

The Public Works Commission met at 7:15 p.m. on Wednesday, January 13, 2016, at 141 Keyes Road, Concord, Massachusetts. Pursuant to Chapter 303 of the Acts of 1975, notice of the above meeting was duly filed with the Town Clerk, Town House, and Monument Square, Concord, Massachusetts.

**PRESENT:**

*Commissioners:*

Andrew Boardman  
Arthur Fulman  
Toby Kramer  
Nick Pappas  
Peter W. Wallis

*Staff:*

Richard K. Reine, PWLF, Public Works Director  
Alan Cathcart, Water/Sewer Superintendent  
Melissa Simoncini, Water/Sewer Sr. Environmental & Regulatory Coordinator  
Anna R. Trout, Administrative & Special Projects Coordinator

*Other:*

Carmin Reiss (Select Board Observer)  
Steve Olson, Environmental Partners

**A: ACTION ITEMS**

**A-1 through A-4** - The meeting was convened at 7:15 p.m. by Commissioner Fulman.

The November 18, 2015, meeting minutes were approved.

The next two PWC meetings were scheduled for Wednesday, February 10, 2016 and March 9, 2016 at 7:15 P.M. at 141 Keyes Road.

There was some discussion regarding the next meeting date since February 10 is Ash Wednesday. A determination will be made and communicated regarding whether an alternative meeting date will be set. A Special Town Meeting is being held on February 4. The articles are related to the Minuteman Regional Vocational School and the Nagog Pond Solar Lease.

**D: DISCUSSION/ACTION ITEMS**

**D-1: Review PWC Calendar Draft**

Director Reine explained that the Solid Waste & Recycling Program Public Hearing will be held in February. This will allow for enough time for the six month barrel stickers to be produced and information to be provided to residents. The ADA Transition Plan briefing is tentatively scheduled for March. The Millbrook Tarry Wastewater Capacity Appeal is tentatively scheduled for March also. A permitting process is currently being pursued. Deficiencies in

the drainage design will need to be addressed by their engineer. The petitioner will need to demonstrate that he has already put conservation measures in place, prior to his appeal to the Public Works Commission.

### **D-2: Nagog Pond Water Treatment Facility Upgrade/Town Meeting Coordination**

Director Reine explained that he and other CPW staff recently attended the Acton Conservation Commission meeting where they received an approval which included two special conditions which we believe are reasonable conditions. The permit still could be appealed both at the State level with the DEP and with their Wetland Bylaw through Superior Court. Although the Commission was very supportive there were several residents who attended living in the Quail Ridge Complex and at an earlier meeting at Acorn Park that voiced some objections. There were some concerns and guidance regarding the location of the solar arrays previously sited within the wetland buffer areas. Based on this feedback the array was reconfigured, pulling the solar arrays out of the jurisdictional areas of wetlands. The Conservation Commission was pleased that the array was no longer in the setback areas but the Quail Ridge residents and abutters were not pleased with the solar array reconfiguration.

We've been carrying a cost in our proforma for over a decade, which has allowed us to set our rates at a predictable level with this significant investment in our water system. We don't anticipate a rate spike as a result of this project. Our rates have been kept at a consistent 3.5 – 4% increase level each year, which is what the proforma indicates. The project cost is anticipated to be higher than we expected based on the 25% design estimate. We have looked at some value engineering to bring the cost back down closer to the original estimates.

Alan Cathcart, Water/Sewer Superintendent, Melissa Simoncini, Water/Sewer Sr. Environmental & Regulatory Coordinator and Steve Olson, Environmental Partners Group were introduced. Superintendent Cathcart explained that the debt authorization which will be requested at the April, 2016 Town Meeting in the sum of up to \$16.5 million dollars for water system improvements. This includes the new Nagog Water Treatment Plant, replacement of the Nagog Pond raw water intake structure, the Annursnac Reservoir improvements and some contingency funds.

The Annursnac Hill Reservoir is a 2.5 million gallon storage reservoir which was refurbished in the 1970's. It is a basic system with a concrete foundation and base. It has an aluminum geodesic dome frame over it. Improvements would include rehabbing and refinishing the concrete floor with installation of a rubber membrane and improvements to the dome.

The existing Nagog Pond ozone facility was put online in 1996. The partially treated water is piped to the Route 2A pump station. A diagram of the Nagog Pond Watershed area was explained in detail. Concord has been challenged with its intent and purpose of this project. Abutters are not happy because of the perceived impact of the project. Questions have been raised about

Concord's rights to this water resource. The Town of Concord has had rights to this water since 1884. There are provisions within the Legislative Acts of 1884 which provided this valuable resource to Concord that Acton and Littleton could also withdraw water from Nagog Pond however, costs and damages would be due to the Town of Concord.

There was a significant investment requiring blasting and excavation to create the Nagog Ozone facility. The new water treatment facility is being designed to make the best use of the property to utilize the existing site.

Director Reine explained that the original location of some of the solar arrays was moved. Abutters may have had an interest in delaying the project to some degree. They understood that the solar portion of the project needed to be up and online by December of 2016 to be eligible for federal tax credits and incentives which in turn make a project of this nature attractive financially to solar developers. Their objection is that the solar is within the twenty-five foot line of the wetland bylaw, and the structures would be at the fifty foot line. The abutters lobbied the Conservation Commission strongly for peer reviews, habitats studies and other items which would protract the project schedule recognizing that a delay beyond the December 2016 online date would make the project economically unattractive to a solar developer. There was a change in the Federal regulations to extend the December 2016 deadline. The new location moved the solar facility out of the 100' wetland buffer area but made it closer to certain Quail Ridge homes.

Mr. Olsen explained the floor plans for the first and second floors of the filtration facility. It was designed for efficiency. Different options were explored for the exterior of the building. Durability was the main concern. A cost estimate of 12.5 million dollars was arrived at for a concrete block building. In an effort to reduce cost a different exterior was priced out. A pre-engineered metal building with fewer windows was a less expensive option (about one million dollars less) although less durable. This option has a 20-25 year life, compared with the concrete building that has a life of 30-50 years and beyond.

The physical intake for the facility made of cast iron was built in 1909. The pipe used to have a 16 inch diameter. The diameter has been reduced to about eight inches and several sections of cribbing which supports the pipeline have collapsed. It is proposed to be replaced with a HDPE plastic pipe.

There are several steps in the permitting and approval process. The required pilot study for the Drinking Water Program was completed in 2014. A MassDEP Zone A Solar Energy Certification was submitted in December. When the design is at 100% (it is at about 25% now), submission is made to the DEP for approval. Once this approval is obtained the project can be put out for bid.

There are a number of other State permits required such as MEPA. There is an Environmental Notification Form for thresholds which was submitted in December. Because the pond is being dewatered beyond 10 acres an

Environmental Impact Report is required – unless a request for waiver is submitted and approved by MEPA. We are in the process of submitting the updated ENF and waiver request. This means that the MEPA certification should be received by early February. The Massachusetts Historic Commission form has been submitted. The biggest part of that form was an archeological study that was completed in 1994 for the existing plant – which showed that there was nothing significant. There has been some discussion around this issue since it was raised by project abutters which may require revisiting the study and expanding and updating it.

Meetings are being organized with the applicable parties for the remaining DEP Wetlands and Waterways, Army Corps of Engineers and DEP Water Quality Program requirements– all regarding the intake. This relates to lowering the pond and dredging. Whether or not a general permit is required depends upon thresholds which can be extremely complicated. A meeting with these three regulatory agencies is being scheduled in January. Director Reine added that Article 97 is an article in the Massachusetts Constitution that ensures that certain properties that are purchased for certain reasons such as conservation, recreation and water supply, are not used for other purposes for example conversion of water supply land to a landfill or playing field. Almost all the properties shown have been purchased for water supply. Some project abutters state that solar is not compatible with Article 97 and water supply use. There have been rulings and projects permitted on Article 97 land for solar as long as they have a tie in to the water treatment facility. In our case this Photo Voltaic system is specifically tied into our water treatment facility using the electrons generated at the facility to power and decrease the electrical cost and demand of the plant so our counsel has reviewed this and believes we are on a solid footing. Mr. Olsen expressed that the Article 97 issue was taken out of context at the Conservation Commission Meeting.

An Order of Conditions was obtained from the Acton Conservation Commission over the course of two meetings. Two permits are being sought from the Acton Board of Selectmen including a Site Plan Special Permit and a Special Use Permit. This meeting is being held on January 25. The facility is for public use and this zoning has been approved. Photo Voltaic is an accessory use that has been approved along with all zoning bylaws and setbacks.

Director Reine explained that tall woodland on the property line and the section designated for solar will be removed. In accordance with the solar accessibility statute vegetation can be removed that otherwise would cause shading. A large amount of land adjacent to the Town land was deforested for a golf course back in 2005. In 2013 more clearing was done for building lots. The Town of Concord performed a Phase I, Phase II and final design and reconstructed the dam on Nagog Pond. There is an ongoing inspection plan by regulation with the Office of Dam Safety. A robust screening plan is planned for the solar panels. A glare study is being done to assure that people in adjacent homes will understand exactly what the impact from the solar panels might be and to confirm it meets acceptable standards.

Director Reine went over the ten year proforma indicating financial data relative to this project. This project would be \$12.5 or 9.5 million dollars and is the largest water fund capital expenditure that we see in this ten year planning horizon. Bonding agencies do not want to see a large imbalance between the net available and the capital plan. These amounts are very similar. Another metric is the ending cash balance. There is still a \$6.5 million dollar ending cash balance for the water fund at the end of FY17 and it continues to be strong throughout the ten year planning horizon. There is some discussion with the Finance Director about if we want to make a cash withdrawal out of that balance to minimize the amount of bonding needed. This will be explored from many different perspectives.

The process of value engineering looked at a lot of alternatives for the two different building options. The metal construction instead of cement block would save one million dollars at the outset. The life of the building would be less and maintenance costs for the metal building would be greater. Looking at the chemical distribution, if transportation were required to the Rte. 2A pump station there would not be a great savings there. This is currently designed as a 1.5 million gallon per day facility. The average use annually is one million gallons per day. The footprint could be shrunk to this smaller size, but if we ever wanted to grow to 1.5 million it would not be possible. The vessels themselves are currently stainless steel, but they could be changed to carbon steel. These changes make up the \$9.5 million dollars as opposed to \$12.5 million. Another factor is the aesthetics of the building, so that it would be a reasonably attractive facility. The "Envision" sustainability measuring tool was used looking at everything being done at this site including the building itself. The current expenditure for electricity at the Nagog Ozone Facility is in the 35-40,000 dollar range which is significantly less than what the cost will be for the new facility. The facility was sized to have the average annual use for that facility to be supplied by solar, at about 350,000 kilowatt hours ac. The cost associated with 350,000 kilowatts is what we're looking at.

Commissioner Pappas commented that he would be concerned about any design that could cause any operational disruptions. If the metal building started to show signs of wear, sandblasting or chemical treatment could disrupt the water service. Superintendent Cathcart explained that stainless vessels would last a long time as opposed to carbon steel that would need refurbishment. Capital cost has been explored but not a life cycle analysis. Commissioner Kramer added that given the surrounding development and neighborhood, there wouldn't be a chance to add on to the facility at a later time. Director Reine also explained that adding solar to the roof of the building might be a future possibility after the building is constructed.

With regard to the Water Management Act, Director Reine distributed a comment letter having to do with the regulations that were being proposed from the Mass DEP related to the Sustainable Water Management Initiative (SWMI). This was submitted on July 9, 2014 under cover of the Public Works Commission and provided comments on what the impact would be on the current regulations being proposed. As time went on many communities provided similar letters. The regulations were adopted with little favorable

changes to address comments. One big change that did occur was the election of a new Governor and a new executive office of environment and energy who has taken a different view of regulations and their impact on communities. They understood the significant impact on communities that were not being properly recognized along with financial and environmental impacts. There was significant involvement by the environmental groups. The comment period just closed for the Concord River basin permits. OARS is an organization for the Assabet, Sudbury and Concord Rivers. They provided significant comments on three communities including Concord. The thing they are most keyed into is non-essential water or irrigation. They think it is wasteful and does not provide any value.

One of the comments towards the end of the OARS document deals with comment #4 – Impact on Cold Water Fisheries Resource (CWFR). This deals specifically with Nagog Brook and Second Division Brook. They basically are saying that complete information on both the intended use of this source and the impacts on stream flow be provided. As noted Second Division Brook is also a CWFR. They ask that the DEP ensure that detailed information on the impacts of planned water withdrawals on these two streams be provided and the optimization and minimization plan be developed in full consultation with the Department of Fish and Game and OARS. After DEP has reviewed comments they will provide CPW with an order to complete document requiring responses to several comments and questions leading up to the renewal of the permit. There is no specific timeline associated with this response.

Commissioner Pappas **MOVED** and Commissioner Kramer **SECONDED**, and it was **UNANIMOUSLY VOTED** as follows:

To urge Concord Public Works to go forward and develop a capital budget for the water system improvements that is consistent not just with saving money in the construction but for the efficient and flexible operation for the life of the project.

Commissioner Wallis added that he thought it would be worthwhile to have a few more calculations relative to life cycle cost of proceeding with one option as opposed to another.

Director Reine explained that they would be moving forward with the \$12.5 million dollar option, which will be presented at the Finance Committee Hearings as well as Town Meeting.

### **D-3: Brewster Well Conservation Restriction Purchase**

Director Reine explained that the Commission is aware that there is a site called the Brewster Well Site off of Ball's Hill Road, off of Monument Street consisting of 17.12 acres. The 80 acre site that is being offered by Charlene Engelhard will provide the Town of Concord with a real benefit. Restrictions are in place that requires the Town of Concord to obtain annual renewals of these Conservation Restrictions to allow the Town to continue to have these potential locations for the well heads to be viable. One is on Charlene

Engelhard's property, the other is on Pierce Browne's property. Those Conservations Restrictions fall directly into the 80 acre property that is being offered. The Town is asking CPW to provide \$800,000 out of the water fund in addition to CPA open space funding, a general fund contribution and additional funding through the Concord Land Conservation Trust. This will provide additional protection for this property, which currently would run out in 2021.

This purchase would also allow the Town to have some flexibility in the location of the well heads. This would allow the land to be protected but also provide for passive recreation. Approximately up to 38 acres out of the 80 would be designated for water supply purposes. Select Board member Carmin Reiss explained that the Town is prepared to match the \$800,000 out of the General Fund and the CPC has set aside \$400,000 for land acquisition this year and questioned the designation of the 38 acres for water supply when the water fund is not contributing 50% of the land purchase. Director Reine indicated that this designation is flexible however the 38 acres provides the Town with maximum flexibility in siting our withdrawal wells. It would not preclude the use of the property for passive recreation and trails. The volume of water expected from this area is in the neighborhood of .5 million gallons per day.

Commissioner Wallis **MOVED** and Commissioner Kramer **SECONDED**, and it was **UNANIMOUSLY VOTED** as follows:

To support the expenditure from the water fund as explained above for the purpose of acquiring the 80 acre parcel of land on Ball's Hill Road, a designated portion of which will be used for water restriction.

#### **D-4: Director's Report**

- **Snow Removal** – Bill Montague is presenting two articles at Town Meeting. One is regarding the removal of parking meters. The other is a Town requirement for all snow to be removed from sidewalks, streets and gutters in the shopping districts by 8 A.M. following the snowstorm. This could be done by hiring contractors early in the morning. This could cost as much as \$17,000 to \$20,000 per storm. On average there could be 10-15 storms which would add hundreds of thousands of dollars to our budget.
- **Willard Elementary School Recycling Presentation** – CPW conducted a recycling event for fourth-graders at the Willard Elementary School on 11/20/15.
- **Hunter's Ridge Road** – Binder course paving was installed after replacement of the water main. This will be allowed to settle for the winter with top course paving occurring in the spring/summer.
- **Concord Carlisle Regional High School** – Some major washouts occurred which necessitated a remediation plan for Turner Construction which work was completed by mid-December.
- **Brookside Square** – Two curb ramps were replaced as they were non-compliant with ADA regulations.
- **Infield Maintenance** – A lot of work was done at Ripley and Emerson Field prior to the winter weather so that less work will be required in the spring.
- **Sleepy Hollow Signs** – These recently designed signs were installed.

- **School Bus Transportation Project** – The Town Manager has assigned Director Reine as project manager for the transportation facility at the W.R. Grace site. Weston and Sampson has been hired as the design firm for this project. The building is estimated to cost approximately 3.5 million dollars., including about \$457,000 worth of contingency. There is a shortfall from the original estimate of about 1.9 million dollars. An article for supplemental funding will be presented at the upcoming Town Meeting for this amount.

**D-5: Commissioner's Comments**

At the exit of Cambridge Turnpike when you turn right on route two there is a stop sign right next to the gas station that seems to cause some confusion.

**D-6: Public Comments**

In bad weather when you come down the hill on route two towards Cambridge Turnpike there is not enough signage or markings to indicate where to go if you wish to proceed towards Cambridge Turnpike.

When asked about the status of the Cambridge Turnpike Project, Director Reine explained that there were some contractual issues with Louis Berger which will likely lead to the termination of the contract and separation agreement . A team has been put together with the firm rated as the second most advantageous during the qualifications based selection, CMA Engineers, A scope and fee proposal should be obtained over the next few weeks which will allow for the roadway design to continue.

**ADJOURNED:** 9:45 P.M.

Respectfully submitted,

Approved,

Anna R. Trout  
Administrative & Special Projects Coordinator  
Concord Public Works

Arthur Fulman  
Public Works Commission