



November 6, 2023

Ms. Amy Green, Conservation Coordinator  
Littleton Conservation Commission  
37 Shattuck Street  
Littleton, MA 01460

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**VIA EMAIL ONLY**

**Re: Riverfront Area Site Review Summay  
Abbreviated Notification of Resource Area Delineation (ANRAD)  
95 Taylor Street, Littleton, MA  
DEP File Number: 204-0987**

Dear Ms. Green, and Commissioners:

Oxbow Associates, Inc. (OA) has examined the plan materials provided with the ANRAD submittal, in addition to data available from MASSGIS and USGS StreamStats. We have also conducted three site visits, the first on September 6, 2023 accompanied in part by Ms. Green, on October 18 accompanied by D. Crossman of B & C Associates, and on October 24 with Commissioners, Ms. Green, and the Applicant and representatives.

The original ANRAD submittal provides a plan (Resource Area Delineation Plan; Stamski & McNary, Inc., June 30, 2023) depicting Mean Annual High Water (MAHW) more or less coterminous with the west property boundary, presumably described originally as "by the center line of the brook", or similar. This boundary was not found to be representative of the MAHW boundary as described in the Regulations, nor as it is typically determined in the course of resource area review in Massachusetts. This review was undertaken to rectify the MAHW resource area boundary in keeping with standards and practices for that resource in the Commonwealth.

During the October 18 site review Mr. Crossman and I examined the site's attributes relative to the Rivers Protection Act Regulations (310 CMR 10.58). I had previously consulted the USGS StreamStats algorithm which indicates a contributing watershed at approximately the northerly property boundary of 5.6 square miles. That same source predicts a bankfull stream channel width of 29.5 feet and a stream cross-sectional area of 45.6 square feet. In contrast, the flooded basin of Beaver Brook at the south property boundary is approximately 705 linear feet from shore to shore (see attached GIS figure).

At the narrowest point where the brook abuts the property (at approximately WF 16, see Plan) there are approximately 140 feet between opposing uplands.

Although the predictive models for bankfull conditions are not precise, Beaver Brook would have a cross-sectional area in places in excess of 1,500 square feet, vs. 45.6 sq. ft. predicted.

In view of the above incongruities, I considered the portions of the adjacent drainage that display arguably riverine characteristics (linear flow, a more or less defined channel(s)) to meet the criteria for "Mean Annual High Water". This suite of characteristics encompasses the majority of the site, from the vicinity of wetland flag "9", through WF 27 (see attached figure).

The cove in and beyond the southwestern property limit does not exhibit riverine characteristics in my professional opinion. This zone, where the stream channel would span more than 700 feet if upland-to-upland were the criteria applied, has predominantly woody scrub vegetation with pockets of emergent and floating-leaved aquatic vegetation; more aptly categorized as a swamp than a river. There is no evidence of linear flow, nor a discernable channel adjacent the area from WF-1 through WF-9. In view of these observations, and in conference with Mr. Crossman, we utilized an AT & T view marker/post located on the easement that bisects the marsh (see figure) and drew an imaginary line more or less from WF-9 to the post marker. Under this assessment, the area left (south) of the imaginary line is not considered riverine; all areas north of WF 9 within the Site are considered riverine, with the general definition of MAHW being coincident with the limit of deciduous trees.

These boundaries were to be established in the field, and on an amended plan in support of the ANRAD for examination by the Commission. We have not been provided an updated plan at this writing.

Thank you for the opportunity to review this site on behalf of the Littleton Conservation Commission. Please feel free to contact me with any questions related to the above findings

Sincerely,

Oxbow Associates, Inc.



Brian O. Butler, President

Enclosure: Annotated MASS GIS Orthophotographic Figure., Nov. 6, 2023.

