indian Hill where some wells lost capacity when a new well was drilled. Risso said the Board is working on an irrigation policy to protect the volume of water supply that is available. Irrigation withdrawals can have a huge impact on water resources.

The Board discussed whether the setback widths should match the size of the system and how the model would change if a system was offset to the down gradient flow path. It is not good to have too many variables. It is better to have a single standard to avoid confusion. The model was based on a representative table of existing homes and populations. There will always be exceptions and an applicant could provide data, including poor soils, to justify a waiver. Board members also agreed that there should be a correlation between the Board's regulations and Planning Board's Subdivision regulations. The Board would like to have input from Rob Frado on the proposed model. The matter will be discussed again at the April 12<sup>th</sup> meeting.

## **DISSCUSSION ITEMS**

**Board of Health Candidate** – Todd Brady, M. D. has agreed to run for the vacancy.

**Benfield Farms Update** – There have been no recent complaints about odors. The FAST System appears to be moving in the right direction. The Board requires a minimum of three satisfactory test results to demonstrate that the system is functioning properly. The Board wants to know if the wood chips over the biovent have been changed.

**Gleason Library Water Supply** – The Board reviewed a memo from Rob Frado who attended the septic system inspection. Frado noted a sink hole over the abandoned tank that should be filled in. There is also a groundwater monitoring pipe that should be capped and saplings and brush growing over the leaching area that should be removed. Frado also noticed a continuous flow from the sewer line. He suspected a running toilet. The Library also submitted the latest water results showing nitrates at 9.8 mg/l. The maximum contaminant level is 10 mg/l for drinking water. The Board would like to have three results under the limit.

**Well Testing -** Three laboratories ( ETR Labs, Microbac and R I Analytical) responded to the request for proposals. The lowest cost was ETR. Fantasia will follow up on the sampling cost. The voluntary testing is on May 14<sup>th</sup> 9-12.

**FY 17 Budget** – The Selectmen approved the Compensation Plan. The health agent grade moved from grade 8 to grade 10. The administrative assistant moved from grade 4 to grade 5. There is no adjustment for steps based on experience or education. All of the grade changes will begin at step 1. The Board questioned this policy and will consider following up on it once the budget has been voted at town meeting.

**Site Plan Review Bylaw** - The Board will review and discuss at the next meeting.

**Public Records Law** – The revised law limits the cost of copying to 0.05 per page. The Board agreed that it makes sense to have electronic copies. It is unclear when the new law goes into effect. Town counsel will be consulted.

There was no further business. Meeting voted to adjourn at 9:00 p.m.

Respectfully submitted,

Linda M. Fantasia  
Recorder

Carlisle Board of Health Minutes  
Meeting Date: March 31, 2016  
Approved: June 1, 2016