

**Minutes of the Water Quality Management Committee, July 31, 2023, 4:30pm  
Falmouth Public Library, 300 Main Street, Falmouth, MA 02540**

Members present: Ken Foreman, Ed Jalowiec, Steve Rafferty, Steve Leighton, Tom Duncan, John Waterbury. Also present: Anastasia Rudenko, GHD; Peter McConarty, Director Falmouth DPW; Selectman Doug Brown; Paul Dreyer, Planning Board; Peter Hargraves, Finance Committee; Korrin Peterson, Buzzards Bay Coalition; Gilda Geist, Falmouth Enterprise; numerous members of the public

A recording of the meeting can be found at:

[https://www.youtube.com/watch?v=lMBYR13d5jI&list=PL3kvbh7I9uU\\_0Riu9fafcE7KNpoxRDxar](https://www.youtube.com/watch?v=lMBYR13d5jI&list=PL3kvbh7I9uU_0Riu9fafcE7KNpoxRDxar)

**1. Election of Water Quality Management Committee Vice Chair – discussion and vote**

Vice Chair Rafferty opened the meeting with a call for nominations for the position of Vice Chair. John Waterbury nominated Steve Leighton. Ken Foreman seconded. No other nominations were made. Unanimous in favor.

**2. Draft Addendum – Assessment of the Mixing and Dispersion of Wastewater Discharged from a Site off Kite Park, Falmouth – Anastasia Rudenko, GHD - discussion and vote**

Chairman Rafferty reminded everyone of the findings from the main outfall evaluation on potential locations and dispersions. He remarked that through the evaluation process the Kite Park site holds high promise for several reasons.

Anastasia Rudenko introduced herself and stated she would be focusing her presentation on the simulations done by Jim Churchill on the Kite Park site only. She did give a short background on how the original 12 potential outfall sites were narrowed to the Kite Park site as the preferential site. She indicated that there were three major goals set for identifying preferred outfall sites which were established during the evaluation process. Those goals include: finding a location with no backflow potential to sensitive coastal estuaries or beaches, minimizing the zone of initial dilution to meet national shellfish standards, and discharging beyond eelgrass. In addition, site preference was given to locations with the most flexibility as staging areas with minimal constrictions to reduce construction costs. The three areas with the most flexibility as staging areas included Kite Park, Central Ave, and Worcester Ave.

Rudenko described the continued evaluation of these three sites using an initial 2,800' length parameter for directional drilling logistics. She explained that each site was evaluated for the length parameter compared to eelgrass presence. The next evaluation was on dilution potential during different seasons. She stated that the model simulations indicated that the predicted overall nitrogen increase to Vineyard Sound is < 5 µg/L in the immediate vicinity of the outfall. She indicated that 5 µg/L is well within the natural variability of the Sound. She showed the areas where the dilution ratio was ≥ 1000:1

under two flow scenarios. At a discharge flow of 2 mgd the dilution ratio was almost immediate, while at 4 mgd it was generally within 300' of the outfall discharge.

Rudenko summarized that the conclusions of the Kite Park modelling are that discharge from an outfall would have negligible impacts in and on the surrounding environments and would meet all three of the goals set for a preferential outfall site. She indicated the next steps are to present the findings to the Select Board and the Falmouth Heights Association and present an article at Fall Town Meeting to collect additional field data.

Chairman Rafferty commented that the current town-wide plans for sewerage total approximately 1.7 mgd in discharge. The initial modelling is at 2 mgd for the planning horizon, but also at 4 mgd to allow for additional discharge potential should the town ever explore additional sewerage in the far distant future.

Steve Leighton asked what the 1000:1 dilution standard is based on. Steve Rafferty said secondarily treated effluent. Leighton remarked that Falmouth's discharge would be even better since it is tertiary treated.

Peter Hargraves commented that if the town discharges to an outfall pipe it solves all the problems in the foreseeable future. Rudenko commented that it would and emphasized that the bottleneck for moving forward with many of the planned sewer projects is disposal capacity. He asked about how the flow neutral bylaw would be affected by an outfall. Steve Rafferty commented that the flow neutral bylaw is a requirement for the town to receive a 0% loan from state revolving funds. Hargraves also asked about pathogen load in the tertiary treated effluent and whether it meets state standards for swimming. Rafferty stated the wastewater treatment plant removes everything down to low levels then the effluent is UV irradiated to kill pathogens. He said it goes back to the zone of dilution and confirmed discharge from the outfall would be well below the state standards for swimming.

Hilda Maingay expressed concerns about other potential contaminants in the outfall discharge (heavy metals, pharmaceuticals, and phosphorus) and stated concerns over what this could do to the ocean. Chairman Rafferty stated that the treatment plant does reduce heavy metals and pathogens but also noted that the extent of the issue before the committee is whether to proceed with recommending land-based disposal or an outfall and between those two options, the outfall is looking more promising.

A more detailed discussion about dilution and potential concentrations along the shore was had. Korrin Peterson (Buzzards Bay Coalition) commented that the current septic systems in the ponds ultimately discharge directly into the ponds through groundwater at full strength and flush into Vineyard Sound. With an outfall, there would no longer be septic discharge in the sewerage areas but rather highly treated discharge and with the highly treated discharge, the water in the ponds and out to the Sound will be overall much cleaner than with current septic system discharges.

Jon Kaufman asked what the funding source is for the outfall. Chairman Rafferty remarked that everything to date has been done through a town financing scheme securing 0% loans and town meeting appropriations to avoid increases in taxes.

Tom Duncan made a motion that the committee endorse the main report and addendum as presented. Ken Foreman seconded. Unanimous in favor.

### **3. Presentation on Title 5 and Watershed Permit options – discussion and vote**

Chairman Rafferty gave a presentation detailing what the new Department of Environmental Protection (DEP) title 5 and watershed permit regulations are and the timeline for the decisions the town will need to make on each of them. He indicated that both regulations went into effect on July 7<sup>th</sup> and the clock is now ticking. Under the title 5 regulations, all existing title 5 systems within a nitrogen sensitive area (~13,000 systems in Falmouth) will need to be upgraded by July 7, 2030 unless the town files a notice of intent (NOI) to apply for a watershed permit by July 7, 2025. Unless the town files an NOI prior to January 7<sup>th</sup>, 2024, all new construction after January 7<sup>th</sup> will be required to install a Best Available Nitrogen Reducing Technology (BARNT) system. Rafferty emphasized that even if all systems in nitrogen sensitive areas were upgraded to BARNT, in many cases they would not remove enough nitrogen to meet the state-mandated total maximum daily loads (TMDLs).

Rafferty continued by giving further details on how the state defines BARNT and what systems are currently eligible. He repeatedly emphasized that allowing the title 5 upgrade mandate to proceed will not achieve the TMDLs particularly in the south coast ponds where the lower watersheds need 100% nitrogen reduction.

Rafferty then proceeded to describe the watershed permit regulation and what the town would need to have in order to apply for a watershed permit. He indicated that the elements of a watershed permit include an approved watershed plan (Comprehensive Wastewater Management Plan (CWMP), Targeted Watershed Management Plan (TWMP)), has annual monitoring requirements, five-year progress reporting requirements and are designed to allow an adaptive management framework. Under adaptive management, every five years progress and results are evaluated and strategies are adjusted as needed. He noted that as part of a watershed permit, the state requires a backup plan which includes sewers or innovative or alternative (I/A) system installations. Rafferty explained that the planning horizon for the watershed permit could not exceed 20 years and if the watershed is shared an intermunicipal agreement has to be in place.

Rafferty stated that the plans must include an implementation schedule and the DEP will hold the towns to that schedule. At any time, the DEP can modify, revoke, terminate, or renew watershed permits. If revoked or terminated, then the watersheds revert to the title 5 upgrade requirement. Rafferty also remarked that the state can take enforcement actions (daily fines) for non-compliance with the terms of the permit(s).

Rafferty summarized the pros and cons of taking either the title 5 upgrade path or seeking watershed permits and what each path means for the town, homeowners and the estuaries. He stated that ultimately it is a decision to be made by the Select Board. In addition, he said the Select Board will need to determine whether the town wants to file for watershed permits in every nitrogen sensitive area or allow title 5 to take effect in certain areas as well as determine who will lead the process and assess what role the Board of Health and Water

Quality Management Committee should have in the process. Rafferty stated the next step is for the committee to make a recommendation to the Select Board, then at a 2024 Town Meeting present an article to fund development of any or all wastewater management plans.

Ed Jalowiec informed the committee that he spoke with a representative from a group that oversees the realtors and was informed that all realtors are now required to disclose the title 5 regulation and the potential cost to potential buyers in any nitrogen sensitive area.

John Waterbury left the meeting.

Peter Hargraves requested clarification. As he understands it is that option 1 is to put 13,000 I/A systems in and it will not achieve sufficient nitrogen reductions so sewerage would still be required? The committee confirmed his understanding to be accurate. Hargraves also walked through the timing of the steps to get through the urine diversion pilot and whether the technology would even be an option under the schedule of the regulations. The committee said, if approved as a BARNT, urine diversion could be worked into the watershed permit plans in later phases, but it would likely not be part of the early phases of the plan. Rafferty commented that it is unknown how DEP is going to respond to the urine diverting.

A side discussion was had about how other alternatives (shellfish) would fit into the watershed permit plans. A comment was made that the people would like to see comprehensive plans on how all of the alternatives might be working together in each of the watersheds.

Steve Leighton made a motion to recommend that the Select Board file watershed permit Notices of Intent by January 7, 2024. Tom Duncan seconded. Unanimous in favor.

#### **4. Draft letter to Town Meeting members – discussion**

Kristen Rathjen presented a version of the draft document which included the suggested edits from the members. She informed the members that most of the suggestions were basic wordsmithing and no real content changes had been made. There was some discussion from the members on specific content while several members of the public had concerns over what may or may not be included in the letter. Chairman Rafferty reminded the public that the document is intended to be a letter coming from the Water Quality Management Committee sent to Town Meeting members. He noted that specifics on the topics of outfall funding and the urine diversion pilot funding were not included in the letter for two main reasons: the committee has not received a final proposal for either and the letter is meant to address the article specifically for sewer design funds.

Chairman Rafferty proposed to form a working group to redraft the letter to incorporate some of the recommendations that came up during the meeting. The working group will consist of Steve Leighton, Tom Duncan and Ken Foreman.

#### **5. Discussion on meeting time preferences**

Chairman Rafferty suggested the regular meeting time of the committee move to Wednesdays at 4:30 pm so the committee can utilize the Select Board meeting room. After some discussion, members agreed to try it out.

## **6. Reports of members and staff**

Chairman Rafferty reported that he and Ken Foreman recently visited the Rich Earth Institute in Vermont. Ken Foreman provided a brief report of what they learned, what questions were asked, and overall impressions about the types of urine diversion systems that are being used. Foreman remarked that urine diversion could be a partial solution to achieving the total maximum daily loads (TMDLs), but he has a sense that it is not going to be widely implemented based on the sheer volume of urine that could be collected that would have to be trucked for disposal.

Ed Jalowiec followed Ken Foreman's report and commented about some personal research he has been conducting on the topic including pricing for several models of urine diverting toilets, and some potential challenges to tank location and concerns from the Falmouth plumbing inspector.

Chairman Rafferty reported that State Representative David Viera suggested that the members of the committee tour the Green Center. He said the committee will work with the center to schedule a time.

Chairman Rafferty asked whether people felt they had enough time to review and provide comments on the urine diverting draft evaluation. He did not get a formal consensus and left the review period open but noted he would like to set a date to close the comments.

## **7. Vote minutes of prior meeting (06.26.23 & 07.10.23)**

Tom Duncan suggested a minor edit to the 06.26.2023 minutes. Steve Rafferty relinquished control of the meeting to Vice Chair Leighton. Rafferty then moved to accept the minutes as amended. Ken Foreman seconded. Vote of three in favor, two abstentions, motion passes.

Steve Leighton and Tom Duncan suggest edits to the 07.10.2023 minutes. Ed Jalowiec moved to accept the minutes as amended. Ken Foreman seconded. Unanimous in favor.

## **8. Motion to Adjourn -6:36pm. Unanimous**

Minutes submitted by Kristen Rathjen

### **List of Documents**

- Draft Addendum – Assessment of the Mixing and Dispersion of Wastewater Discharged from a Site off Kite Park, Falmouth
- Draft ocean outfall discharge evaluation report
- Presentation of Title 5 and Watershed Permit options
- Draft revised letter to Town Meeting members

- Draft minutes of the 06-26-2023 & 07-10-2023 WQMC meetings