

**MERRIMACK VILLAGE DISTRICT  
BOARD OF COMMISSIONERS  
DECEMBER 15, 2020  
MEETING MINUTES  
(approved February 22, 2021)**

A work session of the Board of Commissioners was conducted on December 15, 2020 at 3:00 p.m. at 2 Greens Pond Road, Merrimack, NH.

Chairman, Donald Provencher presided (via electronic participation):

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

Members of the Board Absent:        John Lyons

Also in Attendance:                    Ron Miner, Superintendent  
   Jill Lavoie, Business Manager

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**REGULAR SESSION**

**1. Water Supply Demands and Production**

**a) Goal: Reconfirm Water Supply Needed**

K. Pratt informed the commissioners that he wanted to speak to the water supply demands and production. He noted that this was important because in June of 2020 Merrimack Village District (MVD) witnessed restrictions with available sources coupled with high demands. Additionally, K. Pratt noted that the Master Plan work that was done ten to fifteen years prior identified what Underwood considered to be long term planning needs for the Town of Merrimack's water supply. This information has been driving the work with Emery & Garrett to look for additional sources. K. Pratt stated that there may be more cost-effective ways to deal with Well #3, which has been driving the MVD to pursue Well #9. He also noted additional source options on the table such as Mitchell Woods, Artificial Recharge (AR) to supplement the yield at Wells 4 & 5, and permanent supplemental water from both Pennichuck Water Works (PWW), and Manchester Water Works (MWW). Keith Pratt explained that MVD has hired Underwood to investigate the most cost-effective appropriate plan.

Pratt informed the commissioners that in 2014 Underwood identified what the demands were and what MVD was projected to need to be in 2030. In 2014 the average demand for 2030 was projected to be 2.9 million gallons per day (MGD) with a max day demand goal of 5.9 MGD. Underwood still believes this to be the correct target.

**b) Summary**

In Summary, Keith Pratt provided the commissioners with the following tables:

**Table ES-1: Current and Projected Water Demands (From 2014 Master Plan Update)**

	Current (2008 – 2014)	Design Year 2030 (UEI 2010 Report)
	(MGD)	(MGD)
Annual Average Day Demand	2.2 to 2.3	2.9
Summer Average Day Demand	2.7 to 3.2	4.1
Maximum Day Demand	4.3 to 5.4	5.9

**Table 2: Existing Source Capacity**

Source	Max Capacity (gpm)	Actual Capacity (gpm)
Well #2	1,100	946
Well #3	800	680
Wells #4/#5	625	625*
Wells #7/#8	1,250	850
PWW	700	700

\*420 gpm sustained

**c) Water audit status update (if possible)**

**d) Handouts**

- **Figure 1: Production and Long-Term Needs**
- **Figure 2: Existing Supply Capacity**
- **Figure 3: Historical Production vs 2020 Available Sources**
- **Figure 4: June 2020 Supply vs Demand**

At this time, K. Pratt presented the commissioners with a graph depicting the maximum day demand for the Town of Merrimack for each year from 2004-2020. In 2007 and 2008 the maximum demand was around 5.4 MGD. Comparing this information to the projected target of 5.9 MGD in 2030, Underwood noted that MVD will need an additional 0.5 MGD of water. K. Pratt informed the commission that if you combine Well 9 (redundant to Well 3), Well 2, Wells 4 & 5, and Wells 7 & 8, while producing at 100% of rated capacity, you meet the current max day demands of 5.4 MGD. Combined with PWW, the projected target of max day demand can be met. Pratt noted that the MVD wells do not always produce at 100% of the rated capacity. If Mitchell Woods and AR are combined, they could provide the additional needed source.

Vice Chairman Wolf von Schoen joined the work session at 3:22 p.m.

## 2. Water Supply Options

### a) Categorize New Supply Options:

- **Redundant Source**
  - **New Well #9**
  - **MWW 4D – to Wells 4/5 Water Treatment Plant**
- **Sustained Supply Options:**
  - **PWW Wholesale**
  - **MWW Wholesale**
  - **Mitchell Woods**
  - **A/R at Wells #4 and #5**
- **Peak/Emergency Options**
  - **PWW Retail**
  - **MWW Retail**
  - **Mitchell Woods**

K. Pratt stated that Well 9 (redundant to Well 3) is not viewed as an additional supply. Underwood was also asked to look at piping water from MWW to Wells 4 & 5 to be run through the treatment plant for PFAS reduction. This is not currently viewed as additional supply due to the size of the treatment plant and the likelihood of this option being cost prohibitive.

K. Pratt reminded the commission that sustained options are to be viewed as available to MVD at any given time. In reference to MWW or PWW a sustained option would mean a wholesale arrangement where the rights to the water is purchased. Mitchell Woods also falls into the category of sustained options but has withdrawal limitations. AR at wells 4 & 5 is also a sustained option. The Peak/Emergency options are retail options similar to what MVD currently has in place with MWW and PWW. In this situation, MWW and PWW will provide water if they are able to, but with a retail agreement they are not obligated to do so. Pratt noted that Mitchell Woods could also classify as a Peak/Emergency source depending on usage.

K. Pratt informed the commissioners that some options Underwood will present included treatment for PFAS while others don't. For example, one option is to use MWW without treating for PFAS as their PFAS levels are below the maximum contaminant levels (MCLs). Another option would be to use water from MWW and treat for PFAS.

Underwood Engineers provided the commissioners with a table depicting water supply options:

**Table 3: Supply Options**

<b>Alt.</b>	<b>Description</b>	<b>PFAS Treatment</b>	<b>Capacity (gpm)</b>	<b>Source Type</b>
1	New Well #9	Yes	800	Redundant
2A	Activate Mitchell Woods Well	No	200 sustained, 300 peak*	Sustained/Peak
2B	Activate Mitchell Woods Well	Yes	200 sustained, 300 peak*	Sustained/Peak
3	Artificial Recharge at Wells 4&5	Yes – existing at Wells 4/5	245 additional peak, 450 additional sustained	Sustained

4A	MWW Retail Agreement – Emergency Only	No	700	Peak/Emergency
4B	MWW Wholesale Agreement	No	700	Sustained
4C	MWW Wholesale agreement	Yes	700	Sustained
4D	MWW Wholesale Agreement	Yes, at Wells 4/5	700	Sustained
5A	PWW Wholesale Agreement	By PWW	700	Sustained
5B	PWW Retail Agreement – Emergency Only	BY PWW	700	Emergency

Notes: \* Mitchell Woods Well has a 45 million gallons per year (85 gpm) maximum withdrawal limit and a 300 gpm 24-hour maximum withdrawal

**b) Water Quality**

**c) Cost Summary**

K. Pratt provided the commissioners with a cost summary outline as shown in the table below. He informed the commissioners that Underwood attempted to put capital costs to each option and rank them in terms of dollars per gallon per day (GPD). Pratt explained that 20-year present worth column is based on using the discussed yield everyday for 20-years, and is not reality, but rather used for baseline comparison. Pratt noted that the retail arrangements through PWW and MWW are less expensive because MVD would not be purchasing the rights to the water. Well 9 is a cost-effective solution, but a redundant source. Wholesale agreements present a higher cost due to the consistent and reliable nature of the source. Pratt stated that both PWW and MWW are willing and able to sell MVD water on a wholesale arrangement.

K. Pratt also noted that the last column on the table, 20-year present worth, is an attempt to consider operating costs. Chairman D. Provencher requested that the final report include an estimated dollar per GPD amount that included O&M.

K. Pratt informed the commission that Underwood believes it would be beneficial to MVD to continue the emergency connection to both PWW and MWW. He noted that there may be capital improvements that can be made to make the connections more reliable and consistent. Underwood is not recommending a wholesale agreement at this time. Pratt stated that moving forward with Well 9 makes sense but activating Mitchell Woods and AR will need to happen in order to keep the water supply internal while meeting the demand.

#	Alternative Description	PFAS Treatment	Capital Cost			20 - Year Present Worth (Mil \$)
			Mil \$	\$/1,000 gal	\$/gpd	
B	PWW Retail Arrangement - Emergency Only	By PWW	\$1.0	\$2.17	\$0.79	\$4.6
4A	MWW Retail Agreement - Emergency Only	No	\$1.5	\$3.53	\$1.29	\$3.3
1	Well #9	Yes	\$2.0	\$4.52	\$1.65	\$5.1
5A	PWW Wholesale Agreement	By PWW	\$3.5	\$9.51	\$3.47	\$6.8
2A	Activate Mitchell Woods	No	\$2.5	\$22.83	\$8.33	\$4.2
4B	MWW Wholesale Agreement	No	\$6.0	\$16.31	\$5.95	\$8.0
3A	AR at Wells #4 and #5	Yes - In place	\$5.0	\$19.45	\$7.10	\$6.2
4C	MWW Wholesale Agreement	Yes	\$12.0	\$32.62	\$11.90	\$18.9
4D	MWW Wholesale –WTP 4/5	Yes	\$14.5	\$39.44	\$14.39	\$16.5
2B	Activate Mitchell Woods	Yes	\$6.5	\$58.03	\$21.18	\$11.0

Note: Capital costs are early estimates and will change. All costs rounded to reflect order of magnitude.

K. Pratt noted that a cost-of-service study would need to be done to gain actual wholesale cost for PWW and MWW. Pratt informed the commission that Underwood would lean towards PWW. After review, Commissioner D. Provencher questioned how Underwood came to this conclusion when MWW appears to be the less expensive wholesale option. Pratt responded by informing the board that there are other costs associate with using the water, including the chemical feeds. MWW uses chloramines instead of chlorine for disinfection.

**d) Handouts**

- **Work Plans**
- **Water Quality**
- **Reference Material**
  - **PWW Intake Drawings -Tighe and Bond**
  - **Dover, Bellamy Recharge Drawings – Underwood Engineers**
  - **MWW Correspondence**
  - **PWW Correspondence**

K. Pratt provided the commission with a handout showing water quality information. He noted that MWW is not treating for PFAS as they currently have detectable but low levels. PWW is treating for PFAS in their existing GAC Filter Beds, but they are not treating to non-detect. Chairman D. Provencher noted that he would not be comfortable making a decision regarding this without customer input as customers have an expectation of PFAS treatment to non-detectable levels, as represented at the 2019 annual meeting. Vice Chairman W. von Schoen asked about the feasibility of sending water to the treatment plant at Wells 7 & 8. Pratt noted a few disadvantages including the distance. In regard to customer feedback, Vice Chairman W. von Schoen noted that it was his understanding, based on conversations with legal counsel, that this would need to move forward as a warrant article if at all. He suggested that legal counsel would need to be sought if MVD would like to move forward with an unofficial poll.

K. Pratt stated that it was his understanding that the commissioners would like to pursue a cost-of-service study, which would allow for a stronger comparison between MWW, PWW, and MVD sources.

At this point, Vice Chairman W. von Schoen reminded the commissioners and Underwood that he has fielded many complaints of chlorine taste and would like to address this further.

Commissioner Kenneth Ayers joined the work session at 4:40 p.m.

K. Pratt informed the commission that he would expect the report to be completed in the January 2021 – February 2021 time frame.

### **3. GZA Update**

Jamie Emery informed the commissioners that Emery & Garrett is proceeding with drilling at Well 9. He noted that cobbles had been found at 64 feet deep, stating that this finding is good. Drilling is progressing quickly and is ahead of schedule. It is estimated that the pump test will take place in February 2021. Peter Pitsas, of Underwood, asked Emery when approval from the State of New Hampshire is expected. Emery answered that if it requires a public hearing, he would hope approval would be granted by the end of 2021. If a public hearing is not required, it would move ahead by 90-days. Emery stated that he would provide a better schedule to Underwood once the drilling was complete.

Emery noted that he felt the salt mitigation meeting went well, but he does still see too much salt being added to the road. He stated that he feels the next step will be to put together a formal committee for discussion with the DOT. Chairman D. Provencher would like a list published of participating attendees in the initial salt mitigation webinar meeting held in November 2020.

## **ADJOURNMENT**

**MOTION BY COMMISSIONER W. VON SCHOEN TO ADJOURN**

**MOTION SECONDED BY COMMISSIONER K. AYERS**

*A Viva Voce was conducted, which resulted as follows:*

Yea: Donald Provencher, Wolf von Schoen, Kenneth Ayers, Paul McLaughlin

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Nay:

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**MOTION CARRIED**

The December 15, 2020 work session of the Board of Commissioners was adjourned at 5:06 p.m.

Submitted by Amanda McKenna, Recording Secretary