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EFFECTIVE, AFFORDABLE, AND SUSTAINABLE SOLUTIONS FOR LAND & WATER ENVIRONMENT

August 16, 2020
Revised November 9, 2020

To: Chris D'Antonio, Windsor Place LLC
73 Pelham Island Road
Wayland, MA 01778

From: Desheng Wang, Ph.D., P.E.
Creative Land & Water Engineering, LLC

Re: 24 School Street, Wayland, MA , DEP file # 322-0897

Plans to develop the property at 24 School Street include 12 residential units under state statute Chapter 40B. Wastewater from the development is estimated to be 2,860 gallons per day and will be discharged to groundwater under Title 5 regulations. Site storm water will be collected and a portion of which will be discharged to groundwater by way of a storm water infiltration basin. See site plan for location reference.

During the Wayland Conservation review process, questions were raised concerning groundwater mounding for Site wastewater and storm water. On February 28, 2018 CLAWE submitted a report to Wayland presenting groundwater mounding calculations for both wastewater and storm water. The Town of Wayland Consecration Commission hired consultant agreed with CLAWE's analysis after some minor adjustment in parameters. Board of Health has approved the onsite septic plans. However, the Wayland Conservation Commission had denied the project citing with the abutters concerning impact to wetland and demanding a groundwater analysis using USGS model MODFLOW. The applicant appealed the decision to DEP for a superseding Order of Conditions and then to an adjudicatory hearing. During the meeting with DEP, the applicant and DEP reached an agreement to conduct a MODFLOW analysis of the groundwater mounding. The parties also agreed to use all the existing testing data in soil and ground water including groundwater monitoring wells, hydraulic conductivity, deep hole soil test pits and the approved wetland border as general site condition. At the request of CLAWE through Dr. Wang, GeoHydroCycle, Inc. (HGC) was retained to conduct a Groundwater Mounding Analyses using MODFLOW, a finite difference groundwater computer model, and the most widely used groundwater computer model in the world.

The goals for GHC's analysis were to:

1. ***Simulate groundwater mounding for discharge to the proposed effluent disposal area; and***
2. ***Simulate groundwater mounding from the discharge of a 100-year storm event for the proposed stormwater infiltration basin.***
3. ***Accumulative effects of the two systems in groundwater mounding height for SAS design and impact evaluation on stormwater infiltration trench.***

HGC's modeling results had more detailed spatial distribution of groundwater mounding while the maximum mounding heights in similar or slightly lower than CLAWE's results. In some area, HFC's analysis showed a lightly higher mounded groundwater in the western 1/3 of the leaching area. The septic leaching trenches (Line-1, Line 2, Line-3, and Line-4) needs to be raised 0.08 ft to 0.67 ft. The septic plan will be updated with these elevation changes. However, it will not impact the surface grading as enough fill depth in this area can accommodate the new trench elevations. The HGC's analysis also confirmed that stormwater infiltration trench will be adequately

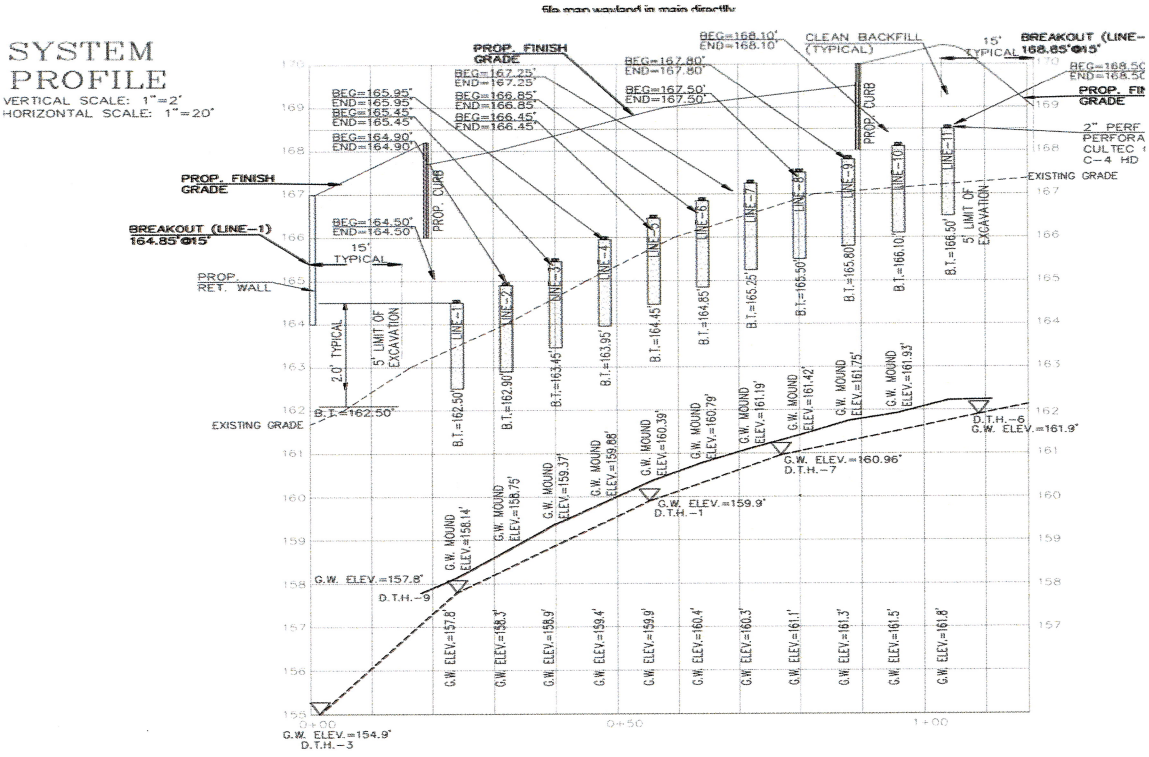
dewatered as the previously analysis done by CLAWE. The detailed comparison of septic leaching field is summarized in the following. Detailed analysis can be referred to GHC's report.

24 School Street, Wayland, MA - Groundwater Mounding using Soil Mottling by Creative Land & Water Engineering, LLC

Date: 11/29/2018 updated: 2/27/2019 4/24/2019 8/16/2020

Trench	Dist from SW CNR, ft	Stormw M, ft	SAS M GW ft	Modflow Combined , ft	Required Bottom Elev., ft	Diff, ft	HGW, ft	Groundwater Mound, ft	M. GW, ft	Required Bottom of Trench, ft	Hantushi Method Previous Bottom of Trench, ft	Difference, ft	Min. raise of trench bottom elev., ft	Updated Bottom of Trench meeting BOH required, ft	Actual Raise of bottom Elev, ft
Line-1	5	0.340	158.83	159.168	**163.17**	-0.67	157.8	0.38	158.18	162.18	162.5	0.32	good, 0	**162.5**	0
Line-2	13	0.325	159.18	159.503	**163.50**	-0.60	158.3	0.49	158.79	162.79	162.9	0.11	good, 0	**162.9**	0
Line-3	21	0.309	159.52	159.830	**163.83**	-0.38	158.9	0.51	159.41	163.41	163.3	-0.11	raise 0.07 ft	**163.45**	0.15
Line-4	29	0.293	159.73	160.027	**164.03**	-0.08	159.4	0.52	159.92	163.92	163.7	-0.22	raise 0.18 ft	**163.95**	0.25
Line-5	37	0.278	159.95	160.225	**164.22**	0.23	159.9	0.53	160.43	164.43	164.1	-0.33	raise 0.29 ft	**164.45**	0.35
Line-6	45	0.262	160.18	160.439	**164.44**	0.41	160.3	0.53	160.83	164.83	164.5	-0.33	raise 0.29 ft	**164.85**	0.35
Line-7	53	0.246	160.41	160.658	**164.66**	0.59	160.7	0.53	161.23	165.23	164.9	-0.33	raise 0.29 ft	**165.25**	0.35
Line-8	61	0.231	160.57	160.804	**164.80**	0.70	160.96	0.5	161.46	165.46	165.3	-0.16	raise 0.12 ft	**165.5**	0.2
Line-9	69	0.215	160.69	160.906	**164.91**	0.89	161.3	0.49	161.79	165.79	165.7	-0.09	raise 0.05 ft	**165.8**	0.1
Line-10	77	0.200	160.81	161.008	**165.01**	1.09	161.5	0.47	161.97	165.97	166.1	0.13	good, 0	**166.1**	0
Line-11	85	0.184	160.93	161.110	**165.11**	1.39	161.8	0.45	162.25	166.25	166.5	0.25	good, 0	**166.5**	0

Note: 1. The groundwater mounding height is calcualted in Scenairo #3 using soil mottling elevations by Metrowest Eng.
2. Hantushi Groundwater mounding analysis had been taken from Creative Land & Water Eng, LLC report dated 6/12/2018.
3. This trench bottom elevation adjustments were done per the Wayland Board of Health request
4. MODFLOW groundwater mounding analysis by GHC
5. Difference (-) indicate bottom of the trench need to be raised; (+) no change or can be lowered.

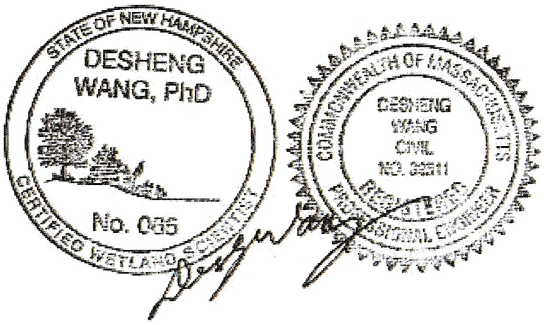


If you have any questions, please feel free to contact me.

Sincerely,

Creative Land & Water Engineering, LLC

By



Desheng Wang, Ph.D., P.E.
Certified Wetland Scientist and Hydraulic Engineer

Cc: **Michelle N. O'Brien,** PIERCE ATWOOD LLP, 100 Summer Street, 22nd Floor Boston, MA 02110
DEP, NERO, Wetland Program, Wilmington, MA 01887
Conservation Commission, Wayland Town Hall, 41 Cochituate Road, Wayland, MA 01778
Mark Kablack
Brian Nelson, MWE
Steve Smith, GHC

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Line-11	85	0.184	160.93	161.110	**165.11**	1.39	161.8	0.45	162.25	166.25	166.5	0.25	good, 0	**166.5**	0

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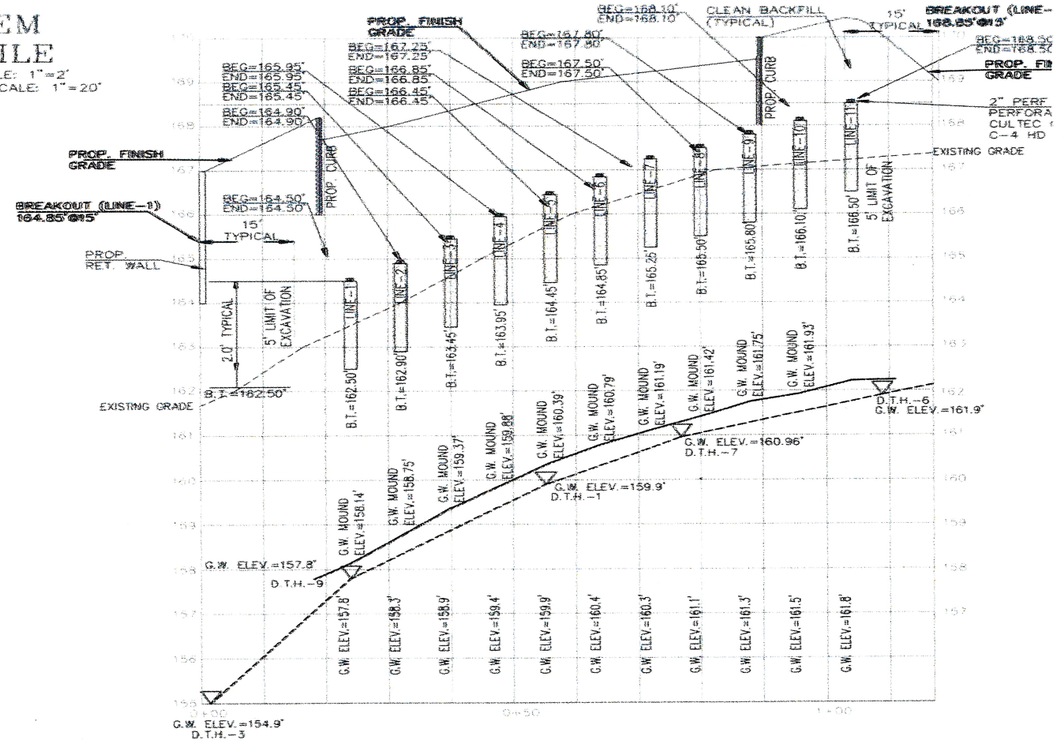
5. Difference (-) indicate bottom of the trench need to be raised; (+) no change or can be lowered.

SYSTEM PROFILE
VERTICAL SCALE: 1"=2'
HORIZONTAL SCALE: 1"=20'



LAWSON & WEITZEN

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April 5, 2023

Via Mail and Email (sfair@wayland.ma.us)

Sean Fair, Chairman
Town of Wayland Conservation Commission
41 Cochituate Road
Wayland, MA 01778

RE: Order of Conditions for 24 School Street in Wayland

Dear Chairman Fair,

This firm represents Chris D'Antonio and Windsor Place LLC (collectively, the "Applicant") in connection with Applicant's proposed townhouse development at 24 School Street in Wayland (the "Project"). As you know, the Wayland Conservation Commission (the "ConCom") issued an Order of Conditions dated October 4, 2018, denying the Project. After the Applicant appealed to the Massachusetts Department of Environmental Protection ("MassDEP"), MassDEP issued a Superseding Order of Conditions dated July 16, 2019, denying the Project by affirming the ConCom's denial of the Project. The Applicant subsequently appealed the Superseding Order of Conditions to MassDEP's Office of Appeals and Dispute Resolution, and on October 17, 2019, the presiding officer in that proceeding allowed an unopposed motion to stay the appeal so that the Applicant could submit a revised Notice of Intent containing additional information that would address the concerns raised in the original and superseding Order of Conditions. During the Commission's review of the new filing, a question arose as to whether a new resource area delineation was required. On behalf of the Applicant, Mary Ann DiPinto of Three Oaks Environmental – who previously worked as a wetlands scientist for MassDEP for more than thirty years – opined that no new delineation was required. By means of a cursory email to the Commission's administrator, Town Counsel Amy Keswell challenged Ms. DiPinto's expert opinion. Ms. DiPinto was and is correct.

The Applicant submitted its Notice of Intent in September 2017 (the "Original NOI"). The Original NOI relied on an Order of Resource Area Determination issued by the Commission on November 24, 2015 (the "2015 ORAD"). While, under 310 CMR 10.05(6)(a)3, an ORAD "shall be effective for three years," the regulation's purpose is to ensure diligent efforts on project proponents to comply with the permitting process, not to establish a deadline by which the permitting process must be completed. "[A]

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wetlands delineation contained in a notice of intent does not automatically expire three years into the permitting process...." *In re: Robert R. Scarano*, Massachusetts Division of Administrative Law Appeals Docket Nos. 2003-167 & DEP-05-203, Ruling on Motion for Partial Summary Decision (June 30, 2006), 2006 WL 4211720 ("*Scarano*"), at *3. *See also In re: Old Barn, LLC*, MassDEP Office of Appeals and Dispute Resolution Docket No. WET-2010-013, Recommended Final Decision (Oct. 20, 2010), 2010 WL 4912398, at *6 (noting that an ORAD was binding "because the Notice of Intent was filed within three years of the ORAD's issuance"). On the contrary, "when an applicant submits a notice of intent based on a valid ORAD, but the ORAD expires during the permitting process, ***the delineations in the ORAD remain in effect*** unless a party affirmatively challenges those delineations." *Scarano*, 2006 WL 4211720 at *3 (emphasis added). Furthermore, even if the delineations are challenged, "the ORAD is strong evidence of the wetland boundaries on the site. Thus, the party questioning the resource area delineations would have to present evidence from a competent source showing both that the wetland boundaries have changed and how the new boundaries should be drawn." *Id.*

The Applicant submitted the Original NOI while the delineations 2015 ORAD were in effect, and the permitting process that the submission of the Original NOI inaugurated has continued, without lapse, since that submission. (As Ms. DiPinto wrote, under 310 CMR 10.05(4)(g), "[n]o Notice of Intent shall be deemed expired under 310 CMR 10.05 when an adjudicatory hearing is pending and when the applicant has provided all information necessary to continue with the prosecution of the case.") Accordingly, the delineations in the 2015 ORAD remain in effect today; those delineations have not been challenged,[1] let alone challenged with evidence from a "competent source" showing both that the wetland boundaries identified in the 2015 ORAD have changed and how the new boundaries should be drawn.

On behalf of the Applicant, I respectfully request that the Commission evaluate the revised NOI in light of the delineations in the 2015 ORAD, which delineations remain in effect.

Sincerely,

Michael Rabieh

cc: Linda Hansen (by email: lhansen@wayland.ma.us)
Monica Rivas (by email: mrivas@wayland.ma.us)

[1] As Attorney Kwesell noted, the 2015 ORAD was "not appealed."

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
In the Matter of ROBERT R. SCARANO

Docket No.: **Docket Nos. 2003-167 & DEP-05-203**
File No.: **File No. 344-0864**
Case Name: **In the Matter of ROBERT R. SCARANO**
Date: **June 30, 2006**
Municipality: **Wilmington**
Hearing Officer: **Natalie S. Monroe, Administrative Magistrate**

Title: **RULING ON MOTION FOR PARTIAL SUMMARY DECISION**

The Wilmington Conservation Commission brought this appeal to challenge a wetlands superseding order of conditions that the Department of Environmental Protection ("DEP") issued to Robert Scarano to construct a single-family house, driveway and septic system on property located at 101 Woburn Street in Wilmington. Mr. Scarano has moved for partial summary decision on the ground that the parties to this appeal are barred from disputing the wetlands delineations on the property. Specifically, Mr. Scarano contends that the parties are bound by the delineations contained in an Order of Resource Area Delineation that the Conservation Commission issued to Mr. Scarano in early 2000. I deny Mr. Scarano's motion for the reasons set forth below.

Undisputed Facts

On January 21, 2000, Mr. Scarano filed an Abbreviated Notice of Resource Area Delineation ("ANRAD") with the Wilmington Conservation Commission. The ANRAD sought to confirm the delineation of bordering vegetated wetlands on Mr. Scarano's property. It did not identify any other wetlands on the property; nor did it ask for an affirmative finding that the site contained no other resource areas. See Motion for Summary Decision, Exhibit B at p. 1.

The Conservation Commission issued an Order of Resource Area Delineation on March 17, 2000. The Order reads:

> The wetland delineation on the plan "BVW Location Plan", accurately portrays the boundaries of bordering vegetated wetland at this site. The Wilmington Conservation Commission approves the wetland flag locations.

See Motion for Summary Decision at Exhibit C. The Order of Resource Area Delineation was not appealed.

On February 19, 2003, Mr. Scarano filed a notice of intent with the Wilmington Conservation Commission pursuant to the Wetlands Protection Act, M.G.L. c. 131, s. 40, and the Wetlands Regulations, 310 CMR 10.00. The notice of intent was based on the

wetlands delineation contained in the Order of Resource Area Delineation. After several hearings, the Conservation Commission denied the project on May 21, 2003. Mr. Scarano appealed to the DEP, which issued a superseding order of conditions approving the project on November 12, 2003.[1]

The Wilmington Conservation Commission appealed the superseding order of conditions and raised two claims that are relevant here. First, the Conservation Commission asserted that the project plans do not accurately depict the bordering vegetated wetland on the site. Second, it contended that the property also contains bordering land subject to flooding that appears nowhere on the project plans and that the DEP did not consider when it issued the superseding order of conditions. In response, Mr. Scarano argued that the Order of Resource Area Delineation delineates all of the resource areas on the site and that those delineations cannot be challenged here. Consequently, after the pre-hearing conference, I identified the following question as an issue for adjudication:

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> Is the [order] of resource area delineation ... that was issued with respect to the property dispositive as to the delineation of all of the wetland resources on the property?

See Conference Report and Related Orders, dated July 1, 2005, at Issue No. 2.

Mr. Scarano now has moved for summary decision on Issue No. 2. The Conservation Commission and the DEP filed a joint brief in opposition to the motion. For the reasons explained below, Mr. Scarano's motion is denied.

The Standard for Summary Decision

A motion for summary decision shall be granted if the pleadings, depositions, answers to interrogatories and admissions on file, together with the parties' affidavits (if any), show that there is no genuine issue as to any material fact and that the moving party is entitled to a decision in his favor as a matter of law. Matter of Krasnecky, Docket Nos. 2003-102, 2003-103 & 2003-122, Ruling on the Petitioners' Motion for Summary Decision, 12 DEPR 11, 13 (Feb. 14, 2005). In this case, I find that no material facts are in dispute but that Mr. Scarano is not entitled to a decision in his favor as a matter of law.

Discussion

The Wetlands Regulations permit a landowner to file an abbreviated notice of resource area delineation in order to confirm resource area boundaries in advance of filing a notice of intent. 310 CMR 10.05(4)(b).[2] After receiving and reviewing an abbreviated notice of resource area delineation, a local conservation commission must issue an order of resource area delineation ("ORAD"), which can be appealed to the DEP. See 310 CMR 10.05(6). An ORAD "shall be effective for three years." 310 CMR 10.05(6)(a)3. This procedure

> allows an applicant some foreknowledge of how the Wetlands Protection Act . . . will be applied by regulating authorities to a given site - before the applicant has gone to the time and expense of designing a project - either by providing the applicant with the answer to whether certain wetlands resource areas are present on the site or ... to what extent they are present.

Matter of T & M Realty Corp., Docket No. 96-088, Final Decision, 4 DEPR 49, 50 (Mar. 27, 1997). Moreover, by fixing the wetland boundary delineation for a definitive period of time,

> the regulation provides needed certainty. The three-year period affords an opportunity to plan projects based on a decision from the issuing authority regarding the location and extent of wetlands resource areas. At the same time, by setting an expiration date three years after issuance, the Department recognizes that wetland boundaries can change over time. The regulation thus accommodates both the need for predictability and the environment's propensity for change.

Matter of Kenwood Dev. Corp., Docket No. 97-022, Ruling and Order, 5 DEPR 5, 9 (Jan. 23, 1998).

On summary decision, Mr. Scarano argues that because he filed his notice of intent while his Order of Resource Area Delineation was still effective, the Conservation Commission is estopped from revising the wetlands delineations in it. Put differently, when the Conservation Commission reviewed his notice of intent, the wetland delineations in the Order of Resource Area Delineation were binding on the Conservation Commission. The Conservation Commission and DEP disagree. They contend that the wetland boundaries in the Order of Resource Area Delineation expired on March 17, 2003, and therefore could be reviewed and revised after that date.

The DEP and Conservation Commission are correct. The Wetlands Regulations are unambiguous; an ORAD is effective for three years, after which time it expires. See 310 CMR 10.05(6)(a)3. Furthermore, the Wetlands Regulations do not permit the equitable relief that Mr. Scarano seeks here. Consequently, while the boundaries in the ORAD were binding when Mr. Scarano first filed his notice of intent, those boundaries were subject to review and revision

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after March 17, 2003.

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[1] The DEP subsequently changed its position and now opposes the project on grounds unrelated to the delineation of the wetlands. For a detailed recitation of the procedural history of this case, see Conference Report and Related Orders, dated July 1, 2005.

[2] Specifically, the Wetlands Regulations state:

> (4) Notices of Intent.
> (a) Any person who proposes to do work that will remove, fill, dredge or alter any Area Subject to Protection ... shall file a Notice of Intent on Form
> (b) For certain purposes, other forms of Notices may be used....
> 2. To establish the extent of a bordering vegetated wetland and other resource areas on land subject to protection under M.GL. c. 131 s. 40, applicants may use the Abbreviated Notice of Resource Area Delineation for the confirmation of a delineated boundary.... prior to filing a Notice of Intent for proposed work. Alternatively, the boundary of a ... resource area ... may be determined by filing a Notice of Intent.

310 CMR 10.05(4)(b).

That does not entirely resolve the question. In most instances, three years is sufficient time to plan a project, file a notice of intent and obtain a final order of conditions. The three-year expiration date nevertheless could be abused in some cases. That is, project opponents could intentionally delay permitting proceedings so that the three-year clock could run out on a delineation that was not to their liking. Take this case as an example. Had the Conservation Commission reviewed Mr. Scarano's notice of intent before March 17, 2003, it could not have denied the project on the ground that the plans did not properly depict the bordering vegetated wetlands on the site.[3] Because the review took place after that date, however, the commission rejected the project on that basis. There is no evidence that the Conservation Commission intentionally delayed its review of Mr. Scarano's notice of intent, but the example demonstrates the potential for abuse.

Moreover, a wetlands delineation contained in a notice of intent does not automatically expire three years into the permitting process; i.e., if proceedings last more than three years, the DEP does not automatically require applicants to review and revise the wetland boundaries on the project plans. Indeed, the Wetlands Regulations provide that a notice of intent generally does not expire during the permitting process. See 310 CMR 10.05(4)(g). This provision in the regulations does not differentiate between notices of intent that include an "original" wetlands delineation and one that relies on a valid ORAD. See id.

Therefore, when an applicant submits a notice of intent based on a valid ORAD, but the ORAD expires during the permitting process, the delineations in the ORAD remain in effect unless a party affirmatively challenges those delineations. Even then, the ORAD is strong evidence of the wetland boundaries on the site. Thus, the party questioning the resource area delineations would have to present evidence from a competent source showing both that the wetland boundaries have changed and how the new boundaries should be drawn. In this case, the Conservation Commission does not deny that it has the burden of demonstrating that the wetland boundaries differ from those shown on the project plans. Therefore, I will place upon the Conservation Commission the burden of going forward as to the wetlands boundary locations.

Disposition and Order

I find that no material facts are in dispute, but that Mr. Scarano is not entitled to summary decision as a matter of law. While the boundaries in the ORAD were binding when Mr. Scarano first filed his notice of intent, those

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boundaries ceased to have any preclusive effect after March 17, 2003. Mr. Scarano's motion for summary decision on Issue No. 2 therefore is denied. However, the wetlands boundaries approved in the Order of Resource Area Delineation remain the boundaries of record, and the Conservation Commission has the burden of going forward in this appeal with evidence from a competent source that the boundaries should be located differently than Mr. Scarano's plans show them.

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[3] In fact, the Wilmington Conservation Commission held its first hearing on Mr. Scarano's notice of intent on March 5, 2003, but then continued the hearing several times.

End Of Decision

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April 11, 2023

By email to sfair@wayland.ma.us
Sean P. Fair, Chair
Wayland Conservation Commission
Town Hall
41 Cochituate Road
Wayland, MA 01778

RE: 24 School Street

Dear Mr. Fair:

On behalf of abutter George Bernard, of 103 Plain Street, I write to respond to the notion advanced by counsel for the applicant, in his letter of April 5, 2023 to the Chair, that a new delineation of the wetlands may not be required by the Commission before it rules on the new Notice of Intent that the applicant has filed, simply because the appellate review of the Commission's Order of Denial as to the original Notice of Intent, filed in 2017 less than 3 years after the original ORAD was issued in 2015, has not been completed. While it is true that an ORAD issued less than three years before an original Notice of Intent is filed does not automatically expire where the three year period runs out during the pendency of the proceedings there are significant exceptions that would preclude its automatic, indefinite extension.

First, when an applicant elects to table his original Notice of Intent and file an altogether new Notice of Intent, well after the three year period has run, there's no justification for an indefinite extension of the ORAD. In neither of the cases cited by counsel, *In re: Robert R. Scarano* and *In re: Old Barn, LLC*, did the Applicant elect to file a new Notice of Intent after the three year ORAD period ran during the processing of the single Notice of Intent that was in contention. In this case, the filing of a New Notice of Intent occurred about six years after the original issuance of an ORAD on November 24, 2015. In such circumstances, it was entirely appropriate for the Commission to find that a new wetlands delineation was in order.

Secondly, when a three year ORAD runs out during the pendency of proceedings, its further extension may be cut off by an affirmative challenge to the wetlands delineation, as counsel for applicant appears to concede. In this case, the Commission has already determined that an affirmative challenge to the wetlands delineation is called for and needs to be fully considered, after

*EACH ATTORNEY IN THIS ASSOCIATION IS AN INDEPENDENT PROFESSIONAL WHO IS NOT RESPONSIBLE FOR THE PRACTICE OR LIABILITY OF ANY OTHER ATTORNEY IN THE ASSOCIATION EXCEPT FOR THOSE DIRECTLY EMPLOYED BY OR PRACTICING IN PARTNERSHIP WITH THAT ATTORNEY

receiving substantial preliminary input from a competent source, hydrologist Scott Horsley, in multiple appearances before the Commission, as to why the status of the stream next to the subject, when its history is properly considered, should be determined as perennial. Yes, the original ORAD may be evidence of the proper delineation, as counsel pointed out, but that is only one part of the inquiry. A full examination as to the history of manmade drawdowns in the area as they have affected flow in a stream previously identified as perennial under natural conditions, per 310 CMR 10.58 (2) (a) 1f, is called for.

Thirdly, per 310 C.M.R. § 10.05 (8) (b) (2), the Commission may deny an extension "where new information, not available at the time the Order was issued, has become available and indicates that the Order is not adequate to protect the interests identified in M.G.L. c. 131 § 40." In this case new information regarding the history of the stream and area manmade drawdown that was not available in 2015 needs to be considered. As well, changes in the physical conditions at the site during the seven plus years after the initial ORAD was issued, need to be examined. My client has assembled daily records regarding flow of water in the stream that establish year round flow other than during those periods of documented extended drought (as in the summer of 2023) that the regulations specifically exclude, per 310 C.M.R. 10.58 (2) (a) 1 f, when considering whether a stream has lost it perennial status. We look forward to presenting such evidence as the Commission considers a new delineation.

Finally, I would bring to the members' attention that by floating before the Commission the alternative of an entirely new development plan involving seven units to be differently configured and located on the site, the applicant is essentially gearing up for yet a *third* Notice of Intent, not initiated within the three year period following issuance of the original ORAD. If such an alternative is to be considered by the Commission, then a fresh delineation is most certainly in order.

For all of the above reasons, we respectfully urge the Commission to require a new wetlands delineation before further considering any of the applicant's alternative plans for development of 24 School Street.

Respectfully submitted,

Michael W. Wiggins

cc: Michael S. Rabieth, Esq. by email
Amy Kwesell, Esq. by email
Linda Hansen by email

LAWSON & WEITZEN

Michael S. Rabieh
(617) 603-3740
mrabieh@lawson-weitzen.com

May 3, 2023

Via Mail and Email (sfair@wayland.ma.us)

Sean Fair, Chairman
Town of Wayland Conservation Commission
41 Cochituate Road
Wayland, MA 01778

RE: Order of Conditions for 24 School Street in Wayland

Dear Chairman Fair,

As I previously wrote, this firm represents Chris D'Antonio and Windsor Place LLC (collectively, the "Applicant") in connection with Applicant's proposed townhouse development at 24 School Street in Wayland (the "Project"). I write in response to the April 11, 2023, letter submitted by counsel for abutter George Bernard.

Abutter's counsel ignores the fact that, as Mary Ann DiPinto of Three Oaks Environmental wrote by letter dated December 1, 2022, the Applicant's appeal from the denial of the Project was stayed *precisely so the Applicant could submit a new Notice of Intent to the Commission*. It was intended that the new NOI would address the concerns raised by the Commission and MassDEP by providing additional information, including "a more detailed supportive groundwater mounding analysis using MODFLOW." Given the circumstances under which the Applicant's appeal was stayed, the original ORAD should remain in effect, especially to the extent that the groundwater mounding analysis vindicates the original ORAD. In addition, no new development or significant impact factors have been introduced to the site for the Project, further militating against the imposition of any requirement on the Applicant for a new resource area delineation.

Sincerely,

/s/ Michael Rabieh

Michael Rabieh

cc: Linda Hansen (by email: lhansen@wayland.ma.us)
Monica Rivas (by email: mrivas@wayland.ma.us)

Amy Keswell, Esq. (akwesell@k-plaw.com)
Chris D'Antonio (by email: chris@chadwickproperties.com)
Paul Wiley (Paul@chadwickproperties.com)
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WESTON | PATRICK

Michael W. Wiggins, Esq.
mww@westonpatrick.com
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May 17, 2023

By email to sfair@wayland.ma.us
Sean P. Fair, Chair
Wayland Conservation Commission
Town Hall
41 Cochituate Road
Wayland, MA 01778

RE: 24 School Street

Dear Mr. Fair:

I write to respond briefly to further correspondence to you from Attorney Rabieh and Creative Land & Water Engineering's principal, Desheng Wang. The applicant continues to blur the distinction between the ORAD and whether it has expired and the pendency of the Notice of Intent as revived by the applicant's new filing. The Commission voted unanimously on January 27, 2021, more than two years ago, to require a new wetlands delineation, in reliance upon the considered opinion of its counsel, a wetlands law specialist, and after hearing a presentation from Mr. Horsley showing that due to new information not previously available to the Commission regarding the effect of drawdown from manmade sources on streams, the stream that the locus abuts should properly be classified as perennial[1]. The applicant presented no evidence in response, and rather than undertaking that relatively straightforward task, chose to file multiple continuances during the rest of 2021 and all of 2022 before floating the prospect of a different project before the Commission at the end of 2022.

In the original ORAD filed by Creative Engineering back in 2015 there was no mention of whatever any analysis regarding the potential effect on stream flow of drawdown in the area from manmade sources, nor did the report mention that earlier USGS maps before the latest map of record had classified the stream was perennial. One has to question whether that factor was seriously considered and vetted when the delineation was being prepared and when it was being reviewed by the Commission. This is an issue that deserves full consideration by the Commission after receiving

[1] During the same presentation Mr. Horsley exposed numerous inadequacies in the applicant's revised groundwater analysis using MODFLOW. The Commission never reached a determination as to whether the revised analysis was adequate inasmuch as it had elected to first require a new wetlands delineation.

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full input from all sources, with a fair opportunity for my client to present historical evidence and analysis.

I note further that Mr. Wang's letter contains an apparent gross miscalculation as to how watershed sizes are determined. A proper calculation, according to Mr. Horsley, would show that the watershed is approximately .2 square miles, not the postage stamp size of .007 square miles that Mr. Wang's letter cites. Presumably a layperson would recognize by physical observation of the site that the figure of .007 is inaccurate. When the new delineation is conducted we would ask that the calculation of the watershed size be carefully reviewed by the Commission.

The applicant complains of delay in the proceedings, and yet has spent more than two years continuing the matter from one hearing to the next, wasting both the Commission's time and the patience and limited resources of concerned abutters. My client has no intent to delay the proceedings purely for the sake of preventing any construction. He remains willing to consider right sized and correctly located buildings being constructed on the land, but only after the wetlands have been properly delineated and adequate measures have been taken to protect them.

Respectfully submitted,

Michael W. Wiggins

cc: Michael S. Rabieth, Esq. by email
Amy Kwesell, Esq. by email
Linda Hansen by email

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May 3, 2023

Via Email (sfair@wayland.ma.us)
Sean Fair, Chairman
Town of Wayland Conservation Commission
41 Cochituate Road
Wayland, MA 01778

RE: 24 School Street, DEP file #322-0965

Dear Chairman Fair,

As the project wetland scientist with 29 years of experience involving wetlands and rivers delineation and permitting projects in more than 70 Massachusetts municipalities including Wayland, I have read all the opinion letters by all the involved parties including Mary Ann DiPinto of Three Oaks Environmental, Applicant's counsel Michael Rabieh, Esq.,, Town Counsel Amy Keswell, Esq., the abutter's counsel Michael Wiggins, Esq., and Scott Horsely (the abutter's consultant). Just as Mr. Rabieh and Ms. DiPinto pointed out in their opinion letters, there is a simple fact here that the property has a pending (active) case of 12-unit project with DEP Adjudicatory hearing which focused on groundwater mounding impact analysis by MODFLOW modeling, which confirmed the original analysis. As the pending case **could not accept new evidence or information**. Therefore, it was agreed by DEP, Town of Wayland and the applicant, that the applicant would file a new NOI to settle the dispute with the same project layout. The applicant has done exactly as the mediation meeting agreed by filing a new NOI with MODFLOW groundwater mounding analysis. The resource delineation on the property is **the basic valid information as part of the pending case**, the new NOI filing **cannot** create a contradictory condition with a re-delineation at this time per 310 CMR 10.05 (4) (g). As a simple illustration, it is Just like you cannot build one single-family-house on two different foundations. It is our professional opinion and working experience that the new NOI is just a venue to settle the dispute for the same project following the permitted regulatory framework rather than to start a new project from scratch. With this fact and rational briefing of the project, we would like to provide a simple response to the letter by Mr. Wiggins' dated April 11, 2023.

First, with respect to the pending original NOI and the DEP Adjudicatory hearing, the hearing was mutually agreed by the Applicant and the Conservation Commission for the purpose to study and confirm the groundwater mounding impact on wetland resources. The resources delineation was never challenged during the ANRAD or NOI review process. Filing the new NOI is proper procedure moving forward to settle the groundwater mounding impact issue. Therefore, the resource delineation issue should not be revisited. While we believe that the resource delineations are still technically valid, as no new development or significant impact factors have been introduced to the site or watershed, a re-delineation of the resources on site

will create a conflict base for the pending Adjudicatory process and the new NOI. No new information could be allowed to enter the pending adjudicatory hearing process as we understood at the mediation meeting, including a new resource delineation and a new groundwater mounding analysis. Therefore, we CANNOT re-delineate the resource areas onsite at this point in time.

Secondly, due to the pendency of proceedings, the resource delineation is automatically extended according to 310 CMR 10.05(4)(g), which has been the practice with DEP for the past few decades. Filing a new NOI for the same project on the same property has no effect on the validity of the resource delineation. The claimed "affirmative challenge" has no real technical basis on the status of the stream and wetland delineation. The basic rational and site conditions for delineating and determining the resource **have not** significantly changed in the meantime from the start of the project permitting. The size of the watershed contributing to the stream is the most important and critical factor. The pumping factor has been a long existing factor that had been considered in the original ORAD issuance by the Town peer review, Mr. Peter Fletcher, a renowned scientist. We have witnessed the stream dry for more than two months during our study. Together with the reasons stated above, it will be a contradiction to have two resource delineations for the same project site with multiple pending filings. We see no validation in what the abutter provided to eliminate the long existing and continued "pumping" impact if it truly existed. On the other hand, per USGS StreamStat analysis, the watershed size of the stream is only a fraction of watershed size that could sustain a perennial stream assuming no pumping. The watershed of the stream is only 0.007 square miles vs. the required 0.5 square miles; 0.007 square miles is 1.4% of a normally required watershed size to be able to support a perennial stream condition. This can be rechecked easily using StreamStat analysis assuming no pumping condition. **The watershed size is just too small to sustain a perennial stream regardless of the pumping impact**. Therefore, there is no legitimate affirmative challenge here.

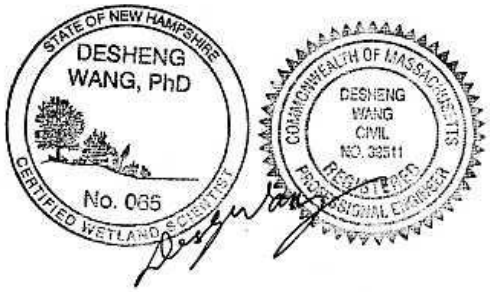
Thirdly, there is no circumstance here that the applicant had to extend the ORAD as we stated above. During the year when the ORAD was issued in 2015, we had observed the stream dry under normal conditions for over a month. The evidence claimed by the abutter should have been presented during the ANRAD review, not at this time.

Finally, it is the applicant's right to proceed with the 12-unit plan as pending with DEP process. The Commission has chosen the 7-unit plan as a more favorable option having less impact on the environment and neighborhood. We believe that the 7-unit plan can be considered as the same project alternative with less impact on the environment. This is standard practice in the project review process. We do not see any need to file a third NOI for this favored alternative as voted by the Commission during a public meeting.

In summary, we have not seen any new evidence presented by the abutter on or near the site that would change the resource delineation, requiring a new resource delineation. The

pendency of the proceedings would not allow a new resource delineation at this point for the same project site, which has never been a disputed issue through the ANRAD and the original NOI review. We believe that the Abutter's team is simply delaying the permitting process without any valid new data, evidence, or bases to support their claim.

Sincerely,
Creative Land &Water Engineering, LLC
By



Desheng Wang, Ph.D., P.E., CWS
Certified Wetland Scientist and Professional Civil Engineer

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May 17, 2023

Via Email (sfair@wayland.ma.us)
Sean Fair, Chairman
Town of Wayland Conservation Commission
41 Cochituate Road
Wayland, MA 01778

RE: 24 School Street, DEP file #322-0965

Dear Chairman Fair,

We would like to clarify some issues with the ORAD and stream status.

1. At the last hearing, Ms. Hansen challenged the Streamstats analysis that was reviewed and approved by the Commission in 2015. While we have not seen any analysis report from Ms. Hansen, we double checked our site using the latest USGS Streamstats model. The new analysis is identical to our 2015 analysis. The watershed size is 0.0727 sq. mi (much less than 0.5 sq mi as required) with 99% duration flow of 0.00118 cfs (substantially less than 0.01 cfs as required), rather as claimed 1 sq mi by Ms. Hansen. See attached StreamStats report for details. The analysis again confirmed that the stream would be an intermittent stream assuming no pumping impact per 310 CMR 10.58 (2) 1 c. This is consistent with our 2015 conclusion of the stream as anintermittent stream. There was a typo in our May 3, 2023 response letter. Thewatershed size is 0.0727 rather than 0.00727. The USGS Streamstats results areidentical for watershed size and 99% duration flow.

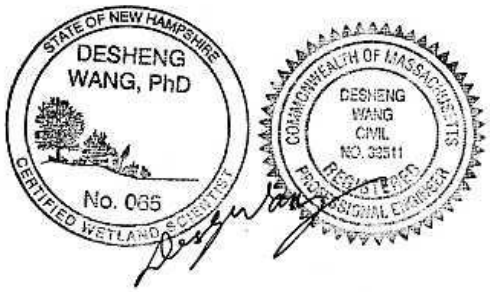
2. Resource area delineation does not have to be done through filing an AbbreviatedNotice of Resource Area Delineation (ANRAD) it can be done through a standard Noticeof Intent. Therefore, although the ORAD associated with the ANRAD filing expired, the pending NOI is still active so the delineation of the resources associated with the NOIand other administration files must be active as stated in the regulations 310 CMR 10.05 (4) (g) by our attorney, a retired DEP senior Environmental Analyst, as well as the project wetland scientist.

3. The current filing was mutually agreed at the DEP mediation to address the deficiency of groundwater mounding analysis and clarification on the recharge galley bearing capacity. The

Mudflow analysis report has been submitted with the New NOI. There is no mention of resource delineation in the Conservation Commission and DEP's decision.

If you have any questions regarding these issues, please feel free to contact us.

Sincerely,
Creative Land &Water Engineering, LLC
By

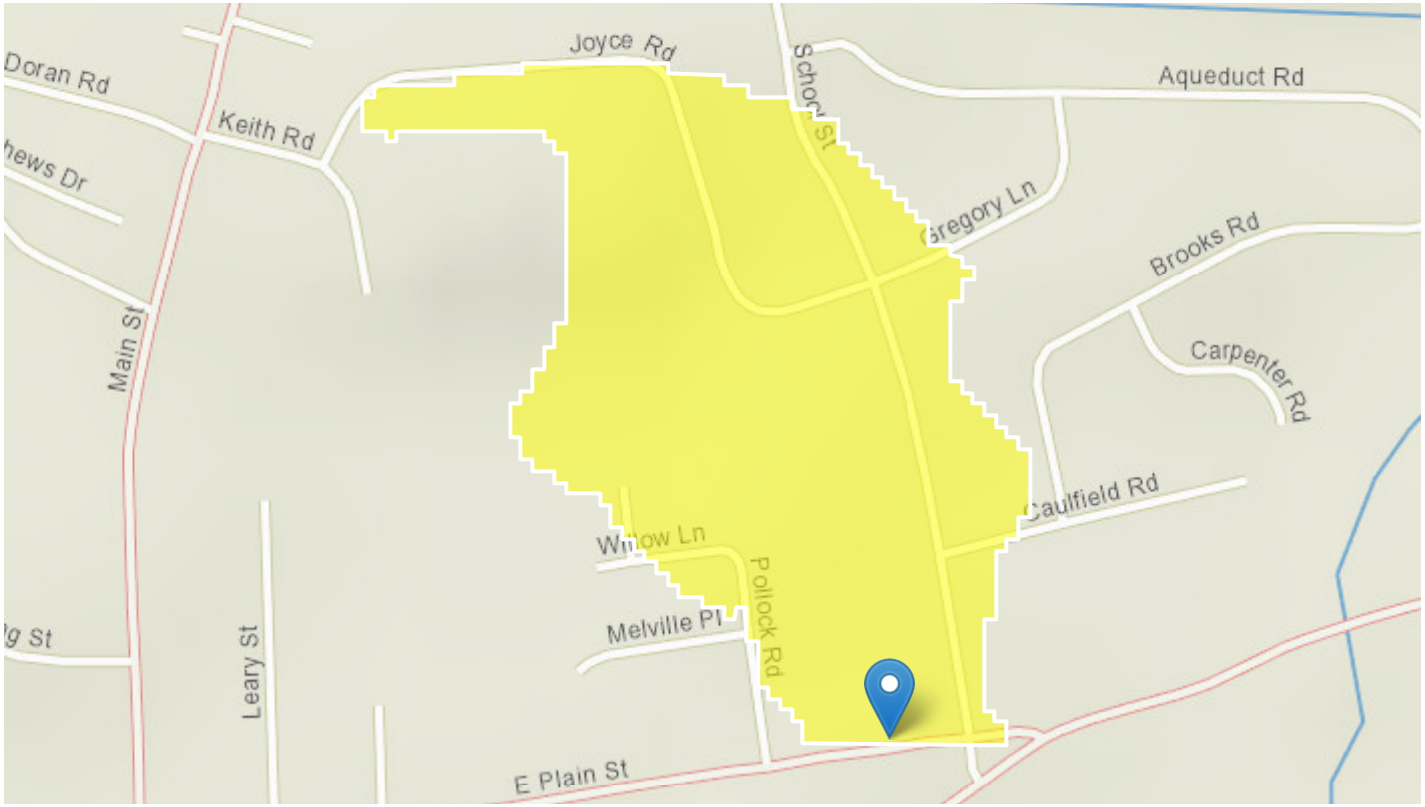


Desheng Wang, Ph.D., P.E., CWS
Certified Wetland Scientist and Professional Civil Engineer

Cc: Linda Hansen (by email: lhansen@wayland.ma.us)
Monica Rivas (by email: mrivas@wayland.ma.us)
Chris D'Antonio (by email: chris@chadwickproperties.com)
Paul Wiley (by email Paul@chadwickproperties.com)
Michael S. Rabieh (by email mrabieh@lawson-weitzen.com)

StreamStats Report

Region ID: MA
Workspace ID: MA20230518013438838000
Clicked Point (Latitude, Longitude): 42.32237, -71.35646
Time: 2023-05-17 21:35:00 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
ACRSDFT	Area underlain by stratified drift	0.0337	square miles
BSLDEM10M	Mean basin slope computed from 10 m DEM	5.095	percent
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
ELEV	Mean Basin Elevation	183	feet
FOREST	Percentage of area covered by forest	22.64	percent
LAKEAREA	Percentage of Lakes and Ponds	0	percent
LC06STOR	Percentage of water bodies and wetlands determined from the NLCD 2006	0	percent
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	72.5	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	19.5	percent
LFPLENGTH	Length of longest flow path		miles
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless
OUTLETX	Basin outlet horizontal (x) location in state plane coordinates	211835	feet
OUTLETY	Basin outlet vertical (y) location in state plane coordinates	896885	feet
PCTSNDGRV	Percentage of land surface underlain by sand and gravel deposits	44.16	percent
PRECPRIS00	Basin average mean annual precipitation for 1971 to 2000 from PRISM	46.8	inches
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	0.22	miles

Parameter Code	Parameter Description	Value	Unit
WETLAND	Percentage of Wetlands	9.94	percent

Low-Flow Statistics

Low-Flow 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
BSLDEM250	Mean Basin Slope from 250K DEM	1.817	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.15	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

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

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

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0032	ft^3/s
7 Day 10 Year Low Flow	0.000986	ft^3/s

Low-Flow 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/)

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

Statistic	Value	Unit
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/)

Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Statewide 2016 5156]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0727	square miles	0.16	512
ELEV	Mean Basin Elevation	183	feet	80.6	1948
LC06STOR	Percent Storage from NLCD2006	0	percent	0	32.3

Peak-Flow Statistics Disclaimers [Peak Statewide 2016 5156]

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

Peak-Flow Statistics Flow Report [Peak Statewide 2016 5156]

Statistic	Value	Unit
50-percent AEP flood	5.65	ft^3/s

Statistic	Value	Unit
20-percent AEP flood	9.74	ft^3/s
10-percent AEP flood	13.1	ft^3/s
4-percent AEP flood	18	ft^3/s
2-percent AEP flood	22.2	ft^3/s
1-percent AEP flood	26.7	ft^3/s
0.5-percent AEP flood	31.7	ft^3/s
0.2-percent AEP flood	38.9	ft^3/s

Peak-Flow Statistics Citations

Zarriello, P.J.,2017, Magnitude of flood flows at selected annual exceedance probabilities for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2016–5156, 99 p. (https://dx.doi.org/10.3133/sir20165156)

August Flow-Duration Statistics

August 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
BSLDEM250	Mean Basin Slope from 250K DEM	1.817	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.15	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

August 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.

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

Statistic	Value	Unit
August 50 Percent Duration	0.00974	ft^3/s

August 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/)

Bankfull Statistics

Bankfull Statistics Parameters [Bankfull Statewide SIR2013 5155]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0727	square miles	0.6	329
BSLDEM10M	Mean Basin Slope from 10m DEM	5.095	percent	2.2	23.9

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0727	square miles	0.07722	940.1535

Bankfull Statistics Parameters [New England P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0727	square miles	3.799224	138.999861

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0727	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Bankfull Statewide SIR2013 5155]

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

Bankfull Statistics Flow Report [Bankfull Statewide SIR2013 5155]

Statistic	Value	Unit
Bankfull Width	5.06	ft
Bankfull Depth	0.427	ft
Bankfull Area	2.12	ft^2
Bankfull Streamflow	3.97	ft^3/s

Bankfull Statistics Disclaimers [Appalachian Highlands D Bieger 2015]

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

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	5.12	ft
Bieger_D_channel_depth	0.528	ft
Bieger_D_channel_cross_sectional_area	2.72	ft^2

Bankfull Statistics Disclaimers [New England P Bieger 2015]

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

Bankfull Statistics Flow Report [New England P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	12.1	ft
Bieger_P_channel_depth	0.773	ft
Bieger_P_channel_cross_sectional_area	9.09	ft^2

Bankfull Statistics Disclaimers [USA Bieger 2015]

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

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	4.92	ft
Bieger_USA_channel_depth	0.69	ft
Bieger_USA_channel_cross_sectional_area	4.15	ft^2

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Width	5.06	ft
Bankfull Depth	0.427	ft
Bankfull Area	2.12	ft^2
Bankfull Streamflow	3.97	ft^3/s
Bieger_D_channel_width	5.12	ft
Bieger_D_channel_depth	0.528	ft
Bieger_D_channel_cross_sectional_area	2.72	ft^2
Bieger_P_channel_width	12.1	ft
Bieger_P_channel_depth	0.773	ft
Bieger_P_channel_cross_sectional_area	9.09	ft^2
Bieger_USA_channel_width	4.92	ft
Bieger_USA_channel_depth	0.69	ft
Bieger_USA_channel_cross_sectional_area	4.15	ft^2

Bankfull Statistics Citations

Bent, G.C., and Waite, A.M.,2013, Equations for estimating bankfull channel geometry and discharge for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2013–5155, 62 p., (http://pubs.usgs.gov/sir/2013/5155/)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_campaign=PDFCoverPages)

Probability Statistics

Probability Statistics Parameters [Perennial Flow Probability]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0727	square miles	0.01	1.99
PCTSNDGRV	Percent Underlain By Sand And Gravel	44.16	percent	0	100
FOREST	Percent Forest	22.64	percent	0	100
MAREGION	Massachusetts Region	0	dimensionless	0	1

Probability Statistics Flow Report [Perennial Flow Probability]

PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PC
Probability Stream Flowing Perennially	0.545	dim	71

Probability Statistics Citations

Bent, G.C., and Steeves, P.A.,2006, A revised logistic regression equation and an automated procedure for mapping the probability of a stream flowing perennially in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2006–5031, 107 p. (http://pubs.usgs.gov/sir/2006/5031/pdfs/SIR_2006-5031rev.pdf)

Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0727	square miles	0.1	3000

Maximum Probable Flood Statistics Disclaimers [Crippen Bue Region 2]

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

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 2]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	838	ft^3/s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (https://pubs.usgs.gov/wsp/1887/report.pdf)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

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Application Version: 4.14.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

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(508) 281-1694 (office)

May 23, 2023

Via Email (sfair@wayland.ma.us)
Sean Fair, Chairman
Town of Wayland Conservation Commission
41 Cochituate Road
Wayland, MA 01778

RE: 24 School Street, DEP file #322-0965

Dear Chairman Fair,

We would like to provide you with a brief response to Mr. Wiggins' letter dated May 17, 2023.

1. As we explained in our May 17, 2023 letter, the watershed size was determined by USGS StreamStats program twice, both in 2015 and 2023. In our previous letter we had a typo in the size quoting from 2015 study, the watershed size is 0.0727 sq. miles not as Mr. Wriggins quotes "postage stamp" size 0.007 sq. miles. Mr. Wiggins simply ignored our correction on the watershed size number in our letter. Mr. Wiggins and Mr. Horsely, therefore, is accusing that USGS program had gross miscalculations that Creative Land & Water Engineering, LLC (CLAWE) quoted. It will be helpful for Mr. Wiggins to demonstrate with more detailed information.
2. We rechecked USGS's watershed delineation map, we do not find "gross miscalculations" or mismapping of the watershed. As a registered professional engineer, I could not accuse that Mr. Horsley's 0.2 sq. miles watershed size contained "gross miscalculations" as Mr. Wiggins did not provide any supporting information to his letter for review. **Mr. Horsley is not a registered professional engineer in Massachusetts.** We reattached the USGS's watershed mapping from the StreamStats program for your reference.
3. The USGS StreamStats calculates a stream flow based on watershed size and other watershed parameters but not including pumping. Therefore, the pumping has no effect on the calculated flow, which has proven to be less than 0.01 cfs. This flow failed to meet the perennial flow test. Whether it is pumped or not, the watershed size does not support a perennial stream here. Mr. Wiggins and Mr. Horsley simply ignored this basic fact.
4. We noticed that there are disputed opinions here whether the resource delineation is still valid. As we explained in our May 17, 2023 letter, the ORAD is not the only way to determine and validate the resource area on a property. As a matter of fact, in decades of DEP's practicing of wetland delineation, the resource area can be determined and carried on by many permitting processes including Abbreviated Notice of Resource Area Delineation (ANRAD), Notice of Intent (NOI), and Request of Determination of Applicability (RDA). Through issued valid orders or determination at the time of the filing, these permits can pass the determined resources to a new filing. This process does not affect the validity of the resource delineation. It is like a gene

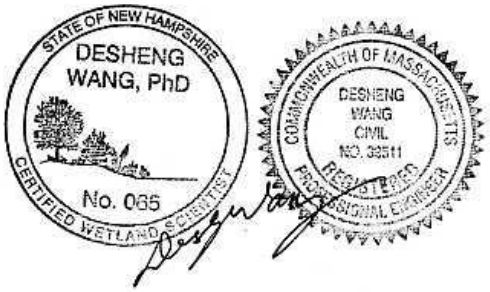
that can be passed from a parent to a child. The child will carry the Gene as long as they are alive, which does not require their parents to be alive. After an ORAD passed a valid resource delineation on to a NOI, there is no reason for the ORAD to remain active.

5. Mr. Wiggins mixes the MODFLOW comments with the ORAD function. Mr. Horsley could just continue with the MODFLOW review without dragging the invalidity issue of the ORAD. This is like trying to bring a passed parent to life in order to validate the existence of a living child.

The applicant is doing his best effort to provide affordable housing to the community to make Wayland affordable. The ZBA's approval of the comprehensive permit is just further evidence.

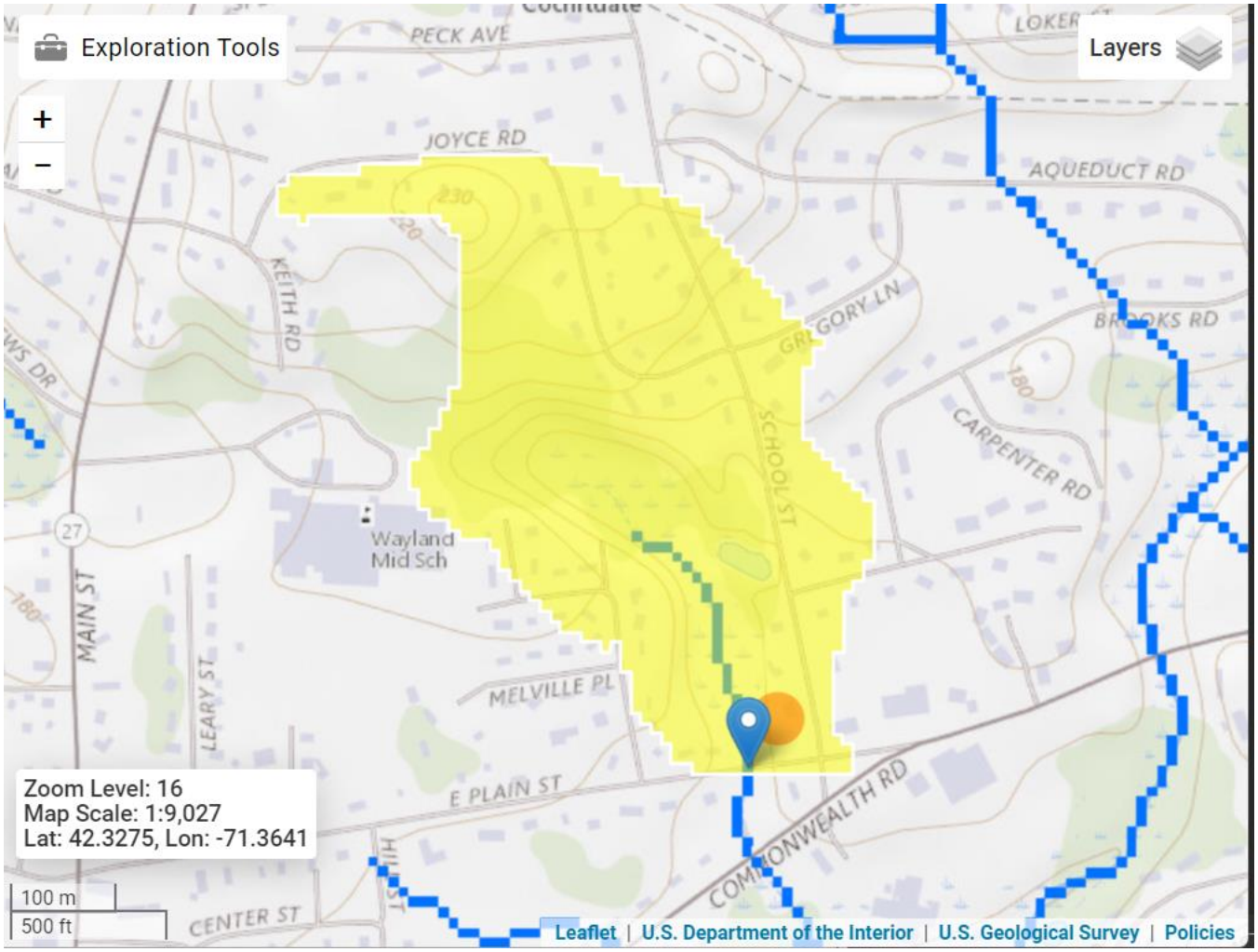
If you have any questions regarding these issues, please feel free to contact us.

Sincerely,
Creative Land &Water Engineering, LLC
By



Desheng Wang, Ph.D., P.E., CWS
Certified Wetland Scientist and Professional Civil Engineer

Cc: Linda Hansen (by email: lhansen@wayland.ma.us)
Monica Rivas (by email: mrivas@wayland.ma.us)
Chris D'Antonio (by email: chris@chadwickproperties.com)
Paul Wiley (by email Paul@chadwickproperties.com)
Michael S. Rabieh (by email mrabieh@lawson-weitzen.com)



StreamStats Watershed Delineation

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June 11, 2023

Via Email (sfair@wayland.ma.us)
Sean Fair, Chairman
Town of Wayland Conservation Commission
41 Cochituate Road
Wayland, MA 01778

RE: 24 School Street, DEP file #322-0965

Dear Chairman Fair and Commissioners:

At the last hearing, Commission member Luke Legere proposed that the Commission engage a third-party peer-review consultant to check the originally approved resource area delineations rather than require a new delineation. After discussing this with our counsel and team, we would like to move forward with this proposal with the following notes:

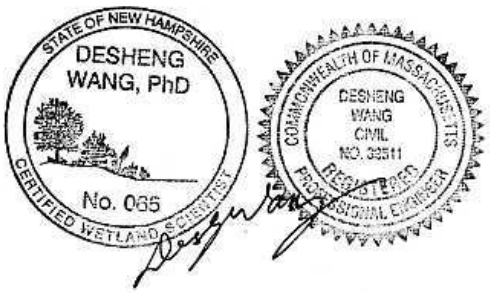
1. The applicant has been working diligently to reduce the impact on the resources by reducing the number of units and impervious area in the buffer zone, which gained the favor of the Commission. In accordance with Mr. Legere's proposal, we will check and restore the original lines for wetland and stream delineations to allow the peer review consultant to recheck them. Please note that by endorsing Mr. Legere's proposal and taking steps to implement it, the applicant does not waive any of its rights or positions in the pending DEP adjudicatory hearing, including its contention that by virtue of the DEP appeal, the original resource area delineations have been preserved. Through the measures proposed in this letter, the applicant seeks to continue to work with the Commission in a good-faith effort to increase the community's housing supply.

2. If the stream status and wetland borders are confirmed by a mutually agreed peer-review consultant to be significantly in line with the original delineations, we respectfully request that the Commission use the original delineations in its review of the project, as this will avoid conflict with the pending DEP appeal.

As you know, and as the ZBA recognized in approving the comprehensive permit for a townhouse development for 24 School Street, the applicant is making its best effort to provide affordable housing to the community and help Wayland meet state affordable housing targets. Approval of the smaller project that has been discussed with the Commission will considerably advance these goals.

If you have any questions regarding these issues, please feel free to contact us.

Sincerely,
Creative Land &Water Engineering, LLC
By



Desheng Wang, Ph.D., P.E., CWS
Certified Wetland Scientist and Professional Civil Engineer

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Paul Wiley (by email Paul@chadwickproperties.com)
Michael S. Rabieh (by email mrabieh@lawson-weitzen.com)

Scott Horsley
Water Resources Consultant
65 Little River Road • Cotuit, MA 02635 • 508-364-7818

September 13, 2023

Sean Fair, Chair
Wayland Conservation Commission
41 Cochituate Road
Wayland, MA 01778

RE: 24 School Street, Wayland NOI Application

Dear Mr. Fair and Commissioners:

The abutter George Bernard retained me to review the proposed project at 24 School Street and to evaluate its associated wetlands and water resources impacts. I have submitted several comment letters over the last several years. Based upon my review to date I provide the following general comments.

1. the stream adjacent to the site is a perennial stream in its natural condition with a corresponding riverfront area.

2. the infiltration of the proposed volumes of wastewater and stormwater will cause groundwater mounding and hydrologic alterations within the wetland resource areas.

3. the proposed wastewater discharge will result in significant water quality impacts in the adjacent stream and in downstream waters.

More specific comments are provided below.

Qualifications: I have over thirty years of experience as a consulting hydrologist working for government, nonprofit, and private organizations throughout the United States and abroad. As a consultant to the U.S. Environmental Protection Agency, Office of Wetlands, Oceans, and Watersheds (USEPA OWOW) I have developed Watershed Protection Guidance documents and provided related training in 43 states nationwide. I served as an expert witness in hydrology for USEPA on a wetlands enforcement case associated with the Weweantic River in Massachusetts. I also serve on multiple advisory committees for the MADEP including the Stormwater Advisory Committee, Sustainable Water Management Initiative (SWMI), Climate Change Advisory Committee, and the Title 5 Advisory Committee. I assisted in the preparation of the Massachusetts Smart Growth and Smart Energy Toolkit. I serve as an adjunct faculty at Tufts University and Harvard Extension School where I teach graduate-level courses in Water Resources Management, Low Impact Development, Wetlands Management, and Green Infrastructure.

My specific comments are as follows:

1. Perennial Stream and Riverfront Area. The Massachusetts Wetlands Protection Regulations provide for the protection of perennial streams and associated riverfront areas (310 CMR 58.00). Perennial streams include ***"streams that are perennial under natural conditions but are significantly affected by drawdowns of water supply wells…….or other human-made flow reduction shall be considered perennial"*** (310 CMR (2)(a)1f)– see attached excerpt from the regulations below.

As I have provided in prior submittals to the Commission this stream should be designated as perennial (under natural conditions) for the following three reasons:

a) the stream was mapped as perennial by the USGS (1970 Quadrangle). The stream is depicted on the Quadrangle by a solid blue line, similarly to the depiction of Snake River. By contrast a different stream located next to Oak Street is depicted as intermittent, by dashed lines.

b) The USGS StreamStats analysis identifies the stream as having a perennial probability of 0.65 (over the 0.56 criterion). This information was not included with the peer reviewer's (EcoTec) comment letter.

c) the stream is within a subwatershed identified as significantly de-watered (affected) by water supply withdrawals and impervious surfaces (-31%) by the USGS model of the Sudbury and Assabet Rivers. There are nine public water supply wells that withdraw water from this subwatershed that surround the project site (see attached excerpt from USGS report). Some of these wells withdraw in excess of 1 million gallons/day and have water level drawdowns that extend for thousands of feet. These individual drawdowns from each well are cumulative and additive. For example, if of the nine wells created a drawdown of 0.1 feet this would result in a cumulative drawdown of 0.9 feet at the stream. The pumping of Wayland wells has increased significantly over time (see attached graph prepared by Michelle Galicia). Additionally, the creation of impervious surfaces (including the nearby school building and parking lot in 1971) within the watershed has also reduced groundwater recharge and baseflow in the stream (see attached map showing impervious surfaces).

Note: See documentation for each of these three points at the end of this letter

f. Rivers include perennial streams that cease to flow during periods of extended drought. Periods of extended drought for purposes of 310 CMR 10.00 shall be those periods, in those specifically identified geographic locations, determined to be at the "Advisory" or more severe drought level by the Massachusetts Drought Managment Task Force, as established by the Executive Office of Energy and Environmental Affairs and the Massachusetts Emergency Management Agency in 2001, in accordance with the Massachusetts Drought Management Plan (MDMP). Rivers and streams that are perennial under natural conditions but are significantly affected by drawdown from withdrawals of water supply wells, direct withdrawals, impoundments, or other human-made flow reductions or diversions shall be considered perennial.

2. Groundwater Mounding and Wetland Alterations. The Notice of Intent (NOI) includes Groundwater Mounding Analyses conducted by GHC and dated July 23, 2020. Among other concerns that I submitted previously in my prior comment letters I have the following two principal concerns with the current NOI submittal.

a) the modeling report indicates that the groundwater mounding assessment is limited to ***"3 days after the storm event"*** (see excerpt below). The analysis should report on groundwater mounding during the 100-year storm event.

b) the modeling report does not adequately evaluate water level alterations within the wetland (BVW). The report suggests that a constant head boundary was set within the wetland. This precludes any analysis of water level changes within the wetland. MADEP Stormwater Handbook Volume 3 requires that the mounding analysis determine water level changes with the BVW (see excerpt below).

Storm Water

Results of the MODFLOW groundwater mounding simulation for the 100-Year Storm Water discharge to the Infiltration Basin are shown in Figure 8 and indicate that 3 days after the storm the residual groundwater mound would be 0.36 feet beneath the Infiltration Basin. This value is less than the 2 foot design separation distance, showing that the basin has fully drained in 3 days.

MOUNDING ANALYSIS

Mounding analysis is required when the vertical separation from the bottom of an exfiltration system to seasonal high groundwater is less than four (4) feet *and* the recharge system is proposed to attenuate the peak discharge from a 10-year or higher 24-hour storm (e.g., 10-year, 25-year, 50-year, or 100-year 24-hour storm). In such cases, the mounding analysis must demonstrate that the *Required Recharge Volume* (e.g., infiltration basin storage) is fully dewatered within 72 hours (so the next storm can be stored for exfiltration). The mounding analysis must also show that the groundwater mound that forms under the recharge system will not break out above the land or water surface of a wetland (e.g., it doesn't increase the water sheet elevation in a Bordering Vegetated Wetland, Salt Marsh, or Land Under Water within the 72-hour evaluation period).

3. Water Quality Impacts. The NOI does not adequately address water quality impacts associated with the proposed septic system. The septic system has a design flow of 2860 gallons/day and is within the 100-foot buffer zone. It does not comply with the Wayland Health Regulations that require that systems in excess of 1000 gallons/day have a minimum setback of 100 feet. The MA Wetlands Regulations indicate that the presumption that the interests of the Regulations are met ***"only…if the soil absorption system is set back…..a greater distance as required by local regulation"*** – see excerpts below.

In one of my prior comment letters I submitted the following analysis of probable water quality impacts associated with the proposed project[1]. The U.S. Environmental Protection Agency has established a standard of 50 ug/liter (PPB) for freshwater streams (USEPA, 1986) to prevent eutrophication. As stated earlier excess phosphorus results in eutrophication including algal blooms and can cause cyanobacteria blooms.

[1] Letter to Wayland Board of Appeals dated December 26, 2018.

To determine the phosphorus (P) loading from the proposed project I applied an average P concentration of 10.4 mg/liter for wastewater and assumed that 30% of the P is attenuated in the septic tank before discharge to underlying groundwater (National Environmental Services Center, 2013). Phosphorus migration rates through groundwater are retarded by adsorption to soil particles. This slows down (retards) the rate of migration of P relative to ambient groundwater flow rates. However, as the capacity of the soils to provide the attenuation function is exhausted, the additional phosphorus discharges will continue to migrate and ultimately discharge into the adjacent stream and downstream waters.

Average base flow conditions in the stream were estimated assuming a 46.5-acre watershed and a recharge rate of 18 inches per year. I then added the P load from the proposed wastewater discharge to the stream and calculated a resulting concentration of 319 ug/liter (PPB). This is more than six times over the EPA standard of 50 ug/liter (PPB).

(3) Presumption Concerning 310 CMR 15.000: *The State Environmental Code, Title 5: Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-site Sewage Treatment and Disposal Systems and for the Transport and Disposal of Septage*. A subsurface sewage disposal system that is to be constructed in compliance with the requirements of 310 CMR 15.000: *The State Environmental Code, Title 5: Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-site Sewage Treatment and Disposal Systems and for the Transport and Disposal of Septage*, or more stringent local board of health requirements, shall be presumed to protect the eight interests identified in M.G.L. c. 131, § 40, but only if none of the components of said system is located within the following resource areas:

(a) Coastal.
1. coastal bank;
2. coastal beach;
3. coastal dune;
4. salt marsh.

(b) Inland.

1. wet meadows		creek;
2. marsh	bordering	river;
3. swamp	on any	stream;
4. bog		pond;
		lake.

and only if the soil absorption system of said system is set back at least 50 feet horizontally from the boundary of said areas, as required by 310 CMR 15.211: *Minimum Setback Distances*, or a greater distance as may be required by more stringent local ordinance, by-law or regulation. To protect wildlife habitat within riverfront areas, the soil absorption system shall not be located within 100 feet of the mean annual high-water line unless there is no alternative location on the lot which conforms to 310 CMR 15.000: *The State Environmental Code, Title 5: Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-site*

7. **Offset Distances:** The minimum offset distances to an SAS shall be in accordance with 310 CMR 15.211, Title 5, and as follows:
   a) Irrigation only, or closed loop geothermal wells, to all leach areas shall be 50' feet.
   b) Drinking water or open loop geothermal wells to all leach areas shall be 100' feet.
   c) No leaching facility having a design flow of 1000 gpd, or less, shall be constructed within 75' feet of any pond, stream, brook, river, swamp or Wetland Resource Area (as defined in 310 CMR 10.00, or the Town of Wayland Wetlands Bylaw), whichever is more stringent. The distance shall be 100' feet for facilities with design flows greater than 1000 gpd.

Thank you for the opportunity to submit these comments. Please contact me with any questions that you may have.

Sincerely,

Scott W. Horsley
Water Resources Consultant

References:

Effects of Water Use and Land Use on Streamflow and Aquatic Habitat in the Sudbury and Assabet River Basins, Massachusetts (Scientific Investigations Report 2010-5042), United States Geological Survey, 2010.

A Revised Logistic Regression Equation and an Automated Procedure for Mapping the Probability of a Stream Flowing Perennially in Massachusetts, Gardner C. Bent and Peter A. Steeves, United States Geological Survey, Scientific Investigations Report 2006-5031.

Massachusetts Wetlands Protection Regulations (310 CMR 10.00).

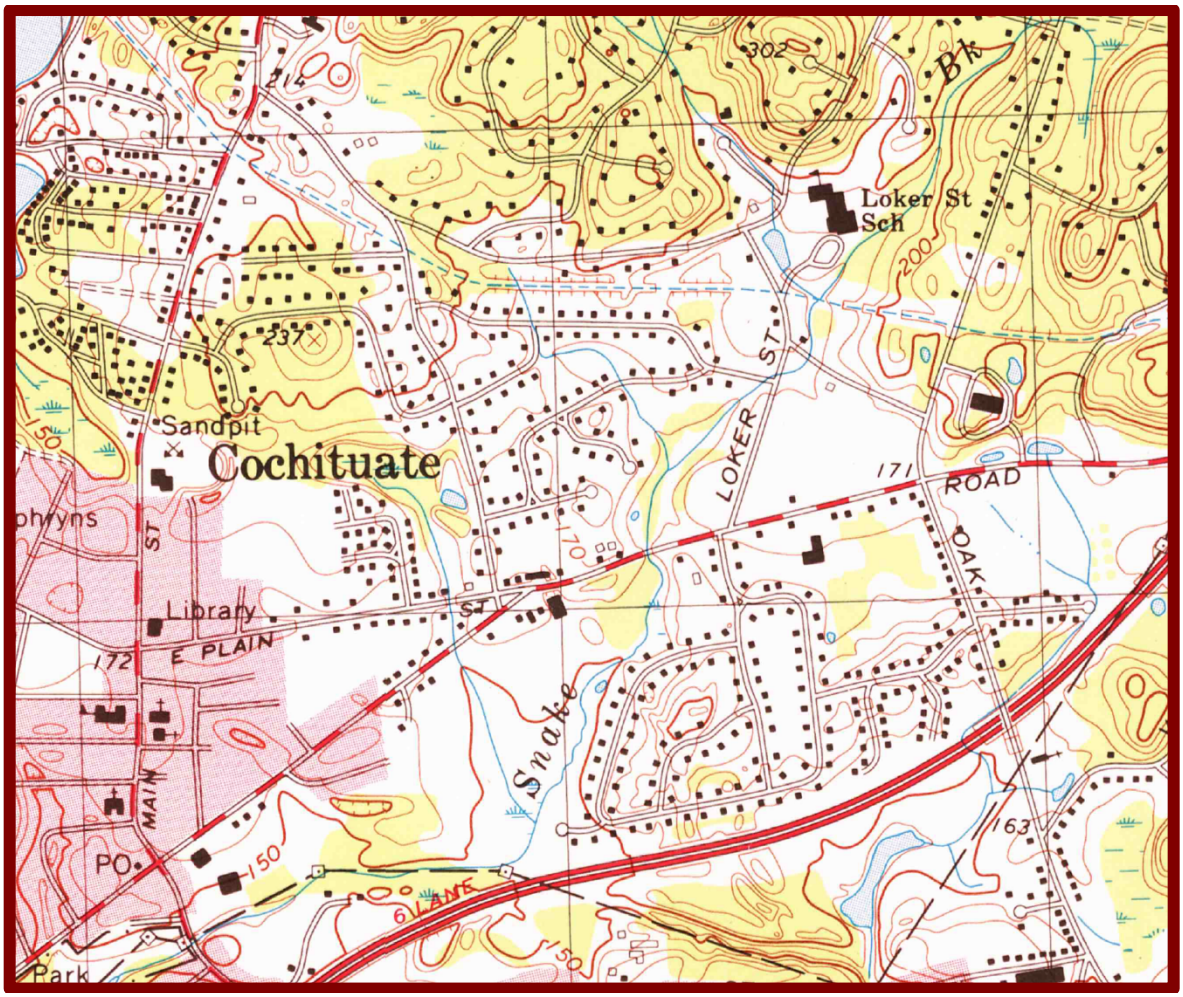


Figure 1 - USGS Topographic Quadrangle 1970

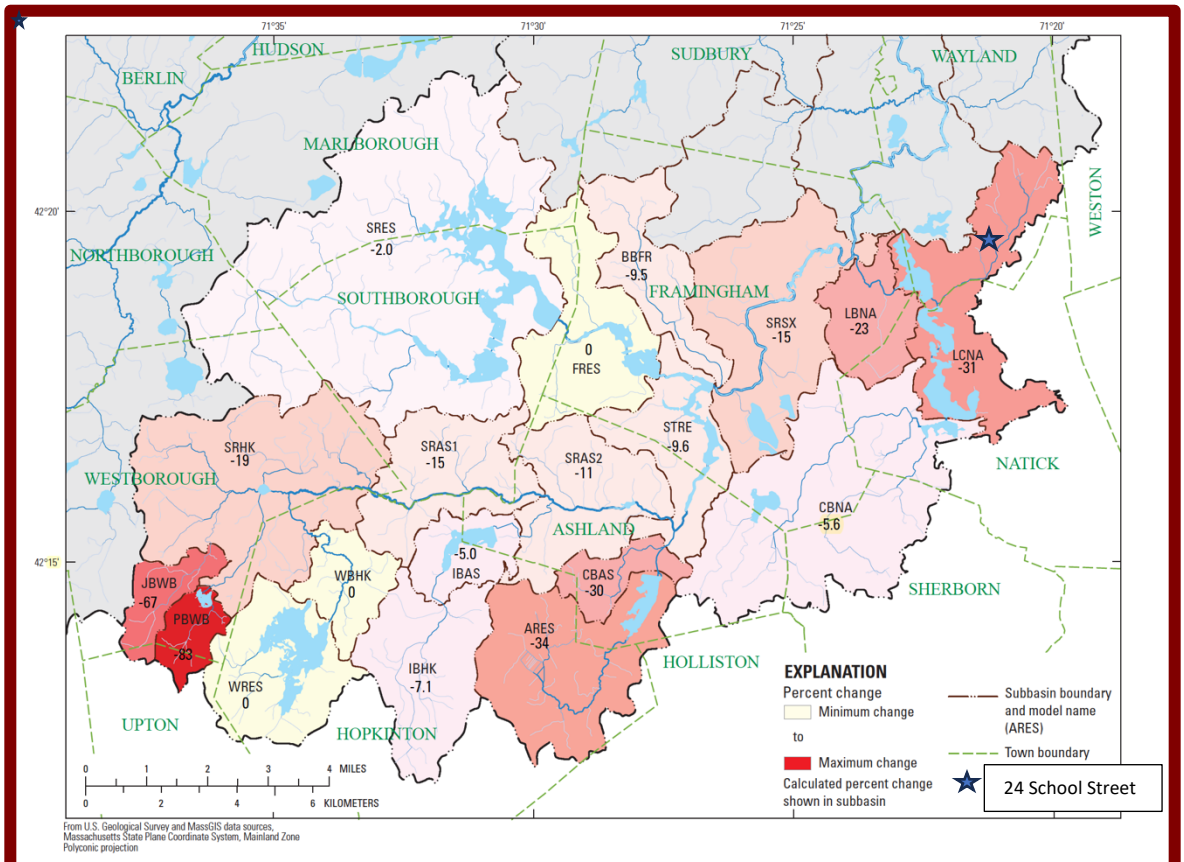
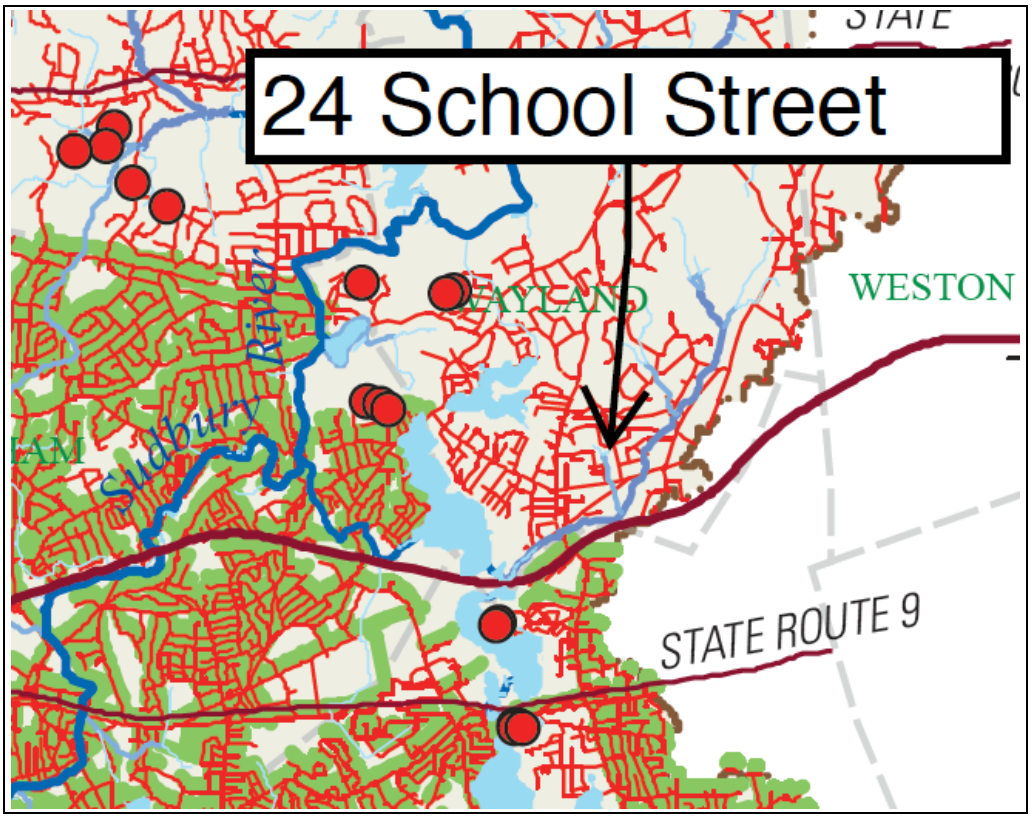
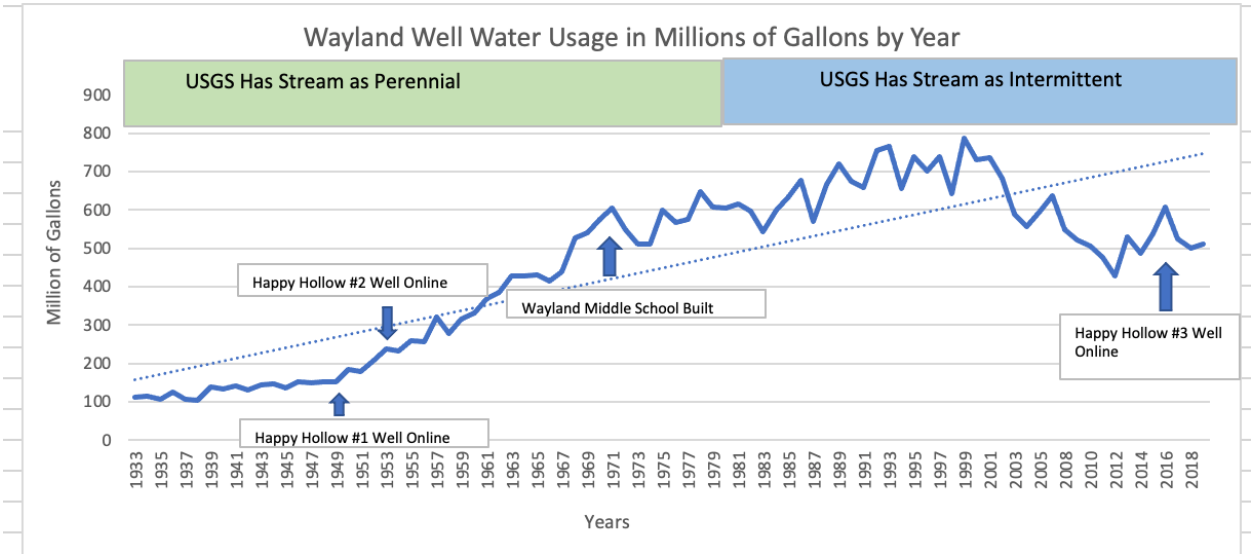
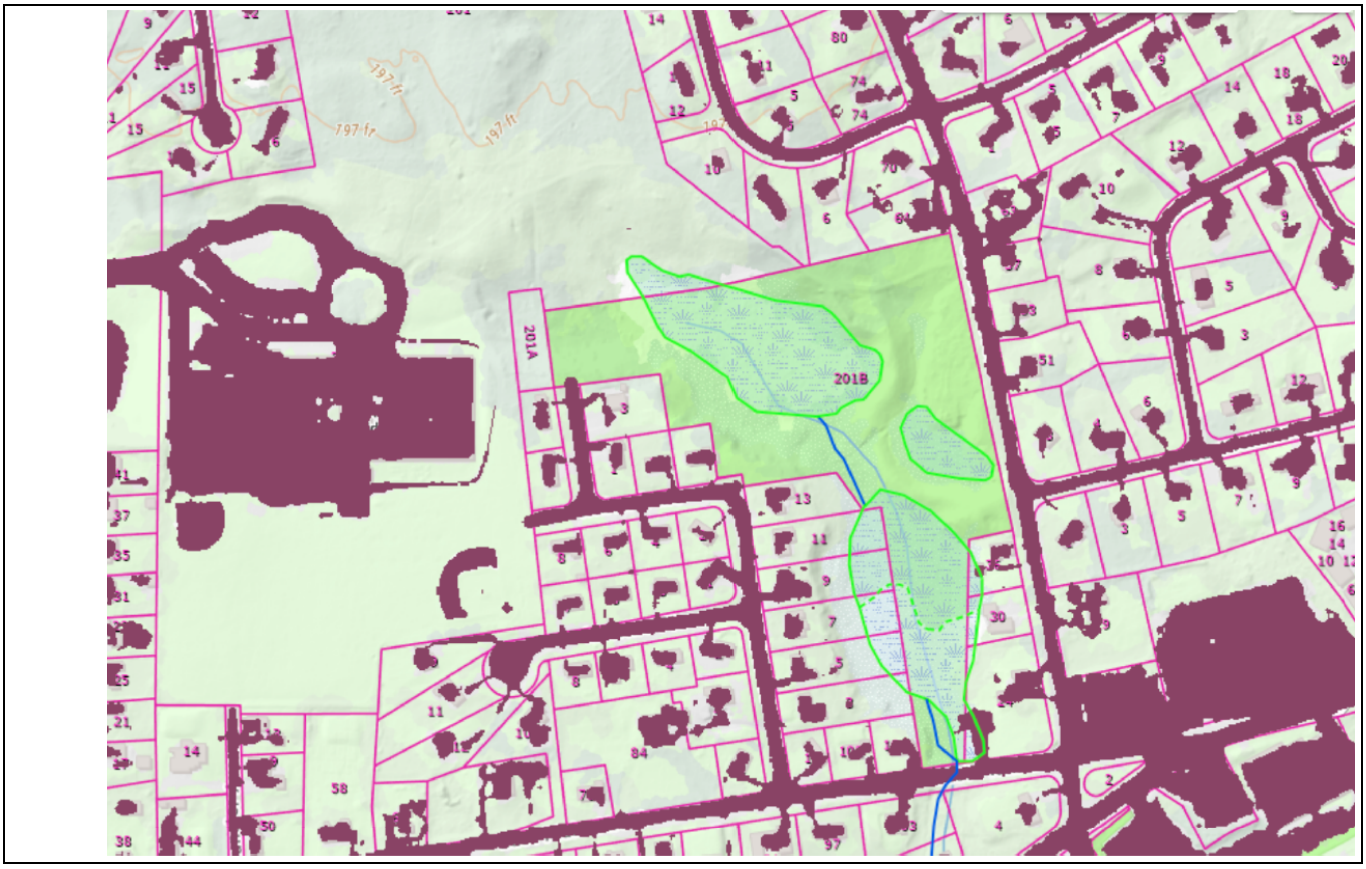


Figure 21. Percent change in the simulated long-term (1960–2004) median of the August mean streamflows with average 1993–2003 withdrawals (AVGWU) relative to no withdrawals (NOWU) in the upper Sudbury River Basin, Massachusetts.

Figure 2 - Effects of Water Use and Land Use on Streamflow and Aquatic Habitat in the Sudbury and Assabet River Basins, Massachusetts" (Scientific Investigations Report 2010-5042)

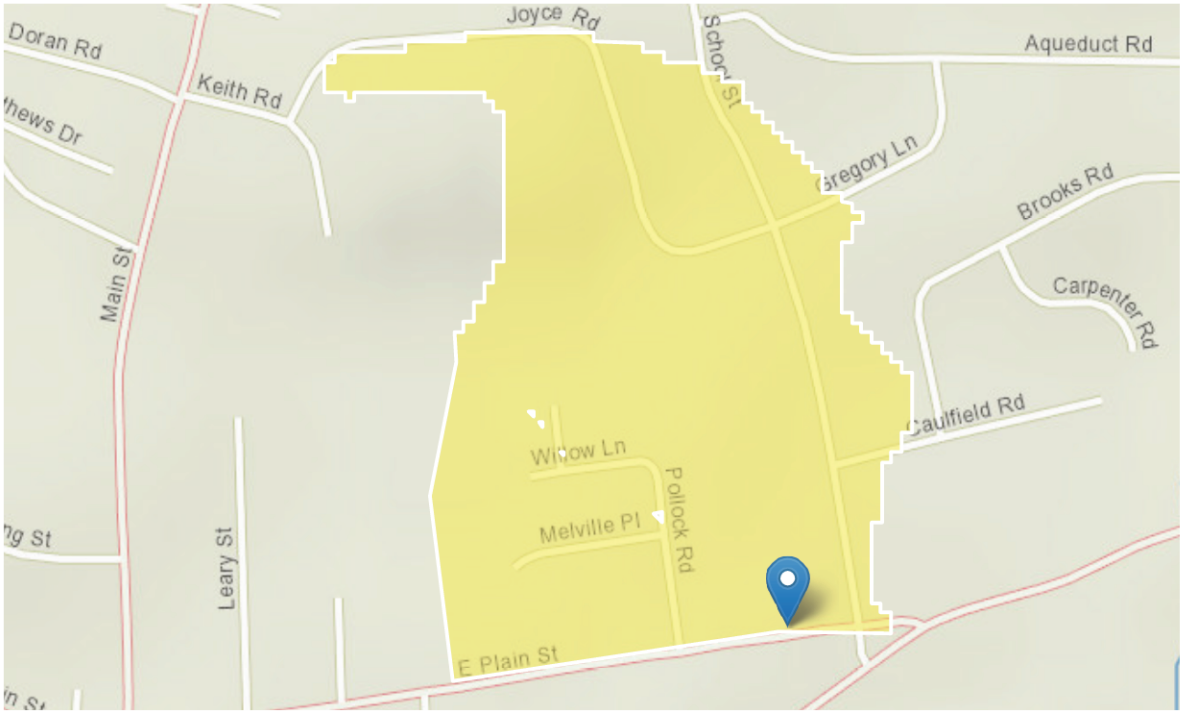

24 School Street
WESTON
STATE ROUTE 9


Wayland Well Water Usage in Millions of Gallons by Year
USGS Has Stream as Perennial
USGS Has Stream as Intermittent
Million of Gallons
Years
Happy Hollow #2 Well Online
Wayland Middle School Built
Happy Hollow #3 Well Online
Happy Hollow #1 Well Online


201A
201B

Wayland Stream Analysis 071321

Region ID:	MA
Workspace ID:	MA20210713115331289000
Clicked Point (Latitude, Longitude):	42.32232, -71.35637
Time:	2021-07-13 07:54:00 -0400



including drainage from East Plain Street

Probability Statistics Parameters [Perennial Flow Probability]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0928	square miles	0.01	1.99
PCTSNDGRV	Percent Underlain By Sand And Gravel	56.28	percent	0	100
FOREST	Percent Forest	19.59	percent	0	100
MAREGION	Massachusetts Region	0	dimensionless	0	1

Probability Statistics Flow Report [Perennial Flow Probability]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PC
Probability Stream Flowing Perennially	0.652	dim	71

Probability Statistics Citations

Bent, G.C., and Steeves, P.A.,2006, A revised logistic regression equation and an automated procedure for mapping the probability of a stream flowing perennially in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2006–5031, 107 p. (http://pubs.usgs.gov/sir/2006/5031/pdfs/SIR_2006-5031rev.pdf)

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September 13, 2023

By email to sfair@wayland.ma.us
Sean P. Fair, Chair
Wayland Conservation Commission
Town Hall
41 Cochituate Road
Wayland, MA 01778

RE: 24 School Street

Dear Mr. Fair:

I write to supplement the comments and supporting documents delivered to you today by hydrologist Scott Horsley on behalf of my client George Bernard. The applicant has the burden of proof, under all pertinent sections of the Wetlands Act, the local ordinance and the Commission's own regulations to establish that the stream running beside the property at 24 School Street is not perennial. One of the key prerequisites is to prove, by a preponderance of the evidence, that a stream that is historically perennial has not been "significantly affected by drawdown from withdrawals of water supply wells, direct withdrawals, impoundments of other human-made flow reductions or diversions.", per 310 CMR ((2)(a)1f. Neither the applicant's consultant nor the peer reviewer appears to have thoroughly examined whether such drawdowns or human-made flow reductions have occurred and if so how they may have affected stream flow. They point to the most recent USGS map as indicating that the stream is currently intermittent, and recite that they are unaware of any large drawdowns that would have caused the stream to become intermittent. But more than these conclusory findings is surely required to meet the burden of proof imposed by the regulations.

To the contrary, there is more than ample evidence, cited by Mr. Horsley, that there have been extensive drawdowns over the years in the Sudbury Assabet watershed area within which the site is located, and that these drawdowns have had a severe adverse effect upon groundwater in the area, thereby reducing flow to local streams, including the subject stream that was consistently shown on all USGS maps as perennial until 1987. The correlation of increased drawdown from nearby wells in the area with the progressive reduction in stream flow, leading to the re-characterization of the stream in the 1987 USGS map, is strikingly illustrated when one reads the graph of time and volume statistics sourced from town's pumping records by Michelle Galicia. As

*EACH ATTORNEY IN THIS ASSOCIATION IS AN INDEPENDENT PROFESSIONAL WHO IS NOT RESPONSIBLE FOR THE PRACTICE OR LIABILITY OF ANY OTHER ATTORNEY IN THE ASSOCIATION EXCEPT FOR THOSE DIRECTLY EMPLOYED BY OR PRACTICING IN PARTNERSHIP WITH THAT ATTORNEY

well, the construction of a large junior high school and large parking and other impervious surfaces in a portion of the previously intact watershed in 1971 must certainly have had a significant adverse impact upon the volume of groundwater reaching the stream. In addition to the materials submitted with Mr. Horsley's' letter, I attach herewith copies of aerial Department of Transportation photos of the immediate area taken in 1969 and again in 1981. They illustrate the severe reduction in the reach of the watershed after the school was built.

It is obvious from the evidence referenced by Mr. Horsley that the otherwise unexplained reduction of flow in a stream that had always been determined to be perennial until 1987[1] can only be properly attributed to a combination of manmade drawdowns and human-made reductions that reduced groundwater recharge. Under the applicable regulations the Commission must conclude that the proper characterization of the stream is perennial. Accordingly the applicant must not be permitted to build within one hundred feet of the edge of the stream.

Respectfully submitted,

Michael W. Wiggins

MWW:hs
Enclosures

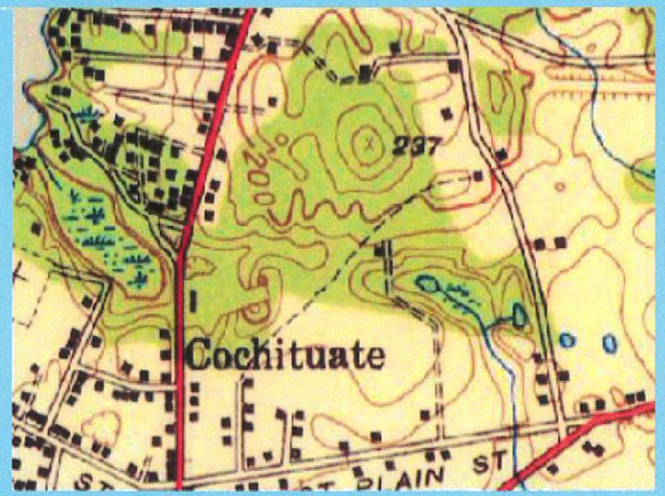
1. Close up of Aerial Photo, MASS DOT File GS-VCEM 3-95 dated 4-13-1969
2. Close up of Aerial Photo, MASS DOT File GS-VESC 6-106 dated 4-07-1981
3. Compilation of historical USGS maps depicted the area.

[1] See attached compilation of historic maps of the immediate area, in addition to the 1970 USGS appended to Mr. Horsely's letter, that consistently depicted the stream as year round through at least 1970.

Framingham
1886

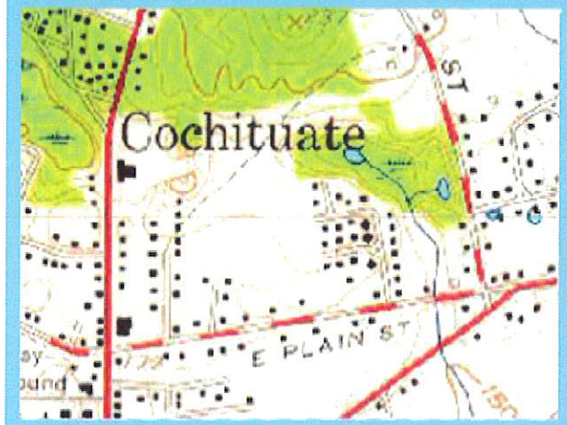
Framingham
1889

Natick
1948

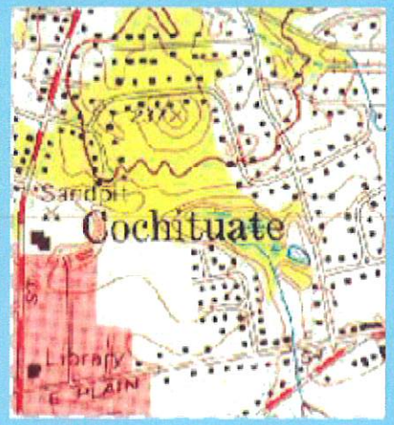


Natick
1950

Natick
1958



Natick
1970



Natick
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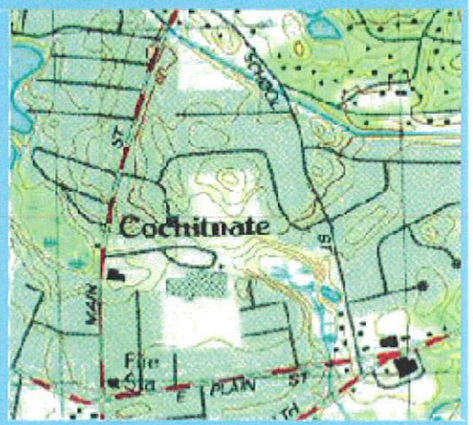

Natick
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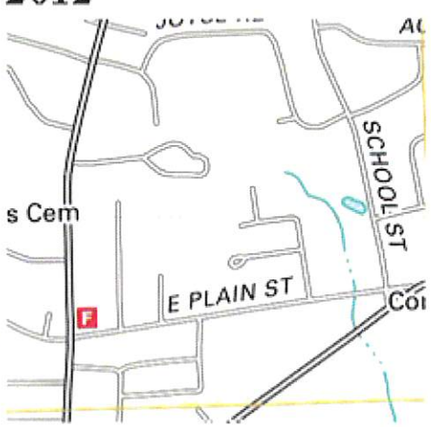

Natick
2018