

TRI TOWN BOARD
Of Water Commissioners
Braintree, Holbrook, Randolph
Braintree Town Hall

MINUTES

September 18, 2018

Present: Joseph Sullivan, Chair, Town of Braintree; Richard Brewer, Town of Randolph; Tim Gordon, Town of Holbrook.

In attendance: Jim Arsenault, Lou Dutton, Ben Fehan, Paul Gabriel, Helen Gordon, Paul Hogan, Chris Pellieri, Jim McLaughlin, Barbara Mello, David Murphy, Lorraine See, Nicole Taub, Michael Walsh, Susan Wright, Robyn LaFrance.

Mayor Sullivan opened the meeting at 11:07 am. The minutes from the previous meeting were reviewed and accepted.

MOTION: by Richard Brewer to accept the minutes of August 21, 2018
SECOND: Tim Gordon
VOTE: Unanimous

Great Pond Dam Repair update: Michael Walsh, CDM, and Ben Fehan

- Ben Fehan and Mike Walsh explained that final administrative items are being accomplished. The physical work has been completed to a high standard.

Water Treatment Plant updates: Helen Gordon, Environmental Partners Group (EPG)

- Helen Gordon reported that first they will do a schematic review and she detailed the first steps in the process. She said that the one on one workshop review was done.
- Helen explained that EPG plans to review cost concerns between the Tri Town funds and the new treatment plant cost estimate. They will look at a new schematic, layout and design that can match the funds. Mayor Sullivan suggested that the two firms, EPG and CDM Smith, schedule time to meet preferably within the next two weeks to discuss this. Mike Walsh said that the cost should be in the \$50-60 million range, and he will be happy to meet with EPG. All agreed that they want to understand the difference and be public. There was brief discussion that followed regarding rising construction costs and materials cost in general and Mayor Sullivan pointed out Braintree's American Legion as an example. Tim Gordon said he looks forward to a meeting where the variances are explained, as he has pointed this out when he came on the board.
- There will be a meeting between EPG and CDM Smith to discuss the cost estimate and the Tri Town Board will be updated after that.

MassDEP Representatives: Paul Hogan, Woodard & Curran, Duane LeVangie and James McLaughlin, MassDEP

Paul Hogan referenced the Cochato River Diversion Draft Report (dated April 3, 2018) and the recommendation to invite MassDEP representatives to the Tri Town meeting. The Tri Town board prepared a question in advance which the DEP representatives answered by email and discussed further at the meeting. The question was:

- 1. What is the process for getting a determination of if the Cochato River can now be used in the Tri-Town water supply system? Then given the testing already conducted, does it look possible that the water could be used? Lastly, if determined it can be used what is the process for implementing the use of the water?**

Duane LeVangie, Director, Water Management Act Program:

Duane LeVangie explained:

1a. A Water Management Act (WMA) permit will need to be obtained most likely by the Tri-Town Water Board with co-permittees of Braintree, Randolph and Holbrook. Currently separate Water Management Act Registrations exists for the two treatment plants on Great Pond, one for Braintree and one for the Randolph-Holbrook Joint Water Board. These registrations and any future permit should likely be issued to the entities responsible for the new treatment plant. Permit will include the use of the Cochato River which is not currently registered by any of the three systems.

1b. WMA Permitting process will evaluate the impact of the use of the Cochato on downstream uses including fish and fauna. Process includes input from other environmental agencies and groups that may have streamflow/diversion concerns.

1c. Upon written approvals the source may be used based on the operating conditions included in the permit.

- Duane LeVangie recommended that they change from two valves to one valve. He talked about the registration and the public permit process explaining that the permit process will involve Fish & Game and Marine Fisheries who will both have some input. He said the permit process will likely include some conditions.
- Duane explained that he isn't convinced that Tri Town needs more water from an overall increase standpoint, and said that what he has read is that Tri Town needs to add source but not add water. The amount of water available vs the amount of water used was discussed, and it was noted that conservation measures and calculations done in the past were not accurate. The average water usage and maximum water usage was discussed briefly and it was noted that 12.5 is what the Tri Town is designing for. Duane explained that he didn't have peak day numbers but water usage is consistently 6 between all three communities (the Braintree and Randolph/Holbrook plants).

- There was a comment that there is a lot of emotion concerning the superfund site. Mayor Sullivan said Tri Town will take Holbrook's lead on the issue and he stated there is legislative history on this issue and Tim Gordon and Sue Wright could speak further on it. Mayor Sullivan asked what the permit process is. The response was that it would be a 1 to 1 ½ year process and the cost could be in the \$200,000 range.
- Sue Wright handed the Board a copy of a draft correspondence dated February 11, 2002 and she promptly left the meeting early without further explanation. The letter provided was sent to the USEPA, Office of the Branch Chief, from Joseph McElroy, Commissioner, Randolph/Holbrook Joint Water Board.
- There was brief discussion and further explanation from James McLaughlin and it was suggested that the Tri Town Board go thru the MEPA process and then revisit the Cochato River Diversion afterwards.

James McLaughlin, Drinking Water Program

James McLaughlin provided a response to the same question asked by the Tri Town Board:

1a. *What is the process for getting a determination of if the Cochato River can now be used in the Tri-Town water supply system?*

Drinking Water Program (DWP) Answer – New Source Approval process for Surface Water Sources as outlined in Chapter 3 of our Guidelines (provided as hand-out at meeting). Is a pilot study required? This can be answered by comparing water quality results between Cochato & the water treated at the existing treatment plants. This is a bit different case because the Cochato water will mix with Riccardi, which mixes with the reservoirs. The Cochato influence will presumably be greatly diluted. The proposed change in water quality must be evaluated by engineers in light of the 2016 EPA Corrosion Control document. Jim explained that he doesn't believe a pumping test will be required if it is a side-stream overflow weir. The withdrawal structure will need to be described.

In addition, an Environmental Notification Form will be required under the MEPA regulations. That will determine what other agencies need to be involved with the review and approval, as mentioned in Chapter 3.

1b. *Then given the testing already conducted, does it look possible that the water could be used?*

DWP Answer – (Jim McLaughlin noted that he has not seen the testing results.) The testing results, along with new testing, will need to be assembled, evaluated in a report format by engineers, and submitted to MassDEP for review and approval. There is a series of permits for that: a Pilot Study Proposal followed by a Pilot Study Report, then construction permitting.

1c. *Lastly, if determined it can be used what is the process for implementing the use of the water?* The source will be able to activate upon receiving all WRITTEN approvals from the agencies involved.

Discussion: Legal Counsel for Legislation for the three towns to enter into a Tri Town treatment plant agreement: Nicole Taub

- Nicole Taub, Solicitor, Town of Braintree, explained that she will begin to review the current legislation and determine if changes can be made to it or if something new has to be created. She said that there will likely be the need to merge the three towns into a “Tri Town water works” entity. Nicole will attend the next Tri Town meeting and provide an update on this.
- There was some brief discussion about an Enterprise Fund and a water works structure and how the relationship between the two would work. Mayor expanded on the BELD and Town of Braintree relationship.
- Dave Murphy said the Tri Town structure is one issue and the distribution system in another issue. He noted that there are complexities concerning who will pay what. It was agreed that all of these issues and cost concerns will be determined up front. Mayor Sullivan said that each town will retain its own costs. Tim Gordon said he thinks there could be a stabilization fund. Rich Brewer said they need to establish what is a transmission line, etc., and what exactly is Randolph and Holbrook responsible for.

Other:

Mayor Sullivan noted the action items are:

1. CDM and Environmental Partners Group will have a meeting concerning cost.
2. Mayor Sullivan and legal counsel will review and determine what implications are of the legislation.
3. Ben Fehan will close out the administrative items on the Dam Repair project.

Mayor Sullivan scheduled the next meeting for October 9, 2018 at 11 am.

A motion was made by Tim Gordon to adjourn the meeting at 12 noon, and seconded by Rich Brewer.

Respectfully submitted,
Robyn LaFrance
Recording Secretary

DRAFT

February 11, 2002

CALL ME IF YOU
HAVE ANY COMMENTS

TOM C.

USEPA
Office of Branch Chief
1 Congress Street HBO
Boston, Massachusetts 02114

Attention: Mr. Larry Brill, Branch Chief

Subject: Donna Road WTP/Baird & McGuire
Superfund Site

Gentlemen:

The proposed construction of the Donna Road WTP has created significant issues for the Randolph/Holbrook Joint Water Board (RHJWB) including: uncertainty of federal funding, complexity of the project, time required to construct, and expenses associated with operation and maintenance. Randolph/Holbrook Joint Water Board (JWB) has recently met to discuss alternatives for supplementing the water system.

RHJWB proposes that present and future funding earmarked for Donna Road be utilized to supplement the existing system safe yield by the following:

1. Increasing the storage capacity of Upper Great Pond by continued phasing of the on-going excavation project.
 - A. Additional 600,000 cubic yards (c.y.) of excavated material to provide an increased safe yield to the system of approximately 400,000 gallons per day (gpd).
 - B. Estimated cost for RHJWB's share of the project is \$1,000,000 at current prices.
 - C. The present excavation schedule ends during September 2003 at which time bids will be taken for this proposed phase. The construction schedule would be for two (2) years (September 2003 - September 2005).
 - D. The project would be bid by the three (3) towns of Randolph, Holbrook and Braintree under the Tri-Town Board of Water Commissioners. Responsibility for payment for contract work is directly from each of the three towns. Consequently, the funds would be utilized for Randolph and Holbrook's portion of the project cost.

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2. Groundwater exploration study of potential source(s) located in the Town of Holbrook at the White Rock Spring area.
 - A. Additional groundwater source exploration of potential yield of 1 mgd to include fracture trace analysis, site investigation, test well work, water quality testing, and report to include permit assessments.
 - B. Estimated initial exploration cost through investigation report stage is \$200,000. Future additional funding to provide permanent groundwater pumping station and pipeline is estimated at \$1,500,000.
 - C. The schedule for the preliminary phase work is to be conducted from March 2002 through July 2002.
 - D. The proposed project study would be conducted under an engineering contract with the RHJWB.

The RHJWB's suggested alternatives have estimated costs of the initial stages, which align well with the funds indicated as currently available. These projects will have estimated total costs beyond the current funds available therefore the Board respectfully requests that additional future assistance be also considered. If the EPA/DEP agrees to the RHJWB's alternative to the Donna Road WTP project, it will result in significant savings over the construction cost and O & M cost of the WTP facility.

If you have any questions, please do not hesitate to contact our Joint Superintendent, Thomas Cummings at (781) 767-1800.

Very truly yours,

Joseph A. McElroy, P.E.
Commissioner
Randolph/Holbrook Joint Water Board

c. Jay Naparstek, DEP
Joint Water Board Commissioners
Thomas R. Cummings, Joint Superintendent

Chapter 3

Surface Water Supply Development

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Acronyms used in this chapter:

MassDEP - MA Dept. of Environmental Protection
MEPA - Massachusetts Environmental Policy Act
DCR – Dept. of Conservation and Recreation
THM – trihalomethane
SWTR - Surface Water Treatment Rule

Chapter 3 Surface Water Supply Development

A surface water supply includes all tributary streams and drainage basins, natural lakes, and artificial reservoirs or impoundments used as sources of water by a public water system. In selecting the source to be developed, the design engineer must prove to MassDEP's satisfaction that an adequate quantity of water will be available and that the water delivered to consumers will meet all state drinking water standards with respect to microbiological, physical, chemical, and radiological qualities. Each water system should draw its raw water from the best available source that is economically reasonable and technically possible.

Massachusetts general law requires water suppliers to obtain the consent and approval of MassDEP before acquiring lands for the construction, operation, or protection of a water supply. The land acquisition requirements in Section 4.16, items 2 through 5, in Chapter 4 of these Guidelines, are also applicable to surface water supplies

3.1 Source Approval Process

Prior to placing a new or inactive surface water source on-line, the proponent shall apply for and obtain new source approval from the MassDEP Drinking Water Program. The Source Approval process, including applicable permits, shall be applied by MassDEP for the following:

1. A new surface water source (includes existing private surface water sources converted to public water supply use);
2. An increase in the approved Firm Yield of an existing public water supply source, or an exceedance of the Firm Yield;
3. The reactivation of a public water supply source that has been off-line per order of MassDEP;
4. The reactivation of a public water supply source not in use for the last 5 years;
5. An expansion of an existing approved source.

The expansion of an existing approved source shall include any proposed activities that would increase the surface area of the reservoir at full reservoir capacity and/or that would potentially increase the Firm Yield of the reservoir (whether or not a Firm Yield has already been approved by MassDEP). Proposed modifications that would potentially decrease the Firm Yield do not require new source approval; however, the proponent shall notify the MassDEP Water Management Program of any such modifications. In addition to physically expanding the lateral

dimensions of a reservoir, expansions requiring the application for new source approval shall include but not be limited to the following:

1. Lowering of the intake;
2. Dredging to increase useable storage volume from the volume that existed when the source was initially approved by MassDEP;
3. Increasing the public water system's volumetric pumping capacity from the source (either through the installation of greater capacity pumps and/or improvements in piping);
4. Raising the main spillway elevation (does not include routine changes in spillway elevations for existing spillway structures that have multiple elevation settings).

Step 1: Submit Preliminary Report

The public water supplier must submit a report to MassDEP that includes the following:

1. Topographic map showing the exact locations of the proposed source and the proposed intake;
2. Map of appropriate scale delineating the tributaries and Zones A, B, and C as described in the definitions section;
3. Identification of land uses in the watershed and identification of the land owned or controlled by the public water supplier;
4. Estimated average daily demand and peak daily demand;
5. Schedule for development of the source;
6. Detailed estimated cost of operation, maintenance, and operating expenses;
7. Proposed methods to finance both capital charges and operating expenses.

Step 2: Conduct Site Visit

MassDEP will conduct a site visit after the water supplier has gathered the proper information from the property owners and obtained any necessary approvals for visiting the site. At the site exam, MassDEP will evaluate the proposed sampling locations and schedule to be used during the development of the source.

Step 3: Attend Coordination Meeting

MassDEP will arrange a coordination meeting with the programs whose approval may be needed. Meeting participants will include, but not be limited to:

1. MassDEP Wetlands Program (including dredging program);
2. MassDEP Water Management Act Program;
3. MEPA Office;
4. DCR (concerning the safety of existing dams or surface impoundments);
5. Department of Fish and Game Natural Heritage Program;
6. Army Corps of Engineers.

The main goal of this meeting is to establish a schedule for getting the necessary approvals from all programs involved.

Step 4: Submit Formal Documentation

The following information must be submitted to MassDEP before a new surface water source can be approved:

1. Firm Yield Analysis - For stream dominated sand and gravel reservoirs, the firm yield will be estimated by using the firm yield model as described in the Water Management Program document Estimating the Firm Yield of a Surface Water Reservoir Supply System in Massachusetts, A Guidance Document, Version 1.0, January 1996. An on-line version of the firm yield model is available at: <http://www.mass.gov/dep/water/resources/watercon.htm#managemt>. For non-stream-dominated reservoirs the proponent should contact MassDEP to discuss an acceptable firm yield assessment approach. One alternative approach for establishing the firm yield for a non-stream-dominated reservoir is to conduct a pumping test that meets the following criteria:
 - a. The pumping test shall be conducted for a minimum of 30 days.
 - b. The pumping test shall be conducted at 133% of the rate at which approval is sought.
 - c. The approved pumping rate will be based on the rate at which stabilization occurs.
 - d. Reservoir water level measurements will be taken twice daily (frequency of measurements will be at least 8 hours apart).
 - e. Stabilization will have been achieved when either:

- (1) Drawdown readings do not fluctuate more than 0.5 inch in the last 24 hours of the test;
 - (2) When using a semi-log plot extrapolation of the time-drawdown curve derived from the pumping test and projected over a 180- day period, 10% of the water height between the top of the intake and the static water level remains above the intake.
- f. As constant a pumping rate as possible shall be maintained for the duration of the pumping test. The pumping rate shall not fluctuate more than 10% during the final 10 days of the pumping test, excluding shutdowns.
 - g. One pump shutdown per day not to exceed 1 hour shall be allowed during the 30-day test period. If the shutdown criteria are exceeded, MassDEP will require the pumping test to be rerun; therefore, backup pumping equipment is recommended.
 - h. A flow-measuring device capable of providing instantaneous flow measurements accurate to within $\pm 3\%$ of the pumping rate shall be used.
 - i. The discharge from the pumping test shall be located to minimize the recirculation of water. Any groundwater discharge permits should be obtained prior to commencement of the pumping test.
 - j. Daily static water level measurements will commence 7 days prior to pumping test startup.
 - k. The pumping test should be conducted during low water level conditions.
 - l. Precipitation during the pumping test should be measured on-site to the nearest one-hundredth (0.01) of an inch. Precipitation measurements should commence 7 days prior to pumping test startup.
 - m. Recovery readings shall be taken twice daily (frequency of measurements at least 8 hours apart) for a period of no less than 10 days following pumping test shutdown.
2. Hydrogeologic Report - Discuss the hydrogeologic system providing recharge to the reservoir and include a delineation of the drainage basin. If applicable, a fracture trace analysis of the reservoir area should be provided.
 3. Identification of Dredging Impacts (if applicable)
 4. Water Quality Monitoring Report - The water supplier must submit a report describing the required monitoring at this time. The water supplier may also elect to perform any additional monitoring required by *Policy 90-04, Pilot Study Requirements for Proposed Treatment*.

The water supplier must conduct the following monitoring at a location as close as possible to the proposed intake:

- a. Fecal and Total Coliform - Weekly for 1 year. (If interested in filtration waiver, frequency of sampling is population-dependent (3 - 5 times/week).)
 - b. Turbidity, Color, Odor, Temperature, Suspended and Total Dissolved Solids – Weekly. (If interested in a filtration waiver, turbidity must be done daily for one year.)
 - c. Secondary Contaminants (as listed in Appendix A) - Addressing reservoir turnover, typically spring and fall.
 - d. All SDWA Contaminants - Taken during spring turnover.
 - e. Total Organic Carbon – Seasonally.
 - f. Giardia and Cryptosporidium - Every other month.
 - g. Nitrogen Series (nitrate, nitrite, ammonia) – Monthly.
 - h. THM Formation Potential - Monthly in July, August, and September.
 - i. Algae - Monthly throughout the year at intake, major tributaries and at one or more locations in the reservoir.
 - j. Perchlorate – One sample collected during low flow conditions in August, September, or October.
5. Watershed Resource Protection Plan - Guidance can be found in the document *Developing a Local Surface Water Supply Protection Plan*, MassDEP, 2000, or as amended.
 6. Zone A Surface Water Protection Zoning and Non-Zoning Controls – New or physically expanded surface water sources and sources that are increasing their withdrawal by more than the threshold volume as defined by 310 CMR 36.00 shall demonstrate compliance with Surface Water Supply Protection Regulations (310 CMR 20.20C).
 7. Proposed Treatment Plan - Every surface water supply is subject to the federal Surface Water Treatment Rule (SWTR), as written in 310 CMR 22.20A of the Massachusetts Drinking Water Regulations. The water supplier must submit a report discussing how it plans to meet the requirements of the SWTR. If planning to filter, treatment of the source must be determined through piloting according to *Policy 90-04, Pilot Study Requirements for Proposed Treatment*.

If a public water supplier is interested in a filtration waiver as specified in 310 CMR 22.20A, the water supplier must pursue development of a Watershed Protection/Control Program. The program must meet the criteria defined in the program to measure success of watershed protection efforts conducted by public surface water suppliers to obtain, and maintain, a waiver from filtration requirements (current version), and *Developing a Local Surface Water Supply Protection Plan*, MassDEP 2000 (or as amended). This program must be developed on a dual track with the treatment plant design. The water supplier must meet all criteria to avoid filtration. In addition, the water supplier must discuss how the system will provide disinfection in the interim if a waiver from filtration is pursued.

8. Operation and Maintenance Manual - for management of the source.

3.2 General Reservoir Construction

Construction and Maintenance

1. Reservoirs must be constructed to ensure that:
 - a. Water quality is protected by controlling runoff into the reservoir;
 - b. Dikes are structurally sound, free of significant vegetation, and protected against wind action and erosion;
 - c. The point of influent flow is separated from the point of withdrawal;
 - d. Separate pipes are provided for influent to and effluent from the reservoir;
 - e. The volume of water in storage can be determined at all times.
2. Dams must receive appropriate safety approval from DCR.
3. Construction may require:
 - a. Approval from MassDEP and DCR, as necessary, of the safety features for stability and spillway design; and/or
 - b. A permit from the MassDEP and other regulatory agencies for controlling streamflow or installing a structure on the bed of a stream or interstate waterway.

Site Preparation (if applicable)

Site preparation for the reservoir shall include, where applicable:

1. Removal of brush and trees up to high water elevation;
2. Protection from floods during construction;
3. Proper abandonment and decommissioning (Section 4.14) of all wells and other structures or other facilities that will be inundated;
4. Erosion minimization during development of the source.

Intake Structures and Design

Intake structures and design shall include:

1. Intake screens;
2. Withdrawal of water from more than one level if quality varies with depth;
3. Separate facilities for release of less desirable water held in storage;
4. Where ice may be a problem, holding the velocity of flow into the intake structure to a minimum, generally not to exceed 0.5 feet per second;
5. Manholes every 1000 feet for pipe sizes large enough to permit visual inspection;
6. Cleaning of the intake pipe and screen, as needed;
7. Adequate protection against rupture by ice and other potential hazards;
8. Location of the intake above the bottom of the stream, lake, or impoundment, but at sufficient depth to be kept submerged at low water level.

3.3 New Feeder Reservoirs

1. The water supplier must meet all applicable requirements in Chapter 3 of these Guidelines.
2. Proposals for new feeder reservoirs must address physical and chemical changes to the terminal reservoir and any effects on existing treatment.

3. Both the terminal reservoir and the feeder reservoir must be monitored during the approval process.
4. The water supplier should meet with the appropriate MassDEP Regional Office to discuss the specific reporting requirements for the proposed feeder reservoir prior to submitting the Preliminary Report.

