

SOUTH RIVER ENVIRONMENTAL

61 Meetinghouse Lane, Marshfield, MA 02050

Phone: 978-697-0854

December 7, 2023

Duxbury Zoning Board of Appeals
Duxbury Town Hall
878 Tremont Street
Duxbury, MA 02332

Re: Supplemental Information
The Winsor at Millbrook Village
50 Railroad Avenue, Duxbury, MA

Dear Board Members:

On behalf of The Winsor at Millbrook Village, LLC (proponent), South River Environmental (SRE) is submitting supplemental information in response to email correspondence from Wetland Strategies, Inc. (WSI) to the Duxbury Conservation Commission (Commission) dated November 22, 2023 regarding the Notice of Intent filed for the above-referenced project under the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131 § 40). The project has also been submitted to the Duxbury Zoning Board of Appeals (ZBA) as a Comprehensive Permit under M.G.L. Chapter 40B, which includes the Duxbury Wetlands Protection Bylaw. The Wetlands Protection Bylaw does not specifically define perennial or intermittent streams and defaults to the definitions provided under the Wetlands Protection Act Regulations (310 CMR 10.58).

On November 22, 2023, SRE submitted a letter to the Commission which included photos documenting the lack of flow within the stream identified as perennial on the USGS topographic quadrangle map and located along the western boundary of the subject property. As stated within the letter, per Section 10.58(2)(a)(1d) of the Wetlands Protection Act Regulations, *'Notwithstanding 310 CMR 10.58(2)(a)1.a. through c., the issuing authority shall find that any stream is intermittent based upon a documented field observation that the stream is not flowing. A documented field observation shall be made by a competent source and shall be based upon an observation made at least once per day, over four days in any consecutive 12-month period, during a non-drought period on a stream not significantly affected by drawdown from withdrawals of water supply wells, direct withdrawals, impoundments, or other human-made flow reductions or diversions. Field observations made after December 20, 2002 shall be documented by field notes and by dated photographs or video. Field observations made prior to December 20, 2002 shall be documented by credible evidence. All field observations shall be submitted to the issuing authority with a statement signed under the penalties of perjury attesting to the authenticity and veracity of the field notes, photographs or video and other credible evidence. Department staff, conservation commissioners, and conservation commission staff are competent sources; issuing authorities may consider evidence from other sources that are determined to be competent.* Based on the information provided and regulatory performance standards, the stream should be classified by the ZBA as intermittent, and no further documentation of lack of flow within the stream is required.

Within the email of November 22, 2023, WSI cites 310 CMR 10.58(2)(a)(1) which states that *'When surface water is present in contiguous and connected pool/riffle systems, it shall be determined to be flowing'* as a reason why the photographic documentation provided does not overcome the presumption that the stream is perennial simply based on the presence of standing water within the stream associated with the subject property. This interpretation of the regulations by WSI is incorrect, as the stream associated with the subject property is not comprised of a pool / riffle system. The USGS defines these terms as the following (USGS - https://water.usgs.gov/water-basics_glossary.html#P):

Pool - A small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

While the stream has a low gradient and, therefore, low or little velocity, it is relatively uniform in depth and does not contain smaller areas with deeper water than surrounding areas.

Riffle - A shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

The stream has a low gradient and does not have shallower areas where water flows swiftly over obstructions to create surface agitation. Pool / riffle systems are typically associated with streams that have areas of steeper gradient (riffles) interspersed with the lower gradient areas that are able to develop pools due to the scour associated with the velocity of the flow at the point where the gradient changes.

Within the publication *Methods for Characterizing Stream Habitat as Part of the National Water Quality Assessment Program* (USGS 1993), USGS provides a figure (attached) that provides cross section details of the three main stream channel geomorphic units. The stream associated with the subject property is low-gradient and does not have any pools / riffles along the entire length that it parallels the property. Based on the attached figure, the stream is characterized as a 'run' – a slow moving, relatively shallow body of water with low velocities and little or no surface turbulence. Therefore, since the stream does not exhibit pool / riffle characteristics, it cannot be presumed to have flow based only on the presence of standing water.

With the clear lack of a pool / riffle channel within the subject stream, SRE continues to contend that the documentation demonstrating the lack of flow within the stream for four consecutive days meets the regulatory performance standard to rebut the presumption that the stream is perennial. Therefore, the ZBA should, in accordance with the WPA Regulations at 10.58(2)(a)(1)(d), which is inclusive of the definition preamble language under 310 CMR 10.58(2)(a)(1.) determine that the stream is intermittent and does not have an associated Riverfront Area subject to protection under the WPA or the Duxbury Wetlands Protection Bylaw. This determination would be consistent with past decisions made by the Commission as documented in the November 22, 2023 letter. Additionally, per the field review conducted with WSI, the stream located directly to the west of the BVW boundary which is not depicted on the USGS topographic map was confirmed as intermittent.

On behalf of the Proponent, SRE appreciates the opportunity to provide this additional information in support of the project. Should you have any questions or require additional information, please do not hesitate to contact me at 978-697-0854 or via email at southernriverenvironmental@gmail.com. Thank you for your continued consideration.

Sincerely,
South River Environmental



John Zimmer
Wetland Scientist / Wildlife Biologist

Cc: The Winsor at Millbrook Village, LLC
Crowell Engineering
Wetland Strategies, Inc.
MA DEP – SERO
Town of Duxbury Conservation Commission

Attachment

ATTACHMENT A

USGS DIAGRAM OF THREE MAIN GEOMORPHIC CHANNEL UNITS

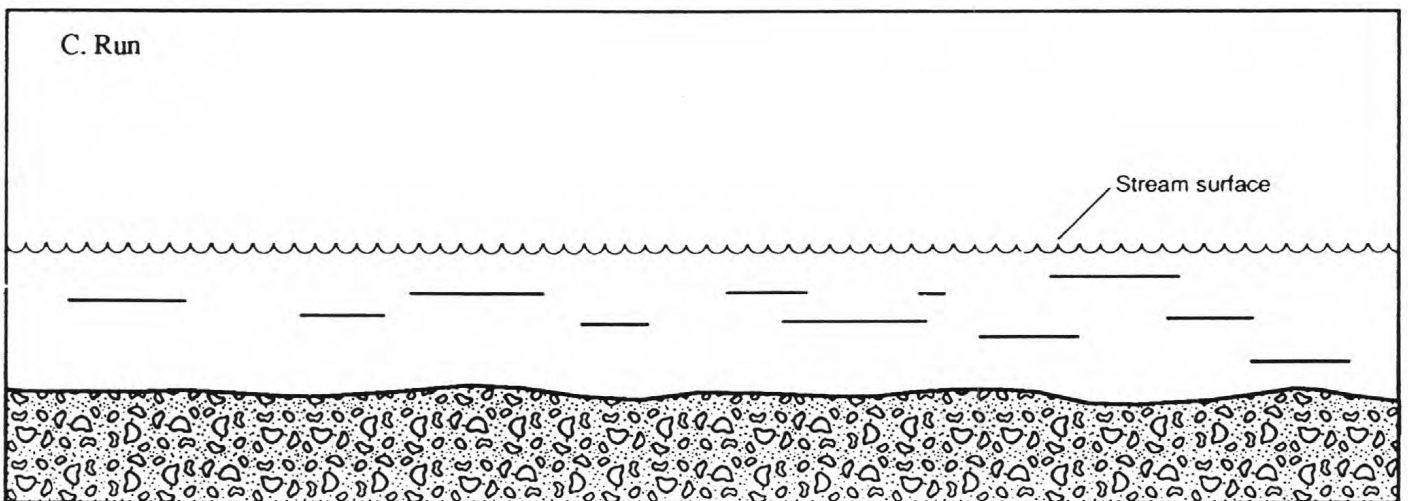
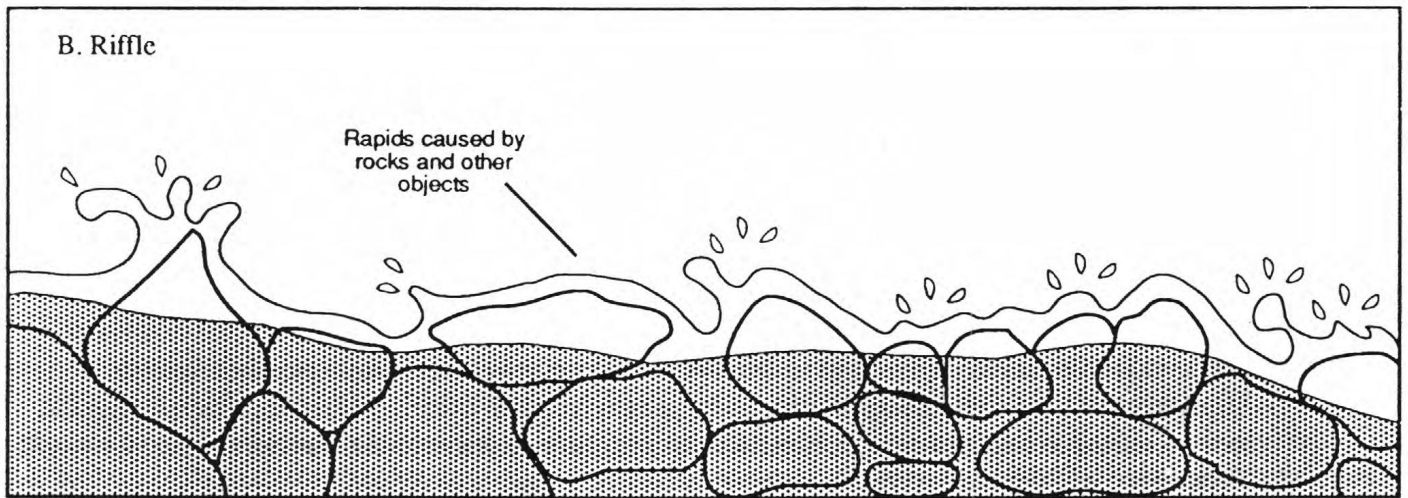
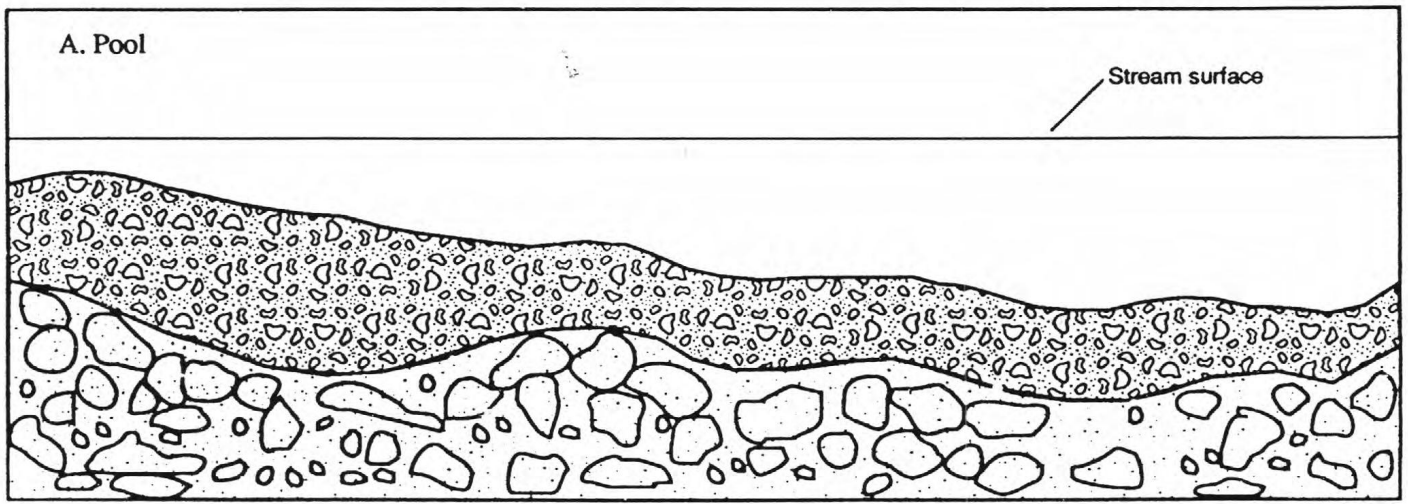


Figure 4.--Diagram of the three main geomorphic channel units: (A) pool--a part of the stream with reduced velocity, commonly with water deeper than surrounding areas; (B) riffle--a part of the stream where the water flows swiftly over completely or partially submerged obstructions to produce surface agitation; and (C) run--a slow moving, relatively shallow body of water with moderately low velocities and little or no surface turbulence (modified from Bisson and others, 1982).