

**H₂Olson Engineering, Inc.**

DRINKING WATER PROFESSIONALS

October 12, 2021

Mr. Joseph Lapointe, Superintendent
Abington Rockland Joint Water Works
366 Centre Ave
Rockland, MA

**RE: 0 Pond Street, Shinglemill, LLS, Chapter 40B Multi-Family Apartment Complex
Notice of Intent Submission Dated October 5, 2021: DEP File # 273-0408
Comments and Clarification of the Hingham Street Water Supply Reservoir Zone A**

Dear Mr. LaPointe:

H2Olson Engineering, Inc. (H2Olson) is in receipt of a Notice of Intent project submittal to the Rockland Conservation Commission dated October 5, 2021, prepared by Attorney Donald P. Nagle, associated with the proposed Shinglemill multi-family residential apartment complex. The submission includes a Zone A analysis and geomorphic assessment prepared by John Field, Ph.D., dated September 29, 2021. The October 5, 2021 cover letter prepared by Mr. Nagle correctly notes that the Massachusetts Department of Environmental Protection (MassDEP) has jurisdiction over regulating Zone A areas. As such, please find attached two (2) separate e-mails prepared by Richard Fried of the MassDEP regarding the three (3) existing Zone A tributaries located on the above referenced project site. Although it was interesting from a historical perspective to review Mr. Field's review of 1885 and 1936 topographic maps and 1957 aerial photographs, the definitions of a Zone A tributary are quite clear in the regulations, and MassDEP has verified in writing (refer to Attachment A and Attachment B), based on a careful review MassGIS information and two (2) site visits that there are three (3) Zone A tributaries (a running or intermittently running body of water which ultimately flows into a Class A Surface Water Source) on the proposed project site. For clarification purposes, please find presented below excerpts from Massachusetts regulations regarding Zone A (and Class A) tributaries:

310 CMR 22.02: Definitions**Zone A means:**

- a) the land area between the Surface Water Source and the upper boundary of the Bank;
- b) the land area within a 400 foot lateral distance from the upper boundary of the Bank of a Class A Surface Water Source, as defined in 314 CMR 4.05(3)(a): Class A; and
- c) the land area within a 200 foot lateral distance from the upper boundary of the Bank of a Tributary or associated Surface Water body.

Bank means the portion of the land surface which normally abuts and confines a water body; it lies between a water body and a bordering vegetated wetland and adjacent flood plain, or in the absence of these, it lies between a water body and an upland; the upper boundary of a Bank is the first observable break in the slope or the mean annual flood level, whichever is lower; the lower boundary of a Bank is the mean annual low flow level.

Tributary means any body of running, or intermittently running, water which moves in a definite channel, naturally or artificially created, in the ground due to a hydraulic gradient, and which ultimately flows into a Class A Surface Water Source, as defined in 314 CMR 4.05(3)(a): Class A.

Surface Water Source means any lake, pond, reservoir, river, stream or impoundment designated as a public water supply in 314 CMR 4.00: Massachusetts Surface Water Quality Standards.

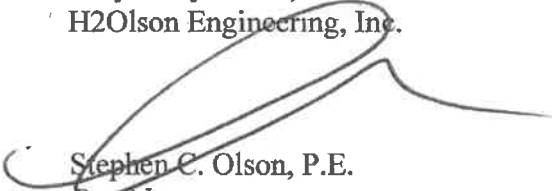
314 CMR 4.05(3) Inland Water Classes:

(a) Class A - These waters are designated as a source of public water supply. To the extent compatible with this use they shall be an excellent habitat for fish, other aquatic life and wildlife, and suitable for primary and secondary contact recreation. These waters shall have excellent aesthetic value. These waters are designated for protection as Outstanding Resource Waters under 314 CMR 4.04(3).

According to the last group site visit in which representatives of MassDEP and the project proponent attended (June 11, 2021), the only remaining question regarding the three Zone A tributaries is the starting point for one of them. The dense foliage during the site review prevented verification of the starting point of one tributary. MassDEP noted that it would review any data provided by the project proponent that indicates a shorter tributary length than shown on MassGIS, or conduct a supplemental field visit during a high precipitation event and/or when the leaf cover is gone.

Based on the information presented herein, it is clear that there are three (3) Zone A tributaries on the proposed site despite the conclusions of Mr. Field's noted geomorphic assessment. In simple terms, if a drop of water lands on the site, and it can hydraulically flow into the Hingham Street Reservoir, then the pathway of travel, whether permanently flowing or intermittent, is a Zone A tributary. As such, it appears that the Rockland Conservation Commission has jurisdiction regarding the wetland areas located within the verified Zone A areas. Please feel free to contact me at 508-375-7007 if you have any questions or require additional information. I can also be reached via e-mail at sco@h2olsonengineering.com.

Very Truly Yours,
H2Olson Engineering, Inc.


Stephen C. Olson, P.E.
President

Attachments: A. E-mail from Richard Friend, DEP dated 4/15/21
B. E-mail from Richard Friend, DEP dated 6/15/21

Attachment A

E-mail from Richard Friend, DEP dated 4/15/21

Stephen Olson

From: Friend, Richard (DEP) <richard.friend@state.ma.us>
Sent: Thursday, April 15, 2021 3:47 PM
To: Lori Macdonald, PWS, CWB; jlapointe@abrockwater.com; Stephen Olson
Cc: Bouck, Bruce (DEP)
Subject: Hingham reservoir Zone A site visit

This email is to document the results of a site visit I conducted yesterday, Wednesday April 14, 2021 at the Hingham Street Reservoir at 835 Hingham Street, Rockland, Mass. The reservoir is owned and operated by Abington-Rockland Joint Water Works (ARJWW) that serves the towns of Abington and Rockland. There are two adjacent reservoirs: the original Hingham Street reservoir to the north and an expansion reservoir to the southeast. Water from both reservoirs are treated at an on-site drinking water treatment plant. Present were Mr. Joe LaPointe from ARJWW, two ARJWW staff, Stephen Olson of H2Olson Engineering, and Lori MacDonald of Coneco consultants.

The site visit was requested by Coneco, whose client is proposing development of the Shingle Mill Multifamily Development project at 0 Pond Street in Rockland. Most of the property proposed to be developed is within the Zone A Surface Water Supply Protection Area for the Hingham Street Reservoir.

See screen shots of the area below. Ben Mann Brook and one of its tributaries originates northeast of the development property, flow through and along the border of the development property, then runs along the eastern side of the original reservoir, and between the original reservoir and the expanded reservoir. The Zone A for the brook and a tributary to the brook cover most of the area of the proposed development. There is no indication on the hydrography layer shown on the MassGIS layer "Massachusetts Water Features" that the brook discharges to either reservoir; the brook is shown as passing through the two reservoirs. Coneco requested the site visit to clarify whether the brook discharged to the reservoirs because if not, it would eliminate the Zone A area at the development site at 0 Hingham Street.

The site visit revealed that there are three locations where Ben Mann Brook can and does discharge to one or both reservoirs, shown as locations A, B, and C. on lower screen shot below. Therefore, the Zone A areas above the reservoirs will remain as mapped.

Location A: there is a dam structure with stop logs on the western side of the stream. Removing the stop logs allows water to flow from the stream into the reservoir through a buried corrugated iron pipe approximately 20 inches in diameter. At the time of the site visit, the stream level was below the top of the stop logs, but stream water was leaking through the stop logs and was discharging into the reservoir at a relatively low flow (less than 20 gallons per minute).

Location B: two PVC pipes approximately 8 inches in diameter run from the stream downward to the reservoir and could allow flow from the stream to the reservoir under high flow conditions. Neither pipe had flowing water at the time of the site visit. There are no controls on the pipes.

Location C: The stream flows to the southwest, between the two reservoirs. There is a structure with stoplogs that allow water to flow by gravity from the brook into either or both reservoirs when flow in the brook is sufficient and the elevation of the brook is higher than the reservoirs. Mr. LaPointe reported that ARJWW removes the stoplogs when streamflow allows and they want to fill the reservoirs.

The proposed development is in the red circle below. The crosshatch area is Zone A.



At locations A, and B Ben Mann Brook can discharge into the Hingham Street Reservoir; at location C it can discharge to both reservoirs:



Richard Friend
MassDEP Drinking Water Program

Attachment B

E-mail from Richard Friend, DEP dated 6/15/21

Stephen Olson

From: Friend, Richard (DEP) <richard.friend@state.ma.us>
Sent: Tuesday, June 15, 2021 8:32 AM
To: Lori Macdonald; Bouck, Bruce (DEP)
Cc: Michael Toohill; Christopher M. Lucas (cml@lucasenvironmental.net); conservation@rockland-ma.gov; pbrennan@amoryengineers.com; MNover@BETA-Inc.com; Stephen Olson; jlapointe@abrockwater.com
Subject: Rockland - 0 Wilson Street Zone A Tributary Site Review

On Friday, June 11, 2021 MassDEP drinking water program staff Bruce Bouck and Richard Friend conducted an on-site Zone A tributary review of property at the western end of Wilson Street in Rockland (0 Wilson Street). The tributary review was requested by Coneco consultants whose client, Shinglemill LLC, is in the planning stages of developing residential units on the property. Previously, Coneco had questioned whether tributaries on the property fed the Hingham Street Reservoir. A site visit on April 14, 2021 revealed that the tributaries discharge to the reservoir and therefore the Zone A above the reservoirs are valid. This is documented in an email dated April 15, 2021 I sent to interested parties.

Following the April 14 site visit, Coneco asserted that portions of the tributaries on the 0 Wilson Street property, which are shown as continuous in MassGIS and from which the Zone A is delineated, were in fact partially discontinuous and therefore should not all be included in the Zone A. Coneco flagged and mapped their assessment of the location of the stream channels; they shared their map showing these locations during the site visit. The June 11 site visit was requested by Coneco to determine if MassDEP staff agreed with their assessment.

Present at the June 11, 2021 site visit:

Bruce Bouck, MassDEP Drinking Water Program, Boston
Richard Friend, MassDEP Drinking Water Program, Boston
Chris Lucas, Lucas Environmental
Mike Toohill, Coneco
Laurie Macdonald, Coneco
Pat Brennan, Amory Engineering (representing the Rockland Zoning Commission)
Marta Nover, Beta Group (representing the Rockland Conservation Commission)
Lorraine Pratt, Rockland Conservation Commission
Stephen Olson, H2Olson Engineering (representing Abington-Rockland Joint Water Works)

Below is a map showing the property; the aerial photo is 2019 USGS Color Ortho Imagery. There are three tributaries on the property, all of which have Zone A's due to the connection to the Hingham Street Reservoir to the southwest. For purposes of this email, they are labeled Trib A, B, and C.

Tributary A: Although Coneco believed that the upper reaches of Trib A are not connected to more downstream portions, DEP staff did not observe a break in the channels, which contained water at the time of the site visit. Everywhere we looked at this tributary, we observed water in an unbroken channel. Although water was not visibly flowing on the day of the site visit, it was clear that water would flow in these channels under wetter conditions, and had recently contained significantly more water, presumably after the heavy Memorial Day weekend three day rain event. DEP staff will not change Tributary A.

Tributary B: It was unclear during the site visit if the starting point of Trib B is located as shown in MassGIS. Although standing water was observed, the vegetation was very heavy and dense, making observations of a continuous channel difficult. A small flow of water was observed flowing from a culvert to the approximate existing starting point of the stream, but was not observed flowing further. Coneco mapped what they believe is the start of Trib B at a point further to the west. The red ellipse on the map below shows the approximate location. Bruce Bouck, Laurie Macdonald and Chris Lucas attempted to find a definitive starting point of Trib B, but dense foliage prevented this. Coneco reports having observed the starting point earlier in the season and will forward their observations and data to MassDEP.

Tributary C: Tributary C was not in question, and was not visited.

MassDEP's conclusion is that Tribs A and C will remain as they are. The location and upstream extent of Trib B is still uncertain. MassDEP will review data which will be provided by Coneco and/or Lucas Environmental. Future field observations may be made immediately following a large rain event and/or when the leaf cover is gone.

The blue star northeast of "Trib C" is a vernal pool.



Richard Friend
MassDEP Drinking Water Program
Boston