

Minutes of the Water Quality Management Committee, May 1, 2023
Falmouth Town Hall - Civil Defense Room, 59 Town Hall Square, Falmouth MA 02540

Members present: Ken Foreman, Steve Rafferty, Eric Turkington, Steve Leighton, Matt Charette, Tom Duncan. Also present: Amy Lowell, Falmouth Wastewater Superintendent; John Waterbury, Board of Health; Paul Dreyer, Planning Board; Selectman Doug Brown; Peter McConarty and Steve Cadorette, Director and Deputy Director of Falmouth DPW; Hilde Maingay and Earle Barnhart, The Green Center; Ed Jalowiec from the Falmouth Heights-Maravista Improvement Association; Peter Hargraves, Finance Committee; Kim Comart, Falmouth Ponds Coalition; Gilda Geist, Falmouth Enterprise, numerous members of the public

1. Letter to Town Meeting members regarding Article 25

This item was taken as 3.

Chairman Turkington referenced a draft letter that was sent around to the members. He then reviewed the steps that the town has taken to date for the development of the next sewer plan and targeted watershed management plan (TWMP). He indicated that Article 25 was in support of the next phase of sewerage on the Teaticket peninsula and that the article did not garner 2/3 vote at Town Meeting. Turkington said the committee is considering sending a letter to all Town Meeting members with additional information on why they feel it was a good proposal.

Tom Duncan offered some feedback on the letter highlighting a few areas that he thought could use additional facts to support the position. Ken Foreman remarked that his sense from Town Meeting was that the major objection to the article was whether additional flow would go to West Falmouth. One resident spoke in response about the current state of West Falmouth Harbor and her continued concerns for its recovery. Tom Duncan described some of the geomorphology and flow characteristics around West Falmouth and indicated that there are now signs that the high nitrogen groundwater from the residual plume is pretty close to washing out. Chairman Turkington indicated that the wastewater superintendent has control of which beds are used and how much discharge goes into them and will ensure that the amount currently allocated in agreement with the Buzzards Bay Coalition and the State will not be reached or exceeded in West Falmouth Harbor.

Chairman Turkington noted that the Buzzards Bay Coalition has for many years requested an MEP study on Herring Brook which currently being conducting and concluded under contract with SMAST. The report will indicate how much nitrogen can go to Herring Brook without impacting the ecosystem there. He also stated that increased discharge at beds 14 & 15 is the town's short-term plan, and the long-term plan is to pursue an ocean outfall. He estimated that any nitrogen going to Herring Brook would only be for a short time before an outfall would come online and remove all nitrogen discharge from the Buzzards Bay watersheds. Ken Foreman indicated the plan is to pursue both the next sewerage project and permit an outfall simultaneously. He said with the defeat of Article 25 both projects are now stalled. He remarked that it is not fair to residents on the South Coast not to make progress on cleaning up their estuaries.

A member of the public commented that what they wanted to see at Town Meeting was a comprehensive plan and not just a sewerage plan. She expressed concerns that the sewerage plan only treats the symptoms and would like to see a larger lifestyle change such as eco-toilets to address the cause. Chairman Turkington noted that the Town has a comprehensive plan which includes several alternatives to sewerage where they are feasible. He said the parameters of the committee are not set by the town but rather by the State DEP. He indicated DEP's proposed title 5 regulations were likely to be published within a month. His opinion is that the DEP is not supportive of alternatives and would rather see wide implementation of sewerage. He noted that an additional hurdle to implementing any of the proposed alternatives is getting DEP's approval.

The discussion returned to the idea from members of the public of urine diverting toilets being incorporated into the plan. Selectman Doug Brown supported the idea of exploring urine diversion in the upper watershed. He also doesn't think people will modify their existing systems. Chairman Turkington is skeptical that there will be enough acceptance from the homeowners or the DEP for the urine diversion technology to be a major implementation item in planning. There was public comment about a pilot urine diverting program to which Chairman Turkington indicated the committee is willing to look into that goal.

Discussions continued with additional input and opinions on why Article 25 was defeated and further support for a urine diverting pilot from members of the public. Someone suggested broadening the scope of Article 25 in the fall to include funds to help initiate a urine diverting pilot or other alternative program. Ken Foreman indicated that the town has pared the proposed sewerage down significantly since what was originally proposed 20 years ago. He stated the areas left that the town proposes to sewer are only the areas with the highest housing densities. Chairman Turkington thanked everyone for their feedback and closed discussions. Earle Barnhart requested to make an additional comment. Chairman Turkington indicated that having previously spoken on the topic earlier in the meeting, Mr. Barnhart was not recognized.

2. Review of current initiatives -

a. Saxon Partners 40B wastewater proposal - Kristen Rathjen

Chairman Turkington stated that a representative from Saxon Partners was recently before the Select Board where they were asked about a plan for wastewater and the representative did not give an informative answer. He explained that Saxon has proposed connecting to municipal sewer or constructing their own wastewater treatment plant on site and connecting abutters to their plant. To his knowledge there is no way for the developer to mandate that private citizens connect to a private treatment plant.

Kristen Rathjen distributed information provided by Saxon Partners on their base proposal for a net zero nitrogen addition to Great Pond. Rathjen focused attention to Phase 1 of the proposed development for 300 units. She highlighted the potential nitrogen contributions if the development was operating under full design capacity (110 gpd/bedroom) at the state standard effluent level of 35 mg N/L under a standard discharge permit of 10 mg N/L. She then identified several inaccurate assumptions that were used by the developer to calculate additional nitrogen reduction benefits by

connecting homes in the vicinity of the site. One thing Rathjen noted was that they did not account for the 25% nitrogen reduction attributed to existing title 5 septic systems. Rathjen described the means she used to determine the current nitrogen load to Great Pond from the existing title 5 systems in the area including using actual water use averages, the title 5 nitrogen reduction, and the standard performance requirement of 10 mg N/L as would be required under a groundwater discharge permit. Her calculations indicate that the developer would need to connect approximately twice as many homes as they propose to achieve no net nitrogen addition to the watershed.

There was discussion on whether or how a private entity could force homeowners to connect. Steve Rafferty commented that it would be the responsibility of the developer to determine that and that was not something the town should have to figure out. He remarked that the objective of the topic was to illustrate the scale of the issue and that the expectation will be for the developer to come to the Town with a plan worked out. Tom Duncan made a suggestion of costing out the number of sewer connections and requiring the developer to expand the proposed sewer area in the lower watershed. Amy Lowell commented that she has had conversations with the partners, and they have proposed numerous options. She stated the issue is the large number of units and lack of capacity at the treatment plant and discharge sites for it. An adjustment of that scale in the plan would require a rework of the state-approved plan in the TWMP which could substantially delay the next sewer projects.

Duncan asked whether the town could mandate the private treatment plant to perform at 3 mg N/L. Steve Rafferty commented that it is a 40B that is exempt from local regulation, and they would only be obligated to follow state regulations of 10 mg N/L. Hilda Maingay said that she suggested to the developer to install waterless urinals to reduce the nitrogen impact. She also said that it did not seem that the investors were interested in things not 'normally' done. Another public comment indicated that if the developer is allowed to reduce nitrogen only to state required levels with no additional requirement for nitrogen net zero, the burden to mitigate that additional load falls on the entire town.

After some further discussion, Steve Rafferty clarified that what was presented at the meeting was just for the first 300 units. If the development is permitted at full scale, the developer will need to figure out a plan for all 900 units. Earle Barnhart commented on several options for the watershed including watershed permits and the clause of making reasonable progress (75%) towards the TMDL goal and whether it would be allowable for Falmouth to use this development as an unusual circumstance to allow for 75% removal to allow time for urine diversion to be shown capable of meeting the goal for the Great Pond watershed. Ken Foreman commented that 75% doesn't clean up the estuary. Matt Charette asked whether the developer could be asked to install a PRB along their eastern border. Steve Rafferty reemphasized that it is up to the developer to figure out a solution that the town would be willing to accept. Chairman Turkington commented that the bottom line is that for phase 1 alone an additional 237 homes would need to be connected to their private sewer plant to achieve no net nitrogen gain.

**b. Coonamessett River Permeable Reactive Barrier –
Ken Foreman/Kristen Rathjen**

Ken Foreman reported that there was a recent funding opportunity through the Southeast New England Program (SNEP) where he thought a test woodchip bore hole permeable reactive barrier along the Coonamessett River might be a good fit. He indicated that the first step was to get permission from the Conservation Commission (Con Com) to use the land. He reported that Con Com had concerns and thus the idea has not been pursued any farther. Rathjen commented that the main concerns from Con Com were the potential for the reduced oxygen groundwater that results from a PRB to impact the water quality in the river which was specifically restored for fish habitat, and concerns on impacts to the ADA-compliant walkway during construction of the PRB.

There was a question about whether the groundwater could be reoxygenated prior to discharge into the river after the PRB. Matt Charette commented that it would be added expense and engineering to the project to determine how to do that. Ken Foreman commented that it would be necessary to see if there would be a noticeable impact from the small seepage flow of low oxygen water on the surface water in the river system. He remarked that each site has site specific characteristics that need to be worked with. That is why a small pilot-scale installation was being proposed. Matt Charette agreed it would need to be tested.

c. Reclassifying Quissett Harbor and Megansett Harbor - Kristen Rathjen

Chairman Turkington gave a brief summary of a recent study published by Ivan Valiela and collaborators that describes the decrease in atmospheric deposition to the watersheds and how for some estuaries that has slowed the decline and had some impact of improvement in water quality. His overall takeaway is that the estuaries are changing without our direct involvement and that needs to be considered in future planning.

Kristen Rathjen recounted a presentation given in 2022 on the health status of Quissett Harbor and whether consideration should be given to seeking delisting or reclassification of the watershed. Rathjen indicated she and Chairman Turkington met with State Representative Viera and a member of the Bourne Select Board to discuss Megansett Harbor. She indicated that the outcome of the discussion after reviewing current data, where the sentinel station has been consistently meeting the target threshold TN concentration, was to look into reclassifying Megansett Harbor or at least obtain guidance on the matter.

Rathjen briefly presented the data from the Buzzards Bay Coalition monitoring from both estuaries and indicated there is a knowledge gap in what steps should be pursued next. She posed the question whether reclassifying watersheds that are meeting their targets would exempt them from potential state mandates (e.g., the proposed title 5 and watershed permit regulations).

A brief discussion was had on what the process might look like and what it could mean for the town. Steve Rafferty suggested that overall, both watersheds should be low priority for the town for alternative implementations or development of watershed permits. He also suggested that it would be worthwhile to choose one of the watersheds

and open discussions with the state to get their guidance. He moved to have Science Wares pursue one of the watersheds in such a fashion. Ken Foreman seconded. Unanimous in favor.

d. Fresh water ponds working group – Chairman Turkington

Chairman Turkington recalled the history of the formation of the Water Quality Management Committee and how for the last 12 years the committee has been immersed in saltwater estuaries. He explained the reason for the focus on saltwater has been the push from the State. He stated that to date there has not been a push from the State on freshwater ponds, but the citizens of Falmouth have been pushing for support on the concerns for the deteriorating water quality of the freshwater ponds for some time.

Chairman Turkington said the item is on the agenda to open discussions on how to proceed, but ultimately it is up to the Select Board. He invited Kim Comart, founder of the Falmouth Ponds Coalition, to make a presentation on some of the concerns from the freshwater ponds. Comart gave a brief background on why the Falmouth Ponds Coalition was created and the lack of responsibility from existing town entities on the issues facing freshwater ponds. He expressed support for the idea of a freshwater pond working group, but also discussed whether a separate committee might make better sense. Comart stated that everyone has the same goal of protecting water quality. He would not want a working group to distract WQMC from their other tasks. Members of the WQMC also remarked on potential benefits and drawbacks to either model. Tom Duncan suggested a separate advisory committee may have more power to make recommendations to the Select Board and noted that WQMC had a lot on its plate already. Another member recommended teaming with the freshwater pond initiative at APCC. Comart commented that the current program at APCC is primarily focused on data collection. He feels that the ponds need strategies and remediations plans at this stage and not just data collection. A public comment was raised that there may be more flexibility and fund-raising ability under a non-profit than the political hurdles associated with a municipal entity. Comart responded that he feels it is important to have an official town body that has accountability to take care of freshwater ponds. Ken Foreman commented that all the options are not mutually exclusive, in that a working group can be formed as well as a separate committee and continued work under the non-profit status. At the end of discussions, Comart stated he would like to get feedback from the Falmouth Ponds Coalition, which was to meet on May 18, on how the group would like to proceed.

3. Pursuit of a town-wide fertilizer ban (Nantucket and Orleans home rule bills) – discussion

Chairman Turkington opened the discussions by presenting the steps that Nantucket and Orleans have taken to further reduce nutrient inputs from fertilizers by trying to enact a home rule petition for a town-wide ban with the exception of agriculture. He remarked that across the region it is costing tens of millions of dollars to address what is being applied to lawns. Chairman Turkington commented on the specifics of the current fertilizer bylaw in

Falmouth which is one of the strictest on Cape and recounted how challenging it was to get it passed in the legislature. He noted that enforcement continues to be the main problem.

Concerns were raised by several landscape professionals on the idea of a proposed ban. Their concerns were that under proper management which includes required soil testing before fertilizer application there should not be excess nutrients available to leach into the groundwater. One recommendation that was made was to prohibit homeowners from applying fertilizer.

Chairman Turkington reminded everyone in attendance that these discussions are the initial discussions. If the committee decides something is worth pursuing, they will recommend it to the Select Board, and if the Select Board wants to pursue the idea it goes to Town Meeting. He remarked that other towns on Cape have been taking an aggressive approach on fertilizer use, and it is worth a discussion in Falmouth. Chairman Turkington also remarked that the State is proposing a massive mandate [I/A's] that could affect 72% of homeowners in town with septic systems, and that the town [WQMC] is looking at other areas where they can control the nutrient inputs.

A member of the public asked whether the town has looked at extending the wetland setback buffer as has been proposed in Mashpee. Chairman Turkington commented that the buffer is under the Conservation Commission's jurisdiction. Another member of the public remarked about a previous town initiative of Falmouth Friendly Lawns and suggested that education campaign be pursued again.

Vice Chair Rafferty closed the discussions saying that the town needs to continue to look at ways to reduce nitrogen. He remarked that while the current plans in Nantucket and Orleans may not be perfect, there is room in Falmouth to open discussions about further reducing fertilizer inputs in the watersheds.

4. Reports of members and staff

Kristen Rathjen reported that she had sampled the Shorewood Drive permeable reactive barrier in March and that the data indicates the upper portion of the two-year dose was still going strong. She indicated that there is one more sampling event remaining as authorized by the committee.

5. Vote minutes of prior meeting (04.03.23)

Steve Leighton moved to accept the minutes as presented. Matt Charette seconded. Unanimous in favor.

6. Motion to Adjourn -7:26pm. Unanimous

Minutes submitted by Kristen Rathjen

List of Documents

- Draft letter to Town Meeting members

- Saxon Partner 40B calculations
- Buzzards Bay estuaries Enterprise column
- Copy of Orleans fertilizer bill
- Megansett and Quissett water quality monitoring data
- Draft minutes of the 04-03-2023 WQMC meeting