

Town of Tisbury
Sewer Advisory Board
Open Meeting Minutes
Wednesday, January 31, 2018

JOINT MEETING WITH WASTEWATER PLANNING COMMITTEE

Meeting Convened: 4:10 PM

Sewer Advisory Board Present: Josh Goldstein, Jeff Pratt, John Best, Tomar Waldman, Melinda Loberg

Wastewater Planning Committee: Michael Loberg, Malcolm Boyd, Paul Lazes, Doug Reese, Nancy Gilfoxy

Audience Recognized: Paul Ernst(WW), Jon Snyder(TREAS), Ray Tattersall (DPW), Alex Kral(ADMIN), Maura Valley (BOH), Danielle Ewart (Shellfish), Sheri Caseau (MVC), Bob Rafferty (Environmental Partners), Kevin Olson and Mike Giggey (Wright-Pierce), and John Smith (Technical Partner for Pilot Program for alternative septic systems from CES-Clean Water)

Update of MassCEC & EPA Grants Status: (Maura Valley)

2 systems in the ground and operating – Tashmoo & Lagoon Watersheds

3 systems that have state approval – working on contract with installer

1 system before the state DEP for approval

3 systems ready to go up for the approval

Approval process has taken longer than we have expected it to take

Hoping to get another system in in February and then 3 in March

Discussion:

Maura: Have we done any samplings of the systems yet?

John Smith: We've done just temperature, pH, and input nitrogen. One surprising point at the first one we installed in December was because of the low flow it was sized for a six bedroom but we only have two people living there. The water temperature was 7-8 degrees so we are not going to get a nitro-fine population but based on the preliminary data the organics are being removed but I'm looking to install a heater just to get the nitrofine bacteria going. The second one installed not filled yet so not getting any waste water in the second nitro tank.

FEMALE: Will there be enough time once all systems are in to do the kind of testing and evaluation within the parameters of the grant?

John Smith: Per the permit that we received through Mass DEP we have to monitor the influent for 6 months on a monthly basis and the F1 for 18 months on a monthly basis and that should give us sufficient data. As far as the grant timeline, the grant may end 6 months or so before we complete the sampling per the permits.

Tomar: Have we gotten any reports on the performance on WICKS on other states?

Melinda: Yes, not other states but other WICKS but we'll talk about that in a bit. Any other questions about the grant?

Update/Status of Wick Project Planning and Implementation: (Mike Giggey- Wright-Pierce)

There are two disposal Wick wells that exist at the elementary school, but are not connected and in use.

Town of Tisbury
Sewer Advisory Board
Open Meeting Minutes
Wednesday, January 31, 2018

In 2009, the DPW undertook a process to identify the various sites and eventually chose the elementary school ROW on William Street.

In order to expand the sewer collection system to meet growth and nitrogen management needs, we must increase our leaching capacity. Our 2 existing disposal facilities – DPW site & Fire Station (sub-surface leaching facilities) are each able to each handle 52K gallons per day. The capacity of the wastewater treatment plant is 104,000 gpd so you have the ability to discharge 104,000 gpd effluent. Original fields located without full understanding of where the ground water would go. Unfortunately, they're on the edges of the Tashmoo & Lagoon watersheds. More importantly, both those watersheds have been shown to be overloaded with nitrogen.

The goal is to find locations for effluent disposal so that nitrogen goes elsewhere – i.e. Vineyard Haven Harbor. Wright-Pierce identified 10 perspective sites. After further testing and evaluation, the school site was chosen and in 2016, the new groundwater discharge permit was awarded. WICKS need to be built and tested before you get the permit – thus, you must spend upfront money to demonstrate it works. Studies were all successful – DEP gave permits. We have permitted facilities but no ability to get wastewater there yet. We are working on design facilities to extend the force main from Pine Tree up to the school site and construct a distribution/control vault. There's a narrow notch of land that flows out to the harbor that doesn't go to Tashmoo or Lagoon and locating those facilities in that notch is important.

There are two other wick sites in Massachusetts: West Island in Fairhaven and Golf Course/Retirement Community in Hingham had 15-20 years experience. Lessons to be learned from their successes and failures.

Fairhaven: 1999 - 3 WICKS installed (1-operating & 2-resting) using sand filtration remove suspending solids and ultra-violet to kill bacteria. But did not rotate and just used 1 for 2 years and it overflowed. Lynden Pond Golf Course/Retirement: 2004 - Different kind of wastewater system - denitrification filters with UV disinfection, flows are much greater and higher quality. 3 WICKS (5' diameter 30'deep) not puncturing till flow is peripherally with larger diameter each one tested for 300k gallons a day and no one even knows where they are within the easements.

Plugging occurred in both locations: high quality effluent POD and suspended solids, discharge above the water table, ability to back flush, and disinfect – not just UV but chlorine residual in the effluent that will keep the bacteria down. Tisbury Proposal uses chlorine at the plant prior to sending to the wicks.

Paul: Chlorine Treatment both at the WICK and the plant?

Mike: Plan is to add a high enough concentration at the plant so you have a high enough residual at the WICKS. Don't want chlorine at the school.

Paul: Cost estimate?

Kevin: We will be covering that a little later. . . .

Operational philosophy: 1 WICK at a time loaded, rotate and maximize the resting period, use the water table which will slowly starts to rise if there's any plugging as an indicator of how they are doing, keep the suspended solids level low with periodic flushing, have both continuous and periodic high levels of disinfectant chlorine . . . peroxide. Cost Effective.

How the wicks work is very site specific, how this site is different from existing wicks?

Mike: Boring and testing were done at the school site to find at what depth are the soils the most permeable and in the ideal case you have fairly shallow soils trying to find the most

Town of Tisbury
Sewer Advisory Board
Open Meeting Minutes
Wednesday, January 31, 2018

permeable layer of soil is what drove the depth (80') of these. 2 Locations – 60 feet apart – testing nearly identical.

John Best: Rotating all of these? Would 2 close together impact each other?

Mike: Our testing showed a little interaction between the two but not much.

Rotation is the best way to save the permeability . . . resting exposing the soils to air.

Original Permit: 2000/2002: discharge @ 2 locations SPW & Fire Station

New Permit: 4 Locations – 2 subsurface, 2 WICKS and includes Current & Expanded

Conditions: Capacity – 104K gallons treat and discharge in each of 2 places (leech & WICK)

	CURRENT	EXPANDED
DISCHARGE	104K	352K
DPW	52K	52K
ANNEX	52K	52K
WICK1	104K	150K
WICK2	104K	150K

Removing the nitrogen from Tashmoo & Lagoon watersheds requires varied approaches . . . onsite denitrification system, sewer extensions, etc.

Permit for now says 200 and you present run at 40 so you still have a ways to go. Need to understand max day flow VS average flow. The wicks will be rotated with a need to keep a reserve of one of the existing leech fields. My understanding that the Selectmen are ready with a warrant article on the April Town Meeting to fund the final design.

Melinda: Can you talk about how we get to where the wicks are now to how we get them online and what cost we may anticipate there?

Mike: We need to get an extension from the existing pipe that leaves the treatment plant to the leeching fields behind the fire station . . . break off from that at West William and Pine Tree Road and extend the force main with the valve so flow could go to either place. Proposing a vault coming in from Pine Tree Road and then split to WICK 1 and WICK 2. It's also possible to resize it to plan for WICK 3, 4, & 5. There will be a flow meter so you know exactly how much flow is going to each WICK, valves, recommend a lowcost disc filter to eliminate bacterial growth.

Melinda: How frequently do they need to be cleaned and how complicated is it to do so?

Mike: Check them monthly and every year . . .

Kevin: Would have to find out whether the controls are in a vault or in an above ground facility. How far below grade is it? Is it above? Final design details need to be worked out.

Mike: Could be enclosed wood/precast building – saves life of valves, control panel, etc . . . possible to put control panel in /on new school . . .

Bob Rafferty: In the wastewater industry we resist designing confined spaces for underground unless there's absolutely no other alternative. Safety is number one.

Kevin: WICK site, 800ft to get pipe from Pine Tree Road, wastewater plant work – pump, controls . . . I think the number on the warrant article right now for all in is 1.3.

Josh: For 1.3million we are going to get these 2 WICKs online and running?

Kevin: Yes

Josh: And does that include the upgrades to the plant that need to be done?

Kevin: That's our estimate.

Town of Tisbury
Sewer Advisory Board
Open Meeting Minutes
Wednesday, January 31, 2018

Mike: But this is an estimate. We will have more conversation about the vault, etc. and it will be fine tuned.

Josh: And the number going on the town warrant is 1.3 or 1.5 to accommodate all these extras.

Melinda: I'm not sure.

Malcolm: Vault Construction Spec Codes?

Kevin: Would have to meet building codes which need to be worked through.

Melinda: Talk of new school farming shed and possibility of making it a combined function.

School not going forward with design until after Town Meeting so that's when we could start to make decisions about how this should be integrated.

Kevin: Not intended to be a manned building just as needed.

Melinda: We are asking for 1.390 on the warrant article.

Paul: The sampling will be done at plant or at the WICKS.

Kevin: At the plant.

John Best: Rotating the wicks -where is that done? New structure?

Kevin: Manually, done at a manhole.

Malcolm: ADA compliant?

Josh: Construction Time Schedule if money is released in April?

Kevin: About 2 years. Final design 2018. Construction 2019.

Do we envision putting pipes in the ground to collect the waste from the users during that same period?

Kevin: Sewer Extensions?

Yes

Mike: Sewer extensions in the B2 district and Lake Tashmoo area.

Town has overloaded these 2 embayments with nitrogen . . .what's a reasonable time to clean them up?

Mike: No easy answer must come up with a plan

Have to remove about 40% of current nitrogen load and the new load. . . . we need to do this quickly and if we are expecting any growth . . .

Jeff: We already have BOH regulation in the watershed district where new development must be a de-nite system.

Maura: Any new or expansion and the sale /transfer if the current septic system fails.

Have you eliminated the nitrogen or only reduced some of it?

Mike Loberg: Existing IA systems are imperfect at best, for a reasonably high cost, it removes 1/3 and turns into nitrogen gas. Ignoring new nitrogen issues due to development, to get to what the MEP program wanted us to do several years ago we need to remove 11K pounds annually from the combined watersheds. As our tools mature we expect to be more aggressive in denitrification.

John Smith: Is there a sand filter in the existing wicks?

Mike: Both advanced . . .BOD, suspended solids, nitrogen removals . .

John Smith: Fail safe for Tisbury for suspended solids into the wick or should we be looking at filtration as well.

Mike: It's a question of longevity, cleaning frequency, costs, etc. . . .

John Smith: Looking for additional measures, what would Tisbury have to do to insure longevity of the wicks?

Mike: Fine tuning at the treatment plant level

Melinda: When a group of us went to West Island. They had no existing leech fields to use as emergency backup. We will retain ours and they said "what are you worried about then?"

Town of Tisbury
Sewer Advisory Board
Open Meeting Minutes
Wednesday, January 31, 2018

Paul: West Island gave me an estimate of 10K in November. We would have to get a crane over here so would cost more.

Mike: Besides suspended soils, you have to be able to dissolve organic material because this is a great place for bacteria to grow. Pretty easily taken care of with resting and the additional of a low dose of chlorine.

Kevin: Take lessons learned from other facilities mistakes.

MALE: Organic matter in the WICKs for the 5 gallons of chlorine . .

Paul: When they switched WICKs they would douse it with 5 gallons of chlorine.

FEMALE: This needs to be voted at Town Meeting, does it also need to be voted at Town Election to get the money?

Melinda: No.

Kevin: Is it a Prop 2 ½ override?

Melinda: I think our Town Treasurer and FinCom determine which if any articles go on an override..

MALE: Is the intention to appropriate money just for final design or construction as well.

Kevin: The whole thing.

MALE: Are the other WICK sites in the NorthEast?

Mike: Dozens in SouthWest

Melinda: We are still working on the contracts in town to develop pre-engineering and design costs to home in on those,

Motions were made to adjourn the meeting at 5:08pm - unanimously approved by both Sewer Advisory Board and Wastewater Planning Committee.

Next Meeting – TBA:

Sewer Advisory Board Meeting Minutes Approvals: 11/29/17, 1/10/18, & 1/31/18

This document is the official Minutes of the Joint Open Meeting of the Town of Tisbury Sewer Advisory Board and Waste Water Planning Committee held on January 31, 2018. These minutes were presented and duly voted and approved by the Advisory Board at the Open Meeting held on

Chairperson

Date

Town of Tisbury
Sewer Advisory Board
Open Meeting Minutes
Wednesday, January 31, 2018

Town of Tisbury
Sewer Advisory Board
Open Meeting Minutes
Wednesday, January 31, 2018