EcoTec, Inc.

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August 30, 2023

Wayland Conservation Commission
41 Cochituate Road
Wayland, MA 01778

Re: 24 School Street, Wayland, MA

Subject: Peer Review Findings & Recommendations

Dear Commissioners:

I, Arthur Allen of EcoTec have done desktop research, reviewed the documents listed below and evaluated the above-referenced project site. I visited the site on August 28, 2023. A list of the documents that I reviewed, as well as my findings and recommendations, are noted below. I have also attached representative photos of the vegetated wetland and it's boundary conditions.

Documents Reviewed:

- ✓ Existing Conditions Site Plans. One plan dated May 18, 2015 (revised through November 1, 2015) and the other dated May 23, 2017 (revised through November 1, 2015);
- ✓ Record documents pertaining to wetland delineation, streamflow status, ORAD status, etc.;
- ✓ Mass Mapper figures for Wetlands, Hydrologic Connections, Rare Species Habitat, Vernal Pools, USGS Topography, Flood Zones;
- ✓ USGS StreamStats Report and Google Planimeter for Watershed Area.

Findings & Recommendations:

1. The project site is impacted by Bordering Vegetated Wetland, intermittent stream Bank and Buffer Zone. There are no Riverfront Areas, mapped Bordering Lands Subject to Flooding, Isolated Lands Subject to Flooding, Isolated Vegetated Wetlands, mapped Rare Species Habitats, Certified or Potential Vernal Pools present on the project site.

2. The stream that is located off-site to the west was observed to be flowing during my site evaluaton on August 28, 2023. Rainfall conditions this Summer have been significantly above normal. The stream is mapped as intermittent on the most recent USGS map (see attached) and the USGS StreamStats program provides a watershed area of 0.07 square miles with a 99^{th} percentile flow duration of 0.001 cfs (see attached). I performed my own watershed calculation and also obtained a watershed area of 0.07 square miles (see attached). I am not aware of any upstream impoundments or large volume groundwater withdrawals which would have impacted this relatively small watershed area such that it went from perennial to intermittent flow. The mapping, watershed area, flow duration and apparent lack of significant watershed modification, all support a regulatory designation of intermittent flow status.

3. On August 28th, I visited the site to confirm the wetland boundaries. I was accompanied by Francis Alves of CLAWE. It is my understanding that the recently installed, pink flags labeled WF-1 to WF-12 represent the wetland boundary as approved under the 2015 Order of Resource Area Delineation ("ORAD"). I reviewed those flags and noted one additional flag labeled WF-A1, located between flags WF-2 and WF-3. I am in agreement with all flags except WF-2 where I found hydric soils upgradient, between WF-2 and WF-A1. I recommend connecting flag WF-1 to WF-A1 to WF-3 and eliminating flag WF-2. Flags WF-1 to WF-7 are located on a gradual slope with some wetland vegetation extending upgradient of these flags. I observed the soil profiles and found non-hydric soils upgradient of all flags with the exception of WF-2 (see above). Flags WF-8 to WF-11 are located at the toe of a well-defined slope with dominant wetland vegetation upgradient. Representative photos, taken along the wetland boundary, are attached.

4. I noted a small, ponded water feature on the site that is labeled "Fish Pond" on the plans. The water feature appears to have a heavy plastic liner and, accordingly, would not be regulated under the Wetlands Protection Act due to the artificial, impervious basin exemption at 310 CMR 10.04. I defer to the Commission regarding the status of the water feature under the local Bylaw.

Please do not hesitate to contact me if you have any questions concerning this or other matters.

Sincerely,

Arthur Allen, CPSS, CWS, CESSWI
Senior Environmental Scientist

Attachments: 4(6 pages)

AA/Monitoring/Wayland 24 School EcoTec Review 8_30_2023

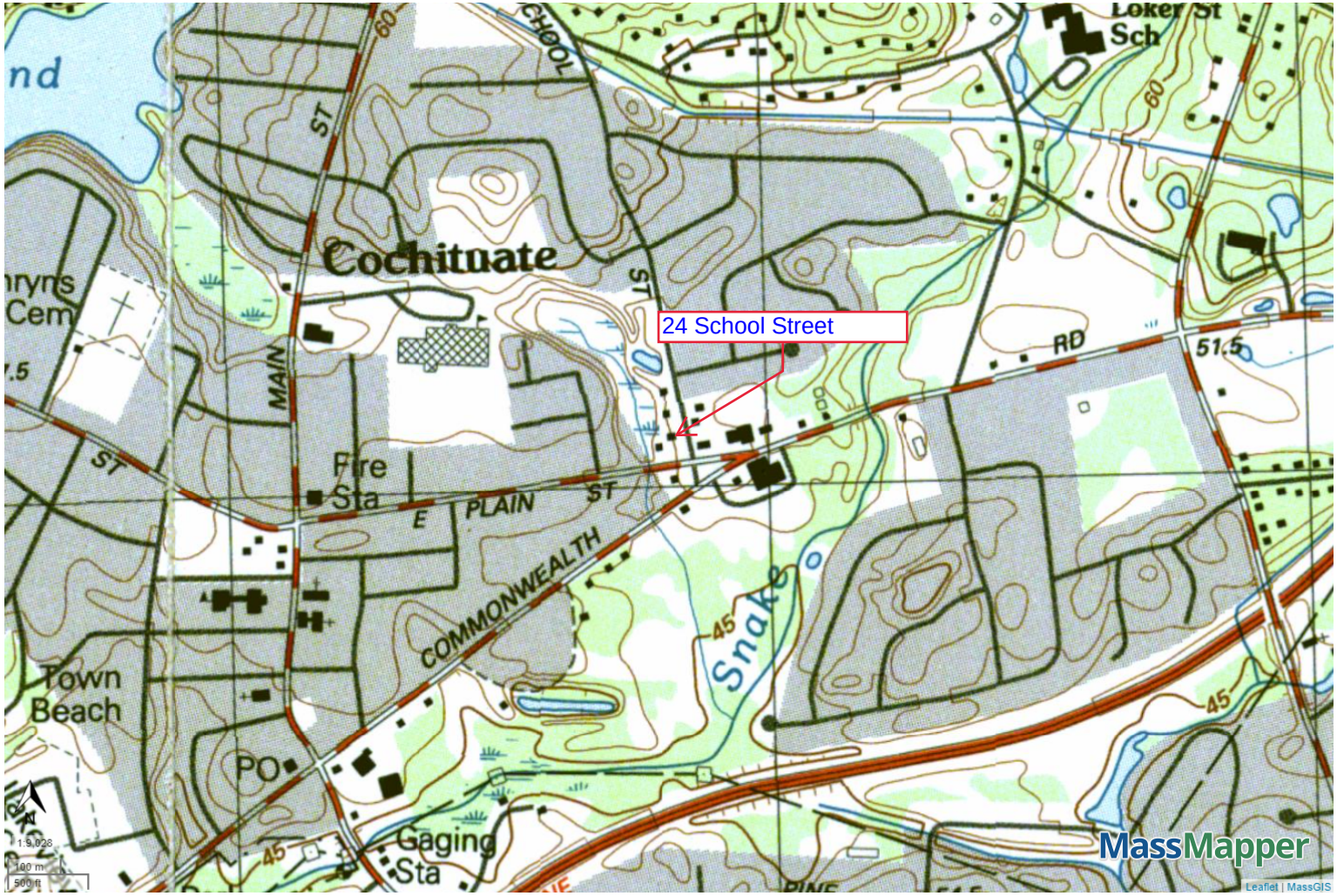
SITE EVALUATION PHOTOS TAKEN AT 24 SCHOOL STREET, WAYLAND, MA

1. Lined “Fish Pond” Water Feature

2. Northerly part of wetland boundary with defined slope

3. Representative non-hydric soil from southerly part of wetland boundary

24 School Street USGS

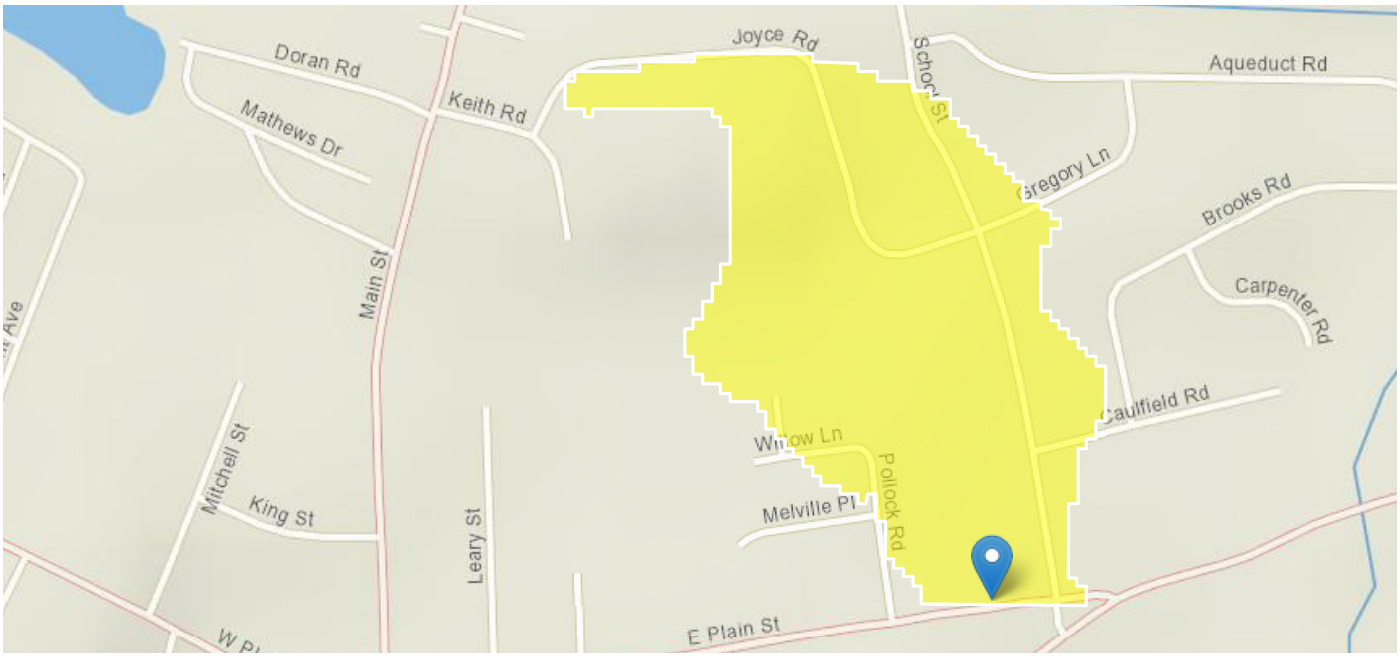


USGS Topographic Maps

Property Tax Parcels

StreamStats Report - 24 School Street, Wayland, MA

Region ID: MA
Workspace ID: MA20230830182514834000
Clicked Point (Latitude, Longitude): 42.32232, -71.35642
Time: 2023-08-30 14:26:37 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLDEM250	Mean basin slope computed from 1:250K DEM	1.817	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.15	square mile per mile
DRNAREA	Area that drains to a point on a stream	0.0727	square miles
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

Flow-Duration Statistics

Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0727	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0.15	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	1.817	percent	0.32	24.6

Flow-Duration Statistics Disclaimers [Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
50 Percent Duration	0.0659	ft^3/s
60 Percent Duration	0.041	ft^3/s
70 Percent Duration	0.0224	ft^3/s
75 Percent Duration	0.0165	ft^3/s
80 Percent Duration	0.0135	ft^3/s
85 Percent Duration	0.00891	ft^3/s
90 Percent Duration	0.00627	ft^3/s
95 Percent Duration	0.00299	ft^3/s
98 Percent Duration	0.00184	ft^3/s
99 Percent Duration	0.00118	ft^3/s

Flow-Duration Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

Application Version: 4.16.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

ACME Planimeter

Measure areas!

Perimeter: 1744 m / 1.744 km / 5722 ft / 1.084 mile

Area: 1.892e+5 m² / 18.92 hectares / 0.1892 km² / 2.036e+6 ft² / 46.74 acres / 0.07304 mile²