

**MERRIMACK VILLAGE DISTRICT
BOARD OF COMMISSIONERS
MARCH 21, 2022
MEETING MINUTES
(approved April 18, 2022)**

A regular meeting of the Board of Commissioners was conducted on March 21, 2022, at 5:08 p.m. at 2 Greens Pond Road, Merrimack, NH.

Chairman, Donald Provencher presided:

Members of the Board present: Wolfram von Schoen, Vice Chairman (electronic participation)
 Kenneth Ayers
 John Lyons
 Paul McLaughlin (electronic participation)

Members of the Board Absent:

Also in Attendance: Ron Miner, Superintendent
 Michele Holton, Finance Director/Human Resources

REGULAR SESSION

1. Board of Commissioners to review Pennichuck Water Works Cost of Service Study with Don Ware and Larry Goodhue.

Chairman D. Provencher informed the public that Don Ware and Larry Goodhue were participating in the meeting to review the Pennichuck Water Works (PWW) Cost of Service Study. Chairman Provencher explained that MVD is currently in a reduced rate agreement with the Public Utilities Commission (PUC), which will hopefully stay in effect until the end of the Summer (2022) when all of the MVD wells are expected to be online, but the Cost of Service Study was looking into a wholesale agreement. Chairman Provencher noted that the variables included the volume of water MVD would be looking to purchase as well as which location MVD would consider taking water from. Chairman D. Provencher asked if there would be any limitation on the number of consecutive days, or the season of the year, that MVD could take the peak consumption volume. He noted that MVD would normally ask for an average day withdrawal over 365 days and gave an example of 450,000 average gallons per day wholesale request. He stated that other agreements were written as such that MVD could use peak flow of twice that amount. Don Ware, of PWW, explained that there are four parameters in a typical Cost of Service Study. The first parameter is how much MVD is willing to guarantee. He explained that if MVD chose to guarantee 160M gallons of water per year, but only purchased 120M gallons by the end of the year, MVD would be paying for 40M gallons that they did not use. The second parameter is called a guarantee, which was explained as the rate over 365 days a year that PWW would need to guarantee they will provide. Don Ware noted that PWW's plant has a certain capacity, and short of an emergency, they will reserve the guaranteed amount for MVD and be able to provide the reserved flow. Don Ware then told the commissioners that there is what is called a "max day," and he explained that if a max day of 2M gallons per day (gpd) was agreed upon, and MVD decided they needed or wanted 3M gallons one day, PWW would notify MVD that they can only provide 2M gpd. This is to ensure the delivery facilities are capable of meeting the maximum day. D. Ware also explained that there is a peak hour, that works in a similar manner as the max day. He stated that this is usually based on what the pumps are sized at and can legally draw. He clarified

that in an emergency, such as a fire, all parameters go away and the needs of the emergency are met. Don Ware explained that there are supervisory and engineering controls that prevents more than the agreed upon amount to be used. He also noted that a phone call can change this in the event of an emergency. Chairman D. Provencher referenced an email from Keith Pratt of Underwood Engineers, noting that the amounts listed as a guaranteed annual take of 450,000 gpd on average, and a capacity reservation of 900,000 gpd. Don Ware explained that this information means that on any one day the pumps will not put out more than 900,000 gpd or roughly 630 gpm. He noted that agreeing to the numbers in a special rates contract guarantees the stream of revenue for PWW. D. Ware continued to explain that the revenue gets broken into two segments, including a fixed revenue, which is paid regardless of whether or not MVD uses any water. The fixed rate does not change and is meant to recover the capital investment in the raw water facilities and the treatment facilities. Chairman D. Provencher asked if it would be the same, at the end of the year, if MVD received water at 6-months at 900,000 gpd versus 12-months at 450,000 gpd. Don Ware explained that if MVD uses 0 gpd on the first month, PWW will still bill as though they used 450,000 gpd, but there will then be a credit for 450,000 gallons of water. He explained that the credits do not carry over year to year, but these contracts are typically scheduled as a fiscal year starting in September versus the calendar year. This scheduling allows for flexibility should the customer (MVD) use less water in the winter and need to “catch up” on usage during a time when the demand is present. Commissioner K. Ayers asked if there was data available on the amount of water MVD has purchased from PWW during the summer months in the past. Superintendent R. Miner answered that the information is available, and he will put something together for the board members.

Keith Pratt asked Don Ware whether the contract was set up in a way that the supply to MVD would proportionately drop in the same way it does to PWW in the unlikely scenario of necessary water restrictions. Don Ware explained that everyone is treated equally in the contracts and the same level of restrictions will be applied to all wholesale customers. Chairman Provencher asked about the rate if MVD found themselves using above an average of 450,000 gpd. Don Ware explained that the rate would remain the same as long as they were not exceeding the maximum gpd. He then clarified that the fixed rate would remain the same and they will continue to pay the volumetric rate for any use above the 450,000 gpd. Larry Goodhue reminded the commissioners that it is important to base the numbers off of MVD’s true determined need. Keith Pratt asked if the capacity reservation would have a big impact on the Cost of Service because it becomes a rough maximum day number. Don Ware explained that each component of the Cost of Service is impactful, and how the closer the four numbers are to each other, the lower the volumetric cost is, but this provides limited flexibility to MVD. Larry Goodhue asked the commissioners to keep in mind that valuable data can be gathered during the length of the contract and once complete, a renewal contract could be discussed for a different level. Don Ware noted that Tyngsboro has a three-year contract, with 3 three-year extensions. He explained that the contract is auto renewed unless one party decides otherwise. Keith Pratt reminded the commissioners that there is not yet a physical connection at DW Highway, and the cost would need to be considered. Don Ware stated that because the connection is exclusively to MVD’s benefit, the cost would need to be paid for in advance, rather than broken down into the rates. Commissioner J. Lyons asked if the DW Highway connection is only needed if the amount of water on reserve is greater than 1M gpd. D. Ware explained that the connection on Continental Blvd has roughly a 1M gpd capacity, on top of where Milford is. Should MVD desire any more than 1M gpd, the connection at DW Highway would need to be considered. Chairman D. Provencher reverted back to an earlier comment by D. Ware indicating that one town had a twenty-year contract and asked if the rates stay the same for the full term of the contract. D. Ware explained that the fixed charge does not change for the duration of the contract, unless, as the contract reads, PWW has to make improvements to the supply facility. He further explained that the volumetric rates change each time PWW’s rates change.

At this time, the commissioners had no other questions and Chairman D. Provencher asked D. Ware if he would like to speak to the commissioners about PFOA. D. Ware informed the commissioners that PWW has been sampling both raw water and finished water on a monthly basis since 2016. At this time, Ware provided the commissioners with a copy of the sample results. He explained that PWW's water sources fluctuate greatly in their PFOA levels, and many things play a role in the end result, including the age of the carbon. D. Ware further explained that PWW's carbon was not designed specifically for PFOA removal. When the new standards were announced, PWW changed out the carbon over a period of 18-months. PWW has 12 carbon beds and changed out 3 at a time in order to have them staggered. Ware stated that once the fresh carbon was placed, PFOA was non-detect. Prior to the fresh carbon being placed, there was no change in PFOA levels from raw water to finished water. Ware stated that they saw the first breakthrough of the new carbon (placed in late 2019), in the fall of 2021. The second and third sets of carbon beds, each placed 6-months apart, saw breakthrough shortly thereafter. This took place when PWW was using a mix of Merrimack River water and Pennichuck Brook water. The Merrimack River is used during the summer months to supplement Pennichuck Brook. Ware explained that the carbon is not just removing PFOA, PFAS, and PFOS, but also organics, and the Merrimack River has a lot more organics than Pennichuck Brook. However, there is less PFOA in the Merrimack River and PWW is working towards finding a balance between filtering PFOA and organics. According to D. Ware, PWW is currently working with Calgon to replace filters. D. Ware explained that PWW prioritizes the Merrimack River as a source since it is lower in PFOA than Pennichuck Brook. In February, due to the persistent cold weather, the intake from the Merrimack River needed to be temporarily closed due to ice crystals blocking the intake, and that PWW switched to Pennichuck Brook, which is higher in PFOA. This elevated PFOA exacerbated the breakthrough of PFOA through PWW's carbon beds. Chairman D. Provencher asked if PWW is collecting samples from each of the four beds, or from every bed. D. Ware explained that the flow is distributed evenly amongst all beds, unless a gate is shut off, so each bed is getting the exact same flow rate. PWW is then testing one of the four flow beds in each group. Chairman D. Provencher stated that MVD customers were notified when MVD received a notice of non-compliance, and the reason for purchasing water through PWW was to serve compliant water, which D. Ware agreed was in good practice. Don Ware informed the commissioners that Manchester Water Works (MWW) uses chloramine to treat their water, and over time nitrification can happen and create problems. He explained that MWW had recently switched to chlorine from chloramine for a 4-month period of time once problems with nitrification arose. This did exactly what it was supposed to do, but PWW noticed an increase in Trihalomethanes. Trihalomethanes has a Maximum Contaminant Level (MCL) of 80 mg/L and sampling showed 88 mg/L. This is averaged out to less than 80 mg/L over 4 quarters and therefore did not put them in non-compliance. Ware stated that he shared this because MWW and PWW did not have to notify customers because they were not in non-compliance, and MWW made a known change for other reasons. He stated that professionally this had to be done in order to avoid bacterial issues, which is more critical.

Chairman D. Provencher stated that he asked about the PFOA levels because MVD customers may question what is happening after they expected to be in compliance for PFOA by using PWW water. D. Ware informed the commissioners that PWW is currently exclusively using the Merrimack River. Chairman D. Provencher thanked Don Ware for the information, stating that it may be helpful for customers to understand and realize that the water is in compliance based on a running average.

Superintendent R. Miner asked if PWW is still exploring servicing Cabot Preserve via MWW. D. Ware answered that MWW has run out of capacity. When the Southern NH extension was built, the state, through grant money, paid much of the cost of the radio wells that MWW put in. MWW built in capacity to serve the Southern NH extension. In the early 2000's, PWW had purchased 2.1M gallons

per day (gpd) of capacity through MWW and have used 1.4 M gpd of that. Ware explained that that the project in Londonderry will use all 700,000 gpd that remain. According to Ware, MWW's ability to produce water during the two peak months of the year has been fully utilized. Ware informed the commissioners that the State is discussing the option to expand the current capacity with MWW.

Don Ware informed the commissioners that PWW has filed for a rate update with the PUC, and the current numbers in MVD's Cost of Service study are based on PWW's portfolio at the 2018 rate case. He suggested adding 15% to the volumetric rate to get an idea of what the rate may look like.

Vice Chairman W. von Schoen asked D. Ware if PWW has looked into decentralized chlorination technologies, such as secondary chlorination stations. Ware answered that the water they purchase from MWW has chloramines, which PWW removes and adds chlorine. He stated that if you do not have a lot of organics, boosting is not a problem. Ware also explained that PWW has practiced re-chlorination when necessary, such as when PWW purchased water from Derry.

FINANCE/HUMAN RESOURCES REVIEW

A. Analysis of Revenue and Expenditures Report

Michele Holton, Finance/H.R. Director, informed the Commission that having completed the month of February, Merrimack Village District (MVD) is 66.67% through the fiscal year. The net ordinary income totaled \$797,000, which is \$376,000 above the net ordinary income at this point last year. Director Holton stated that there were no significant expense line items that had not previously been discussed. She asked the commissioners if there were any question and stated that she would be happy to answer questions throughout the week if any arose. (The Board had requested since financial report results are solid and there are no significant issues to address that the review be brief due to a full agenda and time constraints for several participants.)

REGULAR SESSION

2. Board of Commissioners to receive an update from Underwood Engineers for ongoing projects.

Peter Pitsas, of Underwood Engineers, informed the commissioners that the Wells 7 & 8 project was showing some increase in iron concentrations coming off of the GAC. MVD continued to run the Wells with out much luck in decreasing the iron concentrations. Underwood had a meeting with Evoqua, who proposed putting a calcite layer inside the GAC Vessels on top of the GAC. This would raise the pH and hopefully prevent or slow down the leaching of the iron. Underwood will be presenting a letter to Evoqua in hopes to get answers to some of their questions regarding this proposal. Evoqua has also informed Underwood that they would be on site to set up a pilot test, using MVD water. Commissioner K. Ayers asked about the iron source and Pitsas answered that it is coming from the GAC media, and is suspected to have originated from the source mined in Australia. The iron leaching off the GAC in MVD's vessels has been going on for a couple of months. Chairman D. Provencher asked if this was happening to any of Evoqua's other customers. Pitsas stated that Evoqua had mentioned one other customer in Colorado that was experiencing this as well. Underwood requested the contact information of the customer and Evoqua informed Underwood that they would

need to reach out for permission from the customer first. Underwood has yet to hear back. Pitsas informed the commissioners that Underwood has requested written responses from Evoqua, which have not yet been received. Commissioner K. Ayers asked if the GAC media would need to be replaced before it even gets used in order to be compliant with iron. Chairman D. Provencher stated the potential problem of a dry spring bringing increased water usage. Pitsas stated that Underwood is glad Evoqua will be on site because answers are needed. Pitsas expressed concern about the use of calcite and its potential to raise the pH levels. Elevated pH levels are not controlled by the operator and will mix with different pH levels in the system, which is not desirable. Superintendent R. Miner stated his concern that the iron will suddenly dump into the system. Chairman D. Provencher suggested giving Evoqua a deadline to have the iron issue resolved. It was noted that there is currently no plan for what the solution could be. Vice Chair von Schoen stated that he agrees with Chairman Provencher, and Evoqua should be put on notice. Chairman Provencher stated that if Wells 7 & 8 cannot be used and Wells 2 & 3 need to be activated, MVD will be delivering non-compliant water for PFOA. Commissioner K. Ayers asked if Evoqua would be supplying the carbon for Well 2's PFAS treatment plant. Superintendent R. Miner answered that they would be. Commissioner J. Lyons asked if anyone else makes carbon. Pitsas answered that there are others who make carbon, but Underwood had tested carbon from several manufacturers. The selected GAC from Evoqua had shown good results for treating PFAS, but also had good performance with low arsenic levels, which had been a concern. Pitsas clarified that during the RSSCT, iron was not tested because they had not previously heard of this concern. It was asked if the carbon at Wells 4 & 5 was the same as the carbon at Wells 7 & 8. Pitsas informed the commissioners that it is, but the carbon at Wells 7 & 8 came from two different lot numbers while the carbon at Wells 4 & 5 came from three different lot numbers, therefore it is not exactly the same. It was questioned whether the GAC vessels could play a role, especially with one having been damaged. Pitsas stated that he does not believe that to be the case, as there appears to be equal rise through each tank. Chairman D. Provencher suggested having a legal review of the contract to determine if there are any deadlines and what can be done in this situation. Commissioner J. Lyons stated his belief that the only thing that will gain Evoqua's true attention is a letter from legal. Vice Chairman W. von Schoen stated his agreement. It was questioned whether new GAC media would produce faster results than adding calcite. The answer was unknown, but a media change out requires 2-3 weeks' notice. Pitsas noted that the State has said once the iron issue is corrected, the Wells will be able to go online. It was noted that new media may require restarting the GAC commissioning and sampling process. Vice Chair W. von Schoen asked if MVD could get a credit for the current value of the media and instead purchase GAC from another vendor. Chairman D. Provencher asked if there was any other GAC that did not have concerns of arsenic, among other things. Pitsas said that he would have to go back and review the RSSCT, but he believes there were three different carbons that were tested. He stated that this one had the best treatability for PFAS. Using other carbon may void the warranty.

At this time, Pitsas informed the commissioners that the Well 2 Project is proceeding. The substantial completion date has not changed since the prior month, but they are seeing issues with lead time for equipment deliveries. Pitsas noted that the contractor did not place the order for the butterfly valves. Underwood found out in early February that this was an issue and valve alternatives are being sought. One alternative is a non-AIS (American Iron & Steel) compliant valve, but a waiver would be required because the funding agencies have added an AIS complaint requirement. The waiver will take 7-weeks for approval. An order has been placed for valves, but they have a fairly long lead time. It was noted that the generator also has a long lead time but is expected in August and does not appear to be a problem. Pitsas noted that the VFD for Well 2 was approved prior to the approval of the VFD for Well 9, but there is no problem with the timing. It was noted that there is a delay on the windows, which also prevents the siding from being placed. They are currently doing internal concrete work, among other site things, and the carpenter is on site working on soffits and roofing. Chairman D.

Provencher asked Pitsas to find out what equipment has not yet been ordered and determine if the contractor is willing to order the remaining items to avoid issues created by lead times.

At this time, Chairman Provencher referenced the breakthrough graphs for the Wells 4 & 5 vessels that were presented in the Board packet. This was not an agenda item, but Chairman Provencher asked for clarification on the correct ways to read the graphs. Pitsas was able to clarify.

3. Board of Commissioners to discuss options to meet peak demand during the summer of 2022.

At this time, Chairman D. Provencher explained that currently MVD is relying on PWW and the plan for the summer of 2022 was to keep all of MVD’s untreated wells offline. It is possible that there will not be enough water if MVD holds to that plan. Commissioner K. Ayers asked how long the special rate with PWW is approved for. Superintendent R. Miner clarified that it was a 1-year time frame. This would allow PWW water to be used as needed while MVD transitions. Chairman D. Provencher reminded the board members that Larry Goodhue and Don Ware had discussed MVD’s building a temporary interconnection on DW Highway for any supplemental water needed beyond the Pennichuck Aquifer interconnection from PWW. He stated that the discussion at that time was that if the temporary DW Highway interconnection was not built, MVD may have to take drastic measures to reduce consumption. This could mean banning irrigation. Chairman D. Provencher stated that MVD may be in a position to consider restricting or banning irrigation if MVD chooses not to activate Wells 2 & 3 this summer. Superintendent R. Miner stated that MVD was never mandated to shut down the wells, this was a voluntary action. MVD could activate the off-line untreated wells to supply the MVD system if needed. Chairman D. Provencher stated that MVD uses roughly 5M gpd on a peak summer day. Chairman Provencher noted that the recent samples for Well 2 shows the PFOA levels below the 12 MCL for PFOA. However, historically the PFOA levels go up the more the well is pumped. Commissioner J. Lyons asked if MVD could rotate the use of wells. Chairman Provencher answered that it was possible to do it that way. Vice Chairman W. von Schoen shared his understanding that NHDES was not overly worried with MVD being dependent a little longer on Wells 2 & 3 because there is a remediation plan in place. He stated that the biggest problem would be PWW as they did not want to have a non-compliance notification issued to PWW’s Cabot Preserve customers. Vice Chair von Schoen asked if there was a way to help them maintain that image. Chairman D. Provencher noted that Cabot Preserve is on the north side of the MVD system, which happens to be fed primarily by treated Wells 4 & 5. Superintendent R. Miner stated that PWW was well aware that if MVD needed additional supply, MVD would be turning on their wells. Chairman D. Provencher asked if MVD should be considering the concept of a temporary booster station at DW Highway. There would be a cost incurred and Chairman D. Provencher stated that he does not think he would be in favor of this. Superintendent R. Miner stated that he does not know if there would be enough time to prepare that option. He stated that in his opinion, if Wells 7 & 8 are not up and running by the time the demand hits, MVD should start by turning on Well 2. Well 2 can produce 1.5M gpd.

4. Board of Commissioners to review the minutes from the January 24, 2022 regular BOC, the February 28, 2022 regular BOC and the minutes for the 3 Public Hearings on February 28, 2022.

APPROVAL OF MINUTES

Board of Commissioners Regular Meeting January
24, 2022
No amendments were offered.

Board of Commissioners Regular MeetingFebruary
28, 2022

No amendments were offered.

Board of Commissioners Public Hearings (3) February
28, 2022

No amendments were offered.

**MOTION BY COMMISSIONER W. VON SCHOEN TO ACCEPT THE MEETING
MINUTES OF THE JANUARY 24, 2022 BOARD OF COMMISSIONERS REGULAR
MEETING, THE FEBRUARY 28, 2022 REGULAR MEETING, AND THE FEBRUARY 28,
2022, THREE PUBLIC HEARINGS AS PRESENTED**

MOTION SECONDED BY COMMISSIONER K. AYERS

A Viva Voce Roll Call was conducted, which resulted as follows:

Yea: Donald Provencher, Wolfram von Schoen, Ken Ayers, John Lyons, Paul McLaughlin

5

Nay:

0

MOTION CARRIED

5-0-0

5. Board of Commissioners to review Action Items from previous meetings and those to be added from this meeting.

The Commissioners reviewed the list of Action Items, removing tasks that have been completed.

6. Old Business

None

7. New Business

Vice Chairman W. von Schoen asked the current standing on the annual review for the Superintendent. Commissioner P. McLaughlin stated that he sought legal advice on whether another commissioner could sit in on the annual review. The advice received was that should anyone aside from the personnel liaison sit in on the review, it would need to be a public meeting. Chairman D. Provencher questioned that, since there would only be two board members present. There were some questions surrounding this information and Commissioner McLaughlin stated that he can get further clarification. Commissioner McLaughlin stated that aside from needing clarification, he is ready to move forward with the review.

8. Superintendent’s Report

Superintendent R. Miner made the commissioners aware that Jamie Emery informed him that the Well 9 Report would be submitted to NHDES in early April 2022. Evoqua plans to be on site March 23, 2022.

- **PFPrA sampling update**

Superintendent R. Miner informed the commissioners that he met up with Jennifer Harfmann, of NHDES, on March 2, 2022 for PFPrA testing. She passed on the results that she had and will pass on the remaining once she receives them. He stated that he did reach out to the Agency for Toxic Substances and Disease Registry (ATSDR), but he has not received a replay. Chairman D. Provencher referenced the PFPrA test results that were distributed in the BOC packet, and noted that untreated water showed PFPrA as 4.8 ng/L and treated water showed PFPrA as 3.8 ng/L at MVD Wells 4/5. Pennichuck water at the interconnect showed 2.4 ng/L, and the Allen residence showed 3.3 ng/L and 3.4 ng/L. The Allen residence had previously been tested, which resulted in a result of 40 ppt (which equals 40 ng/L).

- **Sodium and Chloride maps**

Superintendent R. Miner had provided the commissioners with sodium and chloride maps in their BOC packets.

Chairman D. Provencher noted that he has not seen any updates on Emery & Garrett's graphs of the minerals, iron and manganese, and sodium chloride. He stated that the graphs are probably due for an update.

Chairman D. Provencher noted the letter from the Merrimack Board of Selectmen dated back in 1984, which was provided in the BOC meeting packet. That letter listed streets in town that were restricted to no-salt and low-salt application back in 1984. This letter was discovered by R. Miner in MVD's files. This letter provides a good starting point that should be expanded upon and updated with new roads constructed since 1984.

- **Work Session April 26, 2022**

Superintendent R. Miner reminded the commissioners that there is a work session for chlorination and corrosion control scheduled for April 26, 2022, at 4:30 pm. This meeting will also discuss how the allocations for water are being set, new metrics for permitting based on peak consumption rather than average consumption and monitoring overall consumption versus permitted consumption.

9. Questions from the Public/Press

none

ADJOURNMENT

MOTION BY COMMISSIONER J. LYONS TO ADJOURN

MOTION SECONDED BY COMMISSIONER K. AYERS

A Viva Voce Roll Call was conducted, which resulted as follows:

Yea: Donald Provencher, Wolfram von Schoen, Ken Ayers, John Lyons, Paul McLaughlin

Nay: 5
0

MOTION CARRIED
5-0-0

The March 21, 2022 meeting of the Board of Commissioners was adjourned at 8:20 p.m.

Submitted by Amanda McKenna, Recording Secretary