



TOWN OF EXETER, NEW HAMPSHIRE

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PUBLIC NOTICE EXETER CONSERVATION COMMISSION

Monthly Meeting

The Exeter Conservation Commission will meet virtually (see connection info below* and details attached) on
Tuesday, May 11th, 2021 at 7:00 P.M.

Call to Order:

1. Introduction of Members Present
2. Public Comment

Action Items:

1. Continuation of the Wetland/Shoreland CUP review for an open space development at Cullen Way/Tamarind Lane. Tax Map 96-15 and 96-9 (Brian Griset, Justin Pasay, Christian Smith, Jim Gove, Luke Hurley)
2. Standard Dredge and Fill Wetland Permit Application by Exeter Station LLC for 1500 SF acres of temporary impact within the Squamscott River at 53 Water Street (former IOKA theater) at Tax Map 72, Lot 34 (Sergio Bomilla, Dave Cowey, et al.)
3. Todd Johnson Ash Tree Study on Emerald Ash Borer Defense: Research Request for a portion of the town-owned lands within the Little River Conservation Area (see attached request)
4. Andrew Butler Furbearer Study Technique Evaluation: Research Request for Oaklands Town Forest, Colcord Pond, and Stone/Leighton (see attached request)
5. Committee Reports
 - a. Tree Committee Update
6. Approval of Minutes: March 9th, April 13th 2021 Meeting
7. Correspondence: Piscassic River WMA Timber Harvest Notice, NHDOT Rocky Hill Brook Culvert Repair Notice
8. Other Business
9. Next Meeting: Date Scheduled (6/8/21), Submission Deadline (5/28/21)

Andrew Koff

Exeter Conservation Commission

Posted May 7, 2021 Exeter Town Website www.exeternh.gov and Town Office kiosk.

***ZOOM MEETING INFORMATION:**

Virtual Meetings can be watched on Channel 22 and on Exeter TV's Facebook and YouTube pages.

To participate in public comment, click this link: <https://exeternh.zoom.us/j/82374763619>

To participate via telephone, call: +1 646 558 8656 and enter the Webinar ID: 823 7476 3619

Please join the meeting with your full name if you want to speak.

Use the "Raise Hand" button to alert the chair you wish to speak. On the phone, press *9.

More instructions for how to participate can be found here: <https://www.exeternh.gov/townmanager/virtual-town-meetings>

Contact us at extvg@exeternh.gov or 603-418-6425 with any technical issues.

**TOWN OF EXETER
PLANNING DEPARTMENT MEMORANDUM**

Date: May 7th, 2021
To: Conservation Commission Board Members
From: Kristen Murphy, Natural Resource Planner
Subject: May 11th Conservation Commission Meeting

1. **Wetland and Shoreland CUP for an Open Space development at Tamarind Lane and Route 111 (Tax Map 96, Lot 15 and 81/Lot 53):** The applicant was before you on [11/12/19](#) seeking your support in concept of the Town holding conservation interest in a portion of these lots as presented. You voted in favor with details to be worked out at a future meeting (deed terms, phase 1 environmental assessment, survey plan, baseline documentation, potential stewardship fees, and confirmation survey markers are in place). The yield plan was accepted by the Planning Board on [2/11/21](#). A second TRC meeting was held on 4/1/21 and your packet includes the applicant's response to TRC comments as I did not have them for last month's meeting (see Beals letter dated 4/12/21). Last month following presentation and abutter comments, the application was tabled to this meeting. The applicant was scheduled to go to the planning board on 4/22/21 but requested the application be continued to May 27th. At that meeting the Planning Board also scheduled a site walk for 5/7/21, inviting members of this board.

At your last meeting, a question was asked as to whether the prime wetland boundary needs to be adjusted as there are contiguous wetlands around the boundary. The applicant has provided their response regarding modification of the prime wetland boundary (see 4/20/21 DTC letter). Your packet also includes an email from me to NHDES requesting written clarification on this matter (see email 4/23/21). I have not yet heard back from NHDES. The Planning Board has requested a legal opinion on this matter. Staff also requested the applicant determine if any revisions are necessary to the prime wetland boundary shown and if these revisions would impact the yield plan. The applicant provided a copy of their review (see 5/5/21 DTC letter and updated plan sets) which indicated a 75' boundary change was necessary (and further states the error was in the prime wetland designation itself), but concluded even with changes, the modifications to lots 5 and 6 do not impact the yield plan. Your packet also includes two abutter letters that request the planning board request a review of the wetland boundary by an independent wetland scientist in accordance with Zoning Ordinance 9.1.3.F (see email correspondence Liptak, Hadden).

Should there be changes made as a result of correspondence from NHDES or the Planning Board's review which cause an increase in buffer impacts, our process requires the CUP to return to you for further review. If you feel it is warranted, I have provided this as a suggested condition:

Should the project or project-related impacts to wetland buffers increase from what is presented as a part of further review, you request the Planning Board seek your revised recommendation.

I have provided motions for the CUP applications, should you feel you have sufficient information to make a recommendation to the planning board.

Suggested Motion for Wetland Conditional Use Permit:

_____ *We reviewed this application and feel the need to **table the application to a date certain** due to insufficient information on criteria necessary for the Commission to make a recommendation to the planning board as noted below: As agreed to by the applicant, the required information will be submitted by the next meeting submission deadline of _____ to be heard at the _____ conservation commission meeting date.*

_____ *We have reviewed this application and have **no objection** to the approval of the conditional use permit as proposed.*

_____ *We have reviewed this application and recommend that the wetland conditional use permit be **(approved with conditions) (denied)** as noted below:*

Suggested Motion for Shoreland Conditional Use Permit:

_____ We reviewed this application and feel the need to **table the application to a date certain** due to insufficient information on criteria necessary for the Commission to make a recommendation to the planning board as noted below: As agreed to by the applicant, the required information will be submitted by the next meeting submission deadline of _____ to be heard at the _____ conservation commission meeting date.

_____ We have reviewed this application and have **no objection** to the approval of the conditional use permit as proposed.

_____ We have reviewed this application and recommend that the wetland conditional use permit be **(approved with conditions) (denied)** as noted below:

2. **Standard Dredge and Fill Wetland Permit Application by Exeter Station LLC for 1500 SF acres of temporary impact within the Squamscott River at 53 Water Street (former IOKA theater) at Tax Map 72, Lot 34.** See attached wetland application.

Suggested Motion for State Wetland Application:

_____ We have reviewed this application and have **no objection** to the application as proposed.

_____ We have reviewed this application and recommend that the wetland application be **(approved with conditions) (denied)** as noted below:

3. **Johnson Ash Tree/EAB Research Request**

See attached research request.

Suggested Motion for request:

_____ We have reviewed this proposal and feel the activity is **in compliance** with the terms of the deeds as proposed.

_____ We have reviewed this proposal and recommend that the activity is **(in compliance with conditions) (not in compliance)** with the terms of the deeds as noted below:

4. **Butler Research Request**

See attached research request. This project involves 3 different locations (Stone/Leighton, Oaklands and Colcord Pond), one of which includes Colcord Pond. I have an email requesting the specific location as Colcord Pond abuts several different properties, not all of which are town-owned conservation lands, but have not heard back in time for this memo.

Suggested Motion for request:

_____ We have reviewed this proposal and feel the activity is **in compliance** with the terms of the deeds as proposed.

_____ We have reviewed this proposal and recommend that the activity is **(in compliance with conditions) (not in compliance)** with the terms of the deeds as noted below:

5. **Correspondence**

NHDOT Rocky Hill Brook CMP– Requesting you to provide any concerns with the proposed project



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NICHOLAS R. AESCHLIMAN

April 2, 2021

Andrew Koff, Chair
Exeter Conservation Commission
10 Front Street
Exeter, NH 03833

Re: Map 96, Lot 15 and Map 81, Lot 53
Tamarind Lane and Route 111
Conditional Use Permit Applications

Dear Chair Koff and Commission Members:

This office represents the applicants, Brian and Adela Griset (the "Grisets") with regard to their proposed single family open space condominium development on property identified as Town Tax Map 96, Lot 15, a 23.6-acre parcel which is the site of the Grisets' current home (the "Griset Parcel") (the "Development"). In addition to the Griset Parcel, the Development draws density from two adjacent parcels to include Town Tax Map 81-53, an unimproved 30.76 acre parcel located to the east of the Griset Parcel (the "Mendez Trust Parcel"), and Town Tax Map 81-57, a 9.38 acre parcel which is the site of the Brickyard Recreation Park which the Grisets previously conveyed to the Town of Exeter in exchange for the Grisets right to utilize the parcel for density purposes in this Development (the "Town Property").

Enclosed herewith, please find the following, with all requisite copies:

- Revised Conditional Use Permit, Shoreland Protection District
- Revised Conditional Use Permit, Wetlands Conservation Overlay District
- Existing Conditions Plan (**Enclosure 1**)
- Approved Yield Plan (**Enclosure 2**)
- Conservation Open-Space/Recreation Plan (**Enclosure 3**)

DONAHUE, TUCKER & CIANDELLA, PLLC
16 Acadia Lane, P.O. Box 630, Exeter, NH 03833
111 Maplewood Avenue, Suite D, Portsmouth, NH 03801
Towle House, Unit 2, 164 NH Route 25, Meredith, NH 03253
83 Clinton Street, Concord, NH 03301

- Wildlife Habitat Assessment, Gove Environmental Services, Inc. (**Enclosure 4**)
- Wetlands Conservation Overlay District Impact Area Plan (**Enclosure 5**)
- Shoreland Protection District Impact Area Plan (**Enclosure 6**)
- Phase I Environmental Site Assessment, Exeter Environmental Associates, LLC (**Enclosure 7**)¹

Below we provide an introduction and property description, discuss the project purpose and proposed impacts, and then analyze the applicable conditional use permit criteria under the Zoning Ordinance.

1) Introduction and Property Description

This filing follows our October 30, 2019 filing with the Commission which requested review of what was then, a conceptual residential development plan. That plan was identical to the plan before the Commission now with regard to the 16-units depicted in the upland area on the northwestern side of the Griset Parcel. In December of 2019, the conceptual plan received a favorable review from the Commission as well as a straw-vote unanimously indicating support of the Grisets' conveyance to the Town of the Mendez Trust Property via conservation easement. Since that time, the Applicants have been before the Planning Board vetting their Yield Plan, which was accepted in January of this year.

Collectively, the Griset Parcel, the Mendez Trust Parcel and the Town Property (the "Properties" or the "Property") constitute 63.83 total acres which contain 23.60 acres of uplands, 29.47 acres of poorly drained soils and 10.76 acres of very poorly drained soils, as depicted in Enclosure 1, the Existing Conditions Plan. There are four separate and distinct areas of developable uplands across the Properties which are isolated from one another and separated by wetland areas to include two vernal pools and a prime wetland. See Enclosure 1. The Properties' natural configuration makes development of the upland areas in a logical and environmentally sensitive way a challenge.

For example, a conventional subdivision of the Properties is depicted in Enclosure 2, which is the Yield Plan that was accepted by the Planning Board. The Planning Board found this conventional development, depicting 17 large lots across² the Properties with a new subdivision road, to be reasonably achievable, viable and feasible, by virtue of its acceptance of same. However, development of the Properties in accordance with this design would create 12,157 sf of direct wetland impact across three crossings, all for access. See Enclosure 2. A conventional

¹ We note that due to its size, we included only one (1) copy of the Phase I Environmental Study.

² The Applicants refer to 18 lots throughout this filing by virtue of their intention to draw a density bonus unit for the Development pursuant to Article 7.7.1.A of the Zoning Ordinance.

design would also cause Shoreland Protection District impacts and buffer impacts to the Wetlands Conservation Overlay District for the construction of Wild Apple Lane.

The true value of open space development is realized when contrasting the direct wetland impacts that would be caused by conventional subdivision of these Properties, depicted in Enclosure 2, with the direct wetland impacts which are actually proposed by the Grisets' Development. Succinctly, the Grisets' single family open space condominium proposal will only cause 2,960 sf of direct wetland impact which is less than one quarter of the 12,157 sf of direct wetland impact that would be caused by the conventional subdivision design depicted in Enclosure 2. This reality exemplifies the concept of avoidance and minimization which is at the root of the Town's Conditional Use Permit criteria and State regulations. From a wetland impact perspective, the value of the Grisets' current proposal cannot be overstated when contrasted against the alternatives for the Property.

2) Project Purpose

Brian Griset has provided environmental design and consultation services in New Hampshire for 37 years. His first open space project was in Raymond in 1985 and was one of the first in the State. In 1986, the New Hampshire State Department of Planning utilized his Raymond project as one of two projects studied for the purpose of providing guidance to other communities.

During that same timeframe, the Grisets have invested immense forethought into designing a proposal for the Property which facilitates the reasonable exercise of their individual property rights while simultaneously conserving and preserving forever a vast majority of the Property as a tribute to the beautiful, and environmentally and ecologically important land it is. The result is the Development proposal, which is depicted in Enclosure 3. Perhaps most important to note for the Conservation Commission is that after completion of the Development, of the original 63.83 acres across the three Properties, +/- 50 of them (+/- 78%) will have been permanently preserved, conserved and/or permanently protected against further development by the Grisets, to include the entirety of the Mendez Trust Property (30.76 acres) which the Grisets propose to convey to the Town in the form of a Conservation Easement, the Town Property previously conveyed by the Grisets to the Town (9.3 acres), and 9.4 acres to the south and east of the proposed Development, which the proposed homeowner's association will maintain as open space.

The Development, designed as an 18-unit single family open space development, maintains the present exterior parcel boundaries with a slight alteration of the common boundary between the Griset and Mendez parcels. This alteration increases the Mendez parcel to 31.61 acres which the Grisets intend to convey to the Town of Exeter for management and general

public passive recreational use. The remaining Griset Parcel will be subdivided into three parcels. First, 6.59 acres of the Griset Parcel will be subdivided to accommodate the Grisets' current single-family residence. Second, a 1.67-acre lot will be subdivided adjacent to the Grisets' homestead and be accessed via Cullen Way. The remaining 14.59 acres of the Griset Parcel will accommodate the Development. Of that 14.59 acres, 9.40 acres will be a preserved open space area to be maintained by the homeowner's association. A single annual mowing in September will be performed to preserve field and wildlife habitat and the removal of annual deadfall within the field area will be required. The homeowner's association will also have the authority to manage beaver and coyote populations. For the past three decades the Grisets have managed the Property in this way to insure diverse and interconnected habits and a healthy deer population of between 11-15 annually.

3) Design Intent and Rationale

As noted above, the Properties consist of substantial wetlands isolating the substantial upland areas available for development. See Enclosure 1. Of the three upland areas most viable for development, all would require wetlands crossings totaling 12,156 sq. feet. A development approach contemplating utilization of all three upland areas would result in the fragmentation of the "green space" proposed in this Development. The largest of these three uplands was chosen for the development site. It has a minimum wetland crossing of 2,960 sq. ft. of which a large portion is a man-made detention pond. The corresponding building site is long and narrow but of sufficient width to contain all of the allowed units but two (the Griset homestead and additional subdivided lot accessed via Cullen Way).

The Planning Board has approved the Applicants' Yield Plan, in accordance with the Zoning Ordinance, which established the density as 18 units. See Enclosure 2. The proposed site plan positions those 18 units and the "green spaces" in what we believe is "the most efficient design and layout of the land", as required by the Town's land use Regulations. We note the following noteworthy aspects of the Development design:

- The Town will end up with 64% of the total combined acreage for General Public Recreation and Conservation purposes.
- Including the homeowner's association conserved 9.40 acres, this equates to 79% of the total acreage will be conserved and only 21% is used for the actual development, well exceeding any Town standards.
- Of just the Griset and Mendez Trust Parcels (54.36 acres), 75.4% is preserved as green/open space.
- The design consolidates all the "green space" into a single, contiguous area, a goal stated in the Zoning Ordinance and land use Regulations. The only exception being the small section of perimeter buffer adjacent to the home sites.
- All vernal pools, the entire prime wetland and over 50% of all upland will be preserved under Town controlled conservation management.

- Our “green space” is contiguous to the abutting green spaces of the Brickyard Park previously deeded to the Town at the north of the parcels, to the “green space” to the west behind Tamarind Lane and the Hillside Drive subdivision, to the protected wetlands areas of the Hennessey Property on the east and to the “green space” provided by the Linden Commons subdivision to the South. A primary goal for “greenspace” design stated in the Ordinance, Regulations, and the Planning Board approved Master Plan.
- This configuration, due to its central location, provides the nexus to connect and link all of the existing Conservation and Preservation land in the surrounding areas, which is an important goal of the Town. See Master Plan, pg. 24.
- The design fully protects the “supporting areas” of the ecological system for “High Ranking Wildlife Habit”, plan date 2015, surrounding the Little River as delineated and identified in the Master Plan approved Feb. 22, 2018 on Pg. 28.
- The plan fully protects these wildlife corridors as confirmed by our Consultants Jim Gove and Luke Hurley, of Gove Environmental. See Enclosure 4.
- The protected greenspace proposed consists of a diverse high-value ecosystem which includes marshes, emergent shrub, forests and meadow.
- The conventional Yield Plan accepted by the Board in January, contained no open space available to the General Public. See Enclosure 2.
- The Development’s flood plain impact is less than 378 cubic feet, and only due to access road impact which is offset and mitigated by the increased flood capacity achieved with the location of the two proposed drainage ponds. No other flood plain impact is proposed.

As a result of these considerations, the Development is “the most efficient design and layout of the land” because it limits development to the two upland areas depicted on the plan which require the least amount of relief, i.e., the two conventional subdivision lots located off Cullen Way and the 16 single-family condominium units as proposed on Wild Apple Lane.

4) Proposed Impacts

As detailed in the Conditional Use Permit Applications enclosed herewith, the Development proposes the following wetland and wetland buffer impacts:

- **Wetlands Conservation Overlay District**

The Development proposes 13,962 sf of total impact to include 2,960 sf of direct wetland impact, necessitated by construction of Wild Apple Lane which has been designed over an existing right-of-way and over an existing gravel road with previously disturbed soils and a manmade pond, and 11,002 sf of poorly drained soils buffer impact. Buffer impacts include: 1) 1,320 sf of structural impact to the 75’ parking and structure buffer to accommodate units 1, 11, 13, 15 and 16; 2) 1,736 sf of roadway impact to the 75’ parking and structure buffer, 3) 5,493 sf of roadway impact to the 40’ limited use buffer; and 4) 2,453 sf of disturbance within the 40’

limited use buffer to accommodate portions of two drainage ponds, all of which impacts are depicted on the plan included herewith as Enclosure 5. See Enclosure 5.

As described below, these impacts were avoided and minimized to the greatest extent practicable.

- **Shoreland Protection District**

The Development proposes 7,983 sf of impact within the Town's 150 foot Shoreland Protection District to accommodate the construction of Wild Apple Lane with associated utilities and drainage treatment structures, all to serve the proposed 16 unit single family open space condominium development, and as depicted on the plan included herewith as Enclosure 6. See Enclosure 6.

As described below, these impacts were avoided and minimized to the greatest extent practicable.

5) Conditional Use Permit Criteria Analysis

- **Wetlands Conservation Overlay District**

Pursuant to Article 9.6.1.A of the Zoning Ordinance, site development such as but not limited to the construction of roads, and other access ways, parking areas, utilities, structures, drainage systems, water impoundment and other site improvements are permitted by conditional use permit in the Wetlands Conservation Overlay District. See Zoning Ordinance, Article 9.6.1.A.1. Conditional uses must satisfy the criteria outlined in Article 9.6.1.B. The Grisets' proposal satisfies those conditions as follows:

Before addressing the individual criteria, we start by noting that both Jim Gove, a Wetland Scientist from Gove Environmental Services, Inc., in Exeter, has been working with the Grisets on this project. As you will note below, the Grisets quote analyses provided to them by Jim Gove for inclusion in this analysis. Jim Gove will be available at the Conservation Commission hearing to address these issues in person. Jim is quoted in the individual criteria below as they pertain to the direct wetland impacts. Jim provided the following analysis applicable to all eight (8) criteria, to address the Development's proposed Wetlands Conservation Overlay District buffer impacts (the "Buffer Impact Analysis"):

Where a direct impact is occurring, there is no option to not impact the buffer. So buffer impacts associated with the access road construction do not have an alternative design. This is true also for the storm water basin, as it is providing

treatment and detention prior to discharge to the wetland. There are areas within the Development that have no direct wetland impact but do encroach on the wetland buffers. The wetland directly adjacent the development has been maintained as an open, mowed wetland meadow. The areas of buffer encroachment are along the mowed fringe of the northern area of the wetland meadow. The upland has also been maintained as an open, mowed field. The functions of the wetland meadow are water quantity (storm water storage or flood flow alteration), water quality renovation (nutrient attenuation and sediment trapping), visual quality (a broad viewing vista), and wildlife (less water dependent and more general common species). Water quality and water quantity will not be impacted by the buffer encroachments. All developments now are required to control runoff, detain water from impervious surfaces, and remove sediments before discharge to wetlands. As part of the development plan, the wetland meadow will continue to be mowed yearly, thus maintaining the visual quality. Any development in the upland field, regardless of the number or size of the units, will impact the wildlife. All developments will change animal behavior, corridors they travel through, and hunting/nesting areas. Even if there were no buffer impacts from the development envelope, the wildlife would still be affected. In this case, due to the fact that the upland field is open and transitions down to an open wetland meadow, the visual impact of the development will change animal behavior, though the wetland meadow will continue to function as both a hunting area and a nesting area. Whether there is a slight encroachment into the buffers or not, the impact to wildlife is the same. The reason, however, why this is the least detrimental to the wetland buffer that is feasible rests with the surround environs. This Development has been located in uplands that are a continuation of development that has been occurring along Tamarind Lane and south of Route 111. It has purposely avoided fragmenting the wetlands by multiple development sites around the aquatic systems. In other words, the Development keeps intact a large, continuous wetland/upland ecosystem and avoids fragmentation by house here or house there. The current development design is the least impacting alternative that is feasible. While there will be impact to wildlife using the upland field and the wetland meadow fringe, the benefits to wildlife usage as a whole for the site far outweigh the relatively small impact of the encroachment in the buffers.

We now turn to the individual conditional use permit criteria.

1. That the proposed use is permitted in the underlying Zoning District;

The proposed use, a single-family open space condominium development is permitted in

the R-1 and this project has express authority to derive density from the Mendez Trust Parcel and the Town Property pursuant to a variance granted by the Town's Zoning Board of Adjustment on January 21, 2020.

2. No alternative design which does not impact a wetland or wetland buffer or which has less detrimental impact on the wetland or wetland buffer is feasible.

Collectively, the Properties consist of substantial wetlands isolating the substantial upland areas available for development. Of the three most viable uplands for development, all would require wetland crossings totaling 12,156 sq. feet and would result in the fragmentation of the "green space" proposed. The largest of these three uplands was chosen for the Development site. It requires a minimum wetland crossing of 2,960 sf of which a large portion is a man-made detention pond for the proposed access road. This proposed access has the least impact on wetlands and wetland buffers as it utilizes the existing gravel roadway and a manmade pond.

Put another way, the very conservative density yield of the underlying 63.83 acre parcel, inclusive of 23.60 acres of uplands amongst four isolated areas, is 18 units. The Applicants could propose a conventional subdivision design for the Property, but as described above, that would yield four times the amount of direct wetland impact and substantially similar Shoreland Protection District and Wetlands Conservation Overlay District buffer impacts as that which is proposed by the Development. In truth, though there are myriad different configurations and options, many of which the Grisets have explored, any development configuration oriented toward gaining access to the disparate upland areas on the Property will yield a more significant wetland and buffer impact than what is proposed.

As designed, the Development utilizes an existing right-of-way to traverse an existing gravel road with soils which have already been disturbed. The individual units on the western side of Wild Apple Lane have been sited as far west as they can be. All proposed impacts are localized to the edge of the wetland system. Individual units have been oriented in strict conformity with the regulations. Also, as indicated in Enclosure 4, Gove Environmental Services, Inc.'s Wildlife Habitat Assessment, the Development proposes to use best methods for erosion control around the perimeter of the work areas and the Development "will not disturb many of the active corridors on site and travel will be possible through the site." See Enclosure 4, at pg. 27. Moreover, "[t]he proposed conveyance to the Town of the entire 30.76 acres of Tax Map 81, Lot 53, as well as the intended preservation of the open meadow adjacent to the uplands/development area by the HOA, will provide a habitat block that will preserve the wildlife corridors in perpetuity." Id. In other words, the resulting impact of the Development will also have the least amount of impact from a wildlife habitat perspective.

Finally, the vast majority of the total impacts to the Wetlands Conservation Overlay District (12,694 sf, or 91%) relate to creation of Wild Apple Lane and the creation of two drainage ponds to serve the Development. See Enclosure 5. Only 1,320 sf of impact, to the edge

of the 75' parking and structure buffer, will be caused by individual units. This number represents approximately 9% of total Wetland Conservation Overlay District impacts. When considering the alternatives to this approach, which would include impacting considerably more wetlands and wetland buffers in an effort to reach the isolated, but substantial, areas of uplands on the Property, the Grisets' approach is the one that avoids and minimizes impacts to the greatest extent practicable. Every other alternative design would impact the wetlands and wetland buffers more. Accordingly, no other design is feasible, and this criterion is satisfied.

See also Jim Gove Buffer Impact Analysis, above.

- 3. A wetland scientist has provided an impact evaluation that includes the “functions and values” of the wetland(s), an assessment of the potential project-related impacts and concluded to the extent feasible, the proposed impact is not detrimental to the value of the wetland(s) or the greater hydrologic system.**

Jim Gove provides the following statement in response to this criteria within the context of direct wetland impacts:

Response: There are two direct wetland areas that are being impacted by the road access. The first is a man-made pond. This pond provides storm water storage, nutrient trapping, and wildlife habitat in the form of a fish population. This pond does not act as a vernal pool due to the documented fish present in the form of minnows and sunfish. 1280 SF of the pond is proposed to be filled. This represents a very small portion of the overall volume of the pond. As long as erosion controls are properly maintained during the construction activity, the fish population should remain intact. The outfalls from the pond to the southern wetland will be maintained by culverts. So the functions of storm water storage, nutrient trapping and wildlife habitat will remain after the access road is constructed. The second area is a forested wetland that lies to the south of existing path. While this is part of a much larger wetland with numerous functions and values, as has been addressed in the overall wetland assessment, the 1680 SF of impact occurs on the edge of the wetland system. This edge has already been impacted in the past by the construction of the existing path. The widening of the path to accommodate the new access road will have virtually no impact to the functions and values of this large wetland system.

See also Jim Gove Buffer Impact Analysis, above.

Luke Hurley's Wildlife Assessment (Enclosure 4) also indicates and confirms that the most sensitive wetlands on the Property to include the two vernal pools and the prime wetland will be preserved and maintained permanently. See Enclosure 4.

4. That the design, construction and maintenance of the proposed use will, to the extent feasible, minimize detrimental impact to the wetland or wetland buffer.

With regard to the direct wetland impacts, Jim Gove relays that:

The design and construction of the access road uses an existing path. The design is to widen the path to construct a reasonable access road for the development. This is the best access that avoids and minimizes the impacts to the wetlands on the site. Any other access that is available for construction of an access road to the development would result in much larger wetland and wetland buffer impacts.

See also Jim Gove Buffer Impact Analysis, above.

Beyond this, to limit road impacts and to preserve a line of white swamp oak close to the entrance of the Development from Tamarind Lane, the design incorporates "large block" retaining walls. To minimize actual wetland impacts, the plan utilizes narrowly limited structural buffer encroachments for portions of homes or decks. Further, approximately 91% of all impacts to the Wetlands Conservation Overlay District, and 88% of all buffer impacts, are related to providing access to the site via Wild Apple Lane and an existing right-of-way, and facilitating the construction of two drainage ponds. Only 9% of the total impacts (12% of total buffer impacts) are proposed to be caused by structures, which impacts are far less than what would be caused by development of the other three upland areas of the Property. These impacts are also located on the edge of low value wetland areas in close proximity to previously disturbed soils.

5. That the proposed use will not create a hazard to individual or public health, safety and welfare due to the loss of wetland, the contamination of groundwater, or other reasons.

Jim Gove notes that with regard to the 2,960 sf of direct wetland impact:

Response: The proposed use is for an access road to the development site. Such roads are common and do not create a hazard to health, safety or welfare. This will not cause a significant loss of wetland function or value, will not cause

contamination of groundwater and will not be detrimental to the wildlife using the site.

See also Jim Gove Buffer Impact Analysis, above.

Beyond this and as noted above, the Development will preserve the functions and values of the manmade pond, will utilize best-method erosion controls through construction, is incorporating “large block” retaining walls to construct Wild Apple Lane and protect the wetlands to the greatest extent possible, and is minimizing structural impacts to the buffer as described above. Also, the roadway impacts correspond to an existing path and previously disturbed soils and are located on the edge of the wetland system. See also Enclosures 4.

It also goes without saying that the public health, safety, and welfare benefits greatly from the approximately 50 acres of the underlying 63.83-acre tract being permanently preserved and/or conserved, to include a prime wetland and two vernal pools.

- 6. The applicant may propose an increase in wetland buffers elsewhere on the site that surround a wetland of equal or greater size, and of equal or greater function value than the impacted wetland.**

The Grisets are proposing to convey to the Town the entirety of the Mendez Trust Property for permanent conservation. This property includes a prime wetland and two vernal pools of higher function and value than those impacted by the Development. See Enclosures 1, 4. The locations of the proposed wetlands and wetland buffer impacts are those wetlands with the lowest value which were created by prior manipulations of the soils. See also Jim Gove Buffer Impact Analysis, above.

- 7. In cases where the proposed use is temporary or where construction activity disturbs areas adjacent to the immediate use, the applicant has included a restoration proposal revegetating any disturbed area within the buffer with the goal to restore the site as nearly as possible to its original grade and condition following construction.**

All soil disturbance that is temporary or adjacent to the immediate development will be restored as nearly as possible to original condition and suitable grade. Stumps are to be ground and debris cleared in that area. The temporary wetland disturbance areas will then be overseeded with NE Semi-shade grass and forb mix (specifically formulated for re-vegetating wetland areas) and NE Semi-shade grass and forb mix for temporary buffer impacts.

- 8. That all required permits shall be obtained from the New Hampshire Department of Environmental Services Water Supply and Pollution Control Division under NH**

RSA §485-A:17, the New Hampshire Wetlands Board under NH RSA §483-A, and the United States Army Corps of Engineers under Section 404 of the Clean Water Act.

The Applicant anticipates and welcomes a condition of Planning Board approval that it obtain all required state, local and federal approvals.

- **Shoreland Protection Overlay District**

Within the context of the applicable Exeter River Shoreland Protection District, the District's boundaries are defined in relevant part as "the area of land within 150 feet horizontal distance of the seasonal high water level of all perennial brooks and streams within the Exeter River Watershed and all other perennial brooks and streams." Zoning Ordinance, Article 9.3.3.A.2. "Perennial Brooks, Streams, and Creeks" are defined in the Ordinance as "[b]rooks, streams and creeks that appear on U.S. Geological Survey quadrangle maps revised . . . covering the Town of Exeter." Zoning Ordinance, Article 9.3.2.F. To be clear, Scamen Brook is a perennial brook identified on the USGS Maps.

However, pursuant to Article 9.3.4.G.1.c of the Zoning Ordinance, describing conditional uses within the District, "transmission lines, access ways, including driveways and parking lots or roadways, paved or unpaved, within 150 feet of the Exeter River, Squamscott River or their major tributaries, or within 100 feet of perennial brooks, streams and creeks located within the Exeter Shoreland Protection District" (emphasis added), may be permitted with a Conditional Use Permit if all the criteria outlined in Article 9.3.4.G.2 of the Zoning Ordinance are true.

We note that the Grisets have depicted a 150-foot Shoreland Protection district line on the relevant plan in an abundance of caution. See Enclosure 6. A plain language interpretation of the Town's Zoning Ordinance, however, reveals that under the circumstances, the line could reasonably be located on the plan 100 feet from the resource because Scamen Brook is not the Exeter River, the Squamscott River, or a major tributary of either. Rather, it is a perennial brook. As a result and in fact, the proposed impacts to the Exeter Shoreland Protection District caused by the Development are significantly less than what is depicted on the application and corresponding plan.

Regardless, the Grisets seek a Shoreland Protection District Conditional Use Permit to construct an access road to an isolate but substantial upland location on the Property which is outside the Shoreland Protection District. This roadway will utilize the location of a preexisting right-of-way, gravel road and man-made retention pond to mitigate environmental impacts, as described above. Specifically, the Grisets propose to construct a 20' wide private road and 4'

sidewalk utilizing large block retaining walls to reduce impacts. Only the entrance and portion of the first 200' of Wild Apple Lane are within the Shoreland Protection District. No other site improvements are proposed within the Shoreland District. 7,983 sf of permanent impact and 4,112 sf of impervious surface within the 150-foot Shoreland Protection District, is proposed.

The criteria of Article 9.3.4.G.2 of the Zoning Ordinance are satisfied as follows and as supplemented by statements from Jim Gove, Wetland Scientist.

- a. The proposed use will not detrimentally affect the surface water quality of the adjacent river or tributary, or otherwise result in unhealthful conditions.**

The Development will cause no detrimental effects to surface waters or the adjacent Scamen Brook. All drainage and runoff are directed to a drainage treatment system outside the Shoreland Protection District, which discharge point is a minimum of an additional 100' from the District. Further, Jim Gove provides the following analysis in this context:

Response: The access road has a forested buffer to Scamen Brook. The access road is at the upland/wetland boundary of the wetland system that contains Scamen Brook. The runoff from the access road is treated in a wetland pond. For these reasons, the access road will not detrimentally affect the water quality of Scamen Brook.

- b. The proposed use will discharge no waste water on site other than that normally discharged by domestic waste water disposal systems and will not involve an on-site storage or disposal of hazardous or toxic wastes as here defined.**

The Development will be serviced by Town sewer. No prohibited uses are proposed in this Development and snow treatment is accomplished outside the Shoreland Protection District.

- c. The proposed use will not result in undue damage to spawning grounds and other wildlife habitat.**

As the Wildlife Habit Report from Gove Environmental Services, Inc. concludes, the project will employ best-method erosion controls and there are no adverse impacts from the project to wildlife. See Enclosure 4. Moreover, Jim Gove provides the following analysis in this context:

Response: The man-made pond does not function as a vernal pool. With proper erosion controls, the fish population in the pond will be maintained. So the impacts to the pond will not damage spawning grounds in the pond. The forested

wetland to the south of the existing path, where the access road will be impacted by filling, does not have vernal pool activity as it does not have areas of long term ponding and thus do not act as vernal pools. The access road will not result in undue damage to spawning areas or other wildlife habitat.

- d. The proposed use complies with the use regulation identified in Article 9.3.4 Exeter Shoreland Protection District Ordinance – Use Regulations and all other applicable sections of this article.**

The proposed access road and related infrastructure and utility service are permitted as conditional uses under Section 9.3.4.G.1.c. No other uses are proposed.

- e. The design and construction of the proposed use will be consistent with the intent of the purposes set forth in Article 9.3.1 Exeter Shoreland Protection District Ordinance - Authority and Purpose.**

The design and construction of the proposed access road is consistent with the intent of the Shoreland Protection District Ordinance because all effort has been taken to avoid and minimize impacts and such impacts are limited to providing access to a developable upland area. Furthermore, this proposed Open Space Development project will place into conservation and preservation an additional 42 acres of protected greenspace which will protect 2,400 feet of the Scamen Brook in perpetuity.

6) Conclusion

We respectfully submit that on the information provided, the Grisets satisfy the criteria required to obtain the requested Conditional Use Permits and we request a favorable recommendation from the Commission for approval by the Planning Board.

Andrew Koff, Chair
Exeter Conservation Commission
April 2, 2021
Page 15

We respectfully request that this matter be placed on the agenda for the Commission's April hearing date. In the meantime, if you have any questions or need further information do not hesitate to contact me.

Very truly yours,
DONAHUE, TUCKER & CIANDELLA, PLLC

A handwritten signature in black ink, appearing to be 'Justin L. Pasay', written in a cursive style.

Justin L. Pasay
JLP/sac
Enclosures

cc: Brian and Adela Griset
Beals Associates
Gove Environmental Services, Inc.

Town of Exeter



**Planning Board Application
for
Conditional Use Permit:
Wetlands Conservation Overlay
District**

March 2020

**Town of Exeter
 Planning Board Application
 Conditional Use Permit: Wetland Conservation Overlay District**

Detailed Proposal including intent, project description, and use of property: (Use additional sheet as needed)

Construction of a private road & associated utilities/drainage treatment structures to serve 16 proposed condominium dwelling units (single family detached). The proposal includes 1,320 s.f. of building proposed within the 75 building setback, 1,736 s.f. of road within the 75' parking and pavement setback, 5,493 s.f. of road within the 40' no-disturb setback, and 2,453 s.f. of disturbance within the 40' no-disturb setback for drainage pond construction.

Wetland Conservation Overlay District Impact (in square footage):

Temporary Impact	Wetland: (SQ FT.)	Buffer: (SQ FT.)
	<input type="checkbox"/> Prime Wetlands _____	<input type="checkbox"/> Prime Wetlands _____
	<input type="checkbox"/> Exemplary Wetlands _____	<input type="checkbox"/> Exemplary Wetlands _____
	<input type="checkbox"/> Vernal Pools (>200SF) _____	<input type="checkbox"/> Vernal Pools (>200SF) _____
	<input type="checkbox"/> VPD _____	<input type="checkbox"/> VPD _____
	<input type="checkbox"/> PD _____	<input checked="" type="checkbox"/> PD <u>8,749 s.f.</u>
	<input type="checkbox"/> Inland Stream _____	<input type="checkbox"/> Inland Stream _____
Permanent Impact	Wetland:	Buffer:
	<input type="checkbox"/> Prime Wetlands _____	<input type="checkbox"/> Prime Wetlands _____
	<input type="checkbox"/> Exemplary Wetlands _____	<input type="checkbox"/> Exemplary Wetlands _____
	<input type="checkbox"/> Vernal Pools (>200SF) _____	<input type="checkbox"/> Vernal Pools (>200SF) _____
	<input type="checkbox"/> VPD _____	<input type="checkbox"/> VPD _____
	<input checked="" type="checkbox"/> PD <u>2,960 s.f.</u>	<input checked="" type="checkbox"/> PD <u>11,002 s.f.</u>
	<input type="checkbox"/> Inland Stream _____	<input type="checkbox"/> Inland Stream _____

List any variances/special exceptions granted by Zoning Board of Adjustment including dates:
 ON JANUARY 21, 2020 THE EXETER ZBA GRANTED A SPECIAL EXCEPTION TO PER ARTICLE 4, SECTION 4.2 SCHEDULE I: PERMITTED USES AND ARTICLE 5, SECTION 5.2 TO PERMIT RESIDENTIAL USE OF A 30.76-ACRE PARCEL LOCATED WITHIN THE NP-NEIGHBORHOOD PROFESSIONAL ZONING DISTRICT FOR THE SOLE PURPOSE OF CALCULATING DENSITY OF A PROPOSED OPEN SPACE DEVELOPMENT.
 ON JANUARY 21, 2020 THE EXETER ZBA GRANTED A VARIANCE FROM ARTICLE 4, SECTION 4.3 SCHEDULE II: DENSITY AND DIMENSIONAL REGULATIONS - RESIDENTIAL AND ARTICLE 7. OPEN SPACE DEVELOPMENT TO PERMIT A SINGLE-FAMILY OPEN SPACE DEVELOPMENT IN THE R-1, LOW DENSITY RESIDENTIAL ZONING DISTRICT WHICH DRAWS DENSITY FROM CONTIGUOUS UNIMPROVED PROPERTY IN THE NP-NEIGHBORHOOD PROFESSIONAL ZONING DISTRICT.

Describe how the proposal meets conditions in **Article 9.1.6.B** of the Zoning Ordinance (attached for reference):
 See attached.

ABUTTERS: PLEASE LIST ALL PERSONS WHOSE PROPERTY IS LOCATED IN NEW HAMPSHIRE AND ADJOINS OR IS DIRECTLY ACROSS THE STREET OR STREAM FROM THE LAND UNDER CONSIDERATION BY THE BOARD. THIS LIST SHALL BE COMPILED FROM THE EXETER TAX ASSESSOR'S RECORDS.

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9.1.6. B: Conditions: Prior to issuance of a conditional use permit, the Planning Board shall conclude and make a part of the record, compliance with the following criteria:

1. That the proposed use is permitted in the underlying zoning district;
2. No alternative design which does not impact a wetland or wetland buffer or which has less detrimental impact on the wetland or wetland buffer is feasible;
3. A wetland scientist has provided an impact evaluation that includes the “functions and values” of the wetland(s), an assessment of the potential project-related impacts and concluded to the extent feasible, the proposed impact is not detrimental to the value and function of the wetland(s) or the greater hydrologic system.
4. That the design, construction and maintenance of the proposed use will, to the extent feasible, minimize detrimental impact on the wetland or wetland buffer;
5. That the proposed use will not create a hazard to individual or public health, safety and welfare due to the loss of wetland, the contamination of groundwater, or other reasons;
6. The applicant may propose an increase in wetland buffers elsewhere on the site that surround a wetland of equal or greater size, and of equal or greater functional value than the impacted wetland
7. In cases where the proposed use is temporary or where construction activity disturbs areas adjacent to the immediate use, the applicant has included a restoration proposal revegetating any disturbed area within the buffer with the goal to restore the site as nearly as possible to its original grade and condition following construction.
8. That all required permits shall be obtained from the New Hampshire Department of Environmental Services Water Supply and Pollution Control Division under NH RSA §485-A: 17, the New Hampshire Wetlands Board under NH RSA §483-A, and the United States Army Corps of Engineers under Section 404 of the Clean Water Act.;

See attached.

Town of Exeter



**Planning Board Application
for
Conditional Use Permit:
Shoreland Protection District**

February 2017



Town of Exeter Planning Board Application

Conditional Use Permit: Shoreland Protection District In accordance with Zoning Ordinance Article: 9.3

SUBMITTAL REQUIREMENTS:

(see Conservation Commission and Planning Board meeting dates and submission deadlines)

1. One (1) electronic copy of full application, including plans (color copy if available)
2. Fifteen (15) copies of the Application
3. Fifteen (15) 11"x17" and three (3) full sized copies of the plan which must include:
 - Existing Conditions
 - a. Property Boundaries
 - b. Edge of Shoreland and associated Buffer (Shoreland Protection District – SPD)
 - c. Structures, roads/access ways, parking, drainage systems, utilities, wells and wastewater disposal systems and other site improvements
 - Proposed Conditions
 - a. Edge of Shoreland and Shoreland Buffers and distances to the following:
 - i. Edge of Disturbance
 - ii. Structures, roads/access ways, parking, drainage systems, utilities, wells and wastewater disposal systems and other site improvements
 - b. Name and phone number of all individuals whose professional seal appears on the plan
4. If applicant and/or agent is not the owner, a letter of authorization must accompany this application
5. Supporting documents i.e. Letters from the Department of Environmental Services, Standard Dredge and Fill Application and Photos of the property
6. A Town of Exeter Assessors list of names and mailing addresses of all abutters

Required Fees:

Planning Board Fee: **\$50.00** Abutter Fee: **\$10.00** Recording Fee (if applicable): **\$25.00**

The Planning Office must receive the completed application, plans and fees on the day indicated on the Planning Board Schedule of Deadlines and Public Hearings.

APPLICANT	Name: Brian Grisct
	Address: 26 Cullen Way, Exeter, NH
	Email Address: grisctandsons@comcast.net
	Phone: 603-686-1139
PROPOSAL	Address: Tamarind Lane
	Tax Map # 96 Lot# 15 Zoning District: R1
	Owner of Record: Adela Grisct
Person/Business performing work outlined in proposal	Name: Applicant
	Address:
	Phone:
Professional that delineated wetlands	Name: Gove Environmental Services, Inc.
	Address: 8 Continental Drive, Bld 2, Unit H, Exeter, NH
	Phone: 603-778-0644

**Town of Exeter
 Planning Board Application
 Conditional Use Permit: Shoreland Protection District**

Detailed Proposal including intent, project description, and use of property: (Use additional sheet as needed)
 Construction of a private road & associated utilities/drainage treatment structures to serve 16 proposed condominium dwelling units (single family detached).

Shoreland Protection District Impact (in square footage):	
Water Body	Scamen Brook
Temporary Impact	<input type="checkbox"/> 300 Foot SPD _____ <input type="checkbox"/> 150 foot SPD _____ <input type="checkbox"/> SPD Building Setback _____ <input type="checkbox"/> 75 Vegetative Buffer _____
Permanent Impact	<input type="checkbox"/> 300 Foot SPD <u>N/A</u> <input checked="" type="checkbox"/> 150 foot SPD <u>7,983 s.f</u> <input type="checkbox"/> SPD Building Setback _____ <input type="checkbox"/> 75 Vegetative Buffer _____
Impervious Lot Coverage	SF of Lot within District <u>391,410</u> SF of Impervious within District <u>4,112</u> % of Impervious within District <u>1.05</u>

List any variances/special exceptions granted by Zoning Board of Adjustment including dates:
 ON JANUARY 21, 2020 THE EXETER ZBA GRANTED A SPECIAL EXCEPTION TO PER ARTICLE 4, SECTION 4.2 SCHEDULE I: PERMITTED USES AND ARTICLE 5, SECTION 5.2 TO PERMIT RESIDENTIAL USE OF A 30.76-ACRE PARCEL LOCATED WITHIN THE NP-NEIGHBORHOOD PROFESSIONAL ZONING DISTRICT FOR THE SOLE PURPOSE OF CALCULATING DENSITY OF A PROPOSED OPEN SPACE DEVELOPMENT.
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Describe how your proposal meets the conditions of Article 9.3.4.G.2 of the Zoning Ordinance (attached for reference): See attached.

ABUTTERS: PLEASE LIST ALL PERSONS WHOSE PROPERTY IS LOCATED IN NEW HAMPSHIRE AND ADJOINS OR IS DIRECTLY ACROSS THE STREET OR STREAM FROM THE LAND UNDER CONSIDERATION BY THE BOARD. THIS LIST SHALL BE COMPILED FROM THE EXETER TAX ASSESSOR'S RECORDS.

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Please attach additional sheets if needed

Conditional Use Permit Criteria
Shoreland Protection District

9.3.4 G Conditional Uses:

2. The Planning Board may grant a Conditional Use Permit for those uses listed above only after written findings of fact are made which have been reviewed by technical experts from the Rockingham Conservation District, if required by the Planning Board, at the cost of the developer, provided that all of the following are true:
 - a. The proposed use will not detrimentally affect the surface water quality of the adjacent river or tributary, or otherwise result in unhealthful conditions.
 - b. The proposed use will discharge no waste water on site other than that normally discharged by domestic waste water disposal systems and will not involve on-site storage or disposal of hazardous or toxic wastes as herein defined.
 - c. The proposed use will not result in undue damage to spawning grounds and other wildlife habitat.
 - d. The proposed use complies with the use regulations identified in Article 9.3.4 Exeter Shoreland Protection District Ordinance – Use Regulations and all other applicable sections of this article.
 - e. The design and construction of the proposed use will be consistent with the intent of the purposes set forth in Article 9.3.1 Exeter Shoreland Protection District Ordinance – Authority and Purpose.

**ABUTTERS LIST
FOR
NH- 1154.1 BRIAN GRISET- EXETER, NH
DATE March 9, 2021**

SUBJECT PARCEL

TAX MAP/LOT

96-15

OWNER OF RECORD

ADELA GRISET
26 CULLEN WAY
EXETER, NH 03833

81-57

TOWN OF EXETER
10 FRONT ST.
EXETER, NH 03833

81-53

MENDEZ REV. REAL ESTATE TR.
BRET L. NEEPER TRUSTEE
26 CULLEN WAY
EXETER, NH 03833

ABUTTERS

TAX MAP/LOT

96-16

OWNER OF RECORD

ROBERT F. O'NEILL
DEBRA A. O'NEILL
28 CULLEN WAY
EXETER, NH 03833

96-17

ALYSON M. WOOD
CHRISTOPHER B. WOOD
35 CULLEN WAY
EXETER, NH 03833

96-14

ROBERT W. CARDEIRO
DAWN J. CARDEIRO
24 CULLEN WAY
EXETER, NH 03833

96-9

PATRICK J. & ANNE FLAHERTY
8 TAMARIND LANE
EXETER, NH 03833

96-11

DAVID HADDEN
12 TAMARIND LN.
EXETER, NH 03833

96-13

LISA ROSEBERRY TRUST
LISA K. ROSEBERRY, TRUSTEE
22 CULLEN WAY
EXETER, NH 03833

**ABUTTERS LIST
FOR
NH- 1154.1 BRIAN GRISET- EXETER, NH
DATE March 9, 2021**

81-78	WILLIAM L. SHEEHAN DEBORAH L. SHEEHAN 1 COLONIAL WAY EXETER, NH 03833
74-81	JUDITH L. FRAUMENI REV. TR. JUDITH FRAUMENI TRUSTEE 7 GLEN DR. LYNNFIELD, MA 01940
81-54 Unit 13	BRICKYARD BUSINESS CONDO ASSOC. -MC 16 KINGSTON RD. #13 EXETER, NH 03833
Unit 4	DANIEL W. JONES REV. TRUST PO BOX 526 EXETER, NH 03833
Unit 1 & 3	SUNSET PROPERTIES LLC 16 KINGSTON RD.-UNIT 3 EXETER, NH 03833
Unit 2	4 PINES LLC 14 SHERMAN AVE. BRENTWOOD, NH 03833
Unit 5	NIBROC REALTY LLC. 16 KINGSTON RD. UNIT 11 EXETER, NH 03833
Unit 6	WE CORK ENTERPRISE INC. 16 KINGSTON RD. - 6 EXETER, NH 03833
81-55 Unit 13	BRICKYARD BUSINESS CONDO ASSOC. 16 KINGSTON RD. #13 EXETER, NH 03833
Unit 10	NOC REALTY LLC. PO BOX 754 KINGSTON, NH 03848
Unit 9	NIBROC REALTY LLC. 16 KINGSTON RD. - 11 EXETER, NH 03833
Unit 7 & 8	JOHN C. BERNIER TRUST 16 KINGSTON RD. - 7 EXETER, NH 03833

**ABUTTERS LIST
FOR
NH- 1154.1 BRIAN GRISET- EXETER, NH
DATE March 9, 2021**

Unit 12	BONNER LANDSCAPING LLC. 14 IRONWOOD DR. EPPING, NH 03042
Unit 11	NIBROC REALTY LLC. 83 EXTER RD. KINGSTON, NH 03848
81-52	BRICKYARD BUSINESS CONDO ASSOC. 16 KINGSTON RD. EXETER, NH 03833
81-58	NATHANIEL HENRY FULLER NICOLE FULLER 2 GREYBIRD FARM CIR. EXETER, NH 03833
81-60	RACHEL HENRY JEFF HENRY 6 GREYBIRD FARM CIR. EXETER, NH 03833
81-61	STEPHEN E. LEAVITT SARAH N. LEAVITT 8 GREYBIRD FARM CIR. EXETER, NH 03833
81-59	CHARLES E. POTTLE MARYANN POTTLE 4 GREYBIRD FARM CIR. EXETER, NH 03833
81-62	CRAIG E. LAWRY 7 GREYBIRD FARM CIR. EXETER, NH 03833
81-50	OWEN G. BARIL BARBARA E. MICHAUD PO BOX 975 EXETER, NH 03833
81-51	KINGSTON ROAD 12, LLC 12 KINGSTON RD. UNIT D EXETER, NH 03290

**ABUTTERS LIST
FOR
NH- 1154.1 BRIAN GRISET- EXETER, NH
DATE March 9, 2021**

81-49	JOHN F. HENNESSEY MURRAY FAMILY REV. TR. CHRISTINE H. HENDERSON REV. LIV. TR. 12 PENDEXTER RD. MADBURY, NH 03823
73-47	BOSTON AND MAINE RAILROAD 1700 IRON HORSE PARK NORTH BILLERICA, MA 01862
95-64	EXETER RIVER MHP COOPERATIVE INC. C/O HODGES 201 LOUDON RD. CONCORD, NH 03301
96-10	EDWARD LIPTAK ANN ELIZABETH BENNETT 74 TOOLE TRAIL PEMBROKE, MA 02359
96-29	THOMAS & LINDA SMITH 7 TAMARIND LANE Lot #22 EXETER, NH 03833
96-28	MARCELO MENDOZA 9 TAMARIND LANE EXETER, NH 03833
96-8	JONATHAN & COLENE ELLIOTT 6 TAMARIND LN EXETER, NH 03833
96-30	JASON & PATRICIA CONWAY 5 TAMARIND LANE EXETER, NH 03833
81-79	TOWN OF EXETER 10 FRONT ST. EXETER, NH 03833
96-31	ROBERT & REBECCA LIETZ 3 TAMARIND LN. EXETER, NH 03833

**ABUTTERS LIST
FOR
NH- 1154.1 BRIAN GRISET- EXETER, NH
DATE March 9, 2021**

81-63 STEVEN J. MACHALA
5 GREYBIRD FARM CIR.
EXETER, NH 03833

81-64 JOSHUA P. HAGAN
3 GREYBIRD FARM CIR.
EXETER, NH 03833

81-68 WHITNEY T. WELLER
4 TAMARIND LN.
EXETER, NH 03833

81-56 GRANITE STATE GAS -UNITIL
6 LIBERTY LN. WEST
HAMPTON, NH 03842

81-66 ROBERT SIMON
38 KINGSTON RD.
EXETER, NH 03833

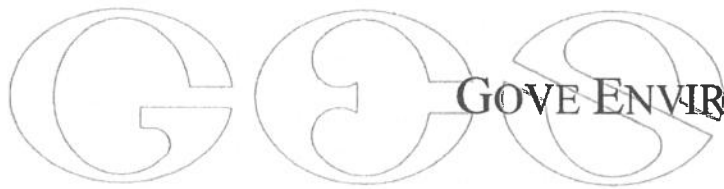
PROFESSIONALS

ENGINEERING FIRM BEALS ASSOCIATES, PLLC.
70 PORTSMOUTH AVE. 3RD FLOOR
STRATHAM, NH 03885

SOIL SCIENTIST GOVE ENVIRONMENTAL
8 CONTINENTAL DR. BLDG. 2 UNIT H
EXETER, NH 03833

SURVEYOR DAVID VINCENT
PO BOX 1622
DOVER, NH 03820

DEVELOPER BRIAN GRISET
26 CULLEN WAY
EXETER, NH 03833



GOVE ENVIRONMENTAL SERVICES, INC.
Wetlands and Soil Mapping



WILDLIFE HABITAT ASSESSMENT

for a

Residential Development
Tamarind Lane
Exeter, New Hampshire

for

Brian Griset
Cullen Way
Exeter, NH
March 2021

8 Continental Dr Bldg 2 Unit H, Exeter, NH 03833-7526
Ph (603) 778 0644 / Fax (603) 778 0654
www.gesinc.biz
info@gesinc.biz



Index:

Part 1: Findings and Summary

Part 2: NHB21-1021 Datacheck Results Letter, Figures, Site Photographs

Part 3: Detailed Evaluation

Proposed Project

Project Site and Surrounding Land Use Description

Threatened and Endangered Species and Wildlife Habitat Evaluation

Potential Impacts and proposed Conservation Measures

Part 4: Appendices

Aerial Photo

USGS Topo Map

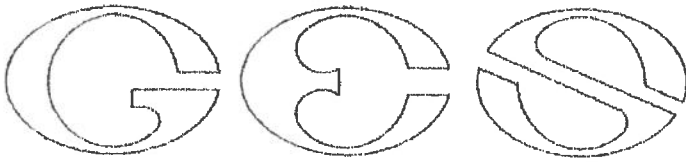
WAP Habitat Cover Map

WAP Highest Ranked Wildlife Habitat Map

Conservation Parcels Map

NRCS Soils

NHB21-1021



PART 1: SUMMARY AND FINDINGS

Wildlife Biologist: Luke Hurley	NHB21-1021
Gove Environmental Services, Inc.	Residential Development
8 Continental Drive, Exeter, NH 03833	Tamarind Lane, Exeter
lhurley@gesinc.biz	Brian Griset
603-770-5114	AOT Application

PROPOSED PROJECT:

The proposed project is an 18-unit, single family open space development. This will preserve 41 acres of the total 64 +/- acre site. This will maintain 65% of the entire area as open space. Proposed utilities will be underground and municipal water and sewer will serve the project. Two vernal pools are on the property.

PHASE I Threatened and Endangered Wildlife and Habitat Assessment Findings:

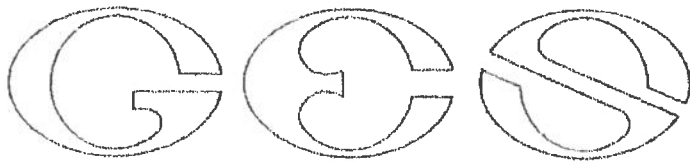
Check one

- No threatened and endangered wildlife and habitat present, no threatened or endangered wildlife, habitat, or wildlife corridors likely to be impacted by project activities.
- Threatened and endangered wildlife and habitat present; **HOWEVER, NO** threatened or endangered wildlife, habitat, or wildlife corridors likely to be impacted by project activities.

No conservation measures are proposed.

X Threatened and endangered wildlife and habitat present or wildlife corridors present.

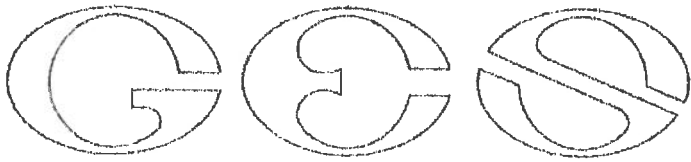
Proposed actions have the potential for impacts. Conservation measures incorporated into the proposed project or project design.



THREATENED AND ENDANGERED WILDLIFE AND HABITAT:
NHB21-1021 Did not identify any TE species on site of in the vicinity.

Based on the various cover types of Appalachian oak forest, grassland and forested and scrub shrub swamps, the following could potentially be on site-based n field work and desk top analysis.

- American kestrel, SC, SGCN
- Black-billed cuckoo, SGCN
- Blue-winged warbler, SC, SGCN
- Brown thrasher, SGCN
- Field sparrow, SGCN
- Prairie warbler, SGCN
- American woodcock SGCN
- Big Brown Bat SC, SGCN
- Silver-haired bat SC, SGCN
- Tri-colored bat SE, SGCN
- Eastern red bat SC, SGCN
- Hoary bat SGCN
- Little brown myotis SE, SGCN
- Blue-Spotted/Jefferson Salamander SC, SGCN
- Eastern Box turtle SE, SGCN
- Eastern towhee SGCN
- Eastern whip-poor-will SGCN
- Purple finch SGCN
- Ruffed grouse SGCN
- American bumblebee SGCN
- Rusty Patched bumblebee FE, SE, SGCN
- Yellow-banded bumble bee SGCN
- Yellow bumble bee SGCN
- Wood turtle SC, SGCN
- Blanding's turtle SE, SGCN
- Bobolink, SGCN
- Eastern meadowlark, ST, SGCN
- Monarch butterfly, SC
- Northern black racer, ST, SGCN
- Wood thrush, SGCN
- Veery, SGCN
- Common gallinule, SC, SGCN
- Spotted turtle, SGCN
- Eastern ribbon snake, SGCN
- Least bittern, SC, SGCN
- Marsh wren, SGCN
- Pied-billed grebe, ST, SGCN
- Smooth green snake, SC, SGCN
- Sora, SC, SGCN



PROPOSED CONSERVATION MEASURES:

The open space development will preserve 41 acres of the total 64 +/- acre site. This will maintain 65% of the entire area as open space.

Ideal methods for erosion control around the perimeter of the work areas is mulch berms. These are natural and often readily available for development sites. These are easy to install and do not need to be removed once the project is complete. The use of mulch berms does not act as a barrier to wildlife as they are able to easily walk over the berms with no issues. The use of welded plastic or 'biodegradable plastic' netting or thread in erosion control matting should be avoided. There are numerous documented cases of snakes and other wildlife being trapped and killed in erosion control matting with synthetic netting and thread. The use of erosion control berm, white Filtrexx Degradable Woven Silt Sock, or several 'wildlife friendly' options such as woven organic material (e.g. coco or jute matting such as North American Green SC150BN or equivalent) are readily available.



PART 1: SUMMARY AND FINDINGS

NHB21-1021
Residential Development
Tamarind Lane, Exeter
Brian Griset
AOT Application

Printed name, date and signature of Individual that conducted the Phase I Threatened and Endangered Wildlife and Habitat Assessment. Note: By signing this document, the qualified wildlife biologist (Env. Wq. 1503.19(h)) is assuming responsibility for the wildlife assessment. Credentials need to be included in Part 4: Appendices.

Luke Hurley
Name – printed

March 23, 2021
Date

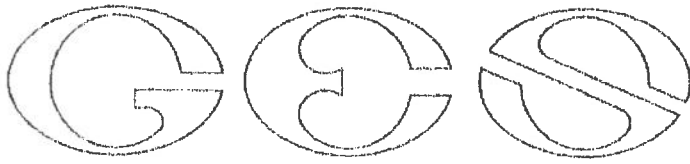
Signature

Check Applicable Requested Action

- Request for NHFG Concurrence with Findings in compliance with Env. Wq. 1503.19(h)(1)a
- Request for NHFG Concurrence with Findings and Proposed Conservation Measures in compliance with Env. Wq. 1503.19(h)(1)b*
- Requests further coordination with NHFG to discuss proposed conservation measures and/or, potential focused survey needs (Phase II) *

*New Hampshire Fish and Game’s review and recommendations are based on the information provided in this assessment. Changes to project scope may affect NHFG and/or NHDES determination on potential impacts and whether conservation measures and project design modifications proposed are still applicable or sufficient.

Other:



PART 2: NHB21-1021 Datacheck Results Letter, Figures, Site Photographs

Include in order presented below:

NHB21-1021 Datacheck Results Letter

Aerial Figure

Topographic Figure

NH Wildlife Action Plan - Land Cover Figure

NH Wildlife Action Plan - Habitat Rankings and Conservation Parcels Figure

Conservation Parcels

NRCS Soils

Site photographs with photograph location plan



*Wildlife Habitat Assessment for, Tamarind Lane, Exeter
March 23, 2021*

NHB21-1021

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Brenden Walden
8 Continental Dr, Building 2, Unit H
Exeter, NH 03833

From: NH Natural Heritage Bureau

Date: 3/26/2021 (This letter is valid through 3/26/2022)

Re: Review by NH Natural Heritage Bureau of request dated 3/26/2021

Permit Types: Alteration of Terrain Permit
Wetland Standard Dredge & Fill - Minor
Wetland Standard Dredge & Fill - Minimum

NHB ID: NHB21-1021

Applicant: Brenden Walden

Location: Exeter
Tax Map: 96, Tax Lot: 15
Address: Tamarind Lane

Proj. Description: The applicant is proposing open space cluster subdivision on site with access from Tamarind Lane that will require direct wetland impacts to a forested wetland and a perennial pond on site. Those impacts combined are less than 3,000 sf.

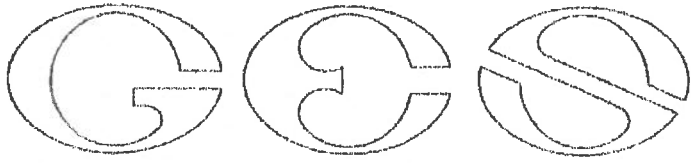
The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

MAP OF PROJECT BOUNDARIES FOR: NHB21-1021

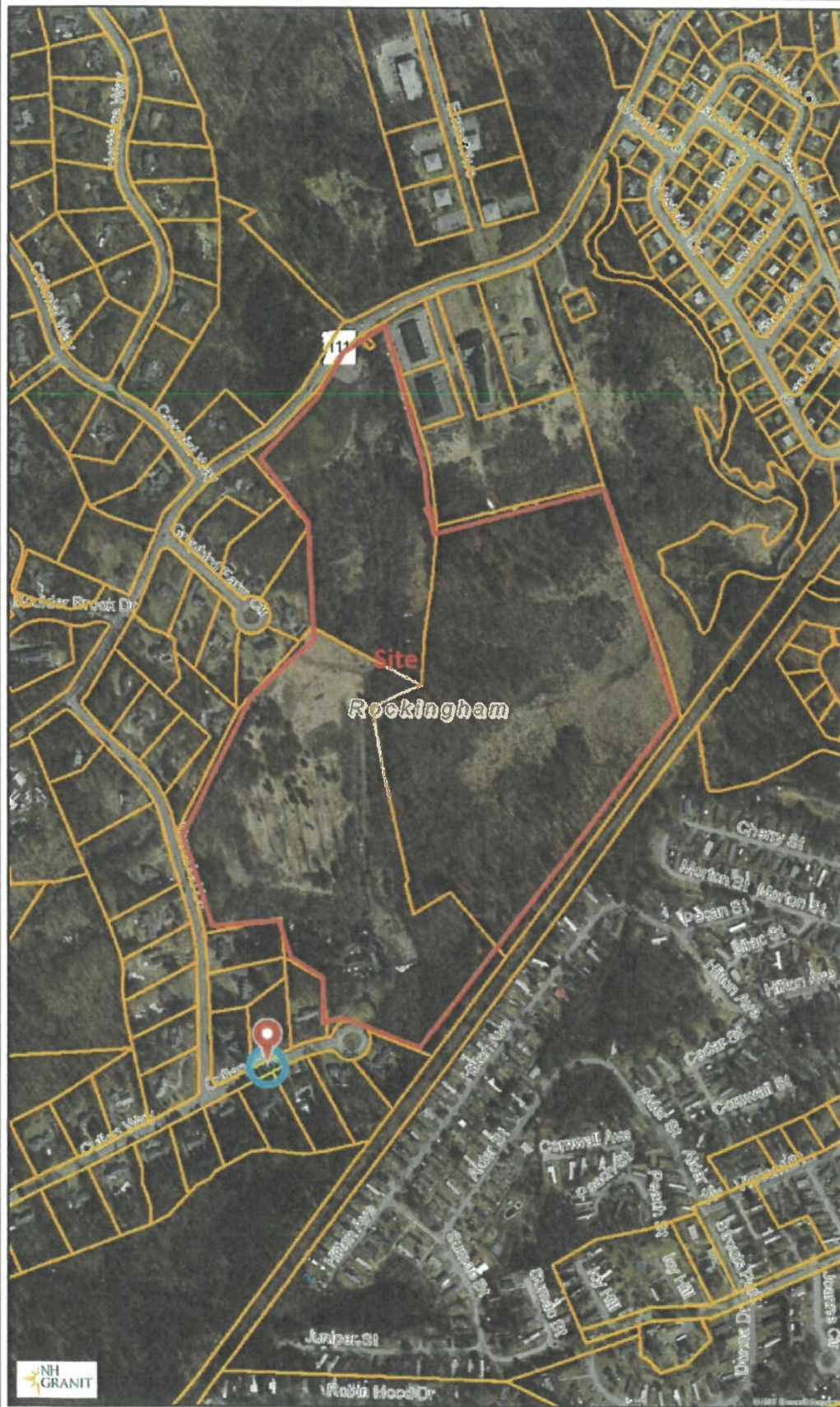




*Wildlife Habitat Assessment for, Tamarind Lane, Exeter
March 23, 2021*

Aerial Photo

Aerial



Legend

- Polygons
- State
- County
- City/Town

Map Scale

1: 6,494



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Map Generated: 3/22/2021

Notes





*Wildlife Habitat Assessment for, Tamarind Lane, Exeter
March 23, 2021*

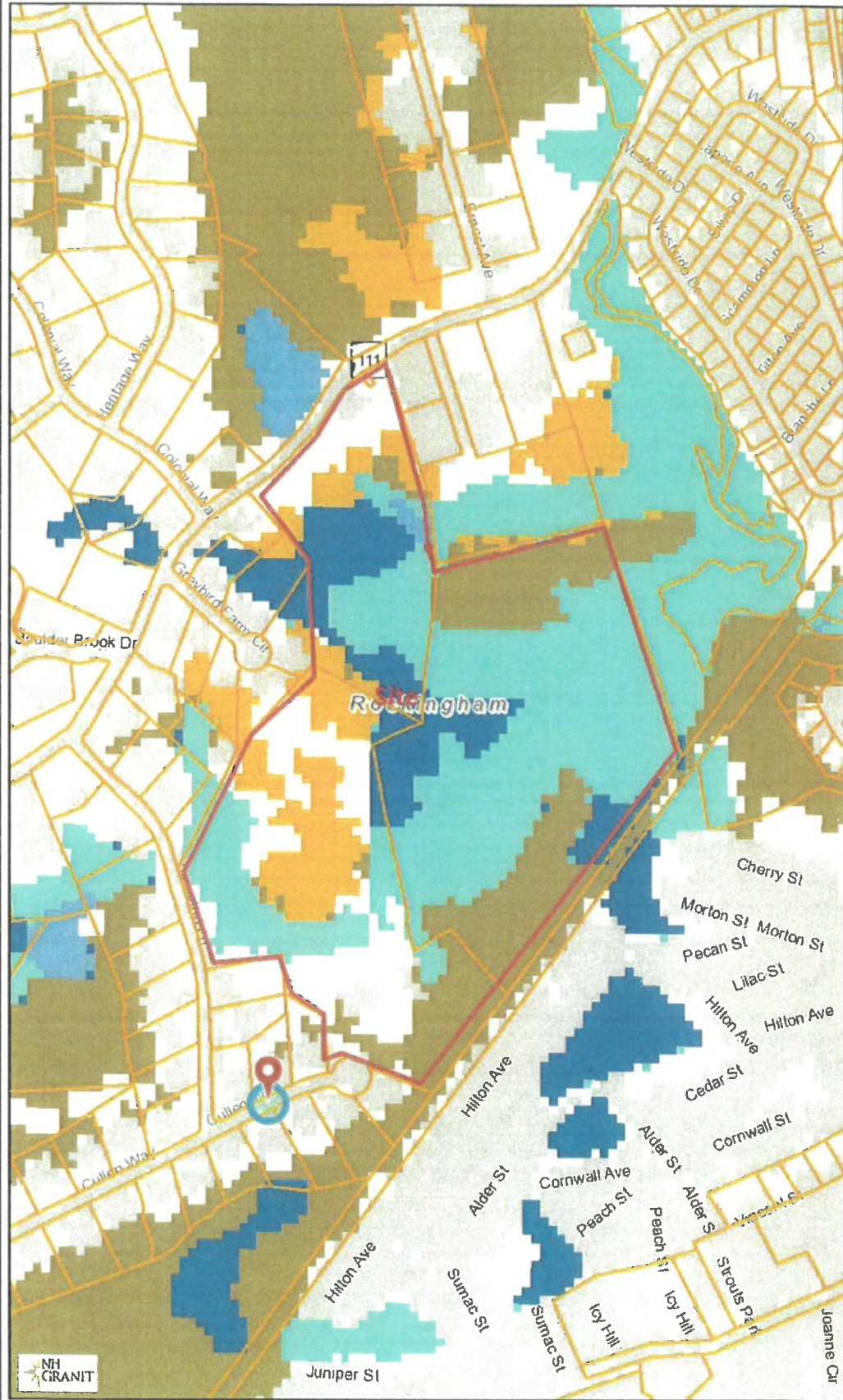
USGS Topo Map



*Wildlife Habitat Assessment for, Tamarind Lane, Exeter
March 23, 2021*

**NH Wildlife Action Plan
Land Cover Figure**

WAP 2020: Wildlife Habitat Land Cover



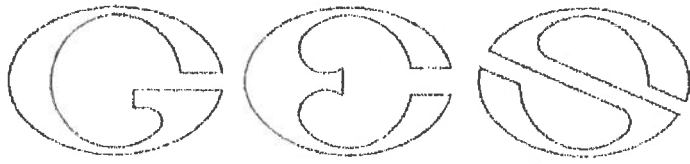
- Legend**
- Polygons
 - State
 - County
 - City/Town
- WAP 2020: Wildlife Habitat Land Cover**
- Alpine
 - Appalachian oak-pine
 - Cliff and Talus slope
 - Coastal island and Rocky coast
 - Developed Impervious
 - Developed or Barren land
 - Dune
 - Floodplain forest
 - Grassland
 - Hemlock-hardwood-pine
 - High-elevation spruce-fir
 - Lowland spruce-fir
 - Northern hardwood-conifer
 - Northern swamp
 - Open water
 - Peatland
 - Pine barren
 - Rocky ridge
 - Salt marsh
 - Sand/Gravel
 - Temperate swamp
 - Marsh and shrub wetland

Map Scale
1: 6,494

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Map Generated: 3/22/2021

Notes












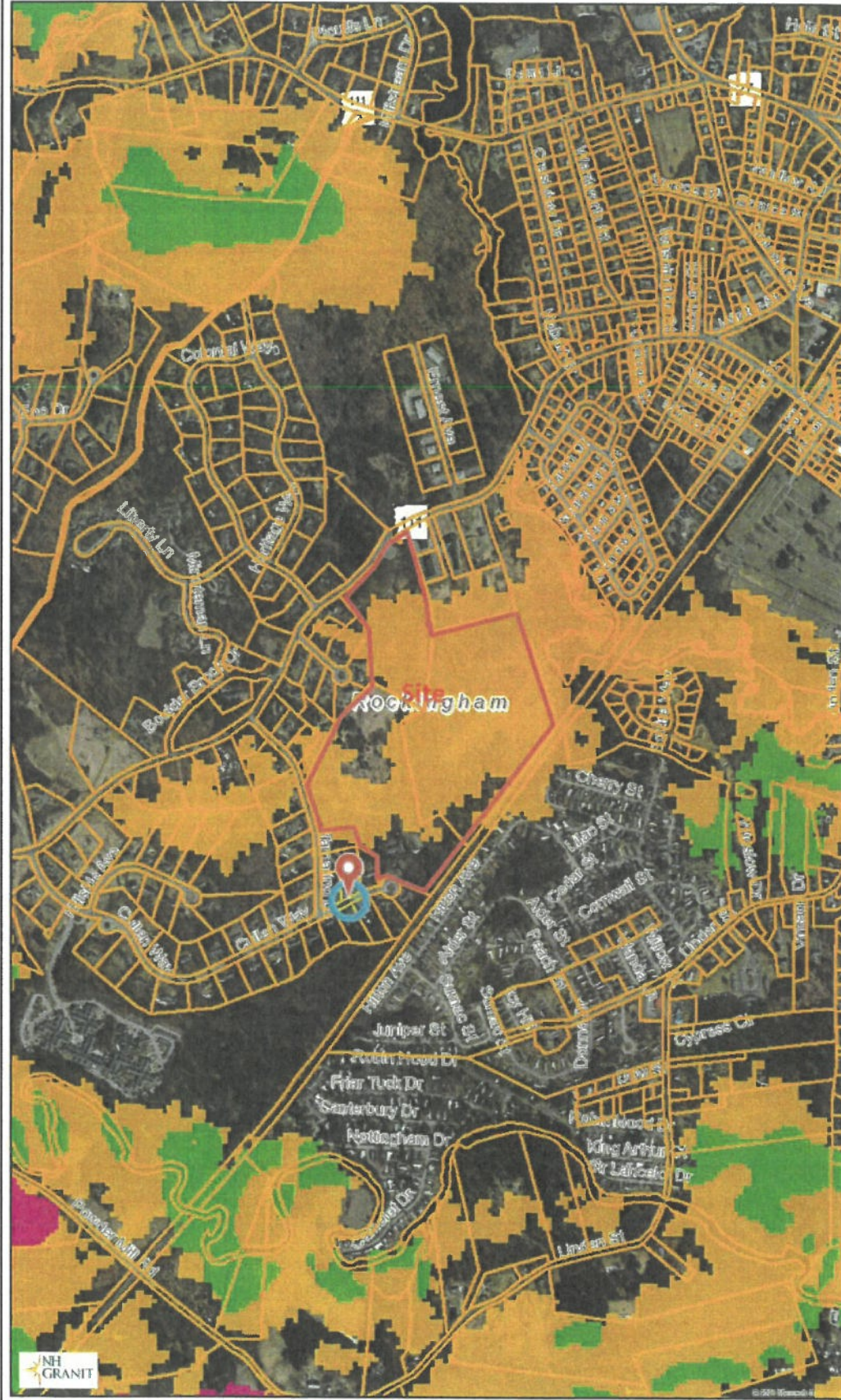
*Wildlife Habitat Assessment for, Tamarind Lane, Exeter
March 23, 2021*

**NH Wildlife Action Plan
Habitat Rankings**

WAP 2020: Highest Ranked Wildlife Habitat

Legend

-  Polygons
 -  State
 -  County
 -  City/Town
- WAP 2020: Highest Ranked Wildlife Habitat
-  1 Highest Ranked Habitat in NH
 -  2 Highest Ranked Habitat in Region
 -  3 Supporting Landscape



Map Scale

1: 12,988



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Map Generated: 3/22/2021

Notes

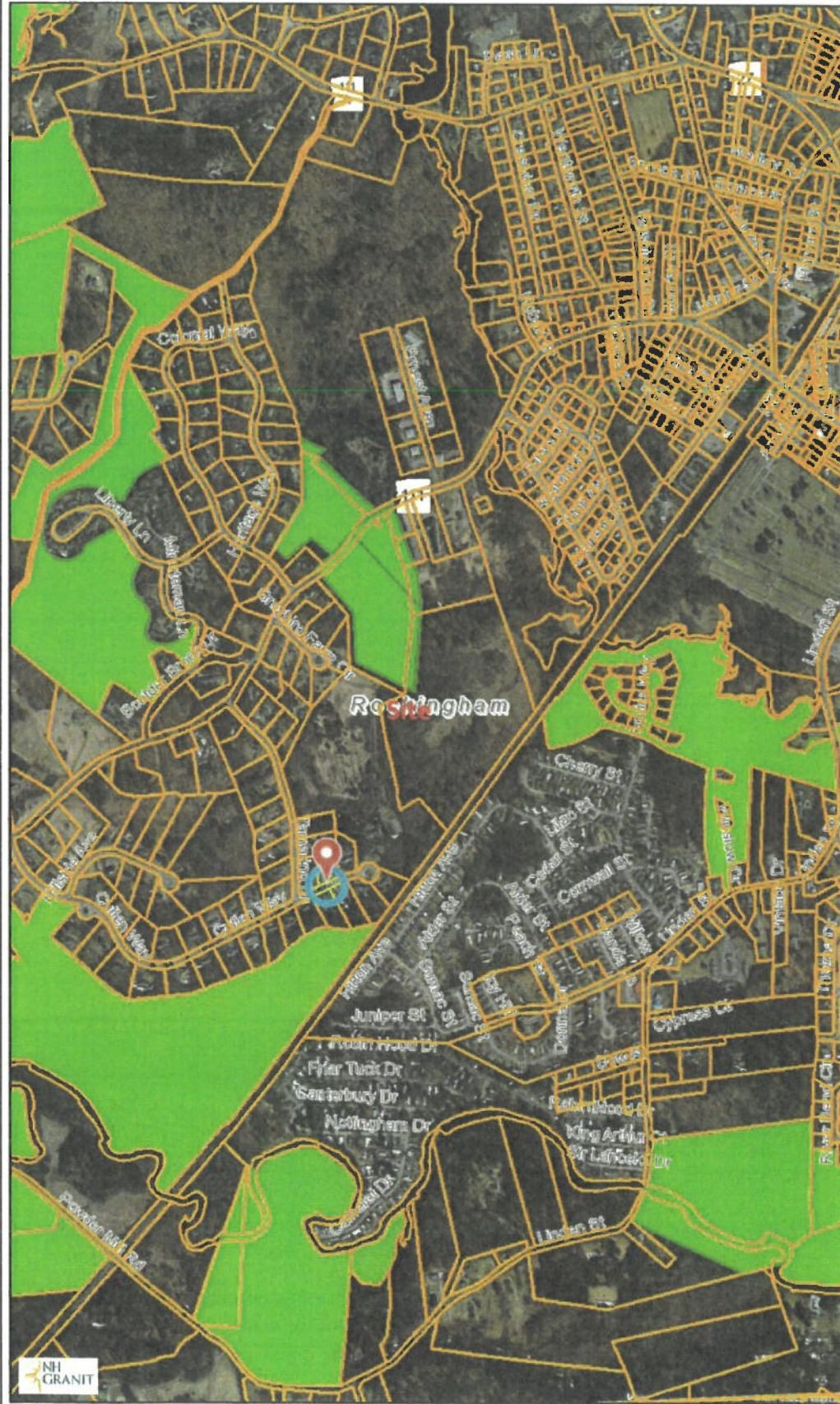




*Wildlife Habitat Assessment for, Tamarind Lane, Exeter
March 23, 2021*

Conservation Parcels

Conservation Lands



Legend

- Polygons
- State
- County
- City/Town
- Conservation and Public Land

Map Scale

1: 12,988



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Map Generated: 3/24/2021

Notes

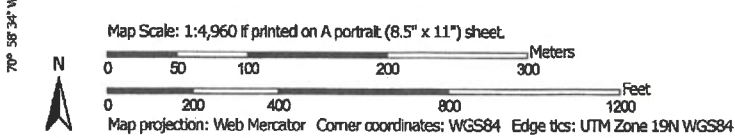




*Wildlife Habitat Assessment for, Tamarind Lane, Exeter
March 23, 2021*

NRCS Soils

Soil Map—Rockingham County, New Hampshire



MAP LEGEND

- Area of Interest (AOI)
 - Area of Interest (AOI)
- Soils
 - Soil Map Unit Polygons
 - Soil Map Unit Lines
 - Soil Map Unit Points
- Special Point Features
 - Blowout
 - Borrow Pit
 - Clay Spot
 - Closed Depression
 - Gravel Pit
 - Gravelly Spot
 - Landfill
 - Lava Flow
 - Marsh or swamp
 - Mine or Quarry
 - Miscellaneous Water
 - Perennial Water
 - Rock Outcrop
 - Saline Spot
 - Sandy Spot
 - Severely Eroded Spot
 - Sinkhole
 - Slide or Slip
 - Sodic Spot
- Water Features
 - Streams and Canals
- Transportation
 - Rails
 - Interstate Highways
 - US Routes
 - Major Roads
 - Local Roads
- Background
 - Aerial Photography

- Spill Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rockingham County, New Hampshire
 Survey Area Data: Version 22, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 30, 2011—Apr 8, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres In AOI	Percent of AOI
32B	Boxford silt loam, 3 to 8 percent slopes	4.2	6.5%
33A	Scitico silt loam, 0 to 5 percent slopes	40.9	64.6%
38B	Eldridge fine sandy loam, 3 to 8 percent slopes	4.9	7.7%
97	Freetown and Natchaug mucky peats, ponded, 0 to 2 percent slopes	2.5	4.0%
134	Maybid silt loam	6.0	9.5%
298	Pits, sand and gravel	4.5	7.1%
299	Udorthents, smoothed	0.4	0.6%
Totals for Area of Interest		63.4	100.0%

Aerial



Legend

- Polygons
- State
- County
- City/Town

Map Scale

1: 6,494



© NH GRANIT, www.granit.unh.edu

Map Generated: 3/22/2021

Notes

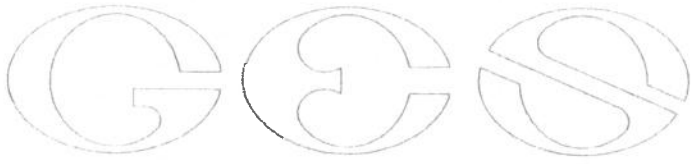




1. Looking down stream system within larger wetland complex.



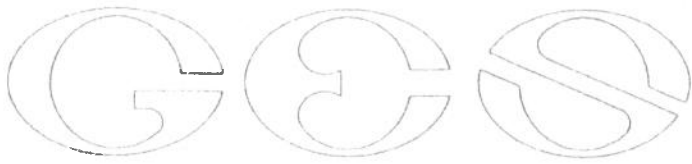
2. View of adjacent **open** understory of wetland.



3. Opposite view.



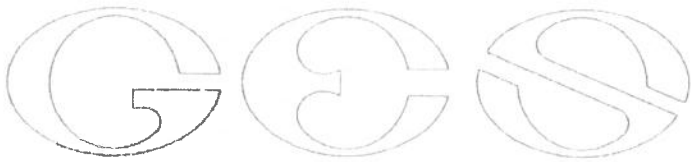
4. View of additional shrub wetland on site.



5. View of wooded upland area.



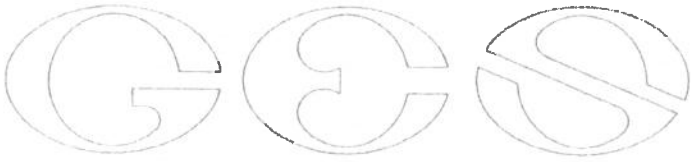
6. View of thick shrub and vine cover.



7. View of Driveway in and adjacent to the site.



8. View towards old farm pond.



9. Opposite view.



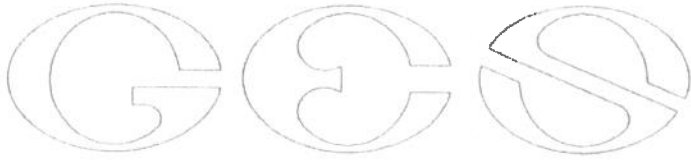
10. View along old farm crossing along wetland edge.



11. Open understory wooded area.



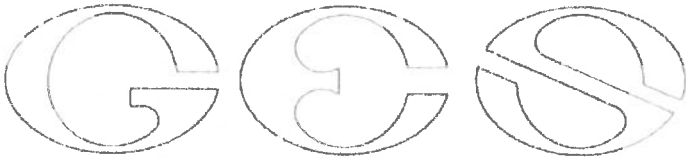
12. Open field area.



13. View looking over brook.



14. View of shrub wetland area.



15. Additional view.



PROPOSED PROJECT:

The proposed project is for an 18-unit, single family Open Space development, maintains the present exterior parcel boundaries with a slight alteration of the common boundary between the Griset and Mendez parcels. This alteration increases the Mendez parcel to 31.61 acres which is intended to be attached to the current Brickyard Park (9.38 acres) and dedicated to additional open space preservation and deeded to the Town of Exeter for management and general public passive recreational use.

Proposed restrictions, allowances and uses of the property are as follows. Use limited to only conservation, preservation, passive recreation, and restricted development for a Town water supply. Hunting limited annually to four veterans during hunting season. Names to be drawn by lottery when vacancies occur. Coyote and beaver control.

The remaining Griset parcel will be subdivided into three parcels. (96-15) which is the applicants current residence with 6.59 acres, (96-15-17) a new conventional single-family lot with 1.67 acres and the 14.59-acre Open Space Condominium development which includes the HOA protected 9.40 acre preserved Open Space area and sixteen home sites (96-15-1 thru 16).

The proposed Fox Meadows HOA will be responsible for maintaining the 9.40 acre Preserved "Common Area" which encompasses the lower field, portions of Scamen Brook and wetlands. A single annual mowing in September to preserve field and wild bird habitat plus removal of annual deadfall within the field area is one stewardship responsibility. The second is the authority to control and manage both coyote and beaver populations.

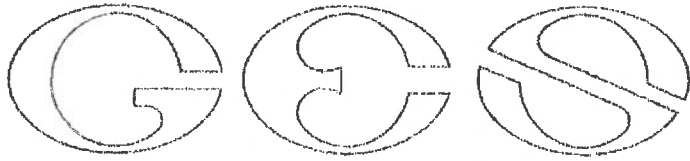
The project is proposing 2,960 sf of wetland impacts through two separate impact areas: 1-1,680 sf and 2-1,280. This is for access into the site and will be incorporating the old farm road to minimize impacts.

PROJECT SITE AND SURROUNDING LAND USE DESCRIPTION:

The site consists of three parcels; 23.60-acre Griset (96-15), 30.76-acre Mendez Real Estate Trust (81-53) and 9.38-acre Town of Exeter Brickyard Park Recreational and Open Space area previously deeded to the Town of Exeter by the applicant in 1992. The site consists of approximately 64 acres of woodland, wetland, open fields, and one pond. A significant area of the site is part of the Scamen Brook drainage area and is part of a larger forested and scrub shrub wetland system, making up a considerable portion of the site. This large system begins in the northern portion of the parcel, adjacent to Route 111 and flows to the south and then the east where it drains into Scamen Brook, which flows from the southwest to the east off site. The site is surrounded by residential development. It is abutted by Route 111 to the north, the railway to the east, Cullen Way to the south, and Tamarind Lane to the west.

FIELD ANALYSIS

The site was visited on October 12, 2019 for the Town of Exeter and March 23, 2021 and potential for TE species and potential habitat, as well as overall site conditions were evaluated and documented. The field work was conducted over 10 hours total under sunny skies and 60



degrees (F). Field work was performed by slowly walking the parcel. Resources used: NH Wildlife Action Plan, Wildlife Action Plan – Community Maps (Habitat, Scoring, and SGCN by Town), NHFG Endangered and Threatened Wildlife of NH, Rare Animals, and Exemplary Natural Communities in New Hampshire Towns, Taking Action for Wildlife, NH GRANIT GIS clearinghouse, USDA Web Soil Survey.

Upland Cover Type

Grassland

A significant upland area on site is open field with a gentle slope. This open field is where development is proposed. The large field area is comprised of a variety of grasses, forbes, wildflowers, sedges, and rushes. This field is mowed seasonally every year. During the time of the assessment the field was mowed, and species identification was not possible. The large wet meadow on site (located to the west) which connects to a scrub shrub wetland is ideal habitat for large predatory birds such as hawks and is well suited for Neotropical migrant birds, and many grassland birds. This area dries out early in the summer and was considered part of the grassland habitat.

Appalachian-oak forest

The forested upland area is comprised of white pine, sugar maple, American beech, poplar, and mixed oak. Species in the canopy range in size from pole-size to mature trees. The shrub layer includes low bush blueberry, buckthorn, witch hazel, as well as regenerating canopy species. Herbaceous species consists of wintergreen, maple leaf viburnum, partridgeberry, clubmoss, and bracken fern.

Wetland Cover type

There are two large wetland systems and one small, ponded area on site. A majority of the wetland systems on site are forested and scrub shrub. The large wetland system to the east consists of red maple, paper birch, and muscle wood in the tree layer, autumn olive, buckthorn, Japanese barberry, and sweet pepperbush in the shrub layer, and sensitive fern, lady fern, swamp dewberry, and mixed grasses and sedge in the herbaceous layer.

Another large portion of the wetland is a wet meadow. This field is also mowed every year in the fall to maintain habitat as well as several bryophytes, grasses, and cattail.

A prime wetland exists on the northeast portion of the 64 acres contained within a 30 plus acre section which is proposed to be deeded to the town for preservation and mitigation. This large system begins in the northern portion of the parcel, adjacent to Route 11 and flows to the south and then the east where it drains into Scamen Brook, which flows from the southwest to the east off site

A vernal pool evaluation was conducted in April 2019, two pools were identified. Vernal pool one is about 30x30 feet in dimension and has an average depth of about 2 feet. Forty wood frog egg masses were observed. Pool two is about 50x40 feet approximately 52 wood frog egg masses were observed. These vernal pools will be protected by at least a 100' buffer.



Pool #1

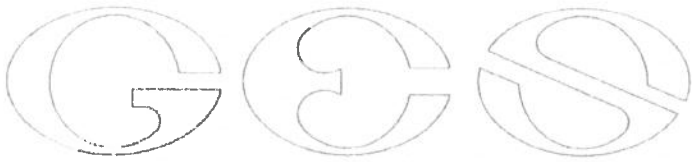
This pool is located within the “B” wetland line. It is in the southeast part of the site and abuts the railroad. The area containing the egg masses is approximately 30x30 feet and has a depth of about 2 feet. It has a light tree and shrub canopy with about 50% canopy cover. It is flagged in blue tape, numbered VP1-1 through VP1-5. Forty wood frog egg masses were found.

Pool #2

This pool is the “J” line delineated on the wetland map. It is an isolated pocket located in a depression on the top of a small hill. This is a previously disturbed areas that is an excavated basin. This pool is approximately 50x40 feet. It has about 30% canopy cover. Approximately 52 wood frog egg masses were found.



View of Pool 1.



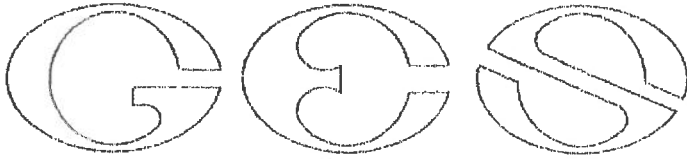
Wood Frog egg masses found in pool 1.



View of pool 2.



Wood Frog egg masses found in pool 2.



SOILS AND GEOLOGY

Soils on site are primarily, Scitico silt loam and Eldridge Sandy Loam, no significant ledge is on site. The site is generally flat and slopes from the east to the west, with ne knoll area in the central portion of the site.

CONSERVATION LANDS

A portion of the parcel is already conservation land in the northern area. Additional Town Conservation lands are located to the west and east and will be connected through the open space area proposed through this project.

WILDLIFE TRAVEL CORRIDOR

Much of the site is used as a corridor and suitable habitat for present wildlife. The constraint is the geographic location of the parcel as an island surrounded by Route 111 to the north and dense residential neighborhoods on all remaining sides. The proposed development will not disturb many of the active corridors on site and travel will be possible through the site. Many of the species using the corridors proposed to be disturbed will continue to have easy access to many of the other existing corridors on site. Although active corridors will be disturbed it will not disrupt wildlife passage as a whole.

The proposed conveyance to the Town of the entire 31.61 acres of Tax Map 81, Lot 53, as well as the intended preservation of the open meadow adjacent to the uplands/development area by the HOA, will provide a habitat block that will preserve the wildlife corridors in perpetuity.



THREATENED AND ENDANGERED WILDLIFE AND HABITAT EVALUATION:
NHB21-1021

Based on the various cover types of Appalachian oak forest, grassland and forested and scrub shrub swamps, the following could potentially be on site-based in field work and desk top analysis. Over all the 65% open space on site should help to minimize any impacts to these species.

American kestrel, SC, SGCN

This species requires open habitats such as fields, meadows, pastures and parks with sparse trees or power lines to perch on. A portion of the site will remain as open field. No impact to this species is expected.

Black-billed cuckoo, SGCN

Black-billed Cuckoos use a different mix of habitats than most species considered early successional specialists. In addition to shrub- or sapling-dominated habitats (regrowing cuts, rights-of-way, old fields), cuckoos also nest in shrubby wetlands and open woodlands/forest edges with limited early- successional features (e.g., golf courses, woodlots, orchards, and fencerows) (Hughes 2001). Nests are built higher above the ground (1-2 meters, but as high as 13) than other shrubland species. As a large area of open space is being preserved. No impact to this species is expected.

Blue-winged warbler, SC, SGCN

Brown thrasher, SGCN

Field sparrow, SGCN

Prairie warbler, SGCN

Eastern towhee SGCN

Like all shrubland birds, these species occurs in habitats dominated by shrubs or young trees, sometimes interspersed with mature trees (e.g., pine barrens) or open bare or grassy areas. Typical examples in New Hampshire include regenerating timber harvests, power line rights-of-way, shrubby old fields and edges, and pine barrens. From a bird perspective, such habitats can be subdivided into those dominated by shrubs vs. dominated by saplings. The former – sometimes referred to as “scrub- shrub” – is more typical of abandoned old fields, utility rights-of-way, and open areas within pine barrens. Such habitats often persist for relatively long periods without the need for additional management. Saplings, on the other hand, are typical of areas subject to timber harvest, and rarely retain early successional characteristics beyond 15-20 years. These are also regularly referred to as “young forest.” The open space provided on site should minimize any impacts to these species.

American woodcock SGCN

Woodcock require four different habitat types. Clearings are used by males for courtship display. Moist, fertile soils with alder or dense second growth hardwood offer feeding areas. Young, second growth hardwood stands provide nesting and brood rearing habitat.



Large fields are needed as night roosting sites. It's important to have all four habitat elements in close proximity. A large mosaic of these required cover types will remain and minimize impacts to this species.

Big Brown Bat SC, SGCN

Silver-haired bat SC, SGCN

Tri-colored bat SE, SGCN

Eastern red bat SC, SGCN

Hoary bat SGCN

Little brown myotis SE, SGCN

Any of these bats could be expected to be within the mature forested area. As no significant cutting of large trees is proposed, no impacts are expected to these species.

Blue-Spotted/Jefferson Salamander SC, SGCN

These are most commonly in moist hardwood forests but also in wooded swamps, marshes, and bogs. Spends most of time underground burrowing under logs, rocks, and mats of moss and vegetation. No work is proposed to impact these pools and a buffer around the pools will minimize any impacts to these species.

Eastern Box turtle SE, SGCN

This turtle is found in terrestrial areas such as dry and moist woodlands, old fields, pastures, power-line corridors, and edges of marshes, bogs, and shallow streams. During hot weather, may rest in water or burrow under logs and moist vegetation. With the large area of open space being provided no impact is expected to this species.

Eastern whip-poor-will SGCN

Eastern Whip-poor-wills inhabit areas of dry soils and open understory, especially in pine and oak woodlands (Cink 2002). They prefer to forage in open areas, such as fields, clearings, regenerating clear cuts, recent burns, and power line rights-of-way (Wilson 2003, Hunt 2013). Dry soil, which contributes to the sparse understory that whip-poor-wills prefer, may also allow for better drainage of the leaf litter where the birds lay their eggs, although definitive data are lacking. In New Hampshire, whip-poor-will records during the Breeding Bird Atlas were all from areas below 1200' elevation (Foss 1994). During a study in the Piscataquog River watershed in 2003, whip-poor-will records were concentrated in the northeastern quarter of the watershed. A preliminary analysis of habitat at points where whip-poor-wills were detected suggests that birds were more likely to occur in areas identified by aerial photography as "dry pine forest," "gravel pit," or "disturbed" (Hunt 2006). The proposed open space should provide ample area of mixed habitat for this species.

Purple finch SGCN

The Purple Finch uses a wide range of forest types, including those of an anthropogenic nature such as orchards, conifer plantations, and suburban yards (Wootton 1996). Densities are probably highest in more northern forest types with significant conifer components. No impact is expected to this species from the development.



Ruffed grouse SGCN

The Ruffed Grouse uses deciduous and coniferous forests in both upland and wetland settings (DeGraaf et al. 1989). Ruffed Grouse are early successional forest specialists. Grouse require four different cover types for drumming, brood rearing, nesting, and wintering. In general, they inhabit brushy, mixed-age woodlands, early successional to mature hardwood and mixed forests, often with aspen and birch as a component. Optimal habitat for Ruffed Grouse include young (6 to 15-year-old), even-age deciduous stands typically supporting 20-25,000 woody stems/ha (Gullion 1984). These habitats are available to grouse for approximately one decade because stem densities decrease rapidly through natural thinning as succession proceeds (Dessecker and McAuley 2001). Although commonly identified as an “edge” species, Ruffed Grouse association with habitat edges largely reflects their use of various interspersed forest habitats at different times of the year and their use of marginal habitats where quality habitat is lacking. They typically avoid hard-contrast edges (Dessecker and McAuley 2001). Old orchards are an ideal fall habitat in New England (DeGraaf and Yamasaki 2001). Catkin-bearing trees are also an indicator of grouse habitat. They use logs or stone walls for drumming sites and dense cover for protection (Brooks and Birch 1988). Hens and broods prefer areas with a dense understory and fairly open herbaceous ground cover. Grouse nest and feed in hardwood stands and dust themselves in sunny openings. Ruffed Grouse use mature woodlands, especially coniferous forests, during winter. When snow is deep and soft, birds will roost in the snow. Otherwise they will roost on the ground or in trees. Approximately 65% of the entire property will be in open space. No impact is expected to result with the species.

American bumblebee SGCN

Rusty Patched bumblebee FE, SE, SGCN

Yellow-banded bumble bee SGCN

Yellow bumble bee SGCN

Any of these species could be expected to be on site based on the extent of flowering plants and shrubs. With the large area of open space provided, no impacts are expected. Bumble bees frequent meadows, crop fields, orchards, gardens, and other locations with flowering plants

Wood turtle SC, SGCN

These turtles are found in slow-moving streams and channels with sandy bottoms. Extensive use of terrestrial habitats during summer, including floodplains, meadows, woodlands, fields, as well as wetlands. The area of Scamen Brook will be well within the area of open space as well as terrestrial woodlands. No impact is expected.

Blanding's turtle SE, SGCN

Blanding's turtles are found in wetland habitats with permanent shallow water and emergent vegetation such as marshes, swamps, bogs, and ponds. Use vernal pools extensively in spring and while traveling through the landscape. May use slow rivers and streams as mechanisms for dispersal between wetlands. Extensive use of terrestrial habitats for nesting and travel among wetlands. As with the wood turtle, no impact is expected.



Bobolink, SGCN

Bobolinks breed in a variety of grassland habitats, although these generally contain a mix of tall grasses and scattered leafy forbs such as legumes or dandelions (Martin and Gavin 1995). A relatively dense litter layer is also important, a feature that is more prevalent in older fields (e.g., eight or more years since planting/reseeding, Bollinger, and Gavin 1992). Bobolinks, like many grassland birds, are area sensitive, and are more likely to occur at higher densities in fields over 30 hectares. However, unlike most grassland birds, they will successfully nest in fields as small as two hectares. The preservation of the open grass area on site within the wet meadow may provide some habitat for this species, as long as it is dry enough during the spring during nesting time.

Eastern meadowlark, ST, SGCN

Eastern Meadowlarks breed in a variety of grassland habitats, including natural grasslands, hayfields, pastures, abandoned grassy fields, and airports (Jaster et al. 2012). Occupied areas can have a wide range of vegetation, including long and/or short grasses, areas of bare ground, or small clumps of shrubs. Territories often contain prominent singing perches such as trees and fence posts. Meadowlarks preferentially breed in larger fields, usually over 5 hectares, although the minimum size varies geographically (Heckert 1994, Vickery et al. 1994). Similar to above, the preservation of the open grass area on site within the wet meadow may provide some habitat for this species, as long as it is dry enough during the spring during nesting time.

Monarch butterfly, SC

This species is found anywhere that there is nectar, but will only breed when the larval food source, milkweed, is nearby. No impact is expected to this species.

Northern black racer, ST, SGCN

This snake is found in a variety of habitats including dry brushy pastures, powerline corridors, rocky ledges, and woodlands. Have large home ranges and require large patches of suitable habitat. A large area of land will be set aside for this project, which may be suitable habitat for this species. No impact is expected.

Wood thrush, SGCN

Veery, SGCN

Such sites include mid-successional forests, floodplains, swamps, and mature forests with dense shrub layers. These species should not be expected to be impacted with the large area of deep woods open space provided.

Common gallinule, SC, SGCN

Common Gallinules breed in a variety of freshwater wetlands, usually containing a dense mix of emergent (e.g., Typha, Sagittaria) and floating (e.g., Nymphaea) plants (Bannor and Kiviat 2002). They may also use altered or artificial wetlands such as sewage lagoons and farm ponds. As no work is being proposed in areas where this species might be found, no impact is expected.



Spotted turtle, SGCN

Found in wetlands with shallow, permanent water bodies and emergent vegetation. Marshes, vernal pools, wet meadows, swamps, ponds, and slow-moving streams and rivers all provide suitable habitats for spotted turtles. Terrestrial habitat used extensively while searching for suitable nesting sites, traveling among wetland habitats, and periods of inactivity during high temperatures. A large area of land and wetlands will be set aside for this project, which may be suitable habitat for this species. No impact is expected.

Eastern ribbon snake, SGCN

Found in and near aquatic habitats such as ponds, swamps, bogs, and stream edges. May be found in wet woodlands but seldom stray far from water. Uses brushy areas on the edges of water for concealment. A large area of land and wetlands will be set aside for this project, which may be suitable habitat for this species. No impact is expected.

Least bittern, SC, SGCN

Least Bitterns live mostly in freshwater and brackish marshes with tall stands of cattails or other vegetation. As no work is proposed near their preferred habitat, no impact is expected.

Marsh wren, SGCN

These birds breed in a variety of freshwater wetlands, as well as brackish and salt marshes (Kroodsma and Verner 2014). Important habitat features in all cases are some form of tall emergent graminoid plants (e.g., Typha, Scirpus, Phragmites, Spartina). No work is proposed near marsh habitat or within the wet meadow area. No impact is expected to this species.

Pied-billed grebe, ST, SGCN

Pied-billed Grebes inhabit a range of wetlands, especially ponds or slow portions of streams with dense stands of emergent vegetation (Muller and Storer 1999). In the Northeast, they also appear to prefer areas with submerged aquatic beds (Gibbs et al. 1991). Nearby open water is needed for foraging and take-off prior to flight; sites in Maine averaged at least 34% open water (Gibbs et al. 1991). In Maine, most wetlands occupied by the species were those created by beavers (*Castor canadensis*) or by humans (Gibbs and Melvin 1992). Two additional features appear critical in nest site selection: water depth of at least 25 cm (10 in) and emergent stem densities of at least 10 cm² /m² (0.15 in² /ft²) in adjacent wetland patches (Muller and Storer 1999). Home range size is variable and may depend on habitat type and quality. In the prairie pothole region, home ranges average 1-3.5 ha (2.5-8.75 ac, Muller and Storer 1999). In Maine, however, grebes rarely breed in wetlands less than 5 ha (12 ac) in size (Gibbs et al. 1991, Gibbs and Melvin 1992), suggesting that home range needs may be larger in this part of the country. Alternatively, lower population densities in the Northeast may allow grebes to be more selective since available habitat is not saturated. All sites in New Hampshire where the species has occurred regularly contain open water and surrounding cattail (*Typha* sp.) marsh and may include ponds or small lakes (including beaver ponds), fens or slow streams, impoundments, sewage lagoons and other man-made wetlands, and backwaters



of larger lakes. With the exception of sewage ponds, most Pied-billed Grebe habitat includes some woody vegetation such as alder (*Alnus* sp.) or buttonbush (*Cephalanthus occidentalis*). No impact is expected to this species with the large area of wetlands to be protected.

Smooth green snake, SC, SGCN

This snake is found in upland grassy fields, pastures, meadows, blueberry barrens, and forest openings. Some work is proposed in the upland grassy area; however, the wet meadow area is to remain, which may minimize impacts to this species.

Sora, SC, SGCN

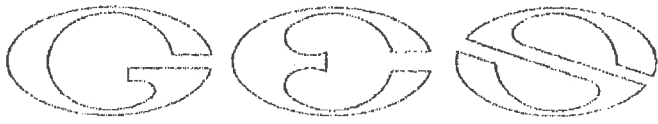
Soras breed in shallow or intermediate-depth freshwater wetlands with dominated by emergent vegetation such as cattails (*Typha*), sedges (*Carex*, *Cyperus*), bur-reeds (*Sparganium*) and bulrushes (*Scirpus*) (Melvin and Gibbs 2012). As no work is proposed near their preferred habitat, no impact is expected.

CONSERVATION MEASURES

The open space development will preserve 41 acres of the total 64 +/- acre site. This will maintain 65% of the entire area as open space.

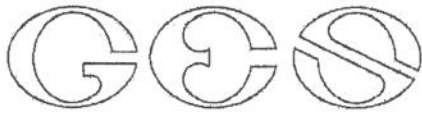
Erosion Control

Ideal methods for erosion control around the perimeter of the work areas is mulch berms. These are natural and often readily available for development sites. These are easy to install and do not need to be removed once the project is complete. The use of mulch berms does not act as a barrier to wildlife as they are able to easily walk over the berms with no issues. The use of welded plastic or 'biodegradable plastic' netting or thread in erosion control matting should be avoided. There are numerous documented cases of snakes and other wildlife being trapped and killed in erosion control matting with synthetic netting and thread. The use of erosion control berm, white Filtrex Degradable Woven Silt Sock, or several 'wildlife friendly' options such as woven organic material (e.g. coco or jute matting such as North American Green SC150BN or equivalent) are readily available.



*Wildlife Habitat Assessment for, Tamarind Lane, Exeter
March 23, 2021*

PART 4: Appendices
Resume of qualified wildlife biologist.



GOVE ENVIRONMENTAL SERVICES, INC.

LUKE D. HURLEY
CSS, CWS, CESWIL,
Vice President

Senior Wetland Scientist, Soil Scientist, Ecologist, and Project Field Coordinator

EXPERIENCE

2001–Present Vice President *Gove Environmental Services, Inc., Exeter, NH*
2000–2001 Environmental/Wetland Scientist, *Acton Survey & Engineering, Acton, MA*
1999–2000 Staff Naturalist, *Massachusetts Audubon Society, Lincoln, MA*
1998–1999 Environmental Inorganic Chemist, *Severn Trent Laboratories, Billerica, MA*

EDUCATION

B.S. in Environmental Biology, University of Massachusetts, 1996. Concentration in Ornithology, Field Ecology & Biology, Entomology, Invertebrate Zoology, Botany, Wetland Ecology and Limnology.

CERTIFICATIONS

Certified Wetland Scientist, State of New Hampshire (*No 232*)
Certified Soil Scientist, State of New Hampshire (*No. 095*)
Certified Erosion, Sediment, and Storm Water Inspector

PROFESSIONAL SOCIETIES

Association of Massachusetts Wetland Scientists (AMWS)
International Erosion Control Association (IECA)
Massachusetts Association of Conservation Commissions (MACC)
New Hampshire Association of Natural Resource Scientists (NHANRS)

PROFESSIONAL EXPERIENCE SYNOPSIS

Luke Hurley has worked in the field of wetland science and ecology since 1999. As a Senior Wetland and Soil Scientist and Ecologist and Project Manager at GES, he is responsible for over-seeing and implementing all phases of large-scale commercial retail and residential development including preliminary land evaluations, permitting and alternatives analysis under all aspects of local, state and federal regulations. Mr. Hurley is also responsible for coordinating and performing field wetland and soil analyses, delineating wetlands, wetland functions and values and project environmental impact assessments, vernal pool certification, wetland mitigation and restoration design and monitoring, wildlife habitat assessments, threatened and endangered species assessments, inventories and permitting documents. He specializes in permitting under the NH DES Wetlands Bureau and NH DES Shoreland Protection Act, as well as the US Army Corps of Engineers and US Environmental Protection Agency, ME DEP Natural Resource Protection, and Massachusetts Wetlands Protection Act, through Notice's of Intent, as well as additional wetland related permitting through Notice of Resource area Delineations (NRAD) and Abbreviated NRAD (ANRAD), Determination of Applicability and represents clients at hearings with local conservation

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commissions and other state and federal agencies. Mr. Hurley has a Bachelor of Science Degree in Environmental Biology from the University of Massachusetts. He is certified as Wetland Scientist and Soil Scientist by the State of New Hampshire.

PROFESSIONAL SPECIALIZATION

New Hampshire Department of Environmental Services

- Dredge and Fill Applications
- Shoreland Protection Act
- Wildlife Habitat Assessments
- Threatened and Endangered Species Assessments

Massachusetts Wetlands Protection Act (MWPA) & Massachusetts Environmental Policy Act (MEPA) Permitting including:

- NOI (Notice of Intent)
- ANOI (Abbreviated Notice of Intent)
- NRAD (Notice of Resource Area Delineation)
- ANRAD (Abbreviated Notice of Resource Area Delineation)
- RDA (Request of the Determination of Applicability)
- Water Quality Certification
- Ecological Impact Assessments
- Critical Habitat Evaluation in Terrestrial Aquatic Ecosystems; Wildlife Ecology

Massachusetts Endangered Species Act (MESA) Regulations and Massachusetts Natural Heritage & Endangered Species Program including:

- Priority/Estimated Habitat Certification
- Vernal Pool Assessment and Certification
- Rare, Threatened & Endangered Species Inventories
- Natural Communities & Habitat Classification
- Qualified Biologist for Rare, Threatened and Endangered Species Collection

ME DEP Natural Resource Protection

- Ch 305 Permit by Rule
- Ch 310 Wetlands
- Ch 315 Assessing and Mitigating Impacts to Scenic and Aesthetic Uses
- Ch 335 Significant Wildlife Habitat

Wildlife Habitat Assessments and Threatened & Endangered Species Assessments

Threatened and endangered plant transplant projects for State: threatened sweet goldenrod and yellow star grass.

Extensive Wildlife Habitat Assessments, Environmental Impact Assessments and threatened and endangered species assessments, following protocols set forth by UNH Cooperative Extension and EPA EcoBox.

Typical protocols are based on: *Natural Resource Inventories: A Guide for New Hampshire Communities*. Durham, NH: University of New Hampshire Cooperative Extension. This method

is primarily focused on for overall habitat assessment with varying micro habitats to document the existing conditions, as well as directly observed and potential species using that habitat based on desk top analysis and field work.

- 1.0 Introduction; site location, proposed project, existing conditions, and surrounding area land use, i.e. residential, urban, agriculture
- 2.0 Water resources; wetlands, vernal pools, lakes/ponds, rivers/streams, aquifers, etc.
- 3.0 Wildlife and Habitats known and potential species, TE, NHB Habitats
- 4.0 NRCS and Site-Specific Soils
- 5.0 Slopes and Rock Outcrops
- 6.0 Scenic Resources
- 7.0 Historic and Cultural resources, i.e., stone walls, cellar holes, stone foundations, etc.
- 8.0 Conservation lands
- 9.0 Potential threats and conservation measures

Additional protocols are created for individual TE, species, i.e., spotted turtles, Blanding's turtles, wood turtles, hognose snake, black racer, NE Cottontail, woodcock, and vernal pool Assessments. These species-specific assessments focus on individual species and their habitats. These assessments focus on overall habitat, and whether the specific habitat is onsite to support the various needs, for nesting/denning, feeding, and breeding, rearing, and fledging of juveniles. Protocol creation is like the outline through the EPA EcoBox ERA including:

1. Planning and problem formulation
2. Identifying stressors, most often physical through development
3. Identifying receptors of endangered species or critical habitat
4. Identifying potential ecological effects
5. Proposing minimization and/or mitigation of potential impacts

SAMPLE PROJECTS:

2001- Exeter, NH-Wildlife habitat assessment on 62 acres for a proposed commercial retail development. Included documentation of onsite existing conditions of forest habitat cover, existing species occurring on site and potential wildlife species occurring on site. Assessment for TE species was also performed.

2004- Windham, NH-Wildlife habitat assessment on 126 acres for a proposed development. Included documentation of onsite existing conditions of forest habitat cover, existing species occurring on site and potential wildlife species occurring on site. Assessment for TE species was also performed. Specific assessment for Eastern box turtle and Dry- Appalachian Oak-Hickory Forest State of NH Exemplary Community.

2005-Nashua, NH-Wildlife habitat assessment on 50 acres for a proposed commercial retail development. Included documentation of onsite existing conditions of forest habitat cover, existing species occurring on site and potential wildlife species occurring on site. Assessment for TE species was also performed. Specific assessment was done for the bald eagle.

2005-Hooksett, NH-Woodcock habitat assessment and species assessment and management plan for protected land as part of 24.5 acre proposed commercial project.

2006-Pelham, NH-Wildlife habitat assessment on 305 acres as part of a proposed residential subdivision. Documentation was made of existing conditions on site of habitat type and vegetation cover, as well as wildlife species occurring on site and those potentially occurring on site based on habitat type. Specific focus was on the presence of the State listed Blanding's and spotted turtle for occurrence and habitat.

2011-Salem, NH-Wildlife habitat assessment on 70 acres for a proposed residential development. Assessment and assessment were for habitat and cover type, as well as existing and potential wildlife species on site based on the cover type and specific focus was on the swamp white oak flood plain forest and State listed spotted turtle.

2011-Hudson, NH, -Wildlife Habitat and upland community analysis on 290 acres for the presence of dry-Appalachian oak hickory forest and the potential for the State listed New England Cottontail.

2012-North Hampton, NH-Wildlife habitat assessment on 55 acres for a proposed residential development. Assessment and assessment were for habitat and cover type, as well as existing and potential wildlife species on site based on the cover type.

2013-Epping, NH-Wildlife habitat assessment on 198 acres for a proposed development. Focus was on the existing conditions of the site through assessment and documentation of the upland and wetland habitat, as well as existing and potential wildlife species on site.

2013-Newmarket, NH-Wildlife habitat assessment on 105 acres for a proposed development. Focus was on the existing conditions of the site through assessment and documentation of the upland and wetland habitat, and cover type, as well as existing and potential wildlife species on site. Specific attention was paid to the presence of Low-gradient silty-sandy riverbank system and specific species Assessment of State listed Blanding's and spotted turtles.

2014- Newmarket, NH-Wildlife habitat assessment on 25 acres for a proposed development. Focus was on the existing conditions of the site through assessment and documentation of the upland and wetland habitat, and cover type, as well as existing and potential species on site.

2016-Exeter-NH-Wildlife habitat assessment on 62 acres for a proposed development. Focus was on the existing conditions of the site through assessment and documentation of the upland and wetland habitat, and cover type, as well as existing and potential wildlife species on site.

2018-Phillips Exeter Academy, NH-Wildlife habitat assessment on 15 acres for assessment of existing community types and existing and potential wildlife use as part of a management plan and wildlife habitat improvement project.

2018-Alpine habitat survey in Rangeley Maine on a 10 acre portion of alpine land to assess for Bicknell thrush and habitat and specific habitats of Alpine Cliff, Bilberry - Mountain-heath Alpine Snowbank, Cotton-grass - Heath Alpine Bog, Crowberry - Bilberry Summit Bald, Diapensia Alpine Ridge, Dwarf Heath - Graminoid Alpine Ridge, Heath - Lichen Subalpine Slope Bog, Mountain Alder - Bush-honeysuckle Subalpine Meadow, Spruce - Fir - Birch Krummholz

2019- Portsmouth, NH-Wildlife habitat assessment on 66 acres for a proposed development. Focus was on the existing conditions of the site through assessment and documentation of the upland and wetland habitat, and cover type, as well as existing and potential species on site.

2020- York, Maine-Wildlife habitat assessment on 85 acres for a proposed development. Focus was on the existing conditions of the site through assessment and documentation of the upland and wetland habitat, and cover type, as well as existing and potential species on site. Specific assessment was for Blanding's and spotted turtles.

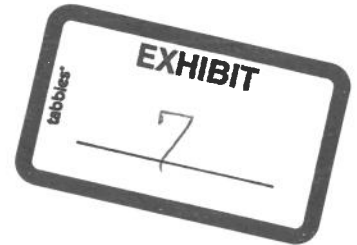
2020-Nottingham, NH-Wildlife habitat assessment 20 acres for a proposed development. Focus was on the existing conditions of the site through assessment and documentation of the upland and wetland habitat, and cover type, as well as existing and potential species on site. Specific assessment was for Blanding's and spotted turtles, Jefferson/Blue Spotted Salamander Complex, and black racer.

SUMMARY OF WILDLIFE ASSESSMENTS:

Mr. Hurley has performed wildlife habitat assessments and threatened and endangered plant Assessments on thousands of acres of land throughout the states of NH, MA, and ME. Additional individual assessments for state listed threatened and endangered plants and habits throughout MA and northern New England. All assessments habitat assessments, or individual plant or animal species were at the request of MA Natural Heritage Program, Vermont Nongame and Natural Heritage Program, New Hampshire Fish and Game and NH Natural Heritage Bureau and various local land use boards as part of the project review and conducted per the above two protocols.



**EXETER
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April 1, 2021

Town of Exeter
10 Front Street
Exeter, NH 03833
Attn: Ms. Kristen Murphy, Natural Resources Planner

Re: Letter of Reliance for Phase I Environmental Site Assessment Report
Mendez Real Estate Trust Property
Exeter, New Hampshire

Dear Ms. Murphy:

Exeter Environmental Associates, LLC completed a Phase I Environmental Site Assessment of the above-referenced property for Mr. Brian Griset, dated April 1, 2021 (the Report). It is our understanding that you require a Reliance Letter for the Report.

Environmental Associates, LLC acknowledges and agrees for itself, its successors and assigns that, subject to the limitations and qualifications contained in the Report, NBT Bank, their affiliates, successors and assigns may rely on the Report as accurately representing conditions at the property as of the date the Report was prepared, and may rely on the Report in evaluating the environmental condition of the property in the same manner as the party for whom the document was originally prepared.

Please feel free to call or email if there are any questions or comments.

Sincerely,

Steven B. Shope, PG
President
Exeter Environmental Associates, LLC



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April 1, 2021

Mr. Brian Griset
26 Cullen Way
Exeter, NH 03833

Re: Phase I Environmental Site Assessment
Mendez Real Estate Trust Property (Tax Map 81, Lot 53, with adjustments)
off Route 111
Exeter, New Hampshire

Dear Mr. Griset:

As requested, we have completed a Phase I Environmental Site Assessment of the above-referenced property for Mr. Brian Griset, with the Town of Exeter as the intended user. The Mendez Real Estate Trust property covers 30.76± acres of undeveloped land located off the southern side of Route 111 in Exeter, New Hampshire. Lot line adjustments are proposed along the western boundaries, with the adjusted parcel covering 31.6 acres as shown on the attached site plan.

It is the intent of this assessment to evaluate the subject property for the presence of *recognized environmental conditions*. As defined in the American Society of Testing Materials (ASTM) Practice E1527-13, the term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The term is not intended to apply to *de-minimus* conditions that generally do not present a material risk of harm to public health or the environment, and that generally would not be subject to enforcement action

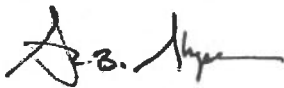
by government agencies.

This assessment was performed in general conformance with the scope of work and limitations of ASTM Practice E1527-13, which satisfies the EPA's "All Appropriate Inquiries" rule (40 CFR Part 312).

In summary, this assessment has not identified any *recognized environmental conditions* to be associated with the subject property.

Please feel free to call or email if you have any questions or comments.

Sincerely,



Steven B. Shope
President, Environmental Professional
Exeter Environmental Associates, LLC

Environmental Professional Statement

I declare that, to the best of my knowledge, I meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312 and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all-appropriate inquiries in conformance with the standards and practices set for the in 40 CFR Part 312.



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**PHASE I
ENVIRONMENTAL SITE ASSESSMENT REPORT**

**MENDEZ REAL ESTATE TRUST PROPERTY
off ROUTE 111
EXETER, NEW HAMPSHIRE**



REPORT PREPARED FOR:

Mr. Brian Griset
with the Town of Exeter as the Intended User

April 1, 2021

EEA 1987.01

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APPENDIX I - User Questionnaire

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APPENDIX III - Qualifications of Environmental Professional

1.0 INTRODUCTION

This report presents the results of a Phase I Environmental Site Assessment of the Mendez Real Estate Trust property located off the southern side of Route 111 in Exeter, New Hampshire (subject property). This report has been prepared for Mr. Brian Griset with the Town of Exeter as the intended user.

It is the intent of this assessment to evaluate the subject property for the presence of *recognized environmental conditions*. As defined in the American Society of Testing Materials (ASTM) Practice E1527-13, the term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The term is not intended to apply to *de-minimus* conditions that generally do not present a material risk of harm to public health or the environment, and that generally would not be subject to enforcement action by government agencies.

Our work scope for this assessment has included the following tasks: a site walkover, research into the site history, a review of available local and state records, and preparation of this report.

This Phase I assessment was performed in general accordance with the scope of work and limitations of ASTM Practice E1527-13, which satisfies the US Environmental Protection Agency rule of “All Appropriate Inquiry” as promulgated in 40 CFR Part 312. This assessment is subject to the limitations stated in Section 7.0 of this report.

2.0 SITE DESCRIPTION

The Mendez Real Estate Trust property covers 30.76± acres of undeveloped woodland and wetland located off the southern side of Route 111 in Exeter, New Hampshire. Lot line adjustments are proposed along the western boundaries, with the adjusted parcel covering 31.6 acres.

The property location is shown on Figure 1. The layout of the property and any pertinent site features are shown on the attached aerial photograph provided as Figure 2.

The Mendez Real Estate Trust property is surrounded by undeveloped property to the east, north and west, by a residence to the southwest, and by residential property to the southeast across a set of active railroad tracks that form the southeastern property boundary.

Additional site description is presented in Section 5.0 (*Site Visit*). Selected photographs of the subject property are included in the *Site Photographs* section of this report.

3.0 HYDROGEOLOGIC SETTING

As shown on Figure 1, the primary hydrologic feature in the vicinity of the subject property is Scamen Brook that flows west to east through the central portion of the property and the associated wetlands in the northern portion of the property.

Topography of the property slopes down gently from south to north, towards Scamen Brook. On the basis of topography and surface water flow, the inferred direction of groundwater flow is towards Scamen Brook and the associated wetlands.

Soils across the subject property have been mapped as silt and clay marine deposits¹. These marine terrace soils consist primarily of sand, silt and clay laid down in estuaries during the last (Pleistocene) glacial retreat and associated meltwater runoff. Marine deposits are typically characterized by a low permeability to groundwater flow.

4.0 SITE HISTORY and RECORDS REVIEW

The history of the subject property and pertinent history of adjoining properties was obtained from information available at the Exeter Assessor's Office, a review of historical aerial photographs, and a review of pertinent US Geological Survey topographic maps and property deeds, and information provided by the property owner.

As part of this investigation, the following additional sources were reviewed with regard to information pertaining to a release of oil or hazardous material on, or in the vicinity of, the subject property.

- the *user* of this report
- the property owner
- the Exeter Fire and Building Departments
- the Environmental Data Resources (EDR) database for other Standard Environmental Record Sources (where available) as listed below

¹ <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

<u>List</u>	<u>Approximate Minimum Search Distance (miles)</u>
Federal NPL site list	1.0
Federal Delisted NPL site list	0.5
Federal CERCLIS list	0.5
Federal CERCLIS NFRAP site list	0.5
Federal RCRA CORRACTS facilities list	1.0
Federal RCRA non-CORRACTS TSD facilities list	0.5
Federal RCRA generators list	property & adjoining
Federal institutional control/engineering control registry	property
Federal ERNS List	property
State & Tribal Equivalent NPL	1.0
State & Tribal Equivalent CERCLIS	0.5
State & Tribal Equivalent Landfill	0.5
State & Tribal LUST	0.5
State & Tribal registered storage tank	property & adjoining
State & Tribal institutional control/engineering control	property
State & Tribal voluntary clean-up sites	0.5
State & Tribal Brownfield sites	0.5

A summary of the site history and the information obtained regarding potential environmental concerns at the subject property is presented below. The minimum search distance for review of nearby properties with environmental concerns is defined as 0.50± miles from the subject property, except for NPL sites and RCRA CORRACT facilities that have a search distance of 1.0± miles.

4.1 History of Subject Property. The subject property has always been undeveloped woodland. Historically, the property has been used for agricultural purposes (pasture) and logging. The property was last logged in the early 1980s.

Exeter Assessor's Office. The assessor's tax card indicate that the Mendez Real Estate Trust property (Tax Map 81, Lot 53) cover 30.76-acres of undeveloped land.

Aerial Photographs. Historical aerial photographs for the subject property have been provided by EDR. Air photos were provided for the years 1952, 1960, 1973, 1978, 1986, 1992, 1998, 2006, 2009 and 2012. The subject property is shown in its current undeveloped, wooded state from 1952 to the present. Selected photographs are included in the *Historical Aerial Photographs* section of this report.

Topographic Maps. We have reviewed historic USGS topographic maps available online from the University of New Hampshire, including the years 1950 and 1987. The property is shown as consisting of undeveloped land on both maps. Copies of the maps are included in the *Historic Topographic Maps* section of this report.

Sanborn Fire Insurance Maps. Sanborn Fire Insurance map coverage is not available for the subject property, since the site neighborhood was rural at the time these maps were developed (i.e., late 1800s through the 1940s).

Deeds. The ownership history of the subject property was obtained from Brian Griset and online deed research as follows. This ownership history has been simplified as it is intended for environmental research, and is not intended to represent a formal chain of title search.

<u>Owner</u>	<u>Purchase Date (B/P)</u>
Mendez Real Estate Trust	Apr 2003 (3996/1372)
Thomas and Stephanie Grace	Mar 1984 (2486/991)
Joanna Irvine	Nov 1940

4.2 Historical Use of Adjoining Properties. The historical use of the adjoining properties was evaluated by reviewing historical aerial photographs, the USGS topographic maps of the area, site observations and tax assessor records. Based on this information, the adjoining properties have consisted of undeveloped land that has

remained undeveloped or has been developed for residential use.

4.3 User Provided Information. Mr. Brian Griset has provided information regarding the subject property by completing the Phase I Environmental Site Assessment *User Questionnaire*. The User Questionnaire was developed to fulfill the federal “all appropriate inquiry” (AAI) requirements as incorporated in ASTM E1527-13.

According to the responses provided by the user, no environmental-related concerns were identified at the subject property including: recorded environmental clean-up liens, recorded activity and land use limitations, chemical spills or releases, or specialized knowledge and experience regarding land use or the potential for environmental contamination at the subject property. A copy of the questionnaire along with the users responses is included as *Appendix I*.

4.4 Interview with Property Owner. The contact for the subject property is Mr. Brian Griset. We interviewed Mr. Griset to ask if he had any knowledge of dumping or other environmental issues at the property. Mr. Griset stated that he has owned the property for 30± years and has walked it thoroughly. Mr. Griset has not observed any dumping and is not aware of any activities that would pose an environmental impact on the property.

4.5 Exeter Fire Department. We inquired with the Exeter Fire Department by email to ask if they had any knowledge of any releases of oil or hazardous materials or other environmental issues at the subject property. In a telephone response on March 31, 2021, Deputy Fire Chief Jason Fritz responded that he did not find any records concerning calls or environmental issues for this property.

4.6 Exeter Building Department. We inquired with the Exeter Building Department by email to ask if they had any knowledge of any releases of oil or hazardous materials or other environmental issues at the subject property. In a response on March 29, 2021, Building Inspector Doug Eastman responded, *Hi Steve, I believe this site is virgin, no record of any development maybe just hayfields.*

4.7 Government Records Database Search. The subcontract firm of EDR was used to provide us with a database search of properties and sites that are of environmental concern including Federal, State and Tribal Equivalents. The results of the EDR database search are presented in *Appendix II* of this report. The New Hampshire Department of Environmental Services (NHDES) online OneStop database was also reviewed for remediation sites located within the immediate vicinity of the subject property.

Subject Property. The subject property is not listed as a site in the databases that were searched.

Sites within 0.50± Mile Search Distance. As shown on the search maps and corresponding search summaries provided in *Appendix II*, there are 18 sites of environmental concern located within the standard search distance of the subject property. We have reviewed the sites using the DES OneStop database. Based upon the information reviewed and the location of the sites relative to the subject property, it is our opinion that none of them have the potential to adversely impact the subject property.

No NPL sites or RCRA CORRACT facilities are listed within a 1.0± mile search distance of the subject property.

5.0 SITE VISIT

5.1 Subject Property. A walkover of the subject property was performed by Julie Shope of Exeter Environmental Associates, LLC on March 30, 2021. Mr. Griset was present during the walkover and provided additional site information. The perimeter of the property was walked as accessible, along with portions of the property interior. Selected photographs of the subject property taken at the time of our walkover are provided in the *Site Photographs* section of this report.

The property was observed to consist of wooded upland areas and wetlands associated with Scamen Brook that drains across the property. A low-altitude (300± feet) aerial overview of the property is included as Photo #1. The walkover was initiated from the southwest corner (Photo #2) and proceeded along the railroad tracks that form the southeastern property boundary. A photograph of the wetlands in the southeastern portion of the property is included as Photo #3. Photographs of the property interior are included as Photos #4, #5 and #6. The wooded northern corner of the property is shown in Photo #7.

With the exception of two pieces of scrap metal in the northern portion of the property (Photo #8) and some plastic items observed in the woods, no debris or dumping was observed during our site walk.

5.2 Abutters to Subject Property. The Mendez Real Estate Trust property is surrounded by undeveloped property to the east, north and west, by a residence to the southwest, and by residential property to the southeast across a set of active railroad tracks that form the southeastern property boundary.

6.0 FINDINGS and OPINIONS

We have performed a Phase I Environmental Site Assessment of the Mendez Real Estate Trust property located off the southern side of Route 111 in Exeter, New Hampshire (subject property). The assessment has been conducted in general conformance with the scope and limitations of ASTM Practice E1527-13, which satisfies the EPA's "All Appropriate Inquiries" rule (40 CFR Part 312). Any exceptions to, or deletions from, this practice are described in Section 7.0 of this report.

It is the intent of this assessment to evaluate the subject property for the presence of *recognized environmental conditions*. As defined in the American Society of Testing Materials (ASTM) Practice E1527-13, the term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The term is not intended to apply to *de-minimus* conditions that generally do not present a material risk of harm to public health or the environment, and that generally would not be subject to enforcement action by government agencies.

In summary, this assessment has not identified any *recognized environmental conditions* to be associated with the subject property.

7.0 LIMITATIONS

This Phase I assessment was performed in general accordance with the scope of work and limitations of ASTM Practice E1527-13, which satisfies the EPA's "All Appropriate Inquiries" rule (40 CFR Part 312).

Our work scope for this assessment has included the following tasks: a site walkover, research into the site history, a review of available local and state records, and preparation of this report. The minimum search distance for review of nearby properties with environmental concerns was defined as 0.50± miles from the property, except for NPL sites and RCRA CORRACT facilities that have a search distance of 1.0± miles.

No limited subsurface investigations were performed as part of this Phase I assessment. Furthermore, this investigation did not include an inspection of the subject property for the following items: wetlands, asbestos, radon, radiation, lead paint, urea formaldehyde foam, pesticides or PCBs in soil.

The *user* of this report has not notified us of any recognized environmental conditions that are beyond the scope of this work, such as environmental liens, or recorded activity and land use limitations at the subject property.

The conclusions presented in this report are based upon the information available to Exeter Environmental Associates, LLC, as of the date of this report. Any supplementary information that becomes available should be forwarded to Exeter Environmental Associates, LLC for review and revisions as needed. This report has been prepared in accordance with our standard *Terms and Conditions*. No other warranty, expressed or implied, is made.

FIGURES



Figure 1. USGS Locus Map
 Mendez Real Estate Trust Property
 Exeter, New Hampshire

0 2,000±'





Figure 2. Approximate Property Boundary
Mendez Real Estate Trust Property
Exeter, New Hampshire

0 500± FT



SITE PHOTOGRAPHS

(March 30, 2021)



Photo #1. Northwest facing view of the property as viewed from across the railroad tracks.



Photo #2. North facing view of the property uplands at the southwest corner of the property.



Photo #3. North facing view of wetlands in the southeastern portion of the property.



Photo #4. Uplands in the southern portion of the property.



Photo #5. North facing view of the wetlands associated with Scamen Brook in the south-central portion of the property.



Photo #6. North-central portion of the property.



Photo #7. East facing view from the northern corner of the property.



Photo #8. Pieces of scrap metal located it the northern portion of the property.

**HISTORICAL AERIAL PHOTOGRAPHS
(EDR)**



INQUIRY #: 6425442.5

YEAR: 2012

— = 500'





INQUIRY #: 6425442.5

YEAR: 2009

_____ = 500'





INQUIRY #: 6425442.5

YEAR: 2006

_____ = 500'





INQUIRY #: 6425442.5

YEAR: 1998

_____ = 500'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.



INQUIRY #: 6425442.5

YEAR: 1992

— = 500'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.



INQUIRY #: 6425442.5

YEAR: 1986

— = 500'





INQUIRY #: 6425442.5

YEAR: 1978

_____ = 500'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.

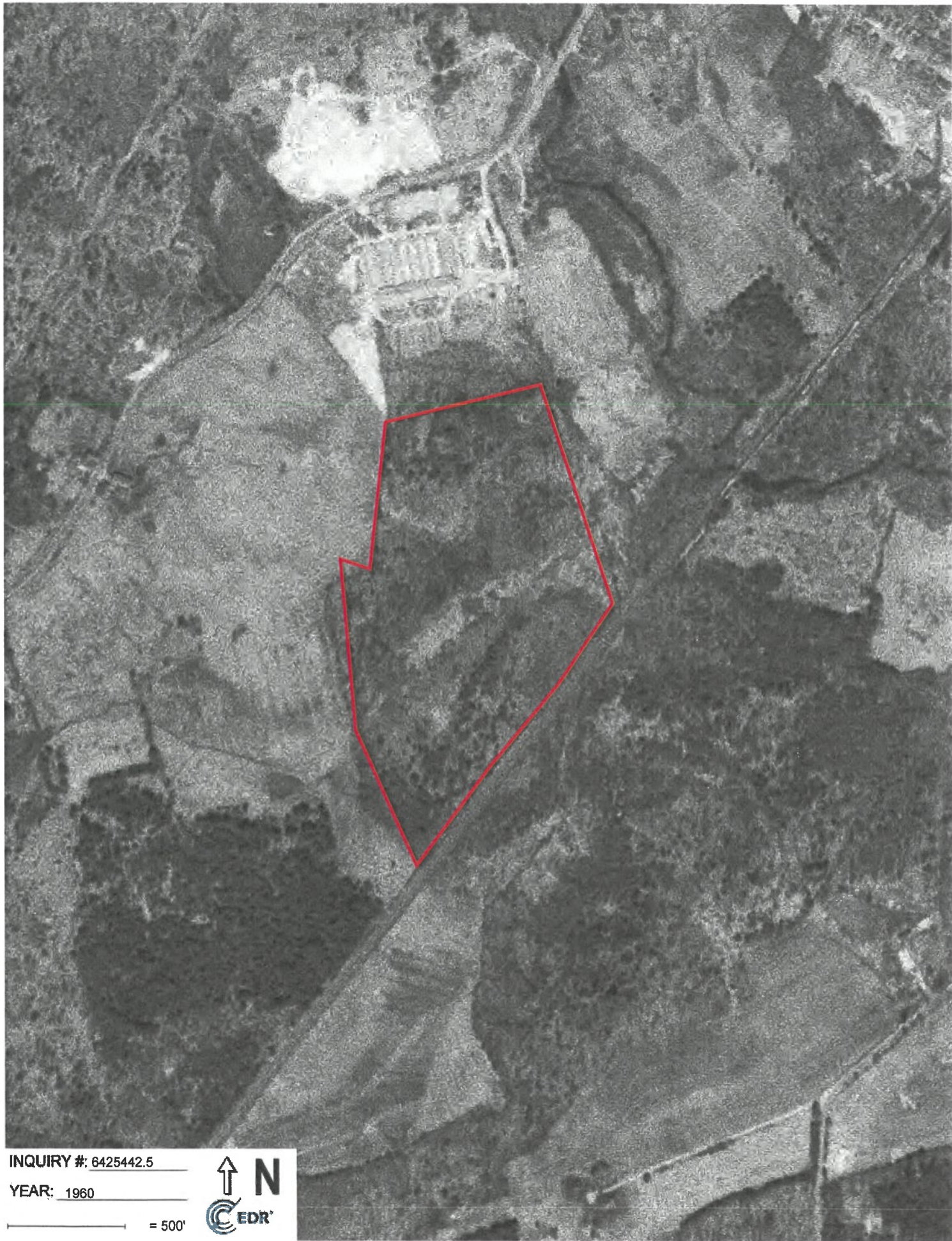


INQUIRY #: 6425442.5

YEAR: 1973

— = 500'



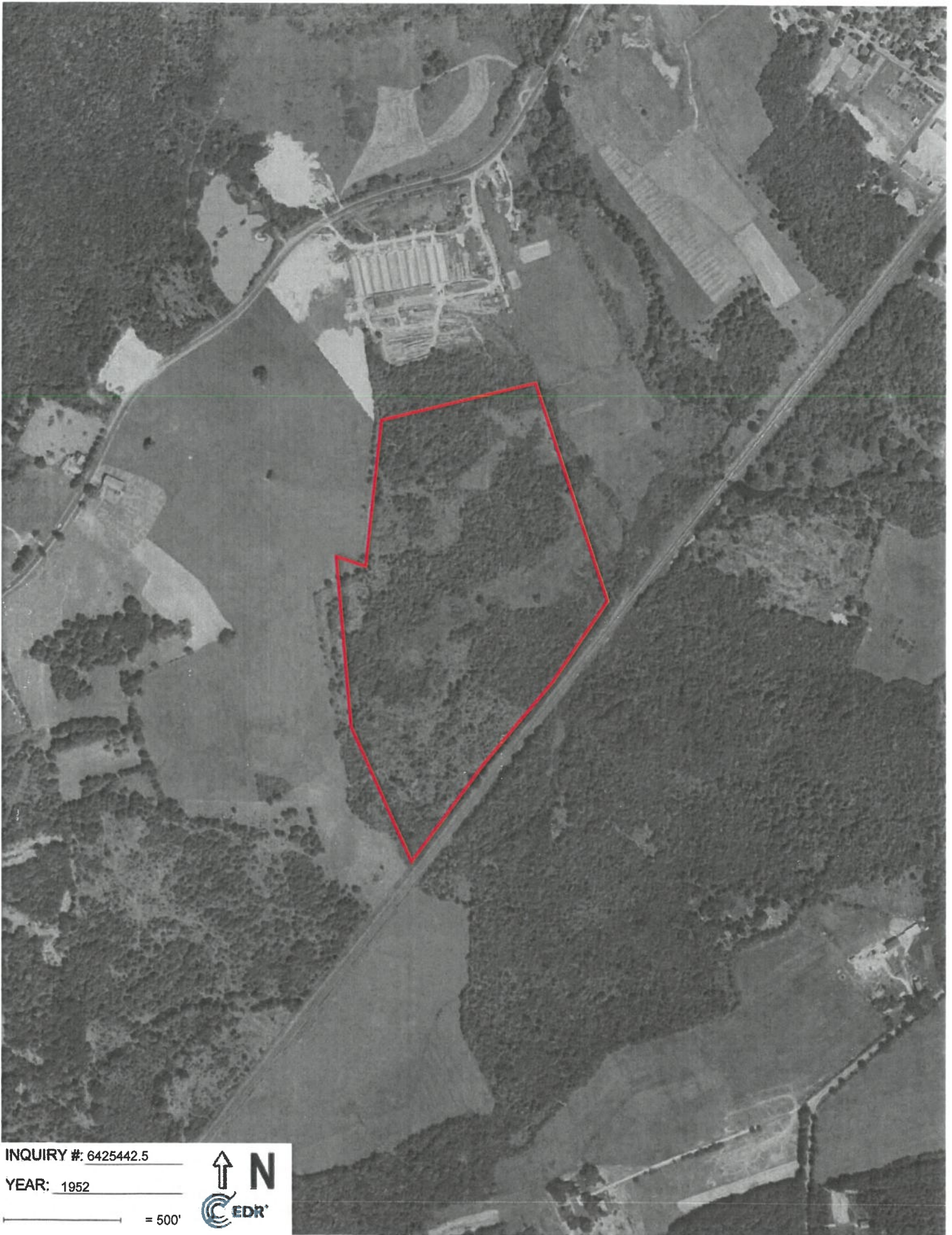


INQUIRY #: 6425442.5

YEAR: 1960

_____ = 500'





INQUIRY #: 6425442.5

YEAR: 1952

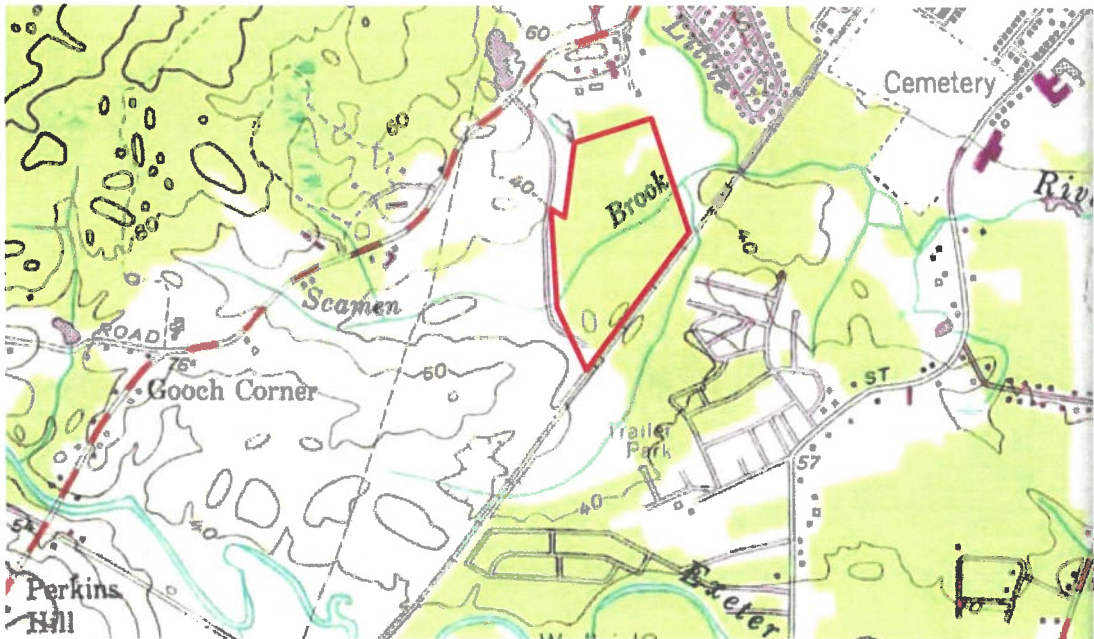
_____ = 500'



HISTORICAL TOPOGRAPHIC MAPS



1987 Map showing the property as undeveloped.



1950 Map showing the property as undeveloped.

APPENDIX I
User Questionnaire

PHASE I ENVIRONMENTAL ASSESSMENT - USER QUESTIONNAIRE

Property: Subdivided Mendez Real Estate Trust Property, Exeter, NH
User: Brian Griset
Completed By: Brian Griset

- (1) *Did a search of recorded land title records (or judicial records where appropriate, see Note 1 below) identify any environmental liens filed or recorded against the property under federal, tribal, state or local law?*

A full title and judicial search, going back to 1824, was conducted on the property and reflected no environmental liens have been filed or recorded against the property up to the current date. See attached title notes provided

- (2) *Did a search of recorded land title records (or judicial records where appropriate, see Note 1 below) identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law?*

See response above. In addition field review confirms this determination.

- (3) *Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?*

Yes, I have personal knowledge as my wife, Adela Griset, is the sole beneficiary of the Mendez Real Estate Trust which purchased the property in 2004. I am intimately familiar with the land as it is adjacent to our home property and did personally perform much of the additional historic deed and inventory research on the property.

The subject property has never been used for any commercial or industrial enterprise. Deed and Town inventory records only references agricultural (pasture) and woodlot uses.

- (4) *Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?*

This report is not for a purchase/sale. The intent is that this parcel will be deeded to the Town of Exeter Conservation Commission as preserved Open Space as part of an 18 lot Open Space Development on the adjoining parcel owned by Adela Griset. The Town Natural Resource Officer requested a Phase I evaluation of the property as part of the acceptance of the parcel.

- (5) *Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:*

- (a) *Do you know the past uses of the property?*

Yes, pasture and woodlot last logged in the 1980's.

(b) *Do you know of specific chemicals that are present or once were present at the property?*
NO.

(c) *Do you know of spills or other chemical releases that have taken place at the property?*
No and I have seen no surface indications of any releases.

(d) *Do you know of any environmental cleanups that have taken place at the property?*
No.

(5) *Based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of releases at the property?*

Prior to our purchase of the parcel, I received permission from the prior owner back in 1992 to monitor and walk his property. Over the past 29 years of walking the property I have not seen a single indicator of a release. The only indicators of human activity are related to hunting, abandoned logging trails and a single excavation site near the railroad tracks which appears to have been done in 1841 which now is a vernal pool.

NOTE 1—In certain jurisdictions, federal, tribal, state, or local statutes, or regulations specify that environmental liens and AULs be filed in judicial records rather than in land title records. In such cases judicial records must be searched for environmental liens and AULs.

APPENDIX II

EDR Government Records Report

26 Cullen Way
26 Cullen Way
EXETER, NH 03833

Inquiry Number: 6425442.2s
March 29, 2021

EDR Summary Radius Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

26 CULLEN WAY
EXETER, NH 03833

COORDINATES

Latitude (North): 42.9716010 - 42° 58' 17.76"
Longitude (West): 70.9700420 - 70° 58' 12.15"
Universal Transverse Mercator: Zone 19
UTM X (Meters): 339344.4
UTM Y (Meters): 4759329.0
Elevation: 26 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property: TP
Source: U.S. Geological Survey

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140712
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
26 CULLEN WAY
EXETER, NH 03833

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	CHRISTINA AUSTIN PRO	64 HILTON AVENUE	NH ALLSITES	Higher	321, 0.061, South
2	WRIGHT SIGNAL CO INC	KINGSTON RD	RCRA NonGen / NLR	Higher	807, 0.153, NW
3	DZS AUTO BODY	15 W SIDE DR	RCRA NonGen / NLR	Higher	832, 0.158, NNE
A4	BRUCE TRANSPORTATION	16 KINGSTON RD	RCRA NonGen / NLR	Higher	845, 0.160, NNW
A5	NEW ENGLAND PERFORMA	16 KINGSTON RD	RCRA NonGen / NLR	Higher	845, 0.160, NNW
A6	HARTMAN OIL	16 KINGSTON RD	RCRA NonGen / NLR	Higher	845, 0.160, NNW
A7	NORTHEAST LANTERN LT	16 KINGSTON RD	RCRA NonGen / NLR	Higher	845, 0.160, NNW
8	NEW HAMPSHIRE MACH P	10 KINGSTON RD	RCRA NonGen / NLR, RI MANIFEST	Higher	880, 0.167, North
9	HAYWARD RESIDENCE	28 ALDER ST.	NH ALLSITES	Higher	983, 0.186, SSE
10	HYSOM RESIDENCE	36 LINDENSHIRE AVE	NH ALLSITES	Higher	1005, 0.190, SE
11	UNITIL ENERGY SYSTEM	13 TAMARIND LN	RCRA NonGen / NLR	Higher	1059, 0.201, SW
12	L C SIMPSON SAND & G		US MINES	Higher	1295, 0.245, NNW
13	CECILA BENNETT	15 JUNIPER STREET	NH ALLSITES	Higher	1304, 0.247, South
14	EXETER RIVER LANDING	317 EXETER RIVER LAN	NH ALLSITES	Higher	1586, 0.300, South
15	LAMPREY BROS (LOT 95	78 LINDEN STREET	NH ALLSITES	Higher	2097, 0.397, ESE
16	BUXTON BROTHERS OIL	24 CHARTER STREET	NH SHWS, NH LUST, NH UST, NH ALLSITES	Higher	2133, 0.404, NE
17	RICHARD MARTEL	1 COACH ROAD	NH ALLSITES	Higher	2196, 0.416, WNW
18	FMR. ALROSE SHOE CO.	ONE ROCKINGHAM STREE	NH SHWS, NH BROWNFIELDS, NH ALLSITES	Higher	3483, 0.660, NE
19	LAMSON PROPERTY (FOR	84 MAIN ST	NH SHWS, NH LUST, NH UST	Higher	4290, 0.812, NE
20	EXETER MACHINE PRODU	95 COURT STREET	NH SHWS, NH UST, NH INST CONTROL, NH VCP, NH...	Higher	4581, 0.868, East
21	THE MEETING PLACE	83-85 EPPING ROAD	NH SHWS, NH INST CONTROL, NH VCP, NH BROWNFIELDS	Higher	5133, 0.972, NNE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property. Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

NH SHWS: A review of the NH SHWS list, as provided by EDR, and dated 11/02/2020 has revealed that there are 5 NH SHWS sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>BUXTON BROTHERS OIL</i> Facility Id: 200008016 Project Manager: CLOSED	<i>24 CHARTER STREET</i>	<i>NE 1/4 - 1/2 (0.404 mi.)</i>	<i>16</i>	<i>11</i>
<i>FMR. ALROSE SHOE CO.</i> Facility Id: 198605257 Project Manager: BUBIER	<i>ONE ROCKINGHAM STREE</i>	<i>NE 1/2 - 1 (0.660 mi.)</i>	<i>18</i>	<i>11</i>
<i>LAMSON PROPERTY (FOR</i> Facility Id: 199407039 Project Manager: CLOSED	<i>84 MAIN ST</i>	<i>NE 1/2 - 1 (0.812 mi.)</i>	<i>19</i>	<i>12</i>
<i>EXETER MACHINE PRODU</i> Facility Id: 199304015 Project Manager: CLOSED-AUR	<i>95 COURT STREET</i>	<i>E 1/2 - 1 (0.868 mi.)</i>	<i>20</i>	<i>12</i>
<i>THE MEETING PLACE</i> Facility Id: 200502096 Project Manager: CLOSED-AUR	<i>83-85 EPPING ROAD</i>	<i>NNE 1/2 - 1 (0.972 mi.)</i>	<i>21</i>	<i>13</i>

State and tribal leaking storage tank lists

NH LUST: A review of the NH LUST list, as provided by EDR, and dated 11/02/2020 has revealed that

EXECUTIVE SUMMARY

there is 1 NH LUST site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
BUXTON BROTHERS OIL Facility Id: 200008016 Project Manager: CLOSED	24 CHARTER STREET	NE 1/4 - 1/2 (0.404 mi.)	16	11

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

NH ALLSITES: A review of the NH ALLSITES list, as provided by EDR, and dated 11/02/2020 has revealed that there are 8 NH ALLSITES sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CHRISTINA AUSTIN PRO Facility Id: 200304042 Project Manager: CLOSED	64 HILTON AVENUE	S 0 - 1/8 (0.061 mi.)	1	8
HAYWARD RESIDENCE Facility Id: 200110072 Project Manager: CLOSED	28 ALDER ST.	SSE 1/8 - 1/4 (0.186 mi.)	9	9
HYSOM RESIDENCE Facility Id: 201201027 Project Manager: CLOSED	36 LINDENSHIRE AVE	SE 1/8 - 1/4 (0.190 mi.)	10	9
CECILA BENNETT Facility Id: 199911025 Project Manager: CLOSED	15 JUNIPER STREET	S 1/8 - 1/4 (0.247 mi.)	13	10
EXETER RIVER LANDING Facility Id: 201410046 Project Manager: REGISTRATION	317 EXETER RIVER LAN	S 1/4 - 1/2 (0.300 mi.)	14	10
LAMPREY BROS (LOT 95) Facility Id: 200903010 Project Manager: REGISTRATION	78 LINDEN STREET	ESE 1/4 - 1/2 (0.397 mi.)	15	10
BUXTON BROTHERS OIL Facility Id: 200008016 Project Manager: CLOSED	24 CHARTER STREET	NE 1/4 - 1/2 (0.404 mi.)	16	11
RICHARD MARTEL Facility Id: 199712008 Project Manager: CLOSED	1 COACH ROAD	WNW 1/4 - 1/2 (0.416 mi.)	17	11

Other Ascertainable Records

RCRA NonGen / NLR: A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/14/2020

EXECUTIVE SUMMARY

has revealed that there are 8 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
WRIGHT SIGNAL CO INC EPA ID:: NHD108867227	KINGSTON RD	NW 1/8 - 1/4 (0.153 mi.)	2	8
DZS AUTO BODY EPA ID:: NHD982747198	15 W SIDE DR	NNE 1/8 - 1/4 (0.158 mi.)	3	8
BRUCE TRANSPORTATION EPA ID:: NHD500021084	16 KINGSTON RD	NNW 1/8 - 1/4 (0.160 mi.)	A4	8
NEW ENGLAND PERFORMA EPA ID:: NHD510093057	16 KINGSTON RD	NNW 1/8 - 1/4 (0.160 mi.)	A5	8
HARTMAN OIL EPA ID:: NHD510017031	16 KINGSTON RD	NNW 1/8 - 1/4 (0.160 mi.)	A6	9
NORTHEAST LANTERN LT EPA ID:: NHD986472470	16 KINGSTON RD	NNW 1/8 - 1/4 (0.160 mi.)	A7	9
NEW HAMPSHIRE MACH P EPA ID:: NHD986472462	10 KINGSTON RD	N 1/8 - 1/4 (0.167 mi.)	8	9
UNITIL ENERGY SYSTEM EPA ID:: NHD510222409	13 TAMARIND LN	SW 1/8 - 1/4 (0.201 mi.)	11	10

US MINES: A review of the US MINES list, as provided by EDR, has revealed that there is 1 US MINES site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
L C SIMPSON SAND & G Database: US MINES, Date of Government Version: 11/03/2020 Mine ID:: 2700059		NNW 1/8 - 1/4 (0.245 mi.)	12	10

RI MANIFEST: A review of the RI MANIFEST list, as provided by EDR, and dated 12/31/2019 has revealed that there is 1 RI MANIFEST site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
NEW HAMPSHIRE MACH P EPA Id: NHD986472462 Manifest Document Number: 000074552UIS	10 KINGSTON RD	N 1/8 - 1/4 (0.167 mi.)	8	9

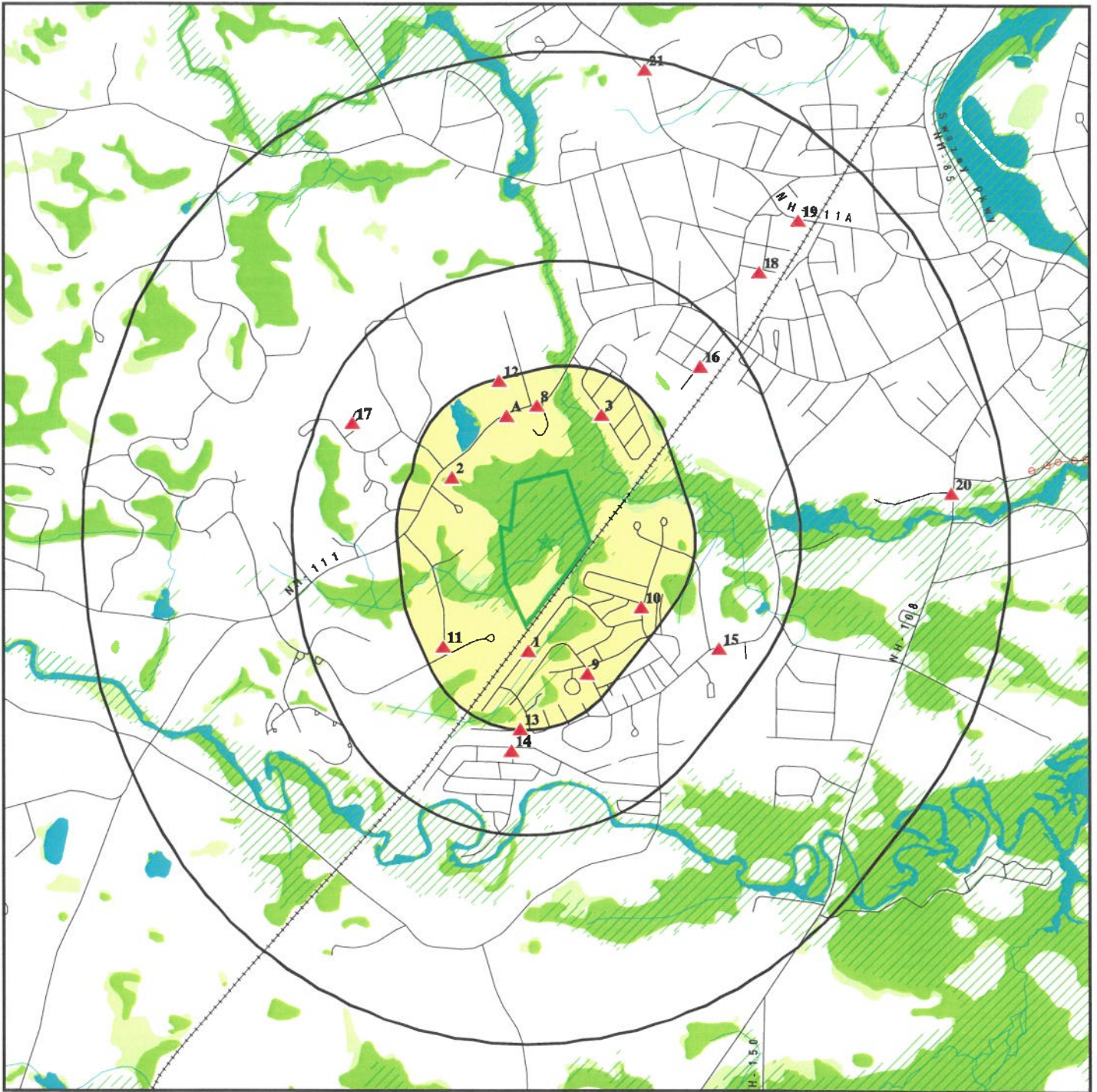
Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
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NO SITES FOUND

OVERVIEW MAP - 6425442.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

<p>SITE NAME: 26 Cullen Way ADDRESS: 26 Cullen Way EXETER NH 03833 LAT/LONG: 42.971601 / 70.970042</p>	<p>CLIENT: Exeter Environmental Assoc Inc CONTACT: Steven Shope INQUIRY #: 6425442.2s DATE: March 29, 2021 12:53 pm</p>
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DETAIL MAP - 6425442.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites
-  Indian Reservations BIA
-  Special Flood Hazard Area (1%)
-  0.2% Annual Chance Flood Hazard
-  National Wetland Inventory
-  State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

<p>SITE NAME: 26 Cullen Way ADDRESS: 26 Cullen Way EXETER NH 03833 LAT/LONG: 42.971601 / 70.970042</p>	<p>CLIENT: Exeter Environmental Assoc Inc CONTACT: Steven Shope INQUIRY #: 6425442.2s DATE: March 29, 2021 12:55 pm</p>
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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>STANDARD ENVIRONMENTAL RECORDS</u>								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
NH SHWS	1.000		0	0	1	4	NR	5
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
NH SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
NH LUST	0.500		0	0	1	NR	NR	1
NH LAST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NH UST	0.250		0	0	NR	NR	NR	0
NH AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
NH INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
NH VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
NH BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
NH SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
NH ALLSITES	0.500		1	3	4	NR	NR	8
NH CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
NH PFAS	0.500		0	0	0	NR	NR	0
Local Land Records								
NH LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
NH SPILLS	TP		NR	NR	NR	NR	NR	0
NH SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	8	NR	NR	NR	8
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	1	NR	NR	NR	1
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
NH AIRS	TP		NR	NR	NR	NR	NR	0
NH ASBESTOS	TP		NR	NR	NR	NR	NR	0
NH DRYCLEANERS	0.250		0	0	NR	NR	NR	0
NH Financial Assurance	TP		NR	NR	NR	NR	NR	0
NH LEAD	TP		NR	NR	NR	NR	NR	0
RI MANIFEST	0.250		0	1	NR	NR	NR	1
NH NPDES	TP		NR	NR	NR	NR	NR	0
NH MANIFEST	0.250		0	0	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

NH RGA HWS	TP		NR	NR	NR	NR	NR	0
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MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>< 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>> 1</u>	<u>Total Plotted</u>
NH RGA LF	TP		NR	NR	NR	NR	NR	0
NH RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	1	13	6	4	0	24

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

	Site	Database(s)	EDR ID Number EPA ID Number
1 South < 1/8 0.061 mi. 321 ft. Relative: Higher	CHRISTINA AUSTIN PROPERTY 64 HILTON AVENUE EXETER, NH Click here for full text details NH ALLSITES Facility Id 200304042 Project Manager CLOSED	NH ALLSITES	S105854985 N/A
2 NW 1/8-1/4 0.153 mi. 807 ft. Relative: Higher	WRIGHT SIGNAL CO INC KINGSTON RD EXETER, NH 03833 Click here for full text details RCRA NonGen / NLR EPA Id NHD108867227	RCRA NonGen / NLR	1000234856 NHD108867227
3 NNE 1/8-1/4 0.158 mi. 832 ft. Relative: Higher	DZS AUTO BODY 15 W SIDE DR EXETER, NH 03833 Click here for full text details RCRA NonGen / NLR EPA Id NHD982747198	RCRA NonGen / NLR	1000102618 NHD982747198
A4 NNW 1/8-1/4 0.160 mi. 845 ft. Relative: Higher	BRUCE TRANSPORTATION GROUP 16 KINGSTON RD EXETER, NH 03833 Click here for full text details RCRA NonGen / NLR EPA Id NHD500021084	RCRA NonGen / NLR	1004749235 NHD500021084
A5 NNW 1/8-1/4 0.160 mi. 845 ft. Relative: Higher	NEW ENGLAND PERFORMANCE INC 16 KINGSTON RD EXETER, NH 03833 Click here for full text details RCRA NonGen / NLR EPA Id NHD510093057	RCRA NonGen / NLR	1008886420 NHD510093057

MAP FINDINGS

Map ID	Direction	Distance	Elevation	Site	Database(s)	EDR ID Number	EPA ID Number
A6	NNW	1/8-1/4	0.160 mi. 845 ft.	HARTMAN OIL 16 KINGSTON RD EXETER, NH 03833	RCRA NonGen / NLR	1007203672	NHD510017031
				Click here for full text details			
Relative: Higher				RCRA NonGen / NLR EPA Id NHD510017031			
A7	NNW	1/8-1/4	0.160 mi. 845 ft.	NORTHEAST LANTERN LTD 16 KINGSTON RD EXETER, NH 03833	RCRA NonGen / NLR	1001215314	NHD986472470
				Click here for full text details			
Relative: Higher				RCRA NonGen / NLR EPA Id NHD986472470			
8	North	1/8-1/4	0.167 mi. 880 ft.	NEW HAMPSHIRE MACH PRODUCTS IN 10 KINGSTON RD EXETER, NH 03833	RCRA NonGen / NLR RI MANIFEST	1000537661	NHD986472462
				Click here for full text details			
Relative: Higher				RCRA NonGen / NLR EPA Id NHD986472462			
				RI MANIFEST EPA Id NHD986472462 Manifest Document Number 000074552UIS			
9	SSE	1/8-1/4	0.186 mi. 983 ft.	HAYWARD RESIDENCE 28 ALDER ST. EXETER, NH	NH ALLSITES	S110455535	N/A
				Click here for full text details			
Relative: Higher				NH ALLSITES Facility Id 200110072 Project Manager CLOSED			
10	SE	1/8-1/4	0.190 mi. 1005 ft.	HYSOM RESIDENCE 36 LINDENSHIRE AVE EXETER, NH	NH ALLSITES	S111445572	N/A
				Click here for full text details			
Relative: Higher				NH ALLSITES Facility Id 201201027 Project Manager CLOSED			

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Map ID	Direction	Distance	Elevation	Site	Database(s)	EDR ID Number	EPA ID Number
11	SW	1/8-1/4	0.201 mi. 1059 ft.	UNITIL ENERGY SYSTEMS 13 TAMARIND LN EXETER, NH 03833	RCRA NonGen / NLR	1023968403	NHD510222409
Click here for full text details							
Relative: Higher RCRA NonGen / NLR EPA Id NHD510222409							
12	NNW	1/8-1/4	0.245 mi. 1295 ft.	L C SIMPSON SAND & GRAVEL COMPANY ROCKINGHAM (County), NH	US MINES	1011190222	N/A
Click here for full text details							
Relative: Higher US MINES Mine ID: 2700059							
13	South	1/8-1/4	0.247 mi. 1304 ft.	CECILA BENNETT 15 JUNIPER STREET EXETER, NH	NH ALLSITES	S105771364	N/A
Click here for full text details							
Relative: Higher NH ALLSITES Facility Id 199911025 Project Manager CLOSED							
14	South	1/4-1/2	0.300 mi. 1586 ft.	EXETER RIVER LANDING 317 EXETER RIVER LANDING EXETER, NH	NH ALLSITES	S117326587	N/A
Click here for full text details							
Relative: Higher NH ALLSITES Facility Id 201410046 Project Manager REGISTRATION							
15	ESE	1/4-1/2	0.397 mi. 2097 ft.	LAMPREY BROS (LOT 95-53) 78 LINDEN STREET EXETER, NH	NH ALLSITES	S109505057	N/A
Click here for full text details							
Relative: Higher NH ALLSITES Facility Id 200903010 Project Manager REGISTRATION							

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

16
NE
1/4-1/2
0.404 mi.
2133 ft.

Relative:
Higher

BUXTON BROTHERS OIL COMPANY
24 CHARTER STREET
EXETER, NH

[Click here for full text details](#)

NH SHWS

Facility Id 200008016
Project Manager CLOSED

NH LUST

Facility Id 200008016
Project Manager CLOSED

NH UST

Facility Id 112777
Status INACTIVE
Closure Date 07/28/2000

NH ALLSITES

Facility Id 200008016
Project Manager CLOSED

NH SHWS U001011043
NH LUST N/A
NH UST
NH ALLSITES

17
WNW
1/4-1/2
0.416 mi.
2196 ft.

Relative:
Higher

RICHARD MARTEL
1 COACH ROAD
EXETER, NH

[Click here for full text details](#)

NH ALLSITES

Facility Id 199712008
Project Manager CLOSED

NH ALLSITES S105771357
N/A

18
NE
1/2-1
0.660 mi.
3483 ft.

Relative:
Higher

FMR. ALROSE SHOE CO., INC.
ONE ROCKINGHAM STREET
EXETER, NH

[Click here for full text details](#)

NH SHWS

Facility Id 198605257
Project Manager BUBIER

NH BROWNFIELDS

Facility Id 198605257
Facility Status ACTIVE

NH ALLSITES

Facility Id 198605257
Project Manager UNASSIGNED

NH SHWS S110124389
NH BROWNFIELDS N/A
NH ALLSITES

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

19
NE
1/2-1
0.812 mi.
4290 ft.

LAMSON PROPERTY (FORMER)
84 MAIN ST
EXETER, NH

NH SHWS U001867652
NH LUST N/A
NH UST

Relative:
Higher

[Click here for full text details](#)

NH SHWS
Facility Id 199407039
Project Manager CLOSED

NH LUST
Facility Id 199407039
Project Manager CLOSED

NH UST
Facility Id 114499
Status INACTIVE
Closure Date 06/06/1994

20
East
1/2-1
0.868 mi.
4581 ft.

EXETER MACHINE PRODUCTS INC
95 COURT STREET
EXETER, NH

NH SHWS U003543132
NH UST N/A
NH INST CONTROL
NH VCP
NH BROWNFIELDS

Relative:
Higher

[Click here for full text details](#)

NH SHWS
Facility Id 199304015
Project Manager CLOSED-AUR

NH UST
Facility Id 118098
Status INACTIVE

NH INST CONTROL
Facility Id 199304015

NH VCP
DES Site Number 199304015

NH BROWNFIELDS
Facility Id 199304015
Facility Status CLOSED

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

21
NNE
1/2-1
0.972 mi.
5133 ft.

THE MEETING PLACE
83-85 EPPING ROAD
EXETER, NH

NH SHWS
NH INST CONTROL
NH VCP
NH BROWNFIELDS

S106799240
N/A

Relative:
Higher

[Click here for full text details](#)

NH SHWS
Facility Id 200502096
Project Manager CLOSED-AUR

NH INST CONTROL
Facility Id 200502096

NH VCP
DES Site Number 200502096

NH BROWNFIELDS
Facility Id 200502096
Facility Status CLOSED

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St Acronym	Full Name	Gov Date	Actl Date	Active Date
NH AIRS	Permitted Airs Facility Listing	12/31/2018	10/14/2020	01/05/2021
NH ALLSTES	Site Remediation & Groundwater Hazard Inventory Listing of A	11/02/2020	11/04/2020	01/26/2021
NH ASBESTOS	Asbestos Notification Listing	11/16/2020	11/19/2020	12/09/2020
NH AST	Registered Aboveground Petroleum Storage Tank Database	11/02/2020	11/04/2020	01/22/2021
NH BROWNFIELDS	Brownfields Sites	11/02/2020	11/04/2020	01/22/2021
NH CDL	Clandestine Drug Lab Listing	11/02/2020	11/04/2020	01/22/2021
NH DRYCLEANERS	Listing of Drycleaners	11/02/2020	11/04/2020	01/26/2021
NH FINANCIAL ASSURANCE 1	Financial Assurance Information Listing	12/11/2020	12/11/2020	03/01/2021
NH FINANCIAL ASSURANCE 2	Financial Assurance Information listing	04/07/2020	06/22/2020	12/31/2020
NH INST CONTROL	Activity and Use Restrictions	12/14/2020	03/08/2021	
NH LAST	Listing of All Sites	11/06/2020	11/17/2020	02/05/2021
NH LIENS	Environmental Liens Information Listing	10/16/2007	10/16/2007	11/13/2007
NH LEAD	Lead Inspection Database	11/02/2020	11/04/2020	01/26/2021
NH MANIFEST	Hazardous Waste Manifest Information Listing	11/02/2020	11/04/2020	01/26/2021
NH NH SPILLS	Listing of All Sites	06/30/2019	07/23/2019	01/26/2021
NH NPDES	NPDES Permit Listing	11/02/2020	11/04/2020	01/26/2021
NH PFAS	PFAS Contamination Site Location Listing	09/22/2020	09/22/2020	12/15/2020
NH RGA HWS	Recovered Government Archive Hazardous Waste Facility	11/13/2020	11/20/2020	02/05/2021
NH RGA LF	Recovered Government Archive Solid Waste Facilities List	07/01/2013	07/01/2013	01/08/2014
NH RGA LUST	Recovered Government Archive Leaking Underground Storage Tan	07/01/2013	07/01/2013	01/03/2014
NH SHWS	Listing of All Sites	11/04/2020	11/04/2020	01/26/2021
NH SPILLS 90	SPILL S90 data from FirstSearch	12/19/2012	01/03/2013	02/28/2013
NH SWFLF	Solid Waste Facility Information	10/08/2020	10/09/2020	12/31/2020
NH SWRCY	Recycling Centers	10/12/2020	10/13/2020	01/04/2021
NH UST	Underground Storage Tank Registration Data	11/02/2020	11/02/2020	01/22/2021
NH VCP	Voluntary Cleanup Program Sites	04/16/2019	04/16/2019	05/12/2019
US 2020 COR ACTION	2020 Corrective Action Program List	09/30/2017	05/08/2018	07/20/2018
US ABANDONED MINES	Abandoned Mines	12/11/2020	12/11/2020	03/02/2021
US BRS	Biennial Reporting System	12/31/2017	06/22/2020	11/20/2020
US COAL ASH DOE	Steam-Electric Plant Operation Data	12/31/2017	06/22/2020	11/20/2020
US COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	12/31/2019	12/31/2019	02/09/2021
US CONSENT	Supfund (CERCLA) Consent Decrees	12/31/2020	01/13/2021	03/22/2021
US CORRACTS	Corrective Action Report	12/31/2020	01/13/2021	03/22/2021
US DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	12/14/2020	12/17/2020	12/22/2020
US DOCKET HWC	Hazardous Waste Compliance Docket Listing	01/12/2009	09/21/2009	09/21/2009
US DOD	Department of Defense Sites	11/03/2020	11/17/2020	02/09/2021
US DOT OPS	Incident and Accident Data	12/31/2005	11/10/2005	01/11/2007
US ECHO	National Priority List Deletions	01/02/2020	01/02/2020	04/17/2020
US EDR HIST Auto	EDR Exclusive Historical Auto Stations	12/31/2020	01/13/2021	03/22/2021
US EDR HIST Cleaner	EDR Exclusive Historical Cleaners	12/31/2020	01/13/2021	03/22/2021
US EDR MGP	EDR Proprietary Manufactured Gas Plants	12/31/2020	01/13/2021	03/22/2021
US EPA WATCH LIST	EPA WATCH LIST	08/30/2013	03/21/2014	06/17/2014
US ERNS	Emergency Response Notification System	12/14/2020	12/15/2020	12/22/2020
US FEDERAL FACILITY	Federal Facility Site Information listing	04/03/2019	04/03/2019	05/14/2019
US FEDLAND	Federal and Indian Lands	04/02/2018	04/11/2018	11/06/2019

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl Date	Active Date
US	FEMA UST	Underground Storage Tank Listing	FEMA	01/29/2021	02/17/2021	03/22/2021
US	FINDS	Facility Index System/Facility Registry System	EPA	11/04/2020	12/01/2020	01/25/2021
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	09/29/2020	11/17/2020	01/25/2021
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	02/17/2021	02/17/2021	03/22/2021
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	08/08/2017	09/11/2018	09/14/2018
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	12/16/2020	12/17/2020	03/12/2021
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Services, Indian	04/01/2014	08/06/2014	01/29/2015
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	10/01/2020	12/16/2020	03/12/2021
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	11/12/2020	12/16/2020	03/12/2021
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	10/02/2020	12/18/2020	03/12/2021
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	10/07/2020	12/16/2020	03/12/2021
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	04/08/2020	05/20/2020	08/12/2020
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	09/30/2020	12/22/2020	03/12/2021
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	10/09/2020	12/16/2020	03/12/2021
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	10/01/2020	12/16/2020	03/12/2021
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	10/01/2020	12/16/2020	03/12/2021
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	11/12/2020	12/16/2020	03/12/2021
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	10/02/2020	12/18/2020	03/12/2021
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	10/07/2020	12/16/2020	03/12/2021
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	04/08/2020	05/20/2020	08/12/2020
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	09/30/2020	12/22/2020	03/12/2021
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	10/09/2020	12/16/2020	03/12/2021
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	10/01/2020	12/16/2020	03/12/2021
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
US	INDIAN VCP R7	Voluntary Cleanup Priority Listing	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	12/30/2020	01/14/2021	02/09/2021
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	12/30/2020	01/14/2021	02/18/2021
US	LUCIS	Land Use Control Information System	Department of the Navy	02/09/2021	02/11/2021	03/22/2021
US	MINES MRDS	Mineral Resources Data System	USGS	04/06/2018	10/21/2019	10/24/2019
US	MINES VIOLATIONS	MSHA Violation Assessment Data	DOL, Mine Safety & Health Admi	11/24/2020	11/30/2020	01/25/2021
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	08/05/2020	08/10/2020	10/08/2020
US	NPL	National Priority List	EPA	12/30/2020	01/14/2021	02/09/2021
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	PADS	PCB Activity Database System	EPA	11/19/2020	01/08/2021	03/22/2021
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	09/13/2019	11/06/2019	02/10/2020
US	PCS	Permit Compliance System	EPA, Office of Water	07/14/2011	08/05/2011	09/29/2011
US	PCS ENF	Enforcement data	EPA	12/31/2014	02/05/2015	03/06/2015
US	PCS INACTIVE	Listing of Inactive PCS Permits	EPA	11/05/2014	01/06/2015	05/06/2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl Date	Active Date
US	PRP	Potentially Responsible Parties	EPA	12/30/2020	01/14/2021	03/05/2021
US	Proposed NPL	Proposed National Priority List Sites	EPA	12/30/2020	01/14/2021	02/09/2021
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RADINFO	Radiation Information Database	Environmental Protection Agency	07/01/2019	07/01/2019	09/23/2019
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	12/14/2020	12/17/2020	12/22/2020
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	12/14/2020	12/17/2020	12/22/2020
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	12/14/2020	12/17/2020	12/22/2020
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	12/14/2020	12/17/2020	12/22/2020
US	RCRA-VSQG	RCRA - Very Small Quantity Generators (Formerly Conditionall	Environmental Protection Agency	12/14/2020	12/17/2020	12/22/2020
US	RMP	Risk Management Plans	Environmental Protection Agency	11/02/2020	11/12/2020	01/25/2021
US	ROD	Records Of Decision	EPA	12/30/2020	01/14/2021	02/18/2021
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	01/01/2017	02/03/2017	04/07/2017
US	SEMS	Superfund Enterprise Management System	EPA	12/30/2020	01/14/2021	02/18/2021
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	12/30/2020	01/14/2021	02/18/2021
US	SSTS	Section 7 Tracking Systems	EPA	01/20/2021	01/21/2021	03/22/2021
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2018	08/14/2020	11/04/2020
US	TSCA	Toxic Substances Control Act	EPA	12/31/2016	06/17/2020	09/10/2020
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	08/30/2019	11/15/2019	01/28/2020
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (EPA	10/12/2016	10/26/2016	02/03/2017
US	US AIRS MINOR	Air Facility System Data	EPA	10/12/2016	10/26/2016	02/03/2017
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	12/11/2020	12/11/2020	03/02/2021
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	12/07/2020	12/09/2020	03/02/2021
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	10/28/2020	11/05/2020	11/18/2020
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	12/14/2020	12/17/2020	03/12/2021
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	12/07/2020	12/09/2020	03/02/2021
US	US INST CONTROLS	Institutional Controls Sites List	Environmental Protection Agency	10/28/2020	11/05/2020	11/18/2020
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	11/03/2020	11/23/2020	01/25/2021
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	05/05/2020	05/27/2020	08/13/2020
US	US MINES 3	Active Mines & Mineral Plants Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	UXO	Unexploded Ordnance Sites	Department of Defense	12/31/2018	07/02/2020	09/17/2020
CT	CT MANIFEST	Hazardous Waste Manifest Data	Department of Energy & Environmental Protecti	08/10/2020	10/20/2020	11/02/2020
NJ	NJ MANIFEST	Manifest Information	Department of Environmental Protection	12/31/2018	04/10/2019	05/16/2019
NY	NY MANIFEST	Facility and Manifest Data	Department of Environmental Conservation	01/01/2019	04/29/2020	07/10/2020
PA	PA MANIFEST	Manifest Information	Department of Environmental Protection	06/30/2018	07/19/2019	09/10/2019
RI	RI MANIFEST	Manifest information	Department of Environmental Management	12/31/2019	02/11/2021	02/24/2021
VT	VT MANIFEST	Hazardous Waste Manifest Data	Department of Environmental Conservation	10/28/2019	10/29/2019	01/09/2020
WI	WI MANIFEST	Manifest Information	Department of Natural Resources	05/31/2018	06/19/2019	09/03/2019
US	AHA Hospitals	Sensitive Receptor: AHA Hospitals	American Hospital Association, Inc.			
US	Medical Centers	Sensitive Receptor: Medical Centers	Centers for Medicare & Medicaid Services			
US	Nursing Homes	Sensitive Receptor: Nursing Homes	National Institutes of Health			
US	Public Schools	Sensitive Receptor: Public Schools	National Center for Education Statistics			
US	Private Schools	Sensitive Receptor: Private Schools	National Center for Education Statistics			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

<u>St</u>	<u>Acronym</u>	<u>Full Name</u>	<u>Government Agency</u>	<u>Gov. Date</u>	<u>Arvl. Date</u>	<u>Active Date</u>
NH	Daycare Centers	Sensitive Receptor: Child Care Facility List	Department of Health & Human Services			
US	Flood Zones	100-year and 500-year flood zones	Emergency Management Agency (FEMA)			
US	NWI	National Wetlands Inventory	U.S. Fish and Wildlife Service			
NH	State Wetlands	Wetland Inventory	US Fish & Wildlife Service			
US	Topographic Map		U.S. Geological Survey			
US	Oil/Gas Pipelines		Endeavor Business Media			
US	Electric Power Transmission Line Data		Endeavor Business Media			

STREET AND ADDRESS INFORMATION

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APPENDIX III
Qualifications of Environmental Professional

STEVEN B. SHOPE, PG, LSP
President
Hydrogeologist

Steven Shope is the president of Exeter Environmental Associates, LLC. He is a Certified Geologist in Maine, a Licensed Professional Geologist in New Hampshire, a Licensed Driller in New Hampshire, and a Massachusetts Licensed Site Professional (LSP). His areas of expertise include: hydrogeology, assessment and remediation of petroleum spills, solid and hazardous waste management, environmental impact evaluation, geological resource evaluation, and water resource evaluation. He has participated in a wide variety of oil spill remediations, environmental site assessments, hydrogeological investigations for landfill groundwater contamination projects, wellfield contamination studies, remedial investigations, and water resource evaluations.

Prior to joining Exeter Environmental Associates, Mr. Shope was the office manager and hydrogeologist for Shevenell Gallen and Associates, Inc. His responsibilities included oversight of the office resources, project review, and management of projects throughout New England. Prior to joining Shevenell Gallen, Mr. Shope was employed by Normandeau Engineers, Inc., as hydrogeologist. In this capacity, he was responsible for conducting site assessments, hydrogeologic investigations, and soil vapor studies. Prior to joining Normandeau, Mr. Shope worked as a geologist for Wehran Engineers, where he was responsible for field investigations conducted at both the Dover and Somersworth Landfill Superfund sites.

Education

University of New Hampshire: M.S. Hydrology, 1986

University of Vermont: B.S. Geology, 1984

Experience

1990 - present	President, Exeter Environmental Associates
1989 - 1990	Office Manager & Hydrogeologist, Shevenell Gallen & Assoc.
1986 - 1989	Hydrogeologist, Normandeau Engineers
1985 (summer)	Geologist, Wehran Engineers & Scientists
1984 - 1986	Teaching Assistant, University of New Hampshire

Professional Certifications, Licenses, and Associations

1991 - present: Certified Maine Geologist: # 279

1994 - present: Licensed Site Professional: LSP #6543

1998 -2022: Certified Underground Storage Tank Decommissioning

2000 -2013: Certified Fire Fighter I/Career; First Responder

2001 - present: Licensed Professional Geologist, NH: #27

2004 - present: Licensed Driller in New Hampshire: #1807

Selected Publications

Exeter Environmental Associates, Inc., 1991. Short Term Measure Work Plan, Shaw's Plaza Site, DEP Case #4-0414, Sharon, Massachusetts. Prepared for Sharon Associates, Philadelphia, PA. June 19, 1991.

Exeter Environmental Associates, Inc., 1992. Hydrogeologic Investigation Report, Asphalt Testing Project, US Route 3, Laconia, New Hampshire. Prepared for CMA Engineers, Inc., Portsmouth, NH. November 30, 1992.

Shope, Steven B., 1986. Regional Groundwater Flow and Contaminant Transport in the Vicinity of the Tolend Road Landfill, Dover, NH. Unpublished Masters Thesis, University of New Hampshire, Durham.

Shope, Steven B., 1987. Interpretation of EM Data Through Geoelectric Modeling with Application to a Landfill in Southeastern New Hampshire. *Proceedings of the Fourth Annual Eastern Regional Ground Water Conference*. Burlington, VT.

Shope, Steven B., R. Weimar, and P. Williams, 1989. Preserving Water Quality Without Sewers: A Case Study of On-Site Wastewater Disposal Hydrogeology. *Journal of the New England Water Pollution Control Association*, May, Volume 23, No.1.

Shope, Steven B. 1990. Potential Impacts of Below Water Table Sand and Gravel Mining on Water Quantity. *Proceedings of the Sixth Annual Eastern Regional Ground Water Conference*, Springfield, MA.

Special Training and Seminars

Seminar on Personnel Protection and Safety Training. 40-hour certification course in Hazardous Waste Site Activities in compliance with OSHA Standard 29 CFR 1910 and SARA sections 126 (d). Taught by Clean Harbors, Inc., and HMM Associates, Braintree, Massachusetts, October 19-23, 1987.

Risk Assessment for the Ground Water Scientist. Taught by Dr. Ronald M. Block in association with the National Water Well Association. Newark, New Jersey, March 21-23, 1989.

Seminar on the New Chapter 21E Regulations. Taught by the Massachusetts Department of Environmental Protection. Dedham, Massachusetts. July 29, 1993.

Seminar on Risk Characterization and Remedial Action Outcomes, Parts I and J of the 1993 MCP. Taught by the Massachusetts Department of Environmental Protection. Lowell, Massachusetts. October 12, 1994.

Seminar on Site Characterization and Remediation of Dense Non-Aqueous Phase Liquids. Taught by Bernard Kueper. Marlborough, Massachusetts. June 17, 2002.

Seminar on Principles and Field Techniques for Characterizing Contaminant Migration in Fractured Rock. Taught by Pete Haeni and Allen Shapiro. Marlborough, Massachusetts. October 16, 2002.

Seminar on Environmental Chemistry and Forensic Geochemistry. Taught by Michael Wade. Marlborough, Massachusetts. February 11, 2003.

Continuing Educational Units (CEUs). 48 hours every 3 years for LSP License.

Continuing Educational Units (CEUs). 24 hours every 2 years for NH PG License.



Kristen Murphy <kmurphy@exeternh.gov>

Revised Conservation/open-space plan

1 message

Christian Smith <CSmith@bealsassociates.com>

Fri, Apr 9, 2021 at 11:29 AM

To: Kristen Murphy <kmurphy@exeternh.gov>

Cc: Brian Grisct <grisctandsons@comcast.net>, Jim Gove <jgove@gesinc.biz>, "jpasay@dtclawyers.com" <jpasay@dtclawyers.com>

Good morning Kristen, Please find the referenced plan amended to depict the swamp white oak stands as delineated by Jim Gove in Jan. of '2020 along with his memo pertaining to same and GPS field location sketch. We have also added mitigation notes #3 & 4 above the Town notes and highlighted the upland areas in the proposed conservation land.

Christian O. Smith, P.E.

Principal

Beals Associates, PLLC

csmith@bealsassociates.com

Stratham, NH Office

70 Portsmouth Avenue

Stratham, NH 03885

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Cell: 603-234-2180

Land Planning Civil Engineering Landscape Architecture

Offices in Boston, MA and Stratham, NH

The Information contained in the email is confidential and intended for the individual or company named above. No Drawings issued electronically shall be used for construction purposes. All electronic media is provided out of courtesy only and may not be used for publication, distribution or adaptation without express written consent from Beals Associates, PLLC.

3 attachments

 **NH-1154 CONS COMM EXHIBIT 4-9-21.pdf**
1859K

 **Swamp White Oak Memo.pdf**
28K

 **Swamp White Oak Locations.pdf**
1602K



GOVE ENVIRONMENTAL SERVICES, INC.

Memorandum

Date: Tuesday, February 04, 2020
To: Christian Smith, PE
Company: Beals Associates
From: Jim Gove
Re: Land of Brian Grisct
Subject: Swamp White Oaks

On January 29, 2020, we conducted a site walk to determine the locations and approximate number of swamp white oak trees located on the three parcels. Trees were considered to be those plants with greater than 6-inch diameter at breast height (dbh). Saplings of less than 6-inch dbh were not counted, though there were many in the larger stands. Of the trees of over 6-inch dbh, there was a good representation of different ages, from 6-inch dbh to over 30-inch dbh. In total, there was estimated 235 swamp whit oaks located over the site in 8 separate stands.

For the most part, the trees appeared healthy, with the exception of the stands nearest the prime wetland, where the rising water elevations due to beaver activity has caused stress and dieback.

Attached is a sketch of the locations of the 8 stands.



8 Continental Dr Bldg 2 Unit H, Exeter, NH 03833-7526
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THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR INFILTRATION REQUIREMENTS BY THE NH DES ALTERATION OF TERRAIN BUREAU. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP.

THE SITE SPECIFIC SOIL SURVEY (SSSS) WAS PRODUCED DECEMBER 17, 2019, AND WAS PREPARED BY JAMES P. GOVE, CSS # 004, GOVE ENVIRONMENTAL SERVICES, INC. THE SURVEY AREA IS LOCATED AT TAMARIND LANE, EXETER, NH.

SOILS WERE IDENTIFIED WITH THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND, USDA NRCS, DURHAM, NH, ISSUE # 10, JANUARY 2011. THE NUMERIC LEGEND WAS AMENDED TO IDENTIFY THE CORRECT SOIL COMPONENTS OF THE COMPLEX.

HYDROLOGIC SOIL GROUP FROM KSAT VALUES FOR NEW HAMPSHIRE SOILS, SOCIETY OF SOIL SCIENTISTS OF NEW ENGLAND, SPECIAL PUBLICATION NO. 5, SEPTEMBER, 2009.

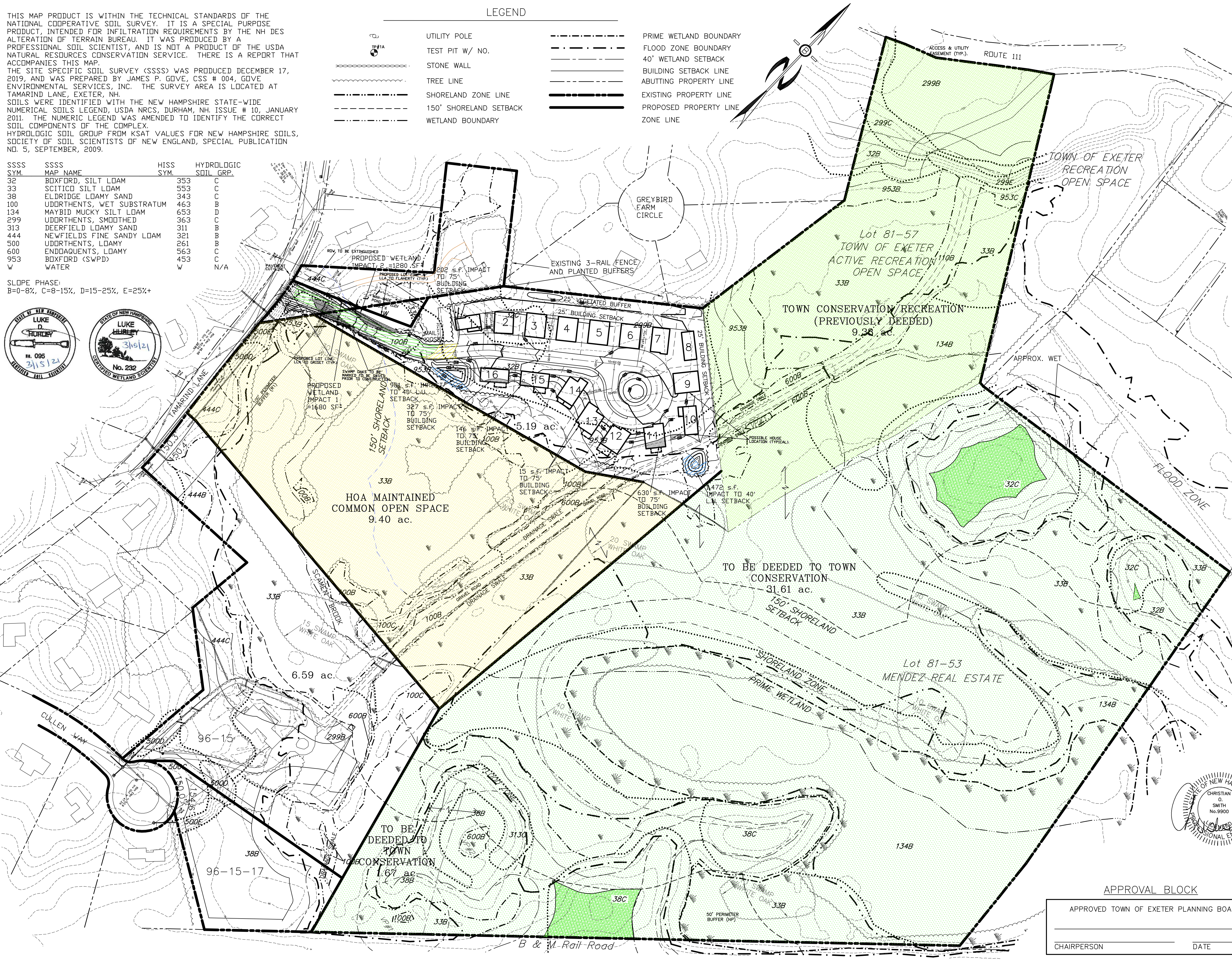
SSSS SYM.	SSSS MAP NAME	HISS SYM.	HYDROLOGIC SOIL GRP.
32	BOXFORD SILT LOAM	353	C
33	SCITICID SILT LOAM	553	C
38	ELDRIDGE LOAMY SAND	343	C
100	UDDRTHENTS, WET SUBSTRATUM	463	B
134	MAYBID MUCKY SILT LOAM	653	D
299	UDDRTHENTS, SMOOTHED	363	C
313	DEERFIELD LOAMY SAND	311	B
444	NEWFIELDS FINE SANDY LOAM	321	B
500	UDDRTHENTS, LOAMY	261	B
600	ENDOAQUENTS, LOAMY	563	C
953	BOXFORD (SWPD)	433	C
W	WATER	W	N/A

SLOPE PHASE:
B=0-8%, C=8-15%, D=15-25%, E=25%+



LEGEND

UTILITY POLE	---	PRIME WETLAND BOUNDARY
TEST PIT W/ NO.	---	FLOOD ZONE BOUNDARY
STONE WALL	---	40' WETLAND SETBACK
TREE LINE	---	BUILDING SETBACK LINE
SHORELAND ZONE LINE	---	ABUTTING PROPERTY LINE
150' SHORELAND SETBACK	---	EXISTING PROPERTY LINE
WETLAND BOUNDARY	---	PROPOSED PROPERTY LINE
	---	ZONE LINE



PREPARED FOR:
BRIAN GRISET
26 CULLEN WAY
EXETER, NH 03833

BEALS ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863

ZONING REQUIREMENTS

ZONE	R1	NP
LOT SIZE =	40,000 SF	20,000 SF
MIN. FRONTAGE	150'	150'
MIN. DEPTH	150'	100'
MAX. HEIGHT	35'	35'
BUILD. SETBACKS:		
FRONT	25'	50'
SIDE	15'	20'
REAR	25'	20'
WETLANDS PD & VPD		75'

WETLANDS BUFFER
40' POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER
50' VERY POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER
WETLANDS CONSERVATION OVERLAY DISTRICT
75' VERNAL POND NO CUT, NO DISTURBANCE BUFFER
100' PRIME WETLAND NO CUT, NO DISTURBANCE BUFFER
SHORELAND PROTECTION OVERLAY DISTRICT

NET TRACT AREA CALCULATION:
TOTAL TRACT AREA = 63.83-10% = 57.45 AC
LESS VPD = 10.76 AC
LESS 75% PD = .75x29.47 AC = 22.10 AC
NET TRACT AREA = 24.59 AC
30% OPEN-SPACE REQUIRED = 7.38 AC

PUBLIC OPEN-SPACE CALCULATION:
31.61 AC + 9.38 AC PREVIOUSLY DEEDED TO THE TOWN "BRICKYARD PARK" = 40.99 AC = 64% OF 63.83 AC.

LAND AREA TO BE DEEDED TO TOWN CONSERVATION:
8.34 AC. UPLAND
15.04 AC WETLAND (PD)
8.23 AC PRIME WETLAND (VPD)
TOTAL 31.61 ACRES

YIELD PLAN DENSITY CALCULATIONS:
17 LOTS COMPLYING WITH ALL R-1 ZONING REQUIREMENTS + 10% (1 LOT) DENSITY BONUS FOR DEEDING TO TOWN OVER 50% OF PARCEL FOR CONSERVATION OPEN SPACE. TOTAL YIELD = 17 + 1 = 18 LOTS.

WETLAND IMPACTS COMPARISON:
PLANNING BOARD APPROVED YIELD PLAN; WETLAND IMPACT = 12,157 S.F.
PROPOSED OPEN-SPACE SITE PLAN; WETLAND IMPACT = 2,960 S.F.
BUFFER IMPACTS FOR APPROVED YIELD PLAN NOT CALCULATED.

- THE PURPOSE OF THIS PLAN IS TO SHOW A SINGLE FAMILY PROJECT WITH 18 PROPOSED UNITS (16 CONDO. & 2 CONVENTIONAL); TO REFLECT LLA WITH 8 TAMARIND LANE TO REMOVE ROAD LIABILITY FROM ABUTTER, AND ACCESS DRIVES. UNIT FOOTPRINTS MAY VARY IN SIZE. PROPERTY IS SERVED BY MUNICIPAL WATER AND SEWER.
- PROPOSED DISTURBANCE (ROAD & DRAINAGE) = 1.25 ACRES. TOTAL PROPOSED DISTURBANCE = 3.24 AC., NHDES AOT PERMIT REQUIRED.
- SWAMP WHITE OAKS (SWO) LOCATED IN THE FIELD BY JAMES GOVE, CSS, CWS ON 1-29-20 (SEE MEMO FROM GES DATE 2-4-20). THERE ARE AN ESTIMATED 235 SWO TREES 6" OR LARGER AT BREAST HEIGHT THROUGHOUT THE AREA NOT TO BE DEVELOPED, IN ADDITION TO 20 INDIVIDUAL TREES SURVEY LOCATED IN THE PROPOSED DEVELOPMENT AREA. TOTAL IMPACT OF SWO IS LIMITED TO 4.
- ENHANCED BUFFER OF 36,481 S.F. OF BUILDABLE UPLAND (OUTSIDE OF ALL SETBACKS) OFFSETTING 1,320 S.F. OF STRUCTURAL BUFFER IMPACT PROPOSED, 27.8:1 RATIO OF MITIGATION. TOTAL DEDICATION OF PRESERVED CONSERVATION LAND PROPOSED TO BE DEEDED TO THE TOWN OF EXETER IS 36.1-ACRES, 1,572,516 S.F. (1,191:1 RATIO OF MITIGATION).

TOWN NOTES

THE APPLICANT HAS DESIGNED THIS SITE TO SAFELY ACCOMMODATE MAXIMUM SIZE VEHICLES AND TRUCKS. (DESIGN VEHICLE IS THE EXETER LADDER TRUCK OR 35' BOX TRUCK) EITHER DELIVERING TO, OR USING THE PROPERTY.

ALL SNOW SHALL BE STORED IN THE AREA(S) DEPICTED ON THIS PLAN AS SNOW STORAGE AREAS OR OFF PAVEMENT & SIDEWALKS. IN THE EVENT THAT THE AREA(S) APPROVED FOR SNOW STORAGE BECOME FULL, THE OWNER SHALL REASONABLY REMOVE EXCESS SNOW FROM THE SITE, AND SHALL NOT ALLOW SNOW TO BE STORED WITHIN TRAVEL AISLES.

ALL WASTE MATERIALS AND RECYCLABLE SHALL BE CONTAINED WITHIN THE BUILDING(S) OR APPROVED STORAGE FACILITIES AND SHALL NOT BE OTHERWISE STORED ON THE PROPERTY. REFUSE COLLECTION WILL BE BY CURBSIDE PICK-UP.

REVISED PER ERS COMMENTS	DATE
	4-9-17
REVISIONS:	DATE:

CONSERVATION OPEN-SPACE/RECREATION PLAN

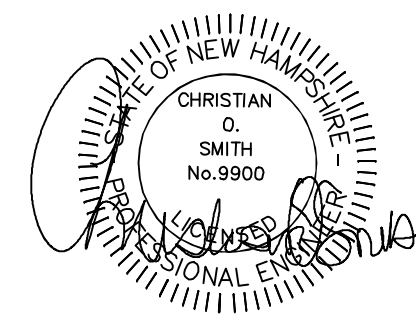
PLAN FOR:
RESIDENTIAL DEVELOPMENT
TAMARIND LANE
EXETER, NH

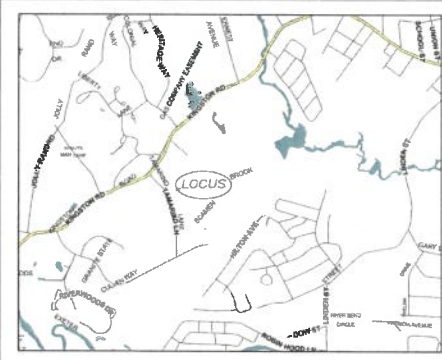
DATE:	MAR., 2021	SCALE:	1"=100'
PROJ. NO.:	NH-1154.1	SHEET NO.:	1 OF 1

APPROVAL BLOCK

APPROVED TOWN OF EXETER PLANNING BOARD

CHAIRPERSON _____ DATE _____





LOCATION MAP
1"=500'

PREPARED FOR:

BRIAN GRISET
26 CULLEN WAY
EXETER, NH 03833

BEALS ASSOCIATES PLLC

70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863

ZONING REQUIREMENTS

ZONE:	R1	NP
LOT SIZE =	40,000 SF	20,000 SF
MIN. FRONTAGE	150'	150'
MIN. DEPTH	150'	150'
MAX. HEIGHT	25'	30'
BUILD. SETBACKS:		
FRONT	25'	50'
SIDE	15'	20'
REAR	25'	50'
WETLANDS PD & VPD	50'	

WETLANDS BUFFER
40' POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER
50' VERY POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER
WETLANDS CONSERVATION OVERLAY DISTRICT
SHORELAND PROTECTION OVERLAY DISTRICT

LEGEND

- UTILITY POLE
- TEST PIT W/ NO.
- STONE WALL
- TREE LINE
- SHORELAND ZONE LINE
- 150' SHORELAND SETBACK
- WETLAND BOUNDARY
- PRIME WETLAND BOUNDARY
- 40' WETLAND SETBACK
- BUILDING SETBACK LINE
- ABUTTING PROPERTY LINE
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXISTING HOUSE
- UPLAND AREA
- WETLAND AREA
- POND/BROOK
- PRIME WETLAND AREA

TOTAL AREA (3-PARCELS) = 63.74-ACRES
TOTAL UPLAND AREA (3-PARCEL) = 22.96-ACRES
TOTAL WETLAND AREA (3-PARCELS) = 40.77-ACRES

REVISIONS:	DATE:

EXISTING CONDITIONS PLAN

PLAN FOR:
RESIDENTIAL DEVELOPMENT
TAMARIND LANE
EXETER, NH

DATE:	JUNE 2019	SCALE:	1"=100'
PROJ. NO.:	NH-1154.1	SHEET NO.:	1 OF 1



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THE SITE SPECIFIC SOIL SURVEY (SSSS) WAS PRODUCED DECEMBER 17, 2019, AND WAS PREPARED BY JAMES P. GOVE, CSS # 004, GOVE ENVIRONMENTAL SERVICES, INC. THE SURVEY AREA IS LOCATED AT TAMARIND LANE, EXETER, NH.

SOILS WERE IDENTIFIED WITH THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND, USDA NRCS, DURHAM, NH, ISSUE # 10, JANUARY 2011. THE NUMERIC LEGEND WAS AMENDED TO IDENTIFY THE CORRECT SOIL COMPONENTS OF THE COMPLEX.

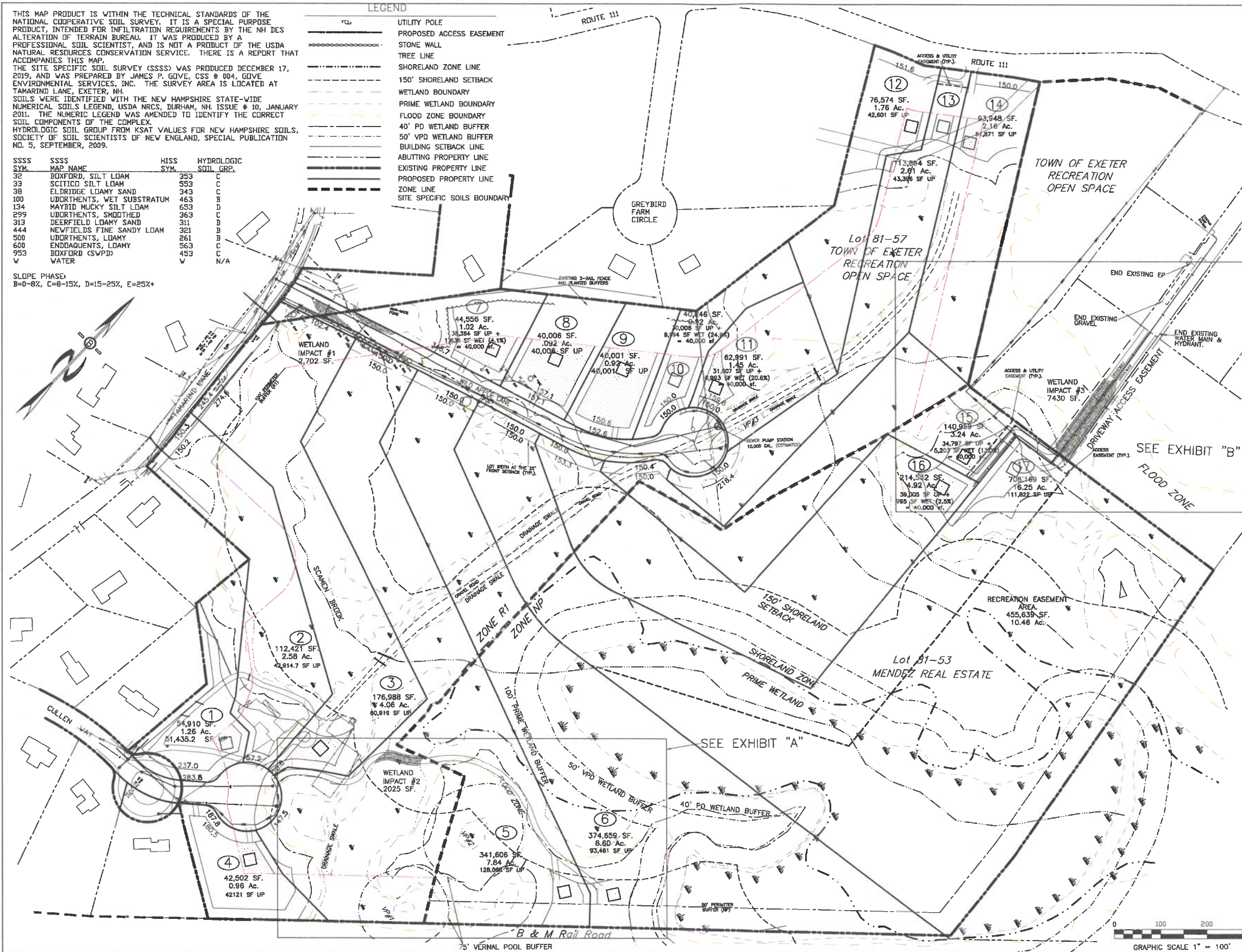
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SSSS SYM.	SSSS MAP NAME	HISS SYM.	HYDROLOGIC SOIL GRP.
32	BOXFORD SILT LOAM	353	C
33	SCITICO SILT LOAM	353	C
38	ELDRIDGE LOAMY SAND	343	C
100	UDRTHENTS, WET SUBSTRATUM	463	B
134	MAYBID MUCKY SILT LOAM	653	D
299	UDRTHENTS, SMOOTHED	363	C
313	DERFIELD LOAMY SAND	311	B
444	NEWFIELDS FINE SANDY LOAM	321	B
500	UDRTHENTS, LOAMY	261	B
600	ENDDAQUENTS, LOAMY	563	C
953	BOXFORD (SWPD)	453	C
V	WATER	V	N/A

SLOPE PHASES:
B=0-8%, C=8-15%, D=15-25%, E=25%+

LEGEND

	UTILITY POLE
	PROPOSED ACCESS EASEMENT
	STONE WALL
	TREE LINE
	SHORELAND ZONE LINE
	150' SHORELAND SETBACK
	WETLAND BOUNDARY
	PRIME WETLAND BOUNDARY
	FLOOD ZONE BOUNDARY
	40' PD WETLAND BUFFER
	50' VPD WETLAND BUFFER
	BUILDING SETBACK LINE
	ABUTTING PROPERTY LINE
	EXISTING PROPERTY LINE
	PROPOSED PROPERTY LINE
	ZONE LINE
	SITE SPECIFIC SOILS BOUNDARY



PREPARED FOR:
BRIAN GRISET
26 CULLEN WAY
EXETER, NH 03833

BEALS ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863

ZONING REQUIREMENTS

ZONE: R1
LOT SIZE = 40,000 SF
MIN. FRONTAGE = 150'
MIN. DEPTH = 150'
MAX. HEIGHT = 35'
BUILD. SETBACKS:
FRONT = 25'
SIDE = 15'
REAR = 25'
PERIMETER BUFFER = 100'
WET PD & VPD = 75'
RECREATION AREA = 10%
WETLANDS BUFFER:
40' POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER
50' VERY POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER
WETLANDS CONSERVATION OVERLAY DISTRICT
SHORELAND PROTECTION OVERLAY DISTRICT
LOT AREA PER ARTICLE 9:1.9) 50% UPLAND, 50% WETLAND, 0% OPEN WATER.

TOTAL ACREAGE NOTES: YIELD PLAN-
PARCEL 81-57 INCLUDED PER TOWN AGREEMENT DATED AUG. 4, 1991.

LAND AREAS:
TOTAL AREA = 63.83 AC
UPLAND AREA = 23.60 AC
WETLAND AREA = 40.23 AC
VPD SWIL - 10.75 AC
PD SWIL - 23.47 AC

TOTAL ESTIMATED WETLAND IMPACT 12,157 SF

NET TRACT AREA CALCULATION:
TOTAL TRACT AREA = 63.83x10% = 57.45 AC
LESS VPD = 10.76 AC
LESS 75% PD = .75x29.47 AC = 22.10 AC
NET TRACT AREA = 24.59 AC
30% OPEN-SPACE REQUIRED = 7.38 AC

PUBLIC OPEN-SPACE CALCULATION:
32.39 AC + 9.38 AC PREVIOUSLY DEEDED TO THE TOWN "BRICKYARD PARK" = 41.77 AC = 65% OF 63.83 AC.

YIELD PLAN DENSITY CALCULATIONS:
17 LOTS COMPLYING WITH ALL R-1 ZONING REQUIREMENTS.

REC. AREA NOTES: YIELD PLAN-
PER ARTICLE 9.6.3. REC/PARK = 10% OF TOTAL TRACT AREA.
73.8 AC. ORIGINAL MURIE PARCEL (PHASES 1, 2 & 3) + 30.76 AC. MENDES TRUST PARCEL = 104.45x10 = 10.46 AC.

ALLOWED DRIVES OFF KINGSTON ROAD CALCULATED PER STATE STATUTE AND DRIVEWAY REGULATIONS. ACCESS PER PLAN RCRD: C-1746 "PLAN OF LAND IN EXETER, NH DATED MAR 28, 1970 BY MATT HAUTALA, IN ACCORDANCE WITH NHDOT DRIVEWAY POLICY #8, PARCEL "A" = 2-DRIVES; PARCEL "B" = 3-DRIVES (SEE REFERENCED PLAN). PHASE 3 OF THIS OVERALL DEVELOPMENT, THERE ARE 2-REMAINING CURB CUTS FOR PARCEL "A".

NOTE: EXETER GREEN COVENANTS ALLOW DEVELOPER TO ADD LOTS TO THE PREVIOUSLY APPROVED SUBDIVISION.

ON JANUARY 21, 2020 THE EXETER ZBA GRANTED A SPECIAL EXCEPTION TO PER ARTICLE 4, SECTION 4.2 SCHEDULE PERMITTED USES AND ARTICLE 5, SECTION 5.2 TO PERMIT RESIDENTIAL USE OF A 30.76-ACRE PARCEL LOCATED WITHIN THE NP-NEIGHBORHOOD PROFESSIONAL ZONING DISTRICT FOR THE SOLE PURPOSE OF CALCULATING DENSITY OF A PROPOSED OPEN SPACE DEVELOPMENT.

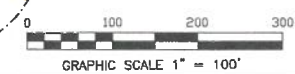
ON JANUARY 21, 2020 THE EXETER ZBA GRANTED A VARIANCE FROM ARTICLE 4, SECTION 4.3 SCHEDULE II: DENSITY AND DIMENSIONAL REGULATIONS - RESIDENTIAL AND ARTICLE 7. OPEN SPACE DEVELOPMENT TO PERMIT A SINGLE-FAMILY OPEN SPACE DEVELOPMENT IN THE R-1, LOW DENSITY RESIDENTIAL ZONING DISTRICT WHICH DRAWS DENSITY FROM CONTIGUOUS UNIMPROVED PROPERTY IN THE NP-NEIGHBORHOOD PROFESSIONAL ZONING DISTRICT.

REVISED PER PB REVIEW	1/15/20
REVISED PB DECISION	11/17/20
REVISED PER TRC	2/24/20
REVISIONS:	DATE:

PRELIMINARY YIELD

PLAN FOR:
RESIDENTIAL DEVELOPMENT
TAMARIND LANE
EXETER, NH

DATE:	FEB. 5, 2020	SCALE:	1"=100'
PROJ. NO.:	NH-1154.1	SHEET NO.:	1 OF 1



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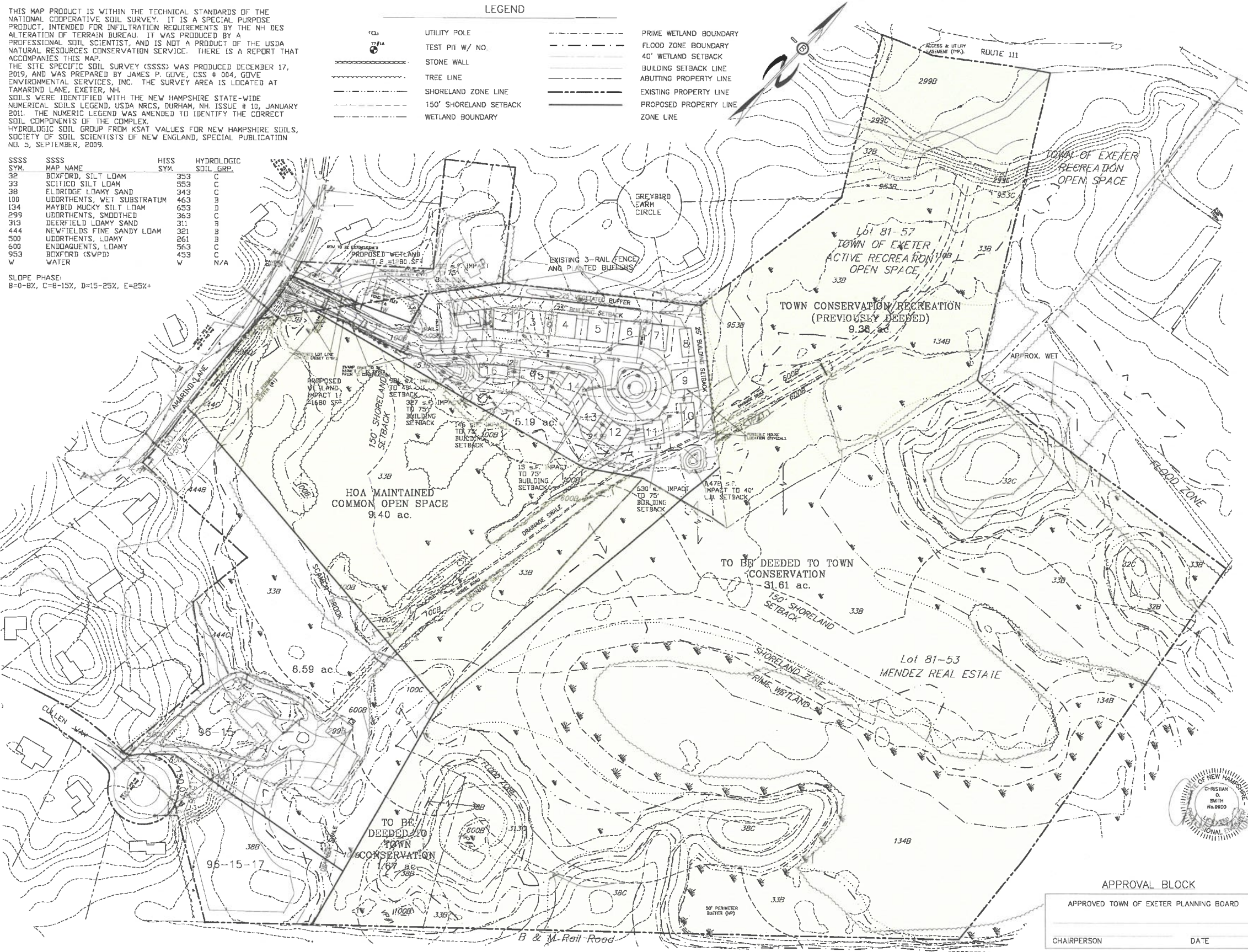
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299	UDDRTHENTS, SMOOTHED	363	D
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444	NEWFIELDS, FINE SANDY LOAM	321	B
500	UDDRTHENTS, LOAMY	261	B
600	ENDOQUENTS, LOAMY	563	C
953	BOKFORD (SWPD)	453	C
W	WATER	W	N/A

SLOPE PHASE:
B=0-5%, C=5-15%, D=15-25%, E=25%+

LEGEND

UTILITY POLE	PRIME WETLAND BOUNDARY
TEST PIT W/ NO.	FLOOD ZONE BOUNDARY
STONE WALL	40' WETLAND SETBACK
TREE LINE	BUILDING SETBACK LINE
SHORELAND ZONE LINE	ABUTTING PROPERTY LINE
150' SHORELAND SETBACK	EXISTING PROPERTY LINE
WETLAND BOUNDARY	PROPOSED PROPERTY LINE
	ZONE LINE



PREPARED FOR:
BRIAN GRISET
28 CULLEN WAY
EXETER, NH 03833

BEALS ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863

ZONING REQUIREMENTS

ZONE	R1	NP
LOT SIZE =	40,000 SF	80,000 SF
MIN. FRONTAGE =	150'	150'
MIN. DEPTH =	150'	100'
MAX. HEIGHT =	35'	35'
BUILD. SETBACKS:		
FRONT	25'	50'
SIDE	15'	20'
REAR	25'	50'
WETLANDS PD & VPD	75'	

WETLANDS BUFFER
40' POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER
50' VERY POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER
WETLANDS CONSERVATION OVERLAY DISTRICT
75' VERNAL POOL NO CUT, NO DISTURBANCE BUFFER
100' PRIME WETLAND NO CUT, NO DISTURBANCE BUFFER
SHORELAND PROTECTION OVERLAY DISTRICT

NET TRACT AREA CALCULATION:
TOTAL TRACT AREA = 63.83-10% = 57.45 AC
LESS VPD = 10.76 AC
LESS 75% PD = .75x29.47 AC = 22.10 AC
NET TRACT AREA = 24.59 AC
30% OPEN-SPACE REQUIRED = 7.38 AC

PUBLIC OPEN-SPACE CALCULATION:
31.61 AC + 9.38 AC PREVIOUSLY DEEDED TO THE TOWN "BRICKYARD PARK". = 40.99 AC = 64% OF 63.83 AC.

LAND AREA TO BE DEEDED TO TOWN CONSERVATION:
8.34 AC UPLAND
15.04 AC WETLAND (PD)
8.23 AC PRIME WETLAND (VPD)
TOTAL 31.61 ACRES

YIELD PLAN DENSITY CALCULATIONS:
17 LOTS COMPLYING WITH ALL R-1 ZONING REQUIREMENTS + 10% (1 LOT) DENSITY BONUS FOR DEEDING TO TOWN OVER 50% OF PARCEL FOR CONSERVATION OPEN SPACE. TOTAL YIELD = 17 + 1 = 18 LOTS.

WETLAND IMPACTS COMPARISON:
PLANNING BOARD APPROVED YIELD PLAN; WETLAND IMPACT = 12.157 S.F.
PROPOSED OPEN-SPACE SITE PLAN; WETLAND IMPACT = 2,960 S.F.
BUFFER IMPACTS FOR APPROVED YIELD PLAN NOT CALCULATED.

1. THE PURPOSE OF THIS PLAN IS TO SHOW A SINGLE FAMILY PROJECT WITH 18 PROPOSED UNITS (16 CONDO. & 2 CONVENTIONAL) TO REFLECT LLA WITH B TAMARIND LANE TO REMOVE ROAD LIABILITY FROM ABUTTER, AND ACCESS DRIVES. UNIT FOOTPRINTS MAY VARY IN SIZE. PROPERTY IS SERVED BY MUNICIPAL WATER AND SEWER.
2. PROPOSED DISTURBANCE (ROAD & DRAINAGE) = 1.25 ACRES. TOTAL PROPOSED DISTURBANCE = 3.02 AC., NHDES AOT PERMIT REQUIRED.

TOWN NOTES

THE APPLICANT HAS DESIGNED THIS SITE TO SAFELY ACCOMMODATE MAXIMUM SIZE VEHICLES AND TRUCKS, (DESIGN VEHICLE IS THE EXETER LADDER TRUCK OR 35' BOX TRUCK) EITHER DELIVERING TO, OR USING THE PROPERTY.

THE CONTRACTOR MUST OBTAIN A VALID UTILITY PIPE INSTALLERS LICENSE, AND THE JOB SUPERVISOR OR FOREMAN MUST BE CERTIFIED BY THE TOWN PRIOR TO WORKING ON WATER, SEWER OR DRAINAGE PIPES THAT ARE IN A TOWN RIGHT OF WAY, OR THAT WILL CONNECT OR MAY BE CONNECTED TO A TOWN WATER, SEWER OR DRAINAGE SYSTEM.

ALL SNOW SHALL BE STORED IN THE AREA(S) DEPICTED ON THIS PLAN AS SNOW STORAGE AREAS OR OFF PAVEMENT & SIDEWALKS. IN THE EVENT THAT THE AREA(S) APPROVED FOR SNOW STORAGE BECOME FULL, THE OWNER SHALL REASONABLY REMOVE EXCESS SNOW FROM THE SITE, AND SHALL NOT ALLOW SNOW TO BE STORED WITHIN TRAVEL AISLES.

ALL WASTE MATERIALS AND RECYCLABLE SHALL BE CONTAINED WITHIN THE BUILDING(S) OR APPROVED STORAGE FACILITIES AND SHALL NOT BE OTHERWISE STORED ON THE PROPERTY. REFUSE COLLECTION WILL BE BY CURBSIDE PICK-UP.



APPROVAL BLOCK
APPROVED TOWN OF EXETER PLANNING BOARD

CHAIRPERSON _____ DATE _____

REVISIONS:	DATE:

CONSERVATION OPEN-SPACE/RECREATION PLAN

PLAN FOR:
RESIDENTIAL DEVELOPMENT
TAMARIND LANE
EXETER, NH

DATE:	MAR., 2021	SCALE:	1"=100'
PROJ. NO.:	NH-1154.1	SHEET NO.:	1 OF 1

PREPARED FOR:
BRIAN GRISET
26 CULLEN WA
EXETER, NH 03833

BEALS ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863

LEGEND

- UTILITY POLE
- TEST PIT W/ NO.
- STONE WALL
- TREE LINE
- SHORELAND ZONE LINE
- 150' SHORELAND SETBACK
- WETLAND BOUNDARY
- PRIME WETLAND BOUNDARY
- FLOOD ZONE BOUNDARY
- 40' WETLAND SETBACK
- BUILDING SETBACK LINE
- ABUTTING PROPERTY LINE
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- PROPOSED 40' ROAD LU IMPACT
- PROPOSED 40' POND LU IMPACT
- PROPOSED 75' ROAD PARKING SETBACK IMPACT



CONSTRUCTION OF THE PRIVATE ROAD & ASSOCIATED UTILITIES/DRAINAGE TREATMENT STRUCTURES TO SERVE 16 PROPOSED CONDOMINIUM DWELLING UNITS WILL RESULT IN 1,320 S.F. OF BUILDING PROPOSED WITHIN THE 75' BUILDING SETBACK, 1,736 S.F. OF ROAD WITHIN THE 75' PARKING AND PAVEMENT SETBACK, 5,493 S.F. OF ROAD WITHIN THE 40' NO-DISTURB SETBACK, AND 2,453 S.F. OF DISTURBANCE WITHIN THE 40' NO-DISTURB SETBACK FOR DRAINAGE POND CONSTRUCTION. THERE IS ALSO A PROPOSED AREA OF 8,749 S.F. OF TEMPORARY IMPACT TO THE 75' PD WETLAND BUFFER FOR GRADING AND CONSTRUCTION.



APPROVAL BLOCK
APPROVED TOWN OF EXETER PLANNING BOARD
CHAIRPERSON _____ DATE _____

REVISIONS:	DATE:
WCOD IMPACT AREA CUP PLAN	
PLAN FOR: RESIDENTIAL DEVELOPMENT TAMARIND LANE EXETER, NH	
DATE: MAR., 2021	SCALE: 1"=100'
PROJ. NO: NH-1154.1	SHEET NO. 1 OF 1

PREPARED FOR:

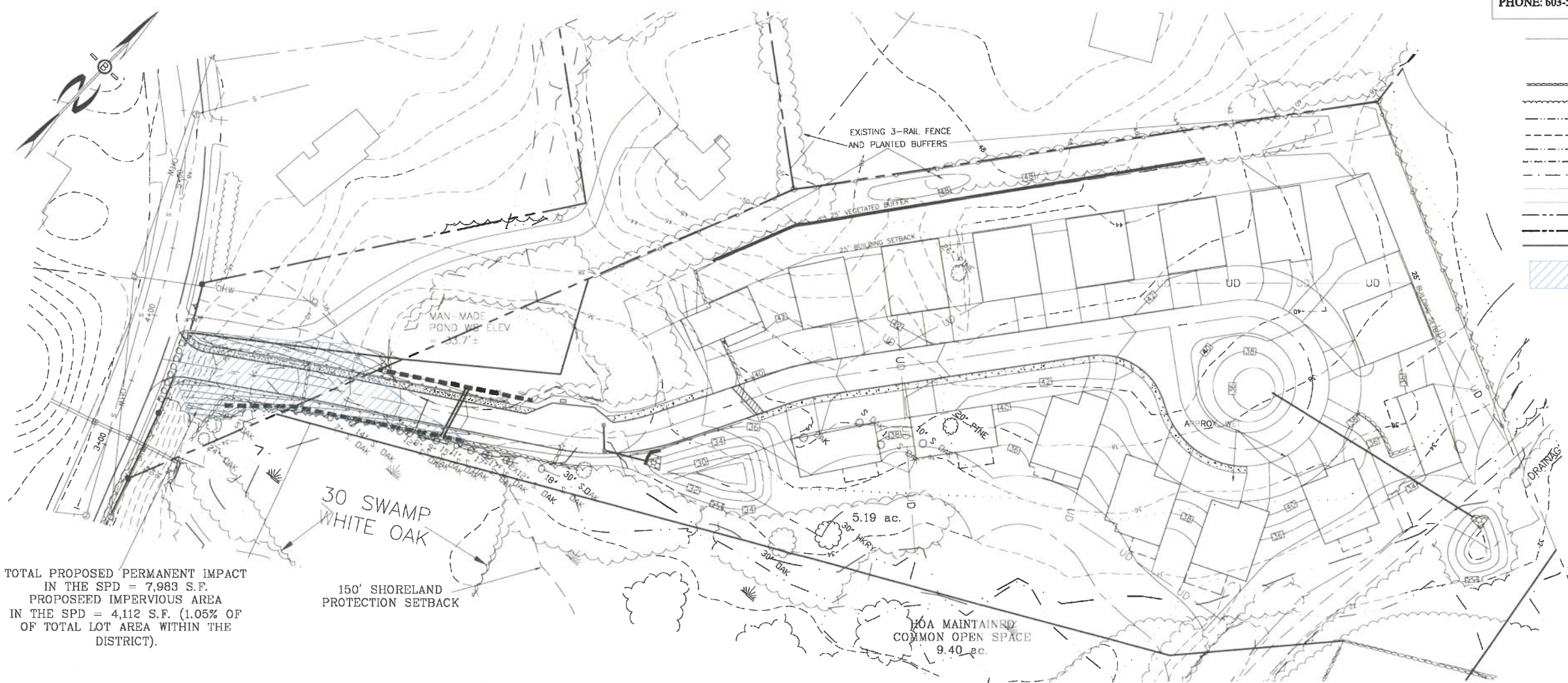
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LEGEND

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- FLOOD ZONE BOUNDARY
- 40' WETLAND SETBACK
- BUILDING SETBACK LINE
- ABUTTING PROPERTY LINE
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- PROPOSED SPD IMPACT



TOTAL PROPOSED PERMANENT IMPACT
IN THE SPD = 7,983 S.F.
PROPOSEED IMPERVIOUS AREA
IN THE SPD = 4,112 S.F. (1.05% OF
OF TOTAL LOT AREA WITHIN THE
DISTRICT).



APPROVAL BLOCK
APPROVED TOWN OF EXETER PLANNING BOARD
CHAIRPERSON _____ DATE _____

REVISIONS:	DATE:
SPD IMPACT AREA PLAN	
PLAN FOR: RESIDENTIAL DEVELOPMENT TAMARIND LANE EXETER, NH	
DATE: MAR., 2021	SCALE: 1"=100'
PROJ. NO: NH-1154.1	SHEET NO. 1 OF 1

BEALS · ASSOCIATES PLLC

70 Portsmouth Ave.
3rd Floor, Suite 2,
Stratham, N. H. 03885
Phone: 603-583-4860
Fax: 603-583-4863

Town of Exeter Planning Department
Attn. David Sharples, Town Planner
10 Front Street
Exeter, NH 03833

April 12, 2021

RE: *Subdivision & Open Space Development (PB Case #20-2)*
Tax Map Parcels #96-15, #81-53 and #96-9

Dear Mr. Sharples,

We are in receipt of the TRC review memo dated 4-7-21 and offer the following in response to comments detailed therein. For clarity, our responses below are in **bold print** and the paragraph numbers correspond with the relevant comment numbers in the TRC Letter.

TOWN PLANNER COMMENTS

Most of the comments in my previous comments dated January 29, 2020 (revised 2/4/20) have been addressed. Below are my remaining comments:

1. Are there any known environmental hazards on the site? Has any environmental investigation been done? If so, provide detail;
Yes. At the request of the Natural Resource Officer Exeter Environmental has complete a Phase 1 environmental survey of the 31.61 acre Mendez parcel proposed to be deeded to the Town. No evidence of potential environmental hazards on the Griset parcel, therefore no study is required.
2. Show monuments in accordance with Section 9.25. Your response letter said it was done but I do not see any to be set monuments on the plans.;
Response: The licensed land surveyor has added proposed monumentation as requested.
3. If applicable, provide driveway/utility/drainage easements language and show any and all easements on the Site Plan; and,
Response: As the road will be private (e.g. common land), no easements will be necessary as utilities, etc. will be allowed in common areas in the COA declaration. A right of way has been added at the entrance of Wild Apple Lane for the benefit of the Flahertys for frontage and access as requested by the Code Enforcement Officer. Language will be drafted prior to approval for Town Counsel review if necessary. Underground utility easements and a partial access easement across 96-15-17 for the benefit of 96-15 are being added to the plan. Language will be drafted prior to approval for Town Counsel review if necessary

4. In the process of addressing these comments and revising the plans, it is worth noting that you may utilize a mix of single family, duplex and multi-family structures as permitted and encouraged in accordance with Sec. 7.7.4 of the Zoning Ordinance.
Response: This is understood. The applicant has submitted a single-family application in consideration of the surrounding neighborhoods concerns and other considerations. No multi-family is proposed.

PUBLIC WORKS COMMENTS

The following comments are based on the information provided by the applicant to the Planning Department, received March 16, 2021, and discussion at the Technical Review Committee (TRC) meeting on April 1, 2021.

1. Coordinate the proposed treeline with the silt fence. The fence is shown behind the treeline in several locations.
Response: the silt fence has been adjusted as requested.
2. The proposed lot 96-15-17 should be included in the total disturbance area for the NHDES Alteration of Terrain AoT permit.
Response: the total disturbance area has been updated to reflect the anticipated disturbed area for 96-15-17 construction (9,850 s.f.).
3. Show gas, electric, telephone, and cable on Plan and Profile sheet 11 of 19.
Response: elec., phone & cable will be in the same trench (see detail sheet #16). This is depicted as the line with UGE. Gas will be added when design is provided by Unitil.
4. Show limits of trenches on Tamarind Lane for new utility connection
Response: the trench for the force main connection is shown. The existing water main is in the shoulder, and the UGU will come off the proposed drop connection pole.
5. Proposed water main is shown as 6" on Sheet 11 and 8" on Sheet 12. The size of the water main should be based on the required fire flows. Coordinate with the fire suppression system design engineer.
Response: Per the recommendation of Public Works at the first TRC review the watermain was reduced to 6". The errant reference to 8" has been corrected on sheet #12.
6. Separate shutoffs should be provided for fire suppression and potable water services to each building.
A note specifying this requirement has been added to sheet #11.
7. The water and sewer services for units 2 and 16 do not meet the 10-foot separation requirement.
Response: The sewer service to unit 16 has been relocated to provide the required 10'.
8. Utility services for units 7 and 8 have conflicts.

Response: The proposed UGU connections do pass over the water services, however these services will be well above the water services which require 5' of cover.

9. Coordinate pressure sewer system design with manufacturer.
Cleanouts/manholes will be required.
We are working on finalizing this with eOne engineers at the time of this writing.
10. Utilities for the proposed lot 17 should be shown to identify any potential conflicts and the disturbance area calculation.
Response: the utilities are now shown on site plan sheet #9.
11. Gas and electric layouts approved by Unutil are required for the final plans.
Response: the services have been added to sheet #9. A detail for the sewer service crossing the water main is shown on sheet #16. Requests to Unutil will be made for utility layouts prior to approval at the appropriate time. Unutil has asked that requests not be made prematurely until plans are substantially thru the approval process.
12. Sheet 11, Note 14, a planned water service interruption requires a minimum of 2 days notice in writing, hand-delivered to each affected user.
Response: note #14 has been embellished to reflect the cited requirement.
13. Provide sizing calculations for 2-12" culverts shown near Station 2+15.
Response: The sizing calculations appear as Pond 1A in the proposed drainage analysis HydroCAD report.
14. Show signs (Stop, crosswalk, speed, etc.) where appropriate on the plans.
Response: Signage has been added along with the MUTCD sign schedule on sheet #14.
15. The driveway for building #10 appears to be too steep (12% or greater slope).
Response: The driveway grading has been amended to be a max. of 10%.
16. The driveway width for #12 should be consistent with the other driveways (20 feet).
Response: the driveway width has been corrected.
17. The crosswalk shown near Station 4+25 should be revised to eliminate the conflict with the driveway for unit 1.
Response: an additional section of sidewalk with tip down and relocated cross walk has been provided to eliminate the conflict.
18. The underdrain/foundation drains should have cleanouts for ease of maintenance.
Response: Clean-outs have been shown at all junction points as discussed at the TRC hearing.
19. The proposed trees shown near Wet Pond #2 will conflict with access for maintenance.

Response: This should not be the case as the proposed access connects to the existing farm road which runs along the cut line.

20. Clearly define ownership and maintenance responsibilities for all utilities in the condominium documents.

COA documents are being prepared at the time of this writing.

21. Snow storage is shown behind the guardrail near the entrance and adjacent to unit 1. This should be relocated to somewhere accessible by plow trucks.

Response: Snow storage areas have been revised as requested.

22. The pavement depth for the sidewalk should be a total of 2.5 inches and 4 inches for the road.

Response: The pavement depths have been updated to reflect this on sheet #15.

FIRE DEPARTMENT COMMENTS

1. In the documents 30' feet of separation is already referenced. If the units are closer than 30' from the furthest protruding part of the structure, fire prevention accommodations will be required. (ie, a suppression system)

Response: the buildings are proposed at 25' separation & sprinkler systems are required. A Note has been added to the plan.

2. We will assess the distance from the nearest hydrant, however at least 1 new hydrant will be required (500' between hydrants).

Response: An additional hydrant is proposed at the end of the cul-de-sac and one exists just north of the Flaherty driveway entrance. A third exists at the end of Greybird Farm circle. All units will be within 500 feet of a hydrant and all within 1,000 of two hydrants.

3. The turning radius is referenced in the documents as well. The cul-a-sac appears large enough to accommodate the ladder. Turning radius dimensions (L1) attached here for reference purposes.

Response: An AutoTurn tracking exhibit for the Exeter Ladder tuck has been provided. The cul-de-sac radius is 60'.

4. The Fire Department agrees to waive the request for waiver #3 Fire Alarm Boxes, as outlined in waiver request letter dated 3/11/21 (and rev. 3/23/21).

Response: No response required.

NATURAL RESOURCE PLANNER COMMENTS

Based on application materials provided with the March 17th, 2021 inter-office transmittal, and CUP application materials submitted on April 2, 2021, and responses to prior TRC comments, I have the following comments with regard to natural resources.

Prior TRC Response:

Comment # 2. Wildlife Habitat Assessment. I do not see where this document references the presence of swamp white oak. As mentioned previously, there should be some determination as to whether portions of the site have criteria to qualify for a swamp white oak basin swamp community. The updated wildlife habitat assessment has no mention of swamp white oak.

Response: A wildlife Habitat Assessment has been provided to the Board and the conservation commission. As the WHA is tailored to NHDES requirements through NH Fish & Game, the swamp white oak is not a species of interest as it is not threatened or endangered. GES has determined that this is not an exemplary community & the NHB database report came back devoid of threatened or endangered species on the parcels.

Current Submission:

1. Wetland buffer table is not correct. Refer to 9.1.3.

Response: the data appears to mimic 9.1.3 as we only detail the no disturb buffer and the building setback in the table.

2. Buffer impacts: It appears there is sufficient space to modify the layout of the proposed condos to further minimize impacts to the buffer while still maintaining the same number and size units as proposed. For example, switching units 15-10 and 15-11, and 15-1 with 15-2 appears would reduce encroachment into the buffer.

Response: The developer met with Kristen Murphy to demonstrate the engineering and other setback criteria requirements to her satisfaction she suggested a written response for your benefit.

To summarize the response, due to topography, drainage, and road engineering requirements it is not possible to create an alternative layout with less impact although we have explored every option.

The Conceptual Site Plan presented to the Commission back in 2019 laying out the siting of the 16 units was the best estimate based upon Zoning and site regulations. Full engineering details were not established at that time as we sought and received acceptance of the 16 single family design concept from both the Commission and the Planning Board.

Two locations are cited by Kristen.

Lots 1 & 2:

There are three restraining factors at this location.

First, the narrowed building area on Lot 1 between the 50-foot structural set-back at the rear and the front 25-foot setback from the roadway. At the narrowest end adjacent to the buffer with no encroachment, utilizing a 40 by 50-foot box, neither a 40 foot or 50-foot depth layout will fit within the front and back setbacks. Further, utilizing the 40-foot depth and 50-foot width out also encroach into the minimum 25 building separation setback. So, we first have Zoning non-compliance. As we can't violate zoning and due to the narrowness of Lot 1, we utilize a different "style/shape" of home to reduce buffer impacts, as we did in other locations.

The next two issues determined that a garage-under home was the only style that would allow access from the road and at the same time limit buffer encroachment.

Topography: The road and housing layout are designed to follow the existing contours of the site to limit grading scale and limit impact on wetland buffers. Further consideration was also given to the direct abutters by keeping the elevation profiles at the lowest levels possible based upon drainage, foundation drain engineering requirements and road elevations for driveway access. As you can see the layout of lots 2 through 7 utilize a retaining wall as one of the features used to achieve this. Rear elevations average 43.75 to 42.50 at the street, a 1.25-foot differential. However, as you can see, Lot 1 has steeper topography over a shorter distance front to back. At the rear the current elevation is 47.0 and 37.0 at the front, a 10.0-foot differential. The proposed retaining wall can only deal with a small portion of this. Lowering the basement level is not possible due to water table and foundations drain constraints and providing/filling the front and side yard to backfill the foundation would cause expanded buffer encroachment and access issue. Thus, the smaller proposed house with a garage under-design.

Third, based upon the best road design that minimizes actual wetland disturbance the road elevations in front of Lot 1 is at the lowest point of the road design for home access, el. 37.5.

Based upon the above restraints the garage slab is at 37.3. Based upon a review of 50-100 garage-under home designs the best home meeting all the elevation constraints was chosen. The structure itself did not encroached into the buffer. However, this design, like most of the designs, called for side entry meaning that would add an additional 25 feet for driveway access to the length causing 19 feet of encroachment into the buffer.

To reduce impact, I redesigned the home by adding 8 feet to the garage end of the home allowing a front entry garage and eliminating the 25-foot side driveway. As a result, buffer encroachment went down from 19 feet to 8 feet and impact was reduced by over 300%.

Lots 10 & 11:

We attempted siting of the Lot 10 unit totally outside of the buffer area, but it was found not feasible. Placing a 30 deep by 60-foot long unit with attached garage is possible outside of the buffer area but results in violating the 25-foot building separations.

Multiple configurations were attempted but the same topographical, drainage and engineering criteria (as explained above) also apply in this case. But with one added complication, access.

The 2019 Conceptual Plan did not designate the access points to provide for drainage pond maintenance, annual mowing of the lower meadow nor access to the common recreational areas.

Pedestrian access to the HOA maintained open space area can be made at Station 3+45 for those 9 units that do not have direct access. But not vehicular traffic for performance of maintenance activities.

Based upon the location of the drainage treatment ponds it was determined that the best place to locate vehicular traffic was at the end of the cul de sac so as to access the old farm road and the drainage pond adjacent to it.

As a result, the separation between units 10 and 11 needed to be increased to provide the access road. Unit 11 was reoriented shortening width and Unit 10 was narrowed with a garage-under design. Further, to reduce impervious surfaces the driveway is utilized for the access easement to perform the required maintenance activities. A further benefit is that it also provides an additional pedestrian access point for the homes not abutting the common area.

No location could accomplish the required functions without greater buffer impacts. An additional reason for choosing this buffer encroachment over others is that the Unit 11 buffer encroachment is into an area of disturbed uplands which include the existing farm road. It is existing grasslands which front on already existing drainage swales separating the impact from the adjacent wetland areas.

3. Land Protection:

HOA Land:

- Given the presence of Scamen Brook, I would suggest any beaver management on this parcel be limited to the use of non-invasive methods such as installation of a beaver pipe or beaver deceiver style management.
Response: We are amenable to such measures, but will discuss this further with the conservation commission.
- It is unclear what methods will be used for coyote control. If residents will be permitted to utilize the HOA land as part of their open space, I would recommend the HOA docs include a requirement of notification prior to trapping to avoid risk of injury.
Response: Residents will be allowed use of the HOA conservation land & this will be added to the final COA doc's.

Conservation Land:

All of these items are likely to become clear as the deeds are drafted, but I wanted to point out areas that require additional clarification.

- Is this proposed as a conservation easement or proposed to be deeded to the town.
The Grisets' are amenable to either form depending on mutual agreements between the parties. The Grisets' proposal envisioned opening up this preservation area for the pleasure of the general public but subject to certain conditions. If those conditions are not amenable to the Conservation Commission and Selectmen than a preservation easement would be the alternative.
- Who will manage the hunting lottery?

Response: The Grisets have allowed 4 veterans to hunt the property for the past three decades. They wish to continue to honor our veterans in this way. Priority would be given to Disabled Veterans. Future vacancies would be filled by the chosen veterans' organization and annual notification of the selections given to the Town each year. Notification by the Town that only restricted hunting by "special permit" is allowed on the property.

- As above, it is unclear who is responsible for the expenses of beaver and coyote control, what type of control is proposed and how it will be determined when it is needed.

Response: This will be reviewed with the conservation commission.

- Further details are needed on water development within the conservation area to ensure all parties are clear on what can and can't occur within the conservation area.

Response: This will be reviewed with the conservation commission.

- Boundary markers to be installed should be added to the conservation and open space plan set.

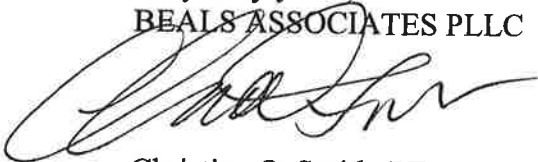
Response: The licensed land surveyor has added proposed monumentation as requested.

- Received Phase 1 Environmental Report. Remaining items: survey plan of the parcel, baseline documentation, boundaries confirmed with a joint walk between the owner/CC. Further discussion required on stewardship fees with details to be worked out further when deed terms are discussed.

Response: The owner is available to schedule a walk with the Cons. Comm. or individual members at their convenience. We are scheduled for their May 11th meeting to continue our discussion on all of the issues and details.

We trust the information and revised plans submitted here will address all cited areas of concern for this application. If you have any questions, please feel free to contact this office.

Very truly yours,
BEALS ASSOCIATES PLLC



Christian O. Smith, PE
Principal



CELEBRATING OVER 35 YEARS OF SERVICE TO OUR CLIENTS

LIZABETH M. MACDONALD
JOHN J. RATIGAN
DENISE A. POULOS
ROBERT M. DEROSIER
CHRISTOPHER L. BOLDT
SHARON CUDDY SOMERS
DOUGLAS M. MANSFIELD
KATHERINE B. MILLER
CHRISTOPHER T. HILSON
HEIDI J. BARRETT-KITCHEN
JUSTIN L. PASAY
ERIC A. MAHER
CHRISTOPHER D. HAWKINS
BRENDAN A. O'DONNELL
ELAINA L. HOEPPNER
WILLIAM K. WARREN

20 April 2021

David Sharples, Planner
Town of Exeter
10 Front Street
Exeter, NH 03833

RETIRED
MICHAEL J. DONAHUE
CHARLES F. TUCKER
ROBERT D. CIANDELLA
NICHOLAS R. AESCHLIMAN

Re: Planning Board Case #20-2, Griset Project

Dear David –

This correspondence responds to an issue raised by Planning Board Alternate Member Peter Steckler at the Town’s Conservation Commission meeting on 13 April and memorialized in your Staff Report dated 15 April 2021, all pertaining to the prime wetland delineation on the Mendez Trust Property, and potential implications regarding same on the yield plan accepted by the Planning Board in this case at its February meeting.

Executive Summary

Local delineation of prime wetlands must be done in accordance with statutory and regulatory processes inclusive of, among other things, notice to the affected landowner, a public hearing, Town Meeting vote, and acceptance by the New Hampshire Department of Environmental Services (“NHDES”). Following these procedures, the Town delineated prime wetlands in Exeter, including those on the Mendez Trust Property, in 2005. Though landowners may challenge local delineation of prime wetlands via a process outlined in New Hampshire’s Administrative Rules, as McFarland Ford did in its recent land use applications, in this case, the Grisets are not challenging the Town’s prime wetland delineation on the Mendez Trust Property nor its 100’ buffer, which have been accurately depicted on all of the Grisets’ plans, to include the Planning Board accepted yield plan. As a result, and because the Town has no authority to alter the prime wetland delineation on the Mendez Trust Property at this juncture, the Town’s 2005 prime wetland delineation is the law of this case and the Planning Board’s acceptance of the yield plan was appropriate. The Planning Board should therefore engage its review of the Grisets’ site plan proposal.

DONAHUE, TUCKER & CIANDELLA, PLLC
16 Acadia Lane, P.O. Box 630, Exeter, NH 03833
111 Maplewood Avenue, Suite D, Portsmouth, NH 03801
Towle House, Unit 2, 164 NH Route 25, Meredith, NH 03253
83 Clinton Street, Concord, NH 03301

Discussion

1) Prime Wetlands

- **Definition and Delineation**

Pursuant to State statute, “prime wetlands” are defined as the “any contiguous areas [of wetlands as defined by the statute] that, because of their size, unspoiled character, fragile condition, or other relevant factors, make them of substantial significance.” RSA 482-A:15, I-a. Prime wetlands “shall be at least 2 acres in size, shall not consist of a water body only, shall have at least 4 primary wetland functions, one of which shall be wildlife habitat, and shall have a width of at least 50 feet at its narrowest point.” *Id.* Finally, the “boundary of a prime wetland shall coincide, where present, with the upland edge of any wetland . . . that is part of the prime wetland.” *Id.*

In New Hampshire, local designation of prime wetlands is governed by the same statutory scheme. See RSA 482-A: 15¹. Specifically, any municipality “may undertake to designate, map, and document prime wetlands lying within its boundaries” by performing a statutorily delineated process, as supplemented by the State’s Administrative Rules. RSA 482-A:15, I(a). See also Env-Wt 703. Specifically:

- The Town must give written notice to the owner of the affected land and all abutters 30 days prior to conducting a public hearing. RSA 482-A:15, I(a).
- Maps that depict wetland boundaries have to be prepared and landowners having proposed prime wetlands on their property must be informed of the boundary delineation. RSA 482-A:15, I(b).
- Any new designation of a prime wetland, or an alteration of the boundary of a prime wetland must be conducted utilizing wetland delineation methods as adopted by NHDES. RSA 482-A:15, I(b).
- The Town must comply with rules established by NHDES relative to the form, criteria, and methods used to designate, map and document prime wetlands, determine boundaries in the field, and amend maps and designations once filed and accepted by NHDES. RSA 482-A:15, I-b.
- The procedure for acceptance in a Town like Exeter, which has a Town Meeting form of government, would have to follow the process outlined in RSA 675:3, generally applicable to the adoption and amendment of Zoning Ordinances, to include the requirement for public hearing and Town Meeting vote pursuant to RSA 482-A:15, II.
- NHDES has to accept the Town-designate prime wetlands characterization. RSA 482-A:15.

¹ NHDES has also promulgated requirements through its administrative rules regarding municipal designation of prime wetlands. See Env-Wt 700, *et seq.*

- **Town of Exeter Prime Wetlands**

The Town of Exeter went through the above statutory process in 2005 to adopt the 2005 Prime Wetland Report (the “2005 Report”) which depicts the Town’s prime wetlands. The 2005 Report generated the Prime Wetlands Map of Exeter, New Hampshire (the “Town’s Prime Wetlands Map”). The Town’s Prime Wetlands Map is the authority in Exeter regarding what is, and what is not, prime wetlands. **Importantly, we note that the prime wetlands on the Mendez Trust property as depicted on the Grisets’ project plans is identical to the prime wetland designation depicted on the Town’s Prime Wetlands Map.**

- **Challenging Prime Wetland Designations**

Env-Wt 703.05 highlights the sequence of events regarding local designation of prime wetlands and challenges to same. First, the Town designates the wetlands utilizing the process outlined above. Thereafter, if an applicant disagrees with the delineation, they have a regulatory avenue to challenge the same as outlined below.

After a Town has designated its prime wetlands using the above process, individual property owners have the right to challenge boundary designations pursuant to the process outlined in Env-Wt 703.05. Specifically, any applicant “whose proposed project is adversely affected by a boundary of a prime wetland ...” designated by the Town pursuant to the process outlined above, “or who desires a more precise delineation of that boundary at a project site ...” may “present data, delineations, and other evidence to [NHDES] and to the local authority responsible for the initial delineation to show an alternative location of the boundary.” Env-Wt 703.05.

After a challenge is raised by an applicant, the Town has the obligation to, within 90 days, notify the applicant and NHDES of whether or not the Town agrees that the boundary should be changed, and, if so, submit new or revised maps and documentation. Env-Wt 703.05(a) and (b). Where there is a dispute between the landowner and the municipality regarding the prime wetland delineation, NHDES makes the final determination based on the data and evidence submitted and an on-site review of the area with the applicant and representatives of the Town responsible for the delineation. Env-Wt 703.05(d).

The statute and regulatory scheme include no mechanism for a municipality to challenge its own prime wetland delineation short of re-designating them pursuant to the process outlined above, inclusive of notice to the landowner, a public hearing, and Town Meeting vote.

- **2012 Statutory Changes**

In 2012, the State legislature amended RSA 482-A:5 by, among other things:

- Requiring written notice be provided by the Town to land owners of land which would be affected by prime wetland delineation efforts of the Town;
- Regarding the definition of “prime wetlands”, adding the word “contiguous” before “areas falling within the jurisdictional definitions ...” in RSA 482-A:15, I-a; and

- Adding broadening the definition of “prime wetland” in RSA 482-A:15, I-a.

2) Discussion²

The question regarding the prime wetland located on the Mendez Trust Property originated from Planning Board Alternate Member Peter Steckler at the Conservation Commission hearing on 13 April when he stated:

My second [comment] is related to a case that was in front of the Planning Board recently, the McFarland Ford property, where there was a prime wetland, and Mr. Gove indicated that based on recent laws the prime wetland boundary expands to the edge of the wetland, and I don't know the answer to this, I'm interested in Mr. Gove's response, whether that's the case ... for this particular site and the prime wetland on the Mendez Trust portion of the property. And if that's not the case, why not here, when that was the case at the McFarland Ford site...

See 13 April 2021 Conservation Commission Hearing, video at 2:06:00. Jim Gove responded to Mr. Steckler in real time during the Conservation Commission meeting. See Conservation Commission Hearing at 2:07:40.

This issue was also raised in the Planning Board Staff Memo dated 15 April 2021 as follows:

One point raised at the Conservation Commission was in regards to the Prime wetland boundary. The question was raised if the Prime wetland boundary on the plan needed to be adjusted as there are contiguous wetlands around the boundary. Staff requested that the Applicant's wetland scientist review the Prime wetland boundary to determine if there are revisions that should be made. Depending upon the result of this determination, the board may have to revisit the yield plan. For example, if the boundary is revised and the buildable areas shown on the yield plan are now within the wetland setback then the yield plan should be reviewed in light of the new information.

Staff Report, 15 April 2021.

In response to this issue, and based on applicable statutory and regulatory law, the Grisets offer the following.

First, the Griset proposal is distinguishable from the McFarland Ford project. In the McFarland Ford matter, as Jim Gove discusses in the attached analysis, the applicant challenged the delineation of the prime wetland set by the Town's Prime Wetlands Map because “the prime wetland boundary extended into uplands owned by McFarland Ford.” See Jim Gove Memorandum, 19 April 2021. Thereafter, at the request of NHDES, the development team

² The below legal analysis is corroborated by the Memorandum from Jim Gove of Gove Environmental Services, Inc. dated 19 April 2021, enclosed herewith as the lone enclosure.

David Sharples, Planner
Town of Exeter
20 April 2021
Page 5

modified the prime wetland boundary in the vicinity of the project to remove uplands from the prime wetland designation and extend the prime wetland in areas adjacent to the project to the wetland boundary. *Id.* The critical thing to note in that example is that the applicant, McFarland Ford, was challenging the prime wetland designation as set by the Town and depicted on the Town's Prime Wetlands Map.

In this case, the prime wetland delineation on all of the Grisets' plans mirror identically the delineation depicted on the Town's Prime Wetlands Map and the yield plan respects the applicable 100' buffer. Further, unlike McFarland Ford, the Grisets are not challenging the Town's delineation of the prime wetlands.

Without a challenge from the Grisets, the Town has no authority to alter the prime wetland boundary without complying with all of the statutory and regulatory requirements to do so, as summarized above, to include notice to the applicant, public hearing, vote by the Town Meeting, and acceptance by NHDES. Moreover, the Grisets application would be vested against any changes to the prime wetland designation on the Mendez Trust Property.

To summarize, the Griset case is distinguishable from the McFarland Ford case where the applicant was challenging the Town's Prime Wetland Map from 2005 because here, the Grisets are not challenging the Town's prime wetland delineation. Moreover, the Town has no statutory or regulatory authority to challenge its own delineation at this time. As such, the Town's Prime Wetland Map from 2005, and the corresponding 100' buffer, both of which are accurately depicted on all of the Grisets' plans, is the law of this case. Because the yield plan accurately depicts the prime wetland and associated buffer, the yield plan was correctly determined by the Planning Board to be reasonably achievable, viable, and feasible.

Conclusion

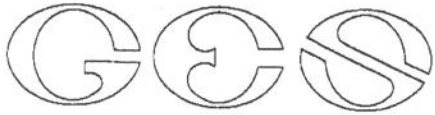
We respectfully request that the Planning Board consider this a closed issue and proceed to site plan review in this matter. Thank you very much for your time and attention and let me know if you have any comments or questions. We appreciate a copy of this letter being forwarded to the Planning Board for its consideration.

Very truly yours,
DONAHUE, TUCKER & CIANDELLA, PLLC



Justin L. Pasay
Enclosure

Cc: Brian Griset
Jim Gove, CSS, CWS, Gove Environmental Services, Inc.
Christian Smith, P.E., Beals Associates, PLLC



GOVE ENVIRONMENTAL SERVICES, INC.

MEMORANDUM

4-19-2021

GES PROJECT 2018195

RE: GRISET PROJECT – PRIME WETLAND LOCATION

SUBJECT: APPLICATION OF LAW AND RULES

PREPARED BY: JP GOVE, GES, INC.

There has been a question raised regarding the location of the Prime Wetland on the Griset land due to previous permitting actions that dealt with McFarland Ford project. The criteria that applies is both statutory and regulatory in nature, as follows:

1) Amendments to RSA 482-A:15: 2012, 235:2 Aug. 17, 2012 • Requirements established for a prime wetlands to be at least 2 acres in size; to not consist of a water body only; to have at least 4 primary wetland functions, one of which must be wildlife habitat; and to be at least 50 feet wide at its narrowest point • Department must notify local authority prior to issuing a permit for projects in a designated prime wetlands or within 100 feet of any prime wetlands where a 100-foot buffer was required at the time of designation (i.e., on or after Sept. 11, 2009 but before Aug. 17, 2012).

2) Env-Wt 703.05 Challenges to Prime Wetlands Boundaries.

(a) An applicant whose proposed project is adversely affected by a boundary of a prime wetlands, or who desires a more precise delineation of that boundary at a project site than provided pursuant to Env-Wt 703.02(c)(1), may present data, delineations, and other evidence to the department and to the local authority responsible for the initial delineation to show an alternative location of the boundary.

(b) Subject to (c), below, within 90 days of receipt of information provided pursuant to (a), above, the local authority shall review the information and: (1) Notify the applicant and the department of whether or not they agree that the boundary should be changed; and (2) If so, submit new or revised maps and documentation as required by Env-Wt 703.01 for the new boundary.

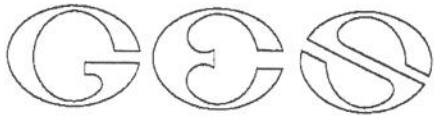
(c) If snow covers the existing boundary, the proposed boundary, or both when the information is submitted, the local authority shall act as specified in (b), above, within 90 days of the date on which the ground is visible.

(d) In the event of a dispute, the department shall make the final delineation based on the data and evidence submitted and an on-site review of the area with the applicant and representatives of the local authority responsible for the delineation.

The above law and rule makes it clear that only the Department of Environmental Services (DES), has the authority to modify a designated prime wetland boundary. Neither the applicant, nor the consultant, nor the Town has the authority to modify the prime wetland boundary.

Regarding McFarland Ford:

8 Continental Dr Unit H, Exeter, NH 03833-7507
Ph (603) 778 0644 / Fax (603) 778 0654
www.gesinc.biz
info@gesinc.biz



GOVE ENVIRONMENTAL SERVICES, INC.

The applicant challenged the designated prime wetland boundary as it was depicted on the GIS mapping of the Exeter, because the prime wetland boundary extended into uplands owned by McFarland Ford. At a pre-application meeting at DES, the development team was instructed to modify the prime wetland boundary in the vicinity of the project to remove uplands from the prime wetland and extend the prime wetland in areas adjacent to the project to the wetland boundary. No other changes to the prime wetland boundary were requested by the DES beyond the immediate vicinity of the project. Based upon the modification of the prime wetland boundary, the applicant submitted a dredge and fill application to the DES, which has been approved.

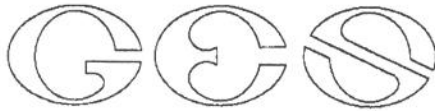
Regarding Griset:

In accordance with 482 A:15 and Env-Wt 700, Gove Environmental utilized the Town and State approved Prime Wetlands delineation located on the Town of Exeter's website GIS mapping tool. Configuration was confirmed with the Town's current Official Prime Wetlands' map as being identical. The plotting of the Prime Wetlands' boundaries are plotted on the plans accordingly.

Both the accepted Yield Plan and the Open Space Development do not propose any disturbance within the Prime Wetlands or its 100-foot buffer. Therefore, no modification application is required.

The applicant is not challenging the prime wetland boundary. Because Env-Wt 703.05 is not being requested by the applicant, there will be no request to the DES to modify the prime wetland boundary. The Town has no legal authority given by the rule or statute to modify their own designated prime wetland boundary that was created by Town meeting and by Town vote. Therefore, there is no requested adjustment to the prime wetland boundary.





GOVE ENVIRONMENTAL SERVICES, INC.

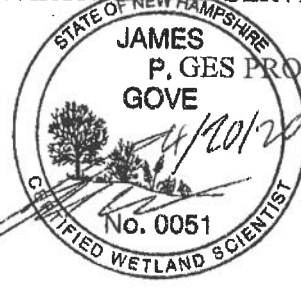
MEMORANDUM

4-19-20231

REGARDING: GRISET PROJECT

SUBJECT: SWAMP WHITE OAK

PREPARED BY: JP GOVE, GES, INC.



The question has come up regarding the presence of swamp white oak on the Griset parcel and if this would qualify as a swamp white oak basin swamp. A request has been made for an opinion from us.

For this project, an email response was given by the NH Natural Heritage Bureau.

From: Lamb, Amy <Amy.E.Lamb@dncr.nh.gov>

Sent: Tuesday, April 13, 2021 3:10 PM

To: Luke Hurley <lhurley@gesinc.biz>

Subject: RE: Swamp White Oak

Hi Luke,

There are two swamp white oak-dominated natural communities in NH:

Swamp white oak basin swamp

Swamp white oak floodplain forest

They are both ranked S1 in NH or critically imperiled. Occurrences may be exemplary if they meet specific criteria.

This is the best place for detailed info about each community.

https://www.nh.gov/nhdfl/documents/webversion_tech-manual.pdf

Thanks, and let me know if you have any other questions,

Amy

In response: To be clear, neither the applicant, the consultant nor the Town can designate an area as an S1 swamp. This is only done by the Natural Heritage Bureau which follows requirements much more extensive than required by the subdivision application. If the Town does acquire rights to portions of the property after approval of the application, it could request such a determination from NHB.

The pros for designating this area as a Swamp White Oak Basin Swamp is the location on the Coastal Lowland of NH and that the soils are marine sediments. Where areas have not been mowed, the understory of highbush blueberry, sheep laurel and cinnamon fern are present. The cons for designating this area as a Swamp White Oak Basin Swamp is the criteria that swamp white oak dominates the canopy. As was identified on site, the swamp white oaks occur in clusters. Some are clustered around the mowed field. Others are clustered in the red maple forested sections of the site. It is not clear that swamp white oak would be considered dominating the canopy.

Again, this consultant is not in a position to designate this area any kind of exemplary community, however, it appears that the scattered groupings of the swamp white oaks may not qualify as dominating the canopy.

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5 May 2021

David Sharples, Planner
Town of Exeter
10 Front Street
Exeter, NH 03833

Re: Planning Board Case #20-2, Griset Project

Dear David –

This correspondence supplements and revises a conclusion asserted in my letter to you dated 20 April 2021 which pertains to the prime wetland delineation on the Mendez Trust Property (the “Letter”). Specifically, my letter asserts, among other things, that the prime wetland boundary on the Mendez Trust Property is accurately depicted in accordance with the Town of Exeter’s 2005 Prime Wetlands Map on all of the Grisets’ filed plan sets. After the filing of the Letter, however, upon receiving the request for a “boundary appeal” from abutters to the Project under the Zoning Ordinance, and upon engaging an exhaustive several-day research initiative lead by Brian Griset to provide evidentiary confirmation of our conclusion to the Town and Planning Board, it was discovered that a minor 73’ discrepancy of the depicted prime wetland boundary on the Mendez Trust Property exists between the Grisets’ filed plan sets and the Town’s 2005 Prime Wetlands Map.

The plotting mistake which lies at the foundation of this error is one not only made by the Applicants’ surveyor and development team, but, as detailed at great length in the enclosed analysis from Brian Griset, by the Town of Exeter and its environmental consultants over the last 19 years.

The corrected prime wetland boundary delineation has a minor impact on the buildable areas of Lots 5 and 6 of the Yield Plan. As adjusted, those buildable areas still exceed, by several times, the Planning Board’s 25’ x 25’ buildable area standard for Yield Plan lots. As a result, Lots 5 and 6 specifically, and the entirety of the Yield Plan, remain reasonably achievable, feasible and viable as the Planning Board previously determined.

DONAHUE, TUCKER & CIANDELLA, PLLC
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111 Maplewood Avenue, Suite D, Portsmouth, NH 03801
Towle House, Unit 2, 164 NH Route 25, Meredith, NH 03253
83 Clinton Street, Concord, NH 03301

David Sharples, Planner
Town of Exeter
20 April 2021
Page 2

In light of our discovery, we are revising all plan sets to depict the slightly adjusted prime wetland boundary which will be, as adjusted, completely consistent with the Town's 2005 Prime Wetlands Map. The Grisets will not be exercising their statutory right to challenge the prime wetland delineation on the 2005 Prime Wetlands Map. Rather, they hope to make forward progress in this matter. To that end, we will be filing a revised 17-Unit Yield Plan depicting the correct prime wetland delineation for review and consideration by the Planning Board at the 27 May 2021 meeting and would ask that the Planning Board vote to reapprove the same at that meeting.

We appreciate the opportunity to correct the record on this matter and direct your attention, and that of the Planning Board, to the enclosed analysis from Brian Griset which outlines in great detail the context and history surrounding this issue. We also note that all other factual and legal conclusions in the Letter, including those pertaining to the statutory process for delineating and amending prime wetland boundaries, remain valid.

Thank you for your time and consideration and do not hesitate to let me know if you have any comments or questions.

Very truly yours,
DONAHUE, TUCKER & CIANDELLA, PLLC



Justin L. Pasay
JLP/LH

Enclosure (1)

Cc: Brian Griset
Jim Gove, CSS, CWS, Gove Environmental Services, Inc.
Christian Smith, P.E., Beals Associates, PLLC

To the members of the Planning Board and the Conservation Commission:

Introduction:

Two issues have been raised in recent weeks relating to the prime wetland delineation on the Mendez Trust Property and potential implications of that delineation on the Yield Plan previously approved by the Planning Board. Those issues are as follows:

- First, a question was raised by Alternate Planning Board member Peter Steckler during our recent Conservation Commission appearance regarding whether the plotting of the prime wetlands on our plans is in accordance with recent changes in New Hampshire State Law.
- Second, Town Staff raised a question about whether any issue with the delineation of the prime wetland on our plans, should one exist, could invalidate the Planning Board's approval of 17 lot Yield Plan due to the elimination of one or more lots.

In light of these issues, I provide this report after an exhaustive investigation into the delineation of the prime wetlands on my property which included research all available Town records pertaining the Town's adoption of the existing 2005 Prime Wetlands Report and corresponding map. I initiated this investigation to confirm that the plotting of the Town's voter approved, Prime Wetlands Overlay District, specifically those prime wetlands on the Mendez Trust Property known as Prime Wetlands #26, was accurately portrayed on our submissions in accordance with RSA 482-A:15 and the Town Zoning Ordinances.

Specifically, my investigation included in depth discussions with the Planning Staff and the review and analysis of the following documents and informational sources:

- Filed Existing Conditions Plan.
- Filed and approved Yield Plan.
- Current published Prime Wetlands Map of Exeter New Hampshire from 2005, updated to include April 1, 2020 property lines which reflects the Prime Wetland on the Mendez Trust Parcel as Prime Wetlands #26. Sheet 2 attached.
- Town of Exeter's current online GIS mapping tool.
- Current NHDES PRA mapping tool.
- NWI online Mapper.
- The complete Town file of the 2007, voter approved and State Registered "2005 Prime Wetlands Map", the Nov. 2005 Prime Wetlands Report" prepared by West Environmental as lead consultant and all supporting documents within the file. Relevant documents attached.
- The 1983 Town approved, and Town Planning Department prepared Prime Wetlands Map dated Jan, 1983 which was approved and registered with NHDES in 1985. Map attached.

Concurrently, a legal review of the Statutes, corresponding State administrative rules and applicable local regulations was conducted by Attorney Justin Pasay in consultation with Jim Gove. That opinion was previously filed and will be supplemented by Justin in advance of the next Planning Board hearing in this case.

We have been informed Town Counsel's opinion has been sought on these issues by the Board which we appreciate.

Executive Summary:

After exhaustive research, I determined that a slight (approximately 73') adjustment to the prime wetland delineation on the Mendez Trust Property is warranted in light of a plotting mistake made, not only by my development team, but by the Town of Exeter and its environmental consultants over the last 19 years. The plotting mistake has no effect on the Planning Board accepted Yield Plan except to slightly reduce the buildable areas on Yield Plan Lots 5 and 6, which still exceed, by multiple times, the Planning Board's standard 25' x 25' (625 square feet) buildable area requirement for Yield Plans. As a result, all 17 lots on the Yield Plan remain reasonably achievable, feasible, and viable.

We are not appealing the erroneous boundary. We are making the required change to the plotted Prime Wetland Boundary and all other required adjustments.

We are revising the 17 Unit Yield Plan to accommodate the smaller buildable areas on Lots 5 and 6 and we can confirm they comply with all Zoning, regulatory and Planning Board standards of record.

We will be prepared to move forward at the May 27th Planning Board meeting to have our slightly adjusted 17-unit Yield Plan reapproved and are ready to discuss the CUP permits and all other Subdivision and Site Plan matters.

Conclusions: My executive summary above proceeds on the following foundational conclusions which are explained in greater detail in the analysis below.

1. There was no attempt to deceive the Board.
2. I and my development team repeated the same error that was previously made by the Town and its consultants over the past 19 years.
3. In 2002, Aerial Photo interpreter Janice Stone accurately determined the shape of prime wetlands #26 boundary, both topographically and using the 1995 Aerial photography for vegetation identification, with the exception of the last 73 feet of the area in question adjacent to the railroad and the uplands.
4. In 2002, Aerial Photo interpreter Janice Stone accurately determined topographically the break line between wetlands area and the uplands area and its configuration of the area in question, but in a transposition error, working off two separate photographs, inaccurately placed that line 73 feet into the uplands when delineating the line on the single, merged and combined 1995 photo provided to West Environmental.
5. After that, West Environmental, which conducted the field confirmation of the delineation, located the correspondingly shaped break point in topography, slope and upland v. wetlands and incorrectly assumed it was accurately located on the aerial photo used to create the 2005 Prime Wetlands Map.
6. When plotting the Prime Wetlands Overlay District boundary, our surveyor also incorrectly assumed that the matching topography and end of wetlands was the end of prime wetlands and that the field delineated wetlands/uplands line located by the Town (see number 5 above) was the proper location.
7. I and my consulting engineer also assumed that the Prime Wetland District Boundary, established in 2005, was concurrent with the wetland delineation line and the Prime Wetland boundary which are correctly delineated.
8. This error on our Existing Conditions and Yield Plan is confined to the limited area adjacent to the railroad ROW and only a portion of the boundary line where the end length of 150 feet of

the Prime Wetland Boundary was placed not where the Voters approved it, but rather, where the edge of the Prime Wetlands met the delineated uplands which was the correct location for 2005 delineation purposes.

9. Our correction of the Prime Wetland boundary on our plans and the accurately plotted location of the 2005 voter approved map in 2007 matches the current 2021 edition of the Exeter Prime Wetland Map boundary and does not adversely affect the proposed development or the Yield Plan.
10. For Conservation Commission purposes, the entire area in question is being proposed as perpetual protected open space and for CUP review purposes our application remains the same.
11. For Planning Board purposes both the Yield Plan and the proposed site development do not encroach on either the Prime Wetlands or the 100-foot Prime Wetlands protective buffer.

Investigation Analysis:

Attached Existing Conditions Sheet 4 of 4 with Town of Exeter GIS Town Map Overlay:

Process: This working document utilizes our previously filed Existing Conditions survey as the base map for the area at issue. Our first effort was to try and confirm that our submitted plans we completely accurate.

We have overlaid that plan with a scaled overlay of the same area from the Town's GIS Mapping tool. As the GIS utilizes Town Tax Maps which are not of survey quality and have distortions, we attempted multiple orientations to achieve the most accurate overlay.

The most accurate overlay of the Town GIS map utilized the known single bearing common property line with the railroad with the known surveyed distance of 1139.24', and overlaid the same boundary, pin to pin, from the GIS map. As confirmation, we found the Town Prime Wetland Boundary line encroachment reflected within the Railroad right of way matched the 30' topographical contour exactly.

We next found that the two-segment northwest boundary line identically matched the bearings and distances of the survey.

For confirmation of the width facets of the overlay we found that while the width of the central prime wetlands appears slightly expanded to the west. The location of the Scamen Brook is spot on for much of its length with some deviations in the center but at the top and bottom of the plan it is only off by 6 to 8 feet, a 1% error factor which can be explained by the manual conversion of the Nov. 2005 onto the GIS format.

And last, the common boundary between the Griset and Mendez parcels show that the Town Tax Map depiction of the first segment is consistent with the survey and is accurate but then it fails to follow along the second segment.

So, the three located boundaries are accurately scaled to length and location and the Scamen Brook provides confirmation for the northwest orientation.

Taking into account the distortions contained in Town Tax Maps, for scaling purposes of matching the Town GIS Mapping to the Mendez Trust parcel survey, we believe the error factor in the overlay vertically to be less than .01% and horizontally to be less than .5%, the best that can be achieved.

Discovery: Once the overlay was completed, two things became obvious. First, at a single location adjacent to the railroad, our Prime Wetlands plotting did not match the configuration found in the Town's GIS Prime Wetlands layer, and 2. At this location, approximately 73 feet into the uplands, the Town's Prime Wetlands Boundary did not match either the topography where it was laid out nor the Gove delineated upland/wetland boundary. Upon activating the GIS "wetlands" layer we found that Jim Gove's delineation matched that layer. It was the Prime Wetlands Boundary that was in error.

This raised two new issues for investigation to be pursued:

1. Did the new plotted Exeter Prime Wetland Boundary impact the approved 17-unit Yield Plan buildable area to the degree that a unit would become unbuildable?

The simple answer is no based upon the overlay plan we have created and to which we added revised layouts for Lots 5 and 6.

Corrected plans will be prepared in full compliance with NH State Law 482-A:1 for your review and approval at our next scheduled meeting on May 27th.

The correction results in expanding the Prime Wetland Boundary line on Lot 6 an average 73 feet into the erroneously included upland at just the northern most end to match the 2007 voter approved boundary.

Based upon a full review of our options we have decided not to challenge or appeal the boundary location even though it is clearly erroneous and does not comply with the Statute. We wish to move forward without complicating the process even further.

To move forward, we are revising Lots 5 and 6 of the approved Yield Plan to remove the now non-buildable area from the plan.

Both Lots 5 and 6 will still comply with all Zoning Ordinances and Regulations previously ruled upon, the only difference is that the oversized buildable areas depicted on the Yield Plan that was approved, have been slightly reduced as shown on the "overlay" plan.

Specifically, Lot 5's highlighted buildable area is 1,908 square feet. The new Lot 5's buildable area is 305% above the Board's minimum standard. It facilitates a 30' by 57' "typical house". The chosen two-story house design would offer 2,164 square feet of living space in addition to a two-car garage.

Lot 6's highlighted buildable area is 1,471 square feet. The new Lot 6's buildable area is 235% above the minimum standard set by the Board. It facilitates a 32' by 44' "typical house". The chosen house tri-level design would offer 2,654 square feet of living space in addition to a two-car garage.

The buildable areas on both Lots 5 and 6 well exceed the Board's standard of a 25-foot by 25-foot square building envelope, or 625 square feet.

Therefore, the reconfigured Lots 5 and 6 still meet the Zoning requirements and the buildable area standard set by the Board and they are reasonably achievable, feasible and viable. No other changes are made other than a slight boundary change at the building sites to accommodate the modified configuration. All other details, conditions and criteria reviewed by the Board during the previous approval of the Yield Plan remain the same.

This should address the staffs' first concern.

We respectfully request the Board reapproved the 17-unit Yield Plan so together we can proceed, without delay, with the Subdivision and Site Plan review portion of our application.

2. The second question raised by our discovery regarding the prime wetland delineation on the Mendez Trust Property was why was the 2005 Prime Wetland Boundary mis-plotted by the Town in 2005 and subsequently by my surveyor?

The conclusions reached by my investigation are based upon the documentation contained within the Town's file for the 2005 Prime Wetlands Report. The file contains limited documentation of the project other than the final report and limited communications. No work papers or inter-consultant correspondence other than one letter are in the files. That being said, a few definitive conclusions can be made.

1) 1983 Town approved Prime Wetlands Map:

The file contains a hand-colored version of the 1983 Town approved Prime Wetlands Map but not the report. It has a date of "Rcd 12/99" in the upper right corner.

This map, the first Prime Wetlands Map created in NH, relied exclusively upon the May 1977 Soil Conservation Service "Soil Survey, Town of Exeter, Rockingham County, NH" utilizing the very poorly drained soils delineations. The USDA map was created from broad field soil classifications and hand drawn delineations. Useful for many purposes but crude in comparison to today's technology.

For the area in question along the railroad you will see that the soil delineation line and the 1983 Prime Wetlands boundary is on a diagonal line from the upland projection on the Mendez Trust parcel that continues over the railroad.

At some point prior to 2002, the Exeter Conservation Commission along with the Planning Department decided to upgrade the Town's Prime Wetlands map utilizing new topographical data and the latest improved Aerial Photography from 1995.

2) 2005 Prime Wetlands Report Documentation:

The final November 2005 Report was received by the Conservation Commission on 1/10/06. (upper right-hand corner).

Page 2 documents and confirms some of the historical events leading up to the project, the intent, the proposed reliance upon aerial photo interpretation and topography for new delineations which was then supposed to be confirmed by field verification.

The first part of Page 3 goes into greater detail of the basis for the 1983 Map and its approval history. The last paragraph introduces photo interpreter Janice Stone and describes the process and criteria for how she will create the updated Prime Wetland delineations from the 1995 photos using a scale of 1 inch to 600 feet. This ratio is important as a 1/8th inch error equates to a 75-foot error.

At this point it is relevant to introduce a letter from the Aerial Photo interpreter Janice Stone to West Environmental which adds further context to the limitations and difficulties related to photo interpretation.

3) Letter: Janice Stone to West Environmental dated September 23, 2002.

This is a transmission cover letter which communicates that Janice is returning the original 1995 black and white aerial photographs along with her set of photo-interpreted pictures. Janice further adds that she also relied on the NWI and specifically states that its wetland delineations are quite different than the existing 1983 Town map. Unfortunately, she is non-specific regarding which specific Prime wetland areas differ.

As for her challenges she adds:

2nd Paragraph: "There was quite a bit of beaver activity in town, and I think a lot of the wetlands have changed because of it. I imagine you will find things very different too, since the photos are from 1995."

This is understandable as by 1995 the reintroduced and protected beaver population (1967), without natural or human predators, had exploded across the State. In fact, the 1977 USDA Soil Map documented the effects of a beaver dam on the Little River utilizing the railroad crossing which created the "ponded" area reflected as soil index 197 which is described as "ponded due to beavers." Of note, as of 2002 that area had not been ponded by beavers for a decade and this would have confused the actual field verification process.

3rd Paragraph: "There were a few areas where the stereo coverage was incomplete because the photos had insufficient (or in one or two cases no) overlap. Several of the larger wetlands extend across a couple of photos, and I tried to note that on each photo." (Emphasis added)

Back to Report: This was exactly what happened in the case of Prime Wetland #26 and is confirmed by West Environmental. On page 9 of the report under "Findings" they describe in the first paragraph the final results of the project then continue on by stating:

"Some of the larger wetlands cover several aerial photos, while several smaller wetlands may be found on just one photo. When wetlands cover more than one aerial photo, the photographs were merged to show the entire wetland (for example, see Prime Wetlands #1, 10, 26...)." Confirmation of this is the actual finished product, Grouping Map #6.

Within the 2005 Report and reflected on page 1 of the report, the Table of Contents, under Maps/Data, Grouping Map #6 is described as "showing Prime Wetlands 26, 27 & 28".

The specific Grouping Map #26 is marked as page "20" in the right-hand corner. In this specific case, it is actually a compilation of three of the original delineated 1995 photos that have been used to create a single mapping photograph and it has been colorized, red for railroad, yellow for Town roads and blue for Prime wetland areas with yellow labels identifying each area.

The report contains no mention of the issues related to earth curvature distortion. Aerial Photography from the 1995 time period did not have geometric correction abilities as current satellite technology has today and therefore, spacial distortion occurs from the center of the photograph to its corresponding edges. This was not accounted for in the 2005 photo interpretations and instead relied on cutting, pasting, and overlaying maps to create a new "merged" map.

On Grouping Map #6, if you look closely you can see the merging lines of the 3 separate photographs. Remember these photographs were cut along subjective lines and overlaid over each other.

If you look at just the top half (Northwest side) of the photo you will see the distinct seam line running from the top middle of the page directly down through the Exeter Machine shop/Yetti Landscaping building on Kingston road and down through the area in question to the bottom of the photo just crossing the railroad. This separates the left and right sides of the pages. However, the left side picture has been trimmed shorter than the right and the third picture bottom left side has its top horizontal edge running across both the farm road and Tamarind Lane midway. Please note the obvious distortions resulting from this last merging location of the photos which resulted in 20 and 30 foot offsets of the two roadways.

Unfortunately, the junction of all three of these pictures occurred at a point exactly where the area of the erroneous Prime Wetland boundary was placed and this assuredly created the initial plotting error by Janice Green in her transcription onto the single, final Prime Wetland #26 mapping photo.

Back in the first paragraph on page 9 of the Report West Environmental states "The field verified Prime Wetland boundaries were digitized by Cartographic Associates, Inc..."

A review of Appendix B – Field Notes finds no field notes for Prime Wetland #26 for confirming the revisions to the proposed boundary locations.

If it was done, the field verification did not catch the merging error and the placement of the southern Prime Wetlands Boundary adjacent to the railroad. In that case it appears only the shape of the boundary edge, the 10+ percent upland slope topography and the vegetation was verified, but not the location.

NWI: The current National Wetlands Inventory Mapping tool has much greater accuracy than available in 1995, 2002 and 2005. It confirms the wetland/upland line is located where we reflect it is on our plans.

Exeter Prime Wetlands Map: At the time of creation of our survey and proposed development plans there was/is no Official Prime Wetlands Map posted at the Planning Office nor was/is the official map posted on the Town's website. The only location until April 15, 2021 of the 2007 Voter approved Prime Wetlands Map was the single colored PW layer for the overlay tool on the Town's GIS mapping tool.

On April 15, 2021 the Planning Department received printed copies of the "Town of Exeter Prime Wetlands Map" which has been updated to reflect the most recent parcel updates as of April 1, 2020. I was able to procure a copy of the new Sheets 1 & 2 on that date.

These maps document that up through April 15, 2021, and currently, the Town is continuing to rely upon the delineations contained in the Report of Nov. 2005 and the voter approved map.

Also, please note that non-Prime wetlands have been added to the Official 2021 Prime Wetland Map at multiple locations across the Town. Further, note that within the Prime Wetland #26 boundary on the Mendez Trust Property, the standard wetlands/uplands delineation line is well within the Prime Wetlands boundary at the critical location and is identical to Jim Gove's delineated wetlands boundary, the same location we erroneously plotted on our original submissions.

Conclusion:

We can conclude that we now know how the error occurred originally, how it was missed by West Environmental during its' review and how by repeating that mistake, our surveyor plotted the incorrect location for a small portion along the railroad at the upland edge without confirming the platted Prime Wetland boundary.

There was no gross error and absolutely no intent to mislead on the applicant's part.

We are in the process of correcting that error on all plans submitted.

This brings us full circle back to today.

Respectfully Submitted:

//s//Brian T. Griset

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR INFILTRATION REQUIREMENTS BY THE NH DES ALTERATION OF TERRAIN BUREAU. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP.

THE SITE SPECIFIC SOIL SURVEY (SSSS) WAS PRODUCED DECEMBER 17, 2019, AND WAS PREPARED BY JAMES P. GOVE, CSS # 004, GOVE ENVIRONMENTAL SERVICES, INC. THE SURVEY AREA IS LOCATED AT TAMARIND LANE, EXETER, NH.

SOILS WERE IDENTIFIED WITH THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND, USDA NRCS, DURHAM, NH, ISSUE # 10, JANUARY 2011. THE NUMERIC LEGEND WAS AMENDED TO IDENTIFY THE CORRECT SOIL COMPONENTS OF THE COMPLEX.

HYDROLOGIC SOIL GROUP FROM KSTAT VALUES FOR NEW HAMPSHIRE SOILS, SOCIETY OF SOIL SCIENTISTS OF NEW ENGLAND, SPECIAL PUBLICATION NO. 5, SEPTEMBER, 2009.

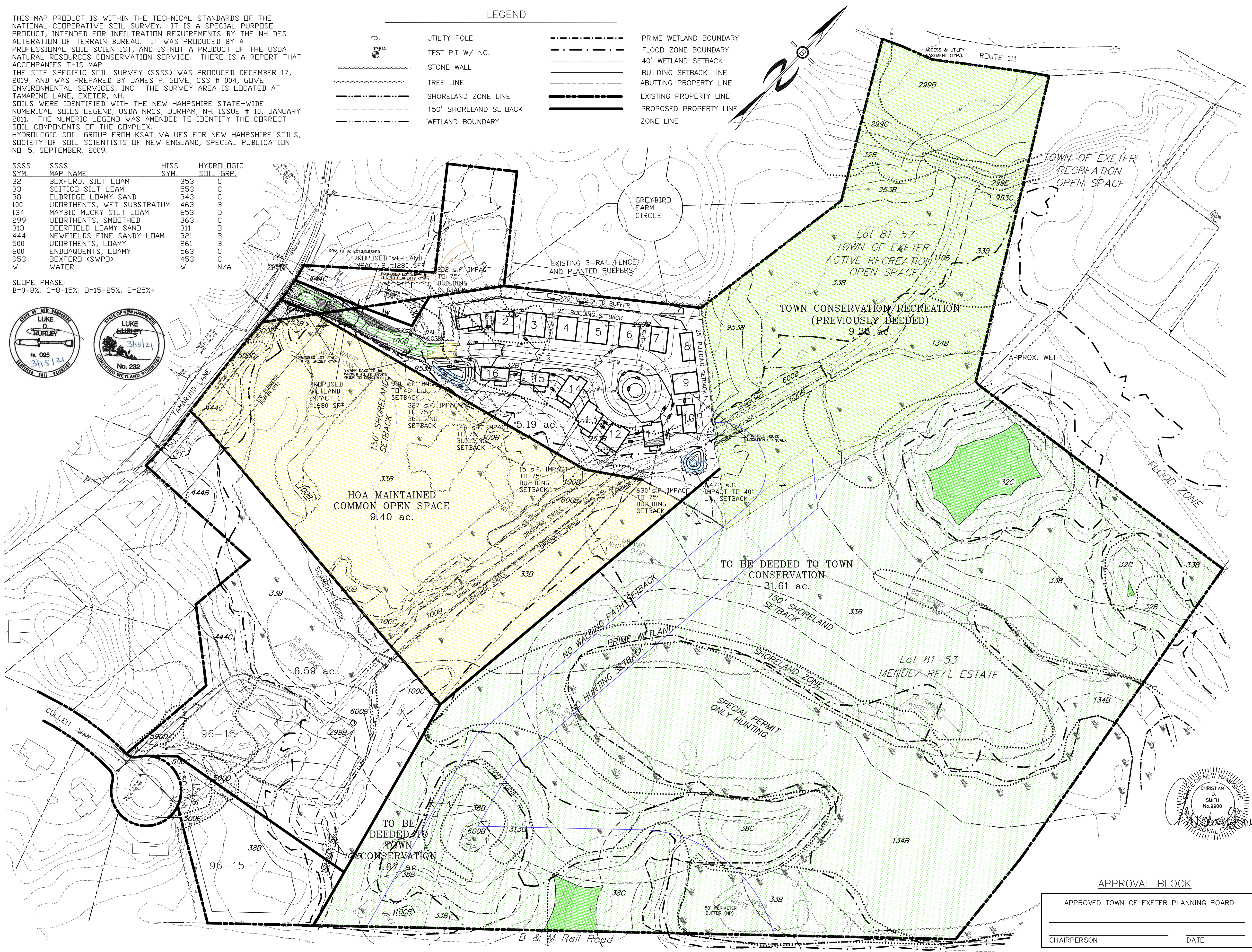
SSSS SYM.	SSSS MAP NAME	HISS SYM.	HYDROLOGIC SOIL GRP.
32	BOXFORD, SILT LOAM	353	C
33	SCITICO, SILT LOAM	553	C
38	ELDRIDGE, LOAMY SAND	343	C
100	UDRTHENTS, WET SUBSTRATUM	463	B
134	MAYBID, MUCKY SILT LOAM	653	D
299	UDRTHENTS, SMOOTHED	363	C
313	DEERFIELD, LOAMY SAND	311	B
444	NEWFIELDS, FINE SANDY LOAM	321	B
500	UDRTHENTS, LOAMY	261	B
600	ENDDAQUENTS, LOAMY	563	C
953	BOXFORD (SWPD)	453	C
W	WATER	W	N/A

SLOPE PHASE:
B=0-8%, C=8-15%, D=15-25%, E=25%+



LEGEND

	UTILITY POLE		PRIME WETLAND BOUNDARY
	TEST PIT W/ NO.		FLOOD ZONE BOUNDARY
	STONE WALL		40' WETLAND SETBACK
	TREE LINE		BUILDING SETBACK LINE
	SHORELAND ZONE LINE		ABUTTING PROPERTY LINE
	150' SHORELAND SETBACK		EXISTING PROPERTY LINE
	WETLAND BOUNDARY		PROPOSED PROPERTY LINE
			ZONE LINE



PREPARED FOR:
BRIAN GRISET
26 CULLEN WAY
EXETER, NH 03883

BEALS ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863

ZONING REQUIREMENTS

ZONE:	R1	NP
LDT SIZE =	40,000 SF	20,000 SF
MIN. FRONTAGE	150'	150'
MIN. DEPTH	150'	100'
MAX. HEIGHT	35'	35'
BUILD. SETBACKS:		
FRONT	25'	50'
SIDE	15'	20'
REAR	25'	50'
WETLANDS PD & VPD	75'	

WETLANDS BUFFER
40' POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER
50' VERY POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER
WETLANDS CONSERVATION OVERLAY DISTRICT
75' VERNAL POND NO CUT, NO DISTURBANCE BUFFER
100' PRIME WETLAND NO CUT, NO DISTURBANCE BUFFER
SHORELAND PROTECTION OVERLAY DISTRICT

NET TRACT AREA CALCULATION:
TOTAL TRACT AREA = 63.83-10% = 57.45 AC
LESS VPD = 10.76 AC
LESS 75% PD = .75x29.47 AC = 22.10 AC
NET TRACT AREA = 24.59 AC
30% OPEN-SPACE REQUIRED = 7.38 AC

PUBLIC OPEN-SPACE CALCULATION:
31.61 AC + 9.38 AC PREVIOUSLY DEEDED TO THE TOWN "BRICKYARD PARK". = 40.99 AC = 64% OF 63.83 AC.

LAND AREA TO BE DEEDED TO TOWN CONSERVATION:
8.34 AC, UPLAND
15.04 AC WETLAND (PD)
8.23 AC PRIME WETLAND (VPD)
TOTAL 31.61 ACRES

YIELD PLAN DENSITY CALCULATIONS:
17 LOTS COMPLYING WITH ALL R-1 ZONING REQUIREMENTS + 10% (1 LOT) DENSITY BONUS FOR DEEDING TO TOWN OVER 50% OF PARCEL FOR CONSERVATION OPEN SPACE. TOTAL YIELD = 17 + 1 = 18 LOTS.

WETLAND IMPACTS COMPARISON:
PLANNING BOARD APPROVED YIELD PLAN; WETLAND IMPACT = 12.157 S.F.
PROPOSED OPEN-SPACE SITE PLAN; WETLAND IMPACT = 2,960 S.F.
BUFFER IMPACTS FOR APPROVED YIELD PLAN NOT CALCULATED.

- THE PURPOSE OF THIS PLAN IS TO SHOW A SINGLE FAMILY PROJECT WITH 18 PROPOSED UNITS (16 CONDO. & 2 CONVENTIONAL); TO REFLECT LLA WITH 8 TAMARIND LANE TO REMOVE ROAD LIABILITY FROM ABUTTER, AND ACCESS DRIVES. UNIT FOOTPRINTS MAY VARY IN SIZE. PROPERTY IS SERVED BY MUNICIPAL WATER AND SEWER.
- PROPOSED DISTURBANCE (ROAD & DRAINAGE) = 1.25 ACRES.
TOTAL PROPOSED DISTURBANCE = 3.24 AC., NHDES AOT PERMIT REQUIRED.
- SWAMP WHITE OAKS (SWO) LOCATED IN THE FIELD BY JAMES GOVE, CSS, CWS ON 1-29-20 (SEE MEMO FROM GES DATE 2-4-20). THERE ARE AN ESTIMATED 235 SWO TREES 6" OR LARGER AT BREAST HEIGHT THROUGHOUT THE AREA NOT TO BE DEVELOPED, IN ADDITION TO 20 INDIVIDUAL TREES SURVEY LOCATED IN THE PROPOSED DEVELOPMENT AREA. TOTAL IMPACT OF SWO IS LIMITED TO 4.
- ENHANCED BUFFER OF 36,481 S.F. OF BUILDABLE UPLAND (OUTSIDE OF ALL SETBACKS) OFFSETTING 1,320 S.F. OF STRUCTURAL BUFFER IMPACT PROSPED. 27.6:1 RATIO OF MITIGATION. TOTAL DEDICATION OF PRESERVED CONSERVATION LAND PROPOSED TO BE DEEDED TO THE TOWN OF EXETER IS 31.61-ACRES, 1,572,516 S.F. (1,191:1 RATIO OF MITIGATION).

TOWN NOTES

THE APPLICANT HAS DESIGNED THIS SITE TO SAFELY ACCOMMODATE MAXIMUM SIZE VEHICLES AND TRUCKS. (DESIGN VEHICLE IS THE EXETER LARGER TRUCK OR 35' BOX TRUCK) EITHER DELIVERING TO, OR USING THE PROPERTY.

ALL SNOW SHALL BE STORED IN THE AREA(S) DEPICTED ON THIS PLAN AS SNOW STORAGE AREAS OR OFF PAVEMENT & SIDEWALKS. IN THE EVENT THAT THE AREA(S) APPROVED FOR SNOW STORAGE BECOME FULL, THE OWNER SHALL REASONABLY REMOVE EXCESS SNOW FROM THE SITE, AND SHALL NOT ALLOW SNOW TO BE STORED WITHIN TRAVEL AISLES.

ALL WASTE MATERIALS AND RECYCLABLE SHALL BE CONTAINED WITHIN THE BUILDING(S) OR APPROVED STORAGE FACILITIES AND SHALL NOT BE OTHERWISE STORED ON THE PROPERTY. REFUSE COLLECTION WILL BE BY CURBSIDE PICK-UP.

APPROVAL BLOCK

APPROVED TOWN OF EXETER PLANNING BOARD

CHAIRPERSON _____ DATE _____

REVISED PER CONS. COMM. COMMENTS	5-5-21
REVISED PER ERS COMMENTS	4-9-21
REVISIONS:	DATE:

CONSERVATION OPEN-SPACE/RECREATION PLAN

PLAN FOR:
RESIDENTIAL DEVELOPMENT
TAMARIND LANE
EXETER, NH

DATE:	MAR., 2021	SCALE:	1"=100'
PROJ. NO.:	NH-1154.1	SHEET NO.:	1 OF 1

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR INFILTRATION REQUIREMENTS BY THE NH DES ALTERATION OF TERRAIN BUREAU. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP.

THE SITE SPECIFIC SOIL SURVEY (SSSS) WAS PRODUCED DECEMBER 17, 2019, AND WAS PREPARED BY JAMES P. GOVE, CSS # 004, GOVE ENVIRONMENTAL SERVICES, INC. THE SURVEY AREA IS LOCATED AT TAMARIND LANE, EXETER, NH.

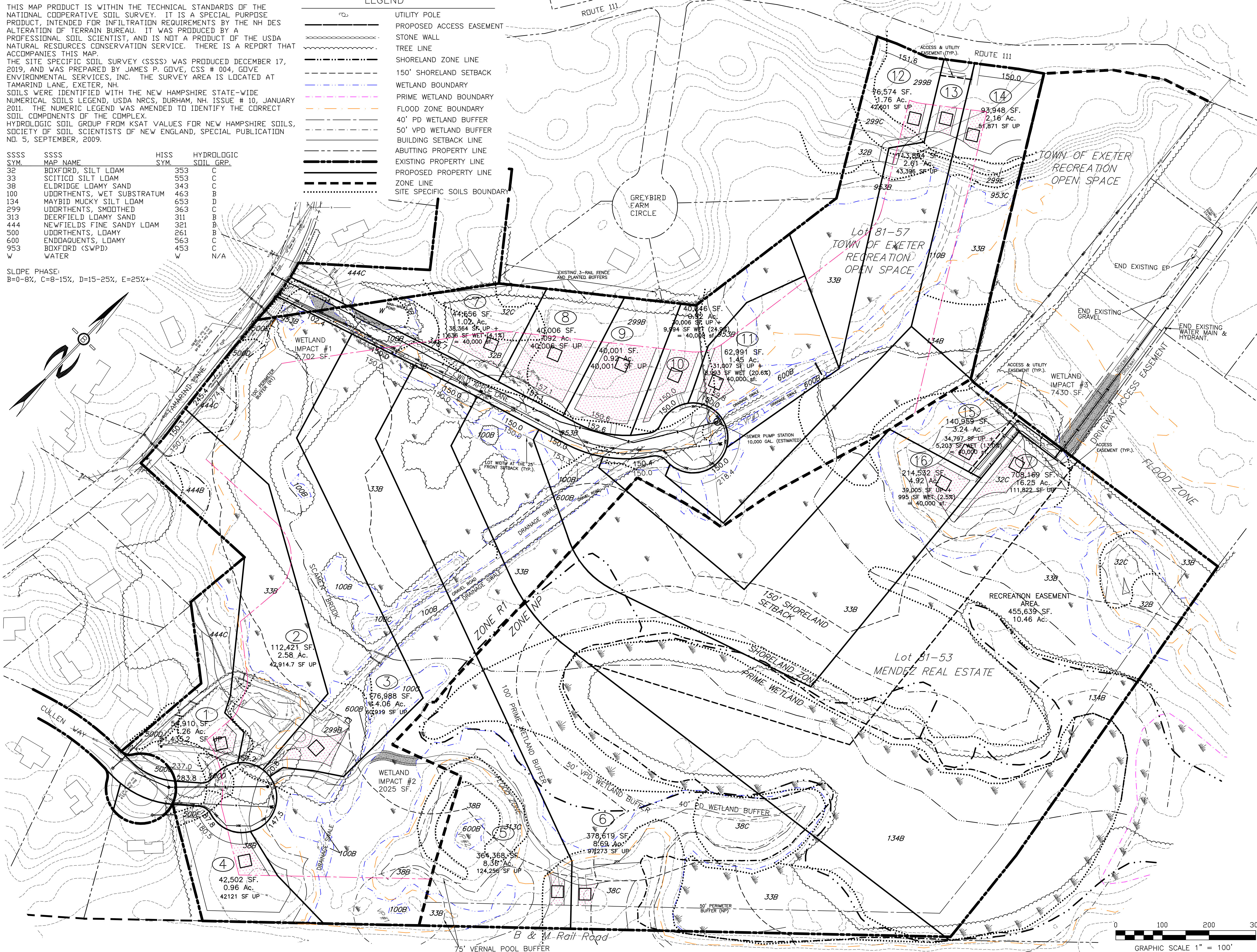
SOILS WERE IDENTIFIED WITH THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND, USDA NRCS, DURHAM, NH, ISSUE # 10, JANUARY 2011. THE NUMERIC LEGEND WAS AMENDED TO IDENTIFY THE CORRECT SOIL COMPONENTS OF THE COMPLEX.

HYDROLOGIC SOIL GROUP FROM KSAT VALUES FOR NEW HAMPSHIRE SOILS, SOCIETY OF SOIL SCIENTISTS OF NEW ENGLAND, SPECIAL PUBLICATION NO. 5, SEPTEMBER, 2009.

SSSS SYM.	SSSS MAP NAME	HISS SYM.	HYDROLOGIC SOIL GRP.
32	BOXFORD SILT LOAM	353	C
33	SCITICUS SILT LOAM	553	C
38	ELDRIDGE LOAMY SAND	343	C
100	UDDRTHENTS, WET SUBSTRATUM	463	B
134	MAYBID MUCKY SILT LOAM	653	D
299	UDDRTHENTS, SMOOTHED	363	C
313	DEERFIELD LOAMY SAND	311	B
444	NEWFIELDS FINE SANDY LOAM	321	B
500	UDDRTHENTS, LOAMY	261	B
600	ENDOQUENTS, LOAMY	563	C
953	BOXFORD (SWPD)	453	C
W	WATER	W	N/A

SLOPE PHASE:
B=0-8%, C=8-15%, D=15-25%, E=25%+

LEGEND	
	UTILITY POLE
	PROPOSED ACCESS EASEMENT
	STONE WALL
	TREE LINE
	SHORELAND ZONE LINE
	150' SHORELAND SETBACK
	WETLAND BOUNDARY
	PRIME WETLAND BOUNDARY
	FLOOD ZONE BOUNDARY
	40' PD WETLAND BUFFER
	50' VPD WETLAND BUFFER
	BUILDING SETBACK LINE
	ABUTTING PROPERTY LINE
	EXISTING PROPERTY LINE
	PROPOSED PROPERTY LINE
	ZONE LINE
	SITE SPECIFIC SOILS BOUNDARY



PREPARED FOR:
BRIAN GRISET
26 CULLEN WAY
EXETER, NH 03833

BEALS ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863

ZONING REQUIREMENTS

ZONE:	R1	NP
LOT SIZE =	40,000 SF	20,000 SF
MIN. FRONTAGE	150'	100'
MIN. DEPTH	150'	100'
MAX. HEIGHT	35'	35'
BUILD. SETBACKS:		
FRONT	25'	50'
SIDE	15'	20'
REAR	25'	50'
PERIMETER BUFFER	100'	50'
WET PD & VPD	75'	75'
RECREATION AREA	10%	
WETLANDS BUFFER		
40' POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER		
50' VERY POORLY DRAINED NO-CUT, NO DISTURBANCE BUFFER		
WETLANDS CONSERVATION OVERLAY DISTRICT		
SHORELAND PROTECTION OVERLAY DISTRICT		
LDI AREA PER ARTICLE 9:15:1) 50% UPLAND, 50% WETLAND, 0% OPEN WATER.		

TOTAL ACREAGE NOTES: YIELD PLAN - PARCEL 81-57 INCLUDED PER TOWN AGREEMENT DATED AUG. 4, 1991.

LAND AREAS:

TOTAL AREA =	63.83 AC
UPLAND AREA =	23.60 AC
WETLAND AREA =	40.23 AC
VPD SOIL =	10.76 AC
PD SOIL =	29.47 AC

TOTAL ESTIMATED WETLAND IMPACT 12,157 SF

NET TRACT AREA CALCULATION:

TOTAL TRACT AREA =	63.83x10% = 57.45 AC
LESS VPD =	10.76 AC
LESS 75% PD =	.75x29.47 AC = 22.10 AC
NET TRACT AREA =	24.59 AC
30% OPEN-SPACE REQUIRED =	7.38 AC

PUBLIC OPEN-SPACE CALCULATION:

32.39 AC + 9.38 AC PREVIOUSLY DEEDED TO THE TOWN "BRICKYARD PARK" = 41.77 AC = 65% OF 63.83 AC.

ON FEBRUARY 8, 2021 THE EXETER PLANNING BOARD APPROVED THE YIELD PLAN FOR 17 SINGLE FAMILY UNITS.

YIELD PLAN DENSITY CALCULATIONS:

17 LOTS COMPLYING WITH ALL R-1 ZONING REQUIREMENTS.

YIELD PLAN DENSITY CALCULATIONS:

17 LOTS COMPLYING WITH ALL R-1 ZONING REQUIREMENTS + 10% (1.7 LOT) DENSITY BONUS FOR DEEDING TO TOWN OVER 50% OF PARCEL FOR CONSERVATION OPEN SPACE. SEE CONSERVATION COMMISSION VOTE OF 11-12-19. TOTAL YIELD = 17 + 1.7 = 18 LOTS

REC. AREA NOTES: YIELD PLAN - PER ARTICLE 9:6.3. REC/PARK = 10% OF TOTAL TRACT AREA.

73.8 AC. ORIGINAL MTRIE PARCEL (PHASES 1, 2 & 3) + 30.76 AC. MENDES TRUST PARCEL = 104.45x.10 = 10.46 AC.

ALLOWED DRIVES OFF KINGSTON ROAD CALCULATED PER STATE STATUTE AND DRIVEWAY REGULATIONS. ACCESS PER PLAN RCRD: C-1746 "PLAN OF LAND IN EXETER, NH DATED MAR 28, 1970 BY MATT HAUTALA, IN ACCORDANCE WITH NHDOT DRIVEWAY POLICY #8, PARCEL "A" = 2-DRIVES; PARCEL "B" = 3-DRIVES (SEE REFERENCED PLAN). PHASE 3 OF THIS OVERALL DEVELOPMENT, THERE ARE 2-REMAINING CURB CUTS FOR PARCEL "A".

NOTE: EXETER GREEN COVENANTS ALLOW DEVELOPER TO ADD LOTS TO THE PREVIOUSLY APPROVED SUBDIVISION.

ON JANUARY 21, 2020 THE EXETER ZBA GRANTED A SPECIAL EXCEPTION TO PER ARTICLE 4, SECTION 4.2 SCHEDULE: PERMITTED USES AND ARTICLE 5, SECTION 5.2 TO PERMIT RESIDENTIAL USE OF A 30.76-ACRE PARCEL LOCATED WITHIN THE NP-NEIGHBORHOOD PROFESSIONAL ZONING DISTRICT FOR THE SOLE PURPOSE OF CALCULATING DENSITY OF A PROPOSED OPEN SPACE DEVELOPMENT.

ON JANUARY 21, 2020 THE EXETER ZBA GRANTED A VARIANCE FROM ARTICLE 4, SECTION 4.3 SCHEDULE II: DENSITY AND DIMENSIONAL REGULATIONS - RESIDENTIAL AND ARTICLE 7. OPEN SPACE DEVELOPMENT TO PERMIT A SINGLE-FAMILY OPEN SPACE DEVELOPMENT IN THE R-1, LOW DENSITY RESIDENTIAL ZONING DISTRICT WHICH DRAWS DENSITY FROM CONTIGUOUS UNIMPROVED PROPERTY IN THE NP-NEIGHBORHOOD PROFESSIONAL ZONING DISTRICT.

LOT 5/6 EDITS - PRIME WETLAND OVERLAY ADDED	5/5/21
REVISED PER PB REVIEW	1/15/21
REVISED PB DECISION	11/17/20
REVISED PER TRC	2/24/20
REVISIONS:	DATE:

PRELIMINARY YIELD

PLAN FOR:
RESIDENTIAL DEVELOPMENT
TAMARIND LANE
EXETER, NH

DATE:	FEB. 5, 2020	SCALE:	1"=100'
PROJ. NO.:	NH-1154.1	SHEET NO.:	1 OF 1



Map 81 / Lot 49
Christine H. Henderson
Revocable Living Trust
12 Pandexter Road
Madbury, NH 03823

Length Table:

LINE	BEARING	DISTANCE
L1	S67°32'37"W	41.03'
L2	S66°49'10"W	57.89'
L3	S17°32'14"E	53.38'
L4	S32°09'45"W	14.27'
L5	S24°08'07"E	22.57'
L6	N67°12'17"E	69.56'
L7	S40°31'20"E	35.46'
L8	N84°09'16"E	10.00'
L9	N71°59'32"E	50.00'
L10	N04°20'00"E	53.67'

Legend:

C1	See Length Table
FHZ AE	Flood Hazard Zone AE
L1	See Length Table
RCRD	Rockingham County Registry of Deeds
○	Iron Pipe Found
●	Iron Rod Found
⊕	Utility Pole
---	Building Setback
---	Wetlands Buffer
---	Prime Wetland Boundary
---	Wetland Boundary
---	Approx. Drain Pipes
---	Approx. Sewer Main
---	Approx. Water Main
---	Flood Hazard Boundary
---	Shoreland Protection Zone

ZONING REQUIREMENTS

ZONE - NEIGHBORHOOD PROFESSIONAL (NP)
 LOT AREA MIN. 20,000 S.F.
 LOT FRONTAGE 150 FT.
 FRONT YARD 50 FT.
 SIDE YARD 20 FT.
 REAR YARD 50 FT.
 MAX. BUILDING COVER/LOT 30%

WETLAND SETBACKS/BUFFER:

STRUCTURES 75 FT.
 PAVEMENT & DRIVEWAYS 50 FT.
 BUFFER/NO-DISTURBANCE 40 FT.
 PRIME WETLANDS 100 FT.
 SHORELAND PROTECTION 150 FT.

WETLAND SCIENTIST CERTIFICATION

1. US Army Corps of Engineers Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Technical Report ERDC/EL TR-09-19 (Oct 2009).
2. Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 7.0, United States Department of Agriculture (2010).
3. North American Digital Flora: National Wetland Plant List, Version 2.2.1 (2009).
4. Classification of Wetlands and Deepwater Habitats of the United States, USFW Manual FWS/OBS-79/31 (1979).

EXISTING CONDITIONS PLAN

PREPARED FOR
ADELA J. GRISET
SHOWN AS
TAX MAP 96 / LOT 15 and MAP 81 / LOTS 53 & 57
LOCATED AT
**KINGSTON ROAD,
26 CULLEN WAY & TAMARIND LANE
COUNTY OF ROCKINGHAM
EXETER, NH**



SCALE: 1" = 50' DATE: JANUARY 12, 2020

DAVID W. VINCENT, LLS
LAND SURVEYING SERVICES
PO BOX 1622
DOVER, NH 03821
TEL/FAX (603) 664-5786
www.landsurveyingservices.net

NO.	DATE	DESCRIPTION	BY
4			
3			
2	5-5-21	PER 90 COMMENTS	
1	6-27-20	minor field updates	COS



Exeter

Match to Sheet 2

Match to Sheet 1

Match to Sheet 3

81-53
1,340,005± s.f.
30.76± Acres

Jurisdictional Wetland
See Note 9 & Wetland
Scientist Certification

Map 95 / Lot 64
Exeter River MHP
Cooperative Inc.
201 Loudon Road
Concord, NH 03301

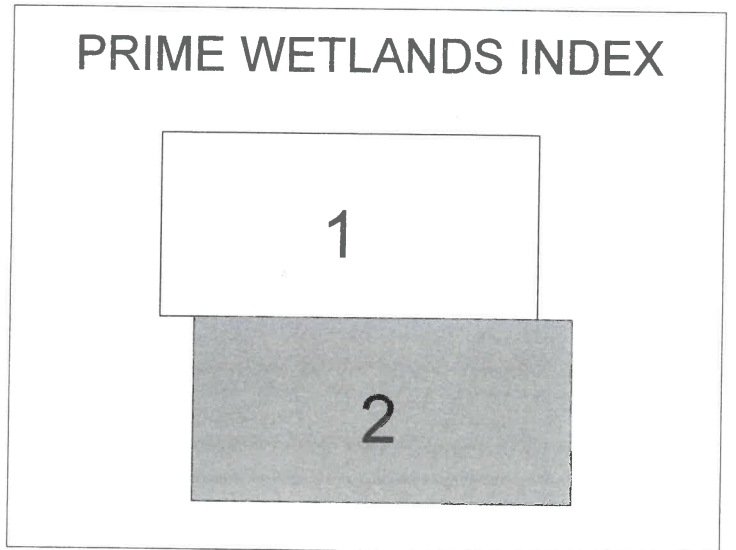
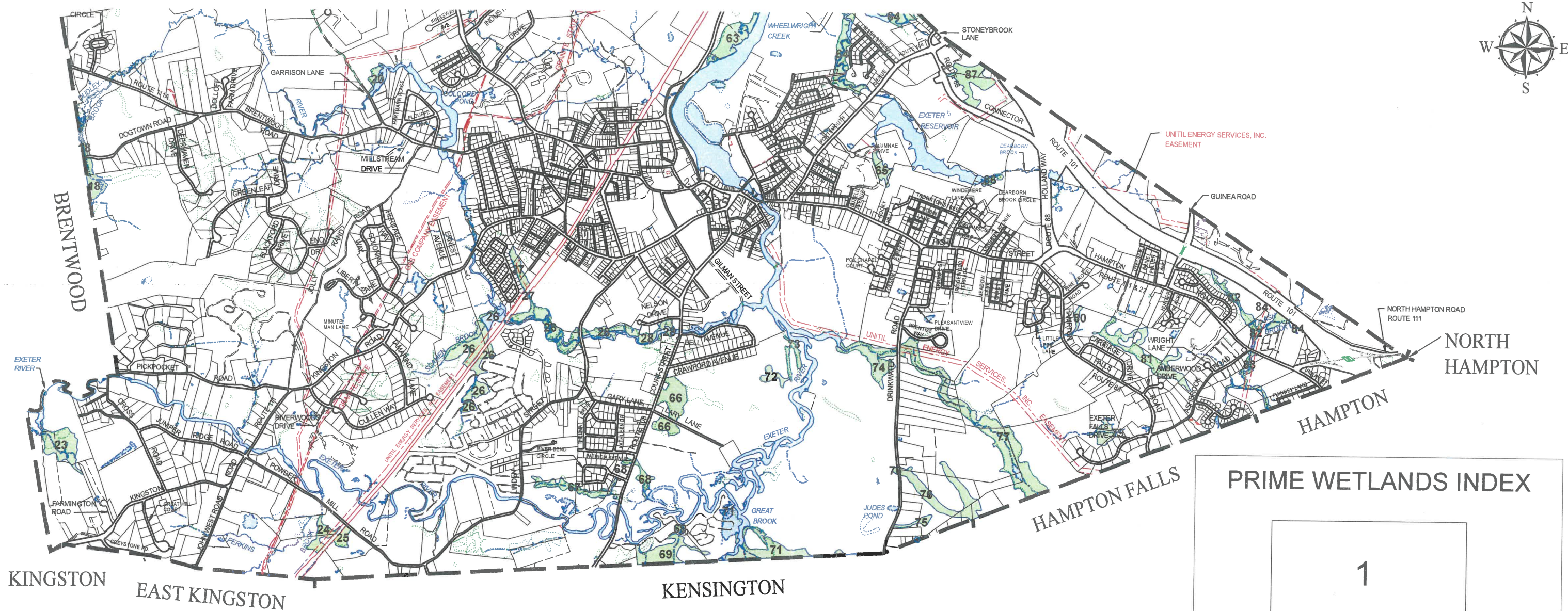
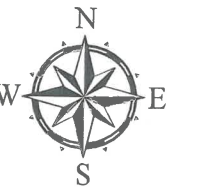
Map 73 / Lot 47
Boston & Maine Railroad
1700 Iron Horse Park
North Billerica, MA
01862

1,471 S.F. BUILDING
ENVELOPE
1,327 S.F. BUILDING
FOOTPRINT

1,908 S.F. BUILDING
ENVELOPE
1,708 S.F. BUILDING
FOOTPRINT

Vernal
Pool #2

Vernal
Pool #1



LEGEND

- RAILROAD
- ROAD
- PRIVATE ROAD
- TRAIL
- RIGHT OF WAY
- UTILITY
- TOWN LINE
- PROPERTY LINE
- COMMON OWNERSHIP
- IN CONTENTION
- LEASE
- WATER, property line
- WATER, not property line
- PRIME WETLAND

SCALE
1" = 2300'



PRIME WETLANDS MAP
OF
EXETER
NEW HAMPSHIRE

NOTES

THIS MAP IS BASED ON THE TOWN OF EXETER
PROPERTY MAPS. IT IS INTENDED FOR
REFERENCE AND PLANNING PURPOSES ONLY.
PROPERTY LINES CURRENT TO APRIL 1, 2020

PRODUCED BY
CAI Technologies
Precision Mapping. Geospatial Solutions.
11 PLEASANT STREET, LITTLETON, NH 03561
800.322.4540 - WWW.CAI-TECH.COM



Fwd: clarification on wetland delineation

1 message

David Sharples <dsharples@exeternh.gov>

Fri, Apr 23, 2021 at 1:33 PM

To: Langdon Plumer <langplumer@gmail.com>, aaron.b@atrioproperties.com, Robin Tyner <rd.tyner88@gmail.com>, Pete Cameron <dpgc@slc.net>, John Grueter <grueterj2002@yahoo.com>, Gwen English <gwenexeter@yahoo.com>, Jennifer Martel <jmartel@gmail.com>, Molly Cowan <mcowan@exeternh.gov>, "Dettore, Marc" <mdettore@jacksonlumber.com>, Nancy Belanger <nbelanger411@gmail.com>, Peter Steckler <petersteckler@gmail.com>
Cc: Barbara Mcevoy <bmcevoy@exeternh.gov>, Kristen Murphy <kmurphy@exeternh.gov>

Hello all,
I am sending this email to provide everyone an update on the prime Wetland matter that was raised at the 4/13 Con Comm meeting. I am forwarding this email from Kristen Murphy to NHDES requesting clarification. I also spoke with the Chair and Vice Chair and have initiated legal review from the Mitchell Group regarding the letter from Justin Pasay dated 4/20/2021 and sent to the board via email earlier this week. Once we receive the legal opinion, I will speak to the Chair about scheduling a non-public session to discuss the advice provided. If you have any comments/questions on this you can either wait and express them at the next meeting or reply only to me. I have copied Kristen murphy as she will forward this onto the Con Comm as well.
Thank you,
Dave

----- Forwarded message -----
From: **Kristen Murphy** <kmurphy@exeternh.gov>
Date: Fri, Apr 23, 2021 at 11:48 AM
Subject: clarification on wetland delineation
To: Lewis, Eben M <Eben.Lewis@des.nh.gov>
Cc: David Sharples <dsharples@exeternh.gov>

Good afternoon Eben,

I am requesting written NHDES Wetlands opinion on the following interpretation of the prime wetland regulations.

On a prior project, McFarland Ford storage lot (NHDES 2021-00159), the onsite wetland mapping triggered a modification of our 2005 prime wetland delineation to match the field conditions.



The current project before us involving tax maps 95-15, and 81-53 is a similar circumstance in that the designated prime wetland boundary is surrounded by wetland. It was questioned why in this event, the prime wetland boundary is not being expanded to the surrounding wetland. The applicant's rep responded stating that in the prior case, the property owner challenged the 2005 Prime Wetland designation which triggered the modification. In this case the land owner is not challenging it, and therefore the prime wetland should follow the 2005 boundary. The applicant's representative seems to further indicate the town has no authority to require the boundary to be altered.

Could you please help us understand the prime wetland rules with respect to how it is determined to modify the designation or not? I am attaching correspondence from the applicants legal counsel and a plan set for the project.

The applicant is scheduled to return to the Conservation Commission on May 11th and the Planning Board on May 27th. It would be helpful to have your insight prior to those meetings if possible.

--
Kristen Murphy
Natural Resource Planner
Town of Exeter
10 Front Street, Exeter, NH 03833
(603) 418-6452

2 attachments

-  **2021 04 20 sharples letter re prime wetlands.pdf**
593K
-  **1154.1 Plan Set.pdf**
15179K



Kristen Murphy <kmurphy@exeternh.gov>

Grisets' Tamarind Lane Project (Case #20-2)

1 message

Ed Liptak <ejl3248@gmail.com>
To: kmurphy@exeternh.gov

Mon, Apr 19, 2021 at 3:14 AM

Dear Chair Plumer and Planning Board Members:

As abutters to the Grisets' Tamarind Lane Project (Case #20-2) on Tax Map Parcel #96-15, #81-53, and #96-9, we respectfully request the Planning Board request an independent, third party delineation of the Prime Wetland boundaries referenced in the Planning Office memo from David Sharples, Town Planner, to the Planning Board dated April 15, 2021.

The memo states "One point raised at the Conservation Commission was in regards to the Prime Wetlands boundary. The question was raised if the Prime wetland boundary on the plan needed to be adjusted as there are contiguous wetlands around the boundary. Staff requested that the Applicant's wetland scientist review the Prime wetland boundary to determine if there are revisions that should be made. Depending on the result of this determination, the board may have to revisit the yield plan. For example, if the boundary is revised and the buildable areas shown on the yield plan are now within the wetland setback then the yield plan should be reviewed in light of the new information."

We respectfully request that the Planning Board request an independent, third party verification of the Prime Wetland boundaries, and other wetland boundaries as appropriate, as described in Exeter's Zoning Ordinance, * "Article 9.1.3. F. Boundary Appeals: In the event that the Building Inspector, the Planning Board, or the Conservation Commission questions the validity of the boundaries of a wetland area on a specific parcel of land, or upon written petition of the owner or any abutter of the said property to the Planning Board, the Board may call upon the services of a scientist qualified to delineate wetlands in accordance with the standards and criteria specified in 9.1.4.J Wetlands Delineation in order to examine said area and report the findings to the Planning Board for their determination of the boundary. Expenses incurred in retaining these services shall be paid by the landowner."

We aren't aware of a personal or professional affiliation between Gove Environmental Services, Inc. (i.e., Jim Gove), which has performed the existing wetland boundary assessments for the Applicant, and The Gove Group Real Estate, which has provided yield plan lot valuations** for this project and, we understand, may be the developer for this project. That said, any such personal or professional affiliation would obviously present a conflict of interest and would therefore make an independent, third party verification all the more imperative, to avoid any conflict of interest.

We also request that this independent analysis be completed and provided to Exeter's Conservation Commission before they meet to consider this matter in May.

Thank you in advance for your consideration of this request and the matter.

Sincerely,
Edward Liptak and Anne Bennett



Kristen Murphy <kmurphy@exeternh.gov>

RE: Planning Board Case #20-2

1 message

David Hadden <dahadden77@gmail.com>

Mon, Apr 19, 2021 at 9:50 AM

To: "dsharples@exeternh.gov" <dsharples@exeternh.gov>, "kmurphy@exeternh.gov" <kmurphy@exeternh.gov>

Langdon Plumer, Chair
Town of Exeter Planning Board
[10 Front Street](#)
Exeter, NH 03833

April 19, 2021

RE: Planning Board Case #20-2

Dear Chair Plumer and Planning Board Members:

As abutters to the Grisets' Tamarind Lane Project (Case #20-2) on Tax Map Parcel #96-15, #81-53, and #96-9, we respectfully request the Planning Board request an independent, third party delineation of the Prime Wetland boundaries referenced in the Planning Office memo from David Sharples, Town Planner, to the Planning Board dated April 15, 2021.

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We aren't aware of a personal or professional affiliation between Gove Environmental Services, Inc. (i.e., Jim Gove), which has performed the existing wetland boundary assessments for the Applicant, and The Gove Group Real Estate, which has provided yield plan lot valuations** for this project and, we understand, may be the developer for this project. That said, any such personal or professional affiliation would obviously present a conflict of interest and would therefore make an independent, third party verification all the more imperative, to avoid any conflict of interest.

We also request that this independent analysis be completed and provided to Exeter's Conservation Commission before they meet to consider this matter in May.

Thank you in advance for your consideration of this request and the matter.

Sincerely,
David and Amie Hadden
[12 Tamarind Lane](#)

 Please consider the environment before printing this email

**New Hampshire Department of Environmental Services
Wetlands Bureau**

Standard Dredge and Fill Wetland Permit Application

Proposed Building Rehabilitation
IOKA Theater
53 Water Street
Tax Map 72, Lot 34
Exeter, NH 03833

Submitted on Behalf of:

IOKA Properties, LLC
24 Graf Road
Newburyport, MA 01950

April 20, 2021



NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES

WETLANDS BUREAU

STANDARD DREDGE AND FILL APPLICATION



April 20, 2021

Eben Lewis, Senior Wetlands Inspector
New Hampshire Department of Environmental Services
Wetlands Bureau
29 Hazen Drive - PO Box 95
Concord, New Hampshire 03302-0095

**Re: New Hampshire Department of Environmental Services – Wetlands Bureau
Major Impact Permit Application
53 Water Street
Exeter, New Hampshire
Tax Map 72 Lot 34**

Dear Mr. Lewis:

Mission Wetland and Ecological Services, LLC (Mission) is hereby submitting the following Major Impact Wetland Permit Application to the New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau on behalf of IOKA Properties, LLC -herein referred to as the “applicant”), owner of the IOKA Theatre (Mayer Building) located at 53 Water Street in Exeter, NH. Through correspondence with NHDES staff, it was concluded that this application can be processed as a Major Impact Project in accordance with Env-Wt 610.17 (c). The attached the site plans entitled “A Proposed Building Rehabilitation” dated 4/15/21, and prepared by Millennium Engineering, Inc (herein referred to as the “site plans”) depicts the existing and proposed conditions in accordance with Env-Wt 311.05. The existing building is located at 53 Water Street and identified on the Town of Exeter assessor’s maps as Tax Map 72, Lot 34. A portion of the property is located over the Exeter River. The project has received all required setback relief through the Town of Exeter Zoning Board of Adjustment and obtained Site Plan Approval through the Town of Exeter Planning Board for the project and its deck components.

This developed property is 0.14 acres, or 5,902 square feet (SF), all of which is located within the previously-developed upland with a smaller portion of the property located over the Exeter River riverbed. Of this 5,902 SF, approximately 1,162 SF (19.7%) is over the riverbed of the Exeter River. The Ordinary High Water (OHW) was delineated by another consultant in July of 2020, then reviewed and accepted by Mission for the purposes of constraints mapping and wetland permitting. Then the jurisdictional OHW limit was interpolated using building staining on the easterly face/foundation (landward limit of riverbed) of the IOKA Theatre building [Env-Wt 406.04(a)(2)]. The project-relevant portion of the Exeter River is classified in accordance with the *US Fish & Wildlife Service Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, et. al., 1979) as primarily a riverine lower perennial unconsolidated bottom system composed of gobble and gravel that is intermittently exposed (R2UB1G).

A structural engineer has determined that the supporting concrete/brick archway piers in the river require repairs, in-kind, with an appropriate structural grout, as scouring has occurred in these piers within the river. This scouring has taken a long time, as there is no evidence that repairs have been undertaken since the building has been erected. Repairs and grout replacement will be limited

to the original dimensions of the piers as measured at the directly adjacent uncompromised area of the structural piers of the building. Manual tools and hand-operated power tools will be required in order to temporarily shovel out the base of the archway piers in order to ascertain the extent of the scouring; however, it is anticipated that the scouring does not extend beyond the area of the piers exposed to flowing water. The archway piers have no reinforcing in them, so they will be built back in-kind to the original dimensions with a strong durable grout patch material and may require structural rebar that will not extend beyond the original dimensions and volume (refer to the enclosed project photolog).

In accordance with Env-Wt 311.04(i), the applicant requests authorization for 1,500 square feet (SF) of temporary impacts that are required to provide foot traffic to install temporary plywood coffer dams/forms in order to evaluate the magnitude and extent of scouring of the archway piers and to conduct the repairs [Env-Wt 311.04(g)]. Minor hand-shoveling to install the plywood coffer dams will be required in order to repair the piers with appropriate structural grout. In addition, in accordance with Env-Wt 511.06(d), the applicant proposes a basement level-accessed deck to provide restaurant seating for the commercial tenants of the building. The deck will be located over the Exeter River but entirely within the existing building footprint and areal coverage. Galvanized steel I-beams will be installed for deck support and connect to each pier with pressure-treated wood joists. If necessary, a sediment bladder will be deployed to accommodate and manage dewatering, if any, associated with minor riverbed stone removal to facilitate scour evaluation and grout repairs. At the building side, the steel beams will connect to the foundation wall of the building with epoxy bolts. The elevation design of the steel I-beams are proposed at a bottom elevation of 14.2, approximately 1.1' below finished deck level at elevation 15.3'. This equates to approximately 2.3 feet above the OHW elevation of river staining of 11.9' at the building foundation. The elevation 12.9' at the highest pier staining is representative of historical worst-case scenario river levels with fluctuating river elevations as a result of historical long duration turbulence, likely associated with historical flooding events. Please refer to the elevation profile of Sheet 2 of 3 of the site plans.

Manual tools or hand-operated power tools will be utilized, and all grout and equipment will be stored in PVC containment boxes and removed from the temporary work area on a daily basis. The hand-removed riverbed stone will also be cast aside and stored in 5' by 5' PVC containment boxes for backfill, in-kind, upon completion of pier evaluations. The variation in spot river elevations depicted on the existing conditions plan (Sheet 1 of 3) is attributable to the river flow velocities and subsequent deposition and are likely dynamic in nature depending on floods and other storm events.

The applicant also proposes elevated decks well above the Exeter River at each successive floor of the building. Construction of the first-floor commercial deck accounts for 372 square feet located at elevation 28.2', while the smaller second-floor (elevation 37.9'), and third-floor (elevation 47.6') decks are two each 5-feet by 21-feet decks (~217 SF in area); however, the areal coverage is accounted for by the larger commercial deck below (with an overlapping section of the northerly residential deck of 5 SF). The net areal coverage of decks following removal of the 103 SF building bump out is 274 SF. The proposed decks associated with floors 1 through 3 will be supported by cantilevered structural beams and I-beams extending from existing levels well above the Exeter River and do not pose impervious influence on the Exeter River.

In accordance with Env-Wt 313.03(a) this proposal represents the least impacting alternative. The limit of disturbance is depicted by the Proposed sediment turbidity curtain/boom line on Sheet 3 of 3 of the site plans. Per Env-Wt 311.07 (b)(3), there are no alternative locations for this project to occur and no feasible alternative to prevent the proposed temporary impacts, as the piers to be repaired and connected to for the proposed basement level deck have been located in the riverbed of the Exeter River since the original construction of the IOKA Theater/Mayer Building in 1915. The project has been designed to avoid any permanent impacts and several BMPs will be implemented to prevent impacts to this portion of the riverbed and the fauna it supports. In order to reduce the potential for material and equipment loss and sedimentation in the Exeter River, the applicant proposes to install a temporary turbidity curtain/boom to contain construction material and equipment as well as any debris or fine sediments associated with construction activity and temporary riverbed disturbance. This turbidity curtain/boom demarcates the limit of disturbance and temporary impact area. The applicant will approach the adjacent landowners to obtain permission to secure the turbidity curtain/boom on their respective properties, if necessary. The work will be conducted in the summer months during no-flow periods. The applicant will monitor weather and schedule accordingly and as directed by seasonal construction restrictions. In accordance with Env-Wt 311.02, there is no mitigation required for the proposed 1,500 SF of temporary impact. The hand-removed riverbed stone will be cast aside and stored in PVC containment boxes for backfill upon completion of pier evaluations.

As part of the proposal, the applicant to remove impervious surfaces associated with the building walkaways and incorporating pervious pavers. This will result increased infiltration in the waterfront area of the property. This stormwater mitigation is proposed where none currently exists and to complement the associated improvements in this “urbanized portion of the Exeter River. These improvements will be permitted through the Shoreland Permit -by- Notification process.

The Great Dam, located in the upstream vicinity, was removed in August of 2016, subsequently restoring migratory fish passage, most importantly that of the locally iconic alewife (*Alosa pseudoharengus*) documented by the presence of alewife upstream at Pickpocket Dam. This project, as proposed, will have no impact or effect on the continued passage of alewife or other migratory faunal passage, i.e., the catadromous American eel (*Anguilla rostrata*), as the basement level-accessed deck is proposed 1.3 feet above pier staining and 2.3 feet difference per building staining (interpolated OHW), representing worst case scenario for mean annual high water (not including storm and flood events). This project poses no impacts to tidal sediment replenishment and movement of sediments and will have no impact on the ability of a tidal wetland to dissipate wave energy. There is a large ledge outcrop directly downstream associated with the String Bridge that was replaced several years ago. The steep gradient precludes the tidal influence of brackish water in the Squamscott River upstream from below the String Bridge to the Exeter River. As such, the project will pose no impact to the salinity levels of tidal environments associated with the Squamscott River directly downstream.

Mission has prepared the United States Army Corps of Engineers (ACOE) Appendix B Secondary Impacts Checklist for review by the lead Federal Agency. In addition, Mission has initiated the online Information for Planning and Consultation (IPAC) consultation with the United State Fish

& Wildlife Service (USFWS) for potential threats to the Federally endangered Northern Long Eared Bat (*Myotis septentrionalis*) in fulfillment of Section 7 of the Endangered Species Act. There are no trees or tree clearing that would impact the maternity colonies of northern long-eared bats (see attached USFWS IPAC species list). Mission conducted the analysis using determination keys and trusts that the Concord Field Office has been notified of this fulfillment. Similarly, the Greater Atlantic Regional Fisheries Office (GARFA) of the National Oceanic and Atmospheric Administration (NOAA) was consulted to produce a Section 7 Mapper and this revealed Federally endangered Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) and shortnose sturgeon (*Acipenser brevirostrum*) in various life stages associated within the action area. It is not anticipated that the minor hand-shovel excavations will impact any viability for the potential presence of these fishes in any stage, as the foot traffic and relevant construction activity is proposed for dry, no-flow summer months (see attached Area of Interest and Section 7 Action area information). In both cases, the applicant anticipates letters of concurrence from both the USFWS and NOAA in concert with the ACOE Programmatic General Permit (PGP) review in Concord.

In accordance with Env-Wt 311.10(a)(1), a wetland functional assessment has been conducted on the Exeter River in this location in general and discussed with temporary impact assessment in the context of the study area and immediate vicinity. Per NHDES correspondence, it was concluded that this major project is located outside of the tidal influence area of the Squamscott River which extends to and is limited by the String Bridge and the lack of tidal influence (Env-Wt. 306.05). As such, a Coastal Vulnerability Assessment (CVA) is not required with this subject permit application.

In accordance with Env-Wt 310.01(c)(5)(g), the general sequence of construction activities during low-flow conditions only are as follows:

1. Work in the shoreline to be conducted manually with hand and/or hand-operated power tools.
2. Deploy shoreline turbidity curtain/containment boom around entire work area (3ft to 5ft beyond building footprint of brick archways).
3. Line turbidity curtain/containment boom with disposable erosion control boom.
4. Approximately 1½ft to 2ft beyond concrete footing of brick archways, hand shovel trenches 7“ to 9” deep in riverbed river-stone.
5. Construct a cofferdam around each footing by boxing-in concrete footings with 5/8” marine-grade plywood sheeting braced with 2” x 4” lumber. Extend plywood sheeting 12” to 18” above the natural riverbed elevation.
6. Using 60 mil thick x 24” wide single-ply EPDM rubber roofing membrane, wrap and seal outer walls of cofferdams.
7. Backfill open trenches with displaced river-stone and hand-tamp for compaction. If necessary, use environmentally friendly burlap sandbags to create starter cofferdam(s) in areas of standing water, or shallow running water.
8. Furnish and install a dewatering and sediment control bladder capable of processing up to 500-gallons-per-minute.

9. Place bladder onshore beyond the toe of riverbank with erosion control silt fence staked between bladder and riverbank.
10. As necessary, dewater cofferdam(s) with submersible pump(s) to maintain dry work area in and around concrete footings of brick archways.
11. Chisel/remove sections of crumbling concrete from base of brick archway footings.
12. Remove concrete and masonry debris from the riverbed work area at the end of each work-shift.
13. As necessary, drill and pin damaged areas of footings with 1/2" #4 rebar.
14. As necessary, utilize concrete chemical anchors to secure rebar pins in existing footings.
15. Hand trowel and apply high performance concrete repair mortar per manufacturer specifications.
16. Upon inspection of cured concrete and repairs to footings, carefully dismantle and remove cofferdams. Hand-tamp and compact disturbed river-stone.
17. Upon completion of work in riverbed remove turbidity curtain/containment boom and remove and properly dispose of erosion and sediment controls.

In addition, the contractor will provide practical and diligent construction activities in this sensitive environment as follows:

- Work to be conducted in the dry, no-flow summer months – preferably during forecasted dry-spells.
- Repair work duration anticipated to last two to three consecutive calendar weeks.
- Commitment to observing any Federal and/or State-mandated seasonal restrictions to prevent impact to fauna and/or fauna.

Mission trusts this proposed project meets all requirements to the greatest extent practicable and is satisfactory to the Wetlands Bureau. We ask that a wetland permit be issued for this project to proceed. Please feel free to call with any questions regarding this major impact wetland permit application.

Respectfully Submitted,
Mission Wetland & Ecological Services, LLC.



Sergio Bonilla, PWS, CWS, CESSWI
Principal Wetland Ecologist

Attachments: NHDES Wetlands Bureau Major Impact application package

Cc: David Cowie and Jay Caswell – IOKA Properties, LLC, electronic via e-mail
Andrew Koff – Chair, Exeter Conservation Commission
Henry Boyd, LLS – Millennium Engineering, Inc, electronic via e-mail
Jeff Nawrocki, P.E. – JSN Associates, LLC, electronic via e-mail

Christina O'Brien, AIA – Market Square Architects, electronic via e-mail
Sharon Somers, Esq. – Donahoe, Tucker, and Ciandella, PLLC, electronic via e-mail



STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division/Land Resources Management
Wetlands Bureau
[Check the Status of your Application](#)



RSA/Rule: RSA 482-A/Env-Wt 100-900

APPLICANT'S NAME: IOKA Properties, LLC

TOWN NAME: Exeter

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

A person may request a waiver to the requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interest of the public or the environment. A person may also request a waiver of the standards for existing dwellings over water pursuant to RSA 482-A:26, III (b). For more information, please consult the [request form](#).

SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))	
Please use the Wetland Permit Planning Tool (WPPT) , the Natural Heritage Bureau (NHB) DataCheck Tool , the Aquatic Restoration Mapper , or other sources to assist in identifying key features such as: priority resource areas (PRAs) , protected species or habitats , coastal areas, designated rivers, or designated prime wetlands.	
Has the required planning been completed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the property contain a PRA? If yes, provide the following information:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> • Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&G) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04). <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No • Protected species or habitat? <ul style="list-style-type: none"> ○ If yes, species or habitat name(s): plant species in the vicinity; american eel <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ○ NHB Project ID #: NHB-20-3358 • Bog? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No • Floodplain wetland contiguous to a tier 3 or higher watercourse? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No • Designated prime wetland or duly-established 100-foot buffer? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No • Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone? <input type="checkbox"/> Yes <input type="checkbox"/> No 	
Is the property within a Designated River corridor? If yes, provide the following information:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> • Name of Local River Management Advisory Committee (LAC): Exeter-Squamscott River LAC • A copy of the application was sent to the LAC on Month: 4 Day: 19 Year: 2021 	

irm@des.nh.gov or (603) 271-2147

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For dredging projects, is the subject property contaminated? • If yes, list contaminant: N/A	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
For stream crossing projects, provide watershed size (se Wetland Permit Planning Tool or Stream Stats): N/A	
SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))	
Provide a brief description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. DO NOT reply "See attached"; please use the space provided below.	
<p>The applicant proposes to undertake in-kind repairs of the supportive concrete/brick archway piers located in the riverbed of the Exeter River. Repairs and grout replacement will be limited to the original dimensions of the piers evaluated at the uncompromised area of the pier dimensions of the IOKA Theatre building. In addition, the applicants propose a basement level accessed deck to provide restaurant seating for the commercial tenants, as well as elevated decks over the Exeter River associated with the three floors at the rear commercial and residential units of the building. Impacts required for the repairs and basement level deck will be limited to 1,500 SF of temporary impacts of foot traffic in the riverbed to facilitate construction of the timber form/coffer dams to evaluate the extent of scouring, if any, below the riverbed and conduct repairs using hand tools (shovels) and hand-operated power tools only. In addition, installing the steel I-beams and steel joists connections. Construction activities will be conducted in summer months during dry periods of no-flow. In order to reduce the potential for material loss and potential sedimentation of the Exeter River, the applicants propose to deploy a temporary turbidity curtain/containment boom as a Best Management Practice (BMP) to capture any material and/or debris associated with construction activities. This boom demarcates the limit of disturbance and temporary impacts. Other BMPs include a 5' by 5' PVC containment box, and sediment bladders, as necessary.</p>	
SECTION 3 - PROJECT LOCATION	
Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.	
ADDRESS: 53 Water Street	
TOWN/CITY: Exeter	
TAX MAP/BLOCK/LOT/UNIT: TM 72, Lot 34	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: Exeter River <input type="checkbox"/> N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	
	42 58.88669° North
	70 56.71989° West

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))		
If the applicant is a trust or a company, then complete with the trust or company information.		
NAME: IOKA Properties, LLC		
MAILING ADDRESS: 24 Graf Road		
TOWN/CITY: Newburyport	STATE: MA	ZIP CODE: 01950
EMAIL ADDRESS: dac@plumislandllc.com		
FAX: (978) 992-3321	PHONE: (978) 997-0650	
ELECTRONIC COMMUNICATION: By initialing here: [REDACTED], I hereby authorize NHDES to communicate all matters relative to this application electronically.		
SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))		
<input type="checkbox"/> N/A		
LAST NAME, FIRST NAME, M.I.: Sergio Bonilla, PWS, CWS, CESSWI		
COMPANY NAME: Mission Wetland & Ecological Services, LLC -		
MAILING ADDRESS: P.O. Box 4028		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03802
EMAIL ADDRESS: missionwetland@gmail.com		
FAX: [REDACTED]	PHONE: (603) 361-3204	
ELECTRONIC COMMUNICATION: By initialing here: <i>SB</i> , I hereby authorize NHDES to communicate all matters relative to this application electronically.		
SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))		
If the owner is a trust or a company, then complete with the trust or company information.		
<input checked="" type="checkbox"/> Same as applicant		
NAME: IOKA Properties		
MAILING ADDRESS: 24 Graf Road		
TOWN/CITY: Newburyport	STATE: MA	ZIP CODE: 01950
EMAIL ADDRESS: [REDACTED]		
FAX: [REDACTED]	PHONE: [REDACTED]	
ELECTRONIC COMMUNICATION: By initialing here: [REDACTED], I hereby authorize NHDES to communicate all matters relative to this application electronically.		

SECTION 7 - RESOURCE-SPECIFIC CRITERIA ESTABLISHED IN Env-Wt 400, Env-Wt 500, Env-Wt 600, Env-Wt 700, OR Env-Wt 900 HAVE BEEN MET (Env-Wt 313.01(a)(3))

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):

Please refer to the enclosed project narrative.

SECTION 8 - AVOIDANCE AND MINIMIZATION

Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a))* . Any project with unavoidable jurisdictional impacts must then be minimized as described in the [Wetlands Best Management Practice Techniques For Avoidance and Minimization](#) and the [Wetlands Permitting: Avoidance, Minimization and Mitigation Fact Sheet](#). For minor or major projects, a functional assessment of all wetlands on the project site is required (Env-Wt 311.03(b)(10))* .

Please refer to the application checklist to ensure that you have attached all documents related to avoidance and minimization, as well as functional assessment (where applicable). You can use the [Avoidance and Minimization Checklist](#), the [Avoidance and Minimization Narrative](#), or your own avoidance and minimization narrative.

**See Env-Wt 311.03(b)(6) and Env-Wt 311.03(b)(10) for shoreline structure exemptions.*

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

If unavoidable jurisdictional impacts require mitigation, a mitigation pre-application meeting must occur at least 30 days but not more than 90 days prior to submitting this Standard Dredge and Fill Permit Application.

Mitigation Pre-Application Meeting Date: Month: Day: Year:

N/A - Mitigation is not required

SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (Env-Wt 313.01(a)(1)c)

Confirm that you have submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent unavoidable impacts that will remain after avoidance and minimization techniques have been exercised to the maximum extent practicable: I confirm submittal.

N/A – Compensatory mitigation is not required

SECTION 11 - IMPACT AREA (Env-Wt 311.04(g))

For each jurisdictional area that will be/has been impacted, provide square feet (SF) and, if applicable, linear feet (LF) of impact, and note whether the impact is after-the-fact (ATF; i.e., work was started or completed without a permit).

For intermittent and ephemeral streams, the linear footage of impact is measured along the thread of the channel. *Please note, installation of a stream crossing in an ephemeral stream may be undertaken without a permit per Rule Env-Wt 309.02(d), however other dredge or fill impacts should be included below.*

For perennial streams/ivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

Permanent impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials).

Temporary impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Scrub-shrub Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Emergent Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Wet Meadow			<input type="checkbox"/>			<input type="checkbox"/>
	Vernal Pool			<input type="checkbox"/>			<input type="checkbox"/>
	Designated Prime Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Duly-established 100-foot Prime Wetland Buffer			<input type="checkbox"/>			<input type="checkbox"/>
Surface Water	Intermittent / Ephemeral Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Perennial Stream or River			<input type="checkbox"/>	1,500		<input type="checkbox"/>
	Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - River			<input type="checkbox"/>			<input type="checkbox"/>
Banks	Bank - Intermittent Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Bank - Perennial Stream / River			<input type="checkbox"/>			<input type="checkbox"/>
	Bank / Shoreline - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
Tidal	Tidal Waters			<input type="checkbox"/>			<input type="checkbox"/>
	Tidal Marsh			<input type="checkbox"/>			<input type="checkbox"/>
	Sand Dune			<input type="checkbox"/>			<input type="checkbox"/>
	Undeveloped Tidal Buffer Zone (TBZ)			<input type="checkbox"/>			<input type="checkbox"/>
	Previously-developed TBZ			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Tidal Water			<input type="checkbox"/>			<input type="checkbox"/>
TOTAL					1,500		

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

MINIMUM IMPACT FEE: Flat fee of \$400.

NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION: Flat fee of \$400 (refer to RSA 482-A:3, 1(c) for restrictions).

MINOR OR MAJOR IMPACT FEE: Calculate using the table below:

Permanent and temporary (non-docking): 1,500 SF × \$0.40 = \$ 600

Seasonal docking structure: SF × \$2.00 = \$

Permanent docking structure: SF × \$4.00 = \$

Projects proposing shoreline structures (including docks) add \$400 = \$

Total = \$

The application fee for minor or major impact is the above calculated total or \$400, whichever is greater = \$ 600

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SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)
 Indicate the project classification.


Minimum Impact Project
 Minor Project
 Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)


Initial each box below to certify:

Initials:  To the best of the signer's knowledge and belief, all required notifications have been provided.

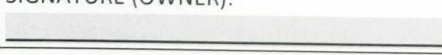

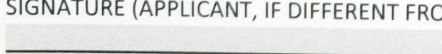

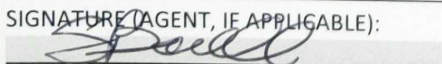
Initials:  The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.

Initials:  The signer understands that:

- The submission of false, incomplete, or misleading information constitutes grounds for NHDES to:
 - Deny the application.
 - Revoke any approval that is granted based on the information.
 - If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1.
- The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.
- The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.

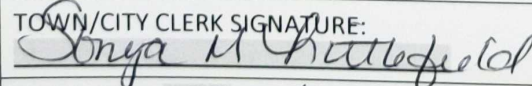
Initials:  If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)

SIGNATURE (OWNER): 	PRINT NAME LEGIBLY: (see authorization form)	DATE: 
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): 	PRINT NAME LEGIBLY: (see authorization form)	DATE: 
SIGNATURE (AGENT, IF APPLICABLE): 	PRINT NAME LEGIBLY: Sergio Bonilla	DATE: 4/19/21

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))

As required by RSA 482-A:3, I(a),(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

TOWN/CITY CLERK SIGNATURE: 	PRINT NAME LEGIBLY: Sonya M Huttofield
TOWN/CITY: Exeter	DATE: 4/20/21

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3, I(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to "Treasurer – State of NH".



AVOIDANCE AND MINIMIZATION
WRITTEN NARRATIVE
Water Division/Land Resources Management
Wetlands Bureau
[Check the Status of your Application](#)



RSA/ Rule: RSA 482-A/ Env-Wt 311.04(j); Env-Wt 311.07; Env-Wt 313.01(a)(1)b; Env-Wt 313.01(c)

APPLICANT'S NAME: IOKA Properties, LLC

TOWN NAME: Exeter

An applicant for a standard permit shall submit with the permit application a written narrative that explains how all impacts to functions and values of all jurisdictional areas have been avoided and minimized to the maximum extent practicable. This attachment can be used to guide the narrative (attach additional pages if needed). Alternatively, the applicant may attach a completed [Avoidance and Minimization Checklist \(NHDES-W-06-050\)](#) to the permit application.

SECTION 1 - WATER ACCESS STRUCTURES (Env-Wt 311.07(b)(1))

Is the primary purpose of the proposed project to construct a water access structure?

There is a deck proposed above the Exeter River within the existing building footprint. Proposed cantilevered decks are well above the Exeter River.

SECTION 2 - BUILDABLE LOT (Env-Wt 311.07(b)(1))

Does the proposed project require access through wetlands to reach a buildable lot or portion thereof?

N/A

SECTION 3 - AVAILABLE PROPERTY (Env-Wt 311.07(b)(2))*

For any project that proposes permanent impacts of more than one acre, or that proposes permanent impacts to a PRA, or both, are any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, that could be used to achieve the project's purpose without altering the functions and values of any jurisdictional area, in particular wetlands, streams, and PRAs?

**Except as provided in any project-specific criteria and except for NH Department of Transportation projects that qualify for a categorical exclusion under the National Environmental Policy Act.*

The project does not propose permanent impacts. Impacts are limited to 1,500 square feet (SF) of temporary impacts associated with foot traffic to facilitate repairs and basement-level deck construction over the existing building footprint. The proposed decks on each floor of the building are located well above the Ordinary High Water level of the Exeter River and will not pose any permanent impacts (shading or otherwise) to the Exeter River ecosystem.

SECTION 4 - ALTERNATIVES (Env-Wt 311.07(b)(3))

Could alternative designs or techniques, such as different layouts, different construction sequencing, or alternative technologies be used to avoid impacts to jurisdictional areas or their functions and values as described in the [Wetlands Best Management Practice Techniques For Avoidance and Minimization?](#)

There are no permanent impacts proposed to the Functions or Values of the Exeter River. There are no alternative locations for the proposed temporary impacts. The property has existed in this "urban" densely populated and developed area over the Exeter River since its original construction in 1915. A "no-build" alternative is not feasible and given the existing configuration of the existing IOKA Theater building in this area, there is no feasible alternative to obtain the project objectives and goals. Best Management Practices (BMPs) to prevent impacts include observation of seasonal restrictions, the deployment of a temporary containment boom, installation of plywood coffer dams, sediment bladders, PVC containment boxes, and routine housekeeping measures and daily construction site cleaning and equipment/tool removal. Please refer to the enclosed Functions and Values Report and NHDES Wetlands Functional Assessment Worksheet and the Wetland Functions and Values Assessment prepared by Mission Wetland & Ecological Services, LLC.

SECTION 5 - CONFORMANCE WITH Env-Wt 311.10(c) (Env-Wt 311.07(b)(4))**

How does the project conform to Env-Wt 311.10(c)?

***Except for projects solely limited to construction or modification of non-tidal shoreline structures only need to complete relevant sections of Attachment A.*

There are no alternative locations for the proposed temporary impacts. The property has existed in this "urban" densely populated and developed area and configuration over the Exeter River since its original construction on 1915. A "no-build" alternative is not feasible and given the existing configuration of the IOKA Theater building in this "urban" densely populated and developed area and its configuration over the Exeter River, there is no feasible alternative to obtain project objectives and goals.



STANDARD DREDGE AND FILL
WETLANDS PERMIT APPLICATION
ATTACHMENT A: MINOR AND MAJOR PROJECTS



Water Division/Land Resources Management
Wetlands Bureau

[Check the Status of your Application](#)

RSA/ Rule: RSA 482-A/ Env-Wt 311.10; Env-Wt 313.01(a)(1); Env-Wt 313.03

APPLICANT'S NAME: IOKA Properties, LLC

TOWN NAME: Exeter

Attachment A is required for *all minor and major projects*, and must be completed *in addition* to the [Avoidance and Minimization Narrative](#) or [Checklist](#) that is required by Env-Wt 307.11.

For projects involving construction or modification of non-tidal shoreline structures over areas of surface waters having an absence of wetland vegetation, only Sections I.X through I.XV are required to be completed.

PART I: AVOIDANCE AND MINIMIZATION

In accordance with Env-Wt 313.03(a), the Department shall not approve any alteration of any jurisdictional area unless the applicant demonstrates that the potential impacts to jurisdictional areas have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized, as described in the [Wetlands Best Management Practice Techniques For Avoidance and Minimization](#).

SECTION I.I - ALTERNATIVES (Env-Wt 313.03(b)(1))

Describe how there is no practicable alternative that would have a less adverse impact on the area and environments under the Department's jurisdiction.

GIVEN THE EXISTING CONFIGURATION OF THE IOKA THEATER BUILDING OVER THE EXETER RIVER, THERE IS NO FEASIBLE ALTERNATIVE TO OBTAIN THE PROJECT OBJECTIVES AND GOALS.

SECTION I.II - MARSHES (Env-Wt 313.03(b)(2))

Describe how the project avoids and minimizes impacts to tidal marshes and non-tidal marshes where documented to provide sources of nutrients for finfish, crustacean, shellfish, and wildlife of significant value.

The project is limited to temporary impacts of foot traffic to facilitate construction activity to repair piers and install a deck under the existing footprint of the building and successive floors and, as proposed, avoids impacts to tidal marshes and to the capacity of the Exeter River to provide unobstructed passage of anadromous fish species as well as crustaceans, shellfish, and any documented wildlife of significant value.

SECTION I.III - HYDROLOGIC CONNECTION (Env-Wt 313.03(b)(3))

Describe how the project maintains hydrologic connections between adjacent wetland or stream systems.

The project area is associated with the Exeter River, a freshwater riverine system that provides connectivity from the tidally-influenced Squamscott River (and Great Bay) to the upstream watershed associated with the towns of Exeter, Brentwood, East Kingston, and Fremont. The Exeter River now provides unobstructed passage for anadromous fishes, including the alewife, as well as other diadromous and freshwater fishes.

SECTION I.IV - JURISDICTIONAL IMPACTS (Env-Wt 313.03(b)(4))

Describe how the project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A, especially those in which there are exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of concern, or any combination thereof.

Proposed impacts to jurisdictional areas are limited to 1,500 square feet (SF) of temporary impacts to the riverbed of the Exeter River that is associated with the underlying area of the IOKA Theater building. Construction equipment will be limited to hand tools and hand-operated mechanized equipment. All equipment will be removed from the work site on a daily basis. The temporary impacts are required to re-point the concrete/brick archway piers that have been located in the riverbed of the Exeter River since its original construction in 1915. A structural engineer has concluded that the subject piers have been subjected to historical scouring over time and require repairs. Additionally, in order to secure the steel I-beams to the joists on the piers, crews will be working in the dry riverbed during summer months and periods of no-flow. Proposed Best Management Practices (BMPs) will include timber coffer dams constructed around each in-river pier to excavate, using a hand shovel, riverbed stone to evaluate the extent of scouring, if any, below the existing river bed. In addition, a turbidity curtain/boom will be installed to contain any debris and equipment within the 1,500 temporary construction area and reduce the potential for sedimentation in the Exeter River. The existing riverbed stone will be cast aside in the temporary construction area within 5' by 5' PVC containment boxes. Further, construction schedules will adhere to any mandated seasonal restrictions imposed by the New Hampshire Department of Environmental Services (NHDES), the United States Army Corps of Engineers (ACOE), the National Oceanic and Atmospheric Administration (NOAA)/National Marine Fisheries Service (NMFS). A copy of this application has been furnished to the Exeter-Squamscott River Local Advisory Committee for review and comment.

SECTION I.V - PUBLIC COMMERCE, NAVIGATION, OR RECREATION (Env-Wt 313.03(b)(5))

Describe how the project avoids and minimizes impacts that eliminate, depreciate or obstruct public commerce, navigation, or recreation.

The project avoids any permanent impact to the Exeter River and does not obstruct public commerce and does not propose a structure that would impede the public, the public trust (Exeter River), or impact navigation or recreation.

SECTION I.VI - FLOODPLAIN WETLANDS (Env-Wt 313.03(b)(6))

Describe how the project avoids and minimizes impacts to floodplain wetlands that provide flood storage.

The project and temporary impacts are located in the FEMA regulated floodway of the Exeter River. There is no proposal for fill in the waterbody or stream bed. There is no impact to the flood storage capacity of the waterbody and subsequently, no compensatory flood storage proposed.

SECTION I.VII - RIVERINE FORESTED WETLAND SYSTEMS AND SCRUB-SHRUB – MARSH COMPLEXES (Env-Wt 313.03(b)(7))

Describe how the project avoids and minimizes impacts to natural riverine forested wetland systems and scrub-shrub – marsh complexes of high ecological integrity.

N/A

SECTION I.VIII - DRINKING WATER SUPPLY AND GROUNDWATER AQUIFER LEVELS (Env-Wt 313.03(b)(8))

Describe how the project avoids and minimizes impacts to wetlands that would be detrimental to adjacent drinking water supply and groundwater aquifer levels.

N/A

SECTION I.IX - STREAM CHANNELS (Env-Wt 313.03(b)(9))

Describe how the project avoids and minimizes adverse impacts to stream channels and the ability of such channels to handle runoff of waters.

The proposed project does not pose impacts to the capacity of the Exeter River to accommodate normal stream flow and convey high velocity flows and volumes associated with storm events.

SECTION I.X - SHORELINE STRUCTURES - CONSTRUCTION SURFACE AREA (Env-Wt 313.03(c)(1))

Describe how the project has been designed to use the minimum construction surface area over surface waters necessary to meet the stated purpose of the structures.

The minimal areal coverage of the successive floor decks is 274 square feet, accommodating for the removal of the small 103 square foot building bump out located on the face of the building over the Exeter River. These elevated decks, designed to serve the commercial and residential tenants, proposed at floors 1 through 3 (28.8', 37.9', and 47.6', respectively) have been designed to avoid direct permanent impact to and/or impervious influence over the Exeter River.

SECTION I.XI - SHORELINE STRUCTURES - LEAST INTRUSIVE UPON PUBLIC TRUST (Env-Wt 313.03(c)(2))

Describe how the type of construction proposed is the least intrusive upon the public trust that will ensure safe docking on the frontage.

The minimal areal coverage of the successive floor decks is 274 square feet and represents the least intrusive proposal upon the public trust. The proposed decks associated with each of the floors of the building will provide outdoor seating to serve the commercial and residential tenants of the units and provide a much-needed feature in attracting business for the adaptive reuse of the brick-box building that is in dire need of repair and has stood vacant for the past decade. The brick and masonry exterior of the building will be preserved to maintain the character of the building where there is significant public benefit to be derived from the reuse of this former iconic theater building that is centrally located in downtown Exeter. Similar uses are maintained along in the Waterfront Commercial-Historic District of Exeter. All local relief has been granted by the Exeter Zoning Board of Adjustment and site plan approval granted has been issued by the Exeter Planning Board.

SECTION I.XII - SHORELINE STRUCTURES – ABUTTING PROPERTIES (Env-Wt 313.03(c)(3))

Describe how the structures have been designed to avoid and minimize impacts on ability of abutting owners to use and enjoy their properties.

There are currently uses with outdoor waterfront vantages similar to the proposed decks. Moreover, concurrence from all abutting property owners has been obtained and is included in this wetland impact application package.

SECTION I.XIII - SHORELINE STRUCTURES – COMMERCE AND RECREATION (Env-Wt 313.03(c)(4))

Describe how the structures have been designed to avoid and minimize impacts to the public’s right to navigation, passage, and use of the resource for commerce and recreation.

There is no active commerce or recreation associated with this portion of the Exeter River that would be impacted by this project. The project will increase the visual aesthetics and viewing opportunities for patrons of the commercial units and guests of the residential tenants associated with this reach of the Exeter River.

SECTION I.XIV - SHORELINE STRUCTURES – WATER QUALITY, AQUATIC VEGETATION, WILDLIFE AND FINFISH HABITAT (Env-Wt 313.03(c)(5))

Describe how the structures have been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.

The proposed project avoids impacts to the water quality, aquatic vegetation, wildlife, and finfish habitat of the Exeter River. Temporary impacts will be undertaken during dry, no flow periods of the summer with BMPs, while the applicant and their contractors will observe mandated seasonal restrictions.

SECTION I.XV - SHORELINE STRUCTURES – VEGETATION REMOVAL, ACCESS POINTS, AND SHORELINE STABILITY (Env-Wt 313.03(c)(6))

Describe how the structures have been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.

The proposed project avoids removal of vegetation other than the potential removal of a small adjacent reed canary grass culms/clump and the removal of one unidentified woody shrub associated with one of the piers. The shrub is likely a pussy willow, highbush blueberry, or glossy buckthorn shrub. There is no work proposed that would compromise the integrity of the building foundation to accommodate normal streamflow and convey high streamflow velocity and volume during storm events and floods. Construction contractors will monitor forecasted weather events.

PART II: FUNCTIONAL ASSESSMENT
<p>REQUIREMENTS</p> <p>Ensure that project meets the requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).</p>
<p>FUNCTIONAL ASSESSMENT METHOD USED:</p> <p>Army Corps of Engineers (ACOE) Highway Methodology with New Hampshire Method inclusion for Ecological Integrity, per NHDES form 06-049.</p>
<p>NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: SERGIO BONILLA, PWS, CWS</p>
<p>DATE OF ASSESSMENT: 11/18/20 AND 12/10/20</p>
<p>Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT:</p> <p><input checked="" type="checkbox"/></p>
<p>For minor or major projects requiring a standard permit without mitigation, the applicant shall submit a wetland evaluation report that includes completed checklists and information demonstrating the RELATIVE FUNCTIONS AND VALUES OF EACH WETLAND EVALUATED. Check this box to confirm that the application includes this information, if applicable:</p> <p><input type="checkbox"/></p> <p>Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.</p>


Client Name: IOKA Properties, LLC		Site Location: 53 Water Street (TM 72 Lot 34) Exeter, New Hampshire	Project No. 20-044
Photo No. 1	Date: 11/18/20		
Description: Looking northwesterly at the existing IOKA Theater building over the Exeter River with structural concrete/brick archway piers in the Exeter River.			

Photo No. 2	Date: 11/18/20	
Description: Looking southeasterly at the existing IOKA Theater building over the Exeter River with structural concrete/brick archway piers in the Exeter River. Note the adjacent vegetated island. No impacts are proposed in this area.		


Client Name: IOKA Properties, LLC		Site Location: 53 Water Street (TM 72 Lot 34) Exeter, New Hampshire		Project No. 20-044
Photo No. 3	11/18/20			
Description: Looking southeasterly at the existing IOKA Theater building over the Exeter River with river staining on the structural concrete/brick archway piers in the Exeter River.				

Photo No. 4	Date: July 2020			
Description: Looking at an example of the scouring that has historically occurred on the concrete/brick archway piers in the river. The applicant proposes to evaluate the scouring, if any, located below the existing riverbed grade.				

November 24, 2020

David Cowie
IOKA Properties, LLC
24 Graf Rd.
Newburyport, MA 01950

Re: IOKA, Exeter, NH
Scouring of concrete piers

Dear Mr. Cowie,

As you are aware, JSN is providing structural engineering for your renovation project at the former IOKA Theatre in Exeter. As part of this project, we are working with you to repair the scouring that has occurred at the base of the large concrete piers along the river. It appears that there have been no previous attempts to repair these, so it becomes obvious that this scouring has taken as long to occur as the building has been there, which is a very long time.

In Photo #1, we can see that these piers are quite massive. In Photo #2, it can also be seen that the piers appear to be simply mass concrete, without any reinforcing. The depth of degradation in this photo would have exposed reinforcing if present. As a structural repair, our requirement is to repair in kind, so the process will involve repairing with an appropriate structural grout.

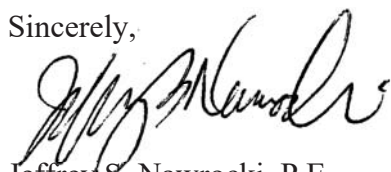
In the photos, we can see that the remaining concrete beyond the scouring appears to be very sound. The scouring has exposed the stone aggregate, which would only occur if the cementitious portion of the concrete were very strong and able to hold the aggregate.

The piers will need to be excavated more to fully expose the scouring zone and determine its depth. Then, a repair product will be chosen that is appropriate for this particular location, use, and continued exposure. Manufacturers like Sika Corp, Master Builders, Grace, etc. provide many structural repair products and will assist in the choice of the most suitable one.

The proposed new deck at the river level will be supported by galvanized steel beams and pressure treated wood joists and decking. Beams will occur at each pier and will epoxy bolt to the concrete piers and pocket into the granite foundation wall of the building. This occurs above the scouring.

Please feel free to contact me if you have any questions.

Sincerely,



Jeffrey S. Nawrocki, P.E.
President

Photo #1



Photo #2



AUTHORIZATION
AND
ABUTTER CONCURRENCE

Applicants Letter of Authorization

I, David A. Cowie, Manager and Co-owner of IOKA Properties, LLC and DAC IV, LLC, applicant of the wetland and shorelands permits and owner of the buildings located at 53 Water Street and 45 Water Street in Exeter, New Hampshire, hereby authorize Mission Wetland & Ecological Services, LLC (Mission) to be my agent in matters concerning Local and State wetland and shoreland permitting for the proposed project. This includes the proposed renovations and exterior improvements for the properties located on Tax Map 72, Lot 34 and Tax Map 72, Lot 35 as identified on the Town of Exeter assessor's maps. This shall include all required signatures.

David A. Cowie
Signature Applicant

David A. Cowie
Print Name

4/13/2021
Date

Elizabeth Moulton Cowie
Witness

Elizabeth Moulton Cowie
Print Name

4/13/21
Date



LCHIP	ROA487782	25.00
TRANSFER TAX	RO095647	6,750.00
RECORDING		14.00
SURCHARGE		2.00

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, that **KENSINGTON EXETER, LLC**, a Delaware limited liability company registered to do business in New Hampshire, with a mailing address of 347 Congress Street, Boston, Massachusetts 02210, for consideration paid grants to **IOKA PROPERTIES, LLC**, a New Hampshire limited liability company with a principal place of business at 24 Graf Road, Newburyport, Massachusetts 01950, with **WARRANTY COVENANTS**, the following described premises:

Two parcels of land, both located in Exeter, County of Rockingham and State of New Hampshire, bounded and described as follows:

1. A certain parcel of land, with the buildings thereon, situate in Exeter, County of Rockingham and State of New Hampshire, on the Northerly side of Water Street, bounded:

Westerly by land of Exeter Masonic Association, formerly of Folsom; Northerly by the River and land of Exeter Manufacturing Company; Easterly by land of the heirs of Luigi Gaiero; and Southerly by Water Street.

2. A certain parcel of land, with the building thereon, situated in Exeter, County of Rockingham and State of New Hampshire, bounded and described as follows:

Beginning at the Northeasterly corner thereof at the corner of a brick theatre building standing on premises of grantor; thence Northerly by land of Exeter Manufacturing Company on a line coincident with the prolongation of the Easterly face of the Easterly brick wall of said building twenty-six (26) feet to a point; thence Westerly by land of said Exeter Manufacturing Company a distance of about fifty-five (55) feet to a point on the prolongation of the Westerly face of the Westerly wall of said building; thence Southerly by land of said Exeter Manufacturing Company thirty-eight (38) feet to the Northwesterly corner of said building, thence Easterly by the face of the Northerly wall of said building about fifty-six (56) feet to the point of beginning.

Included in this conveyance is the permission to extend the fire escape on the Easterly side of said premises about six feet beyond its present location Northerly over other land of Exeter Manufacturing Company Easterly of the granted premises.

This conveyance is made upon the express condition that Exeter Manufacturing Company reserves for itself and its successors and assigns, the right of flowage by the waters of the Exeter River, over and through said granted premises, to any height that may be caused by the Exeter Manufacturing Company's present dam, at Exeter, at its present height or at any height to which the said dam may be constructed in the future, and to any height of any future dam that may be built by the Exeter Manufacturing Company, its successors or assigns, at a point below the present dam, for which plans have already been drawn, and to any height to which the water of the Exeter River, or in canal entrances or raceway entrance or exits may be caused by flash boards or other obstructions imposed by either the aforementioned dams, or by any other construction which has been or may be made by Exeter Manufacturing Company, its successors or assigns.

The Grantee, by accepting this deed of conveyance, and in consideration thereof, covenants and agrees to and with said Exeter Manufacturing Company, its successors and assigns, that the grantee, and its successors and assigns, will not at any time after the date hereof claim or be entitled to any damages for any flowage or wearing away of the banks by the said Exeter River or by waters of any canal or raceway entrances or for any encroachment which may be made by said river or any canal or raceway entrances upon the land herein conveyed, or for effect produced by percolation or by the raising or lowering of the water of said river by its present canals, raceways or dam, or any future canals, raceways or dams.

Being the same premises conveyed to Kensington Exeter, LLC by Foreclosure Deed of People's United Bank dated January 9, 2012 and recorded in the Rockingham County Registry of Deeds at Book 5279, Page 1878.

SIGNED this 31st day of March, 2020.

KENSINGTON EXETER, LLC

By: *Alan E. Lewis*
ALAN E. LEWIS, MANAGER

COMMONWEALTH OF MASSACHUSETTS
COUNTY OF SUFFOLK

March 31, 2020

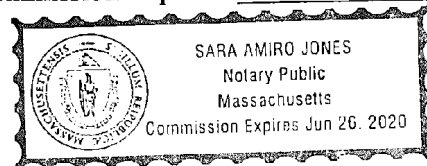
Personally appeared **ALAN E. LEWIS**, as duly authorized Manager of **KENSINGTON EXETER, LLC**, known to me or satisfactorily proven to be the person whose name is subscribed to the foregoing instrument and acknowledged that he executed the same for the purposes therein contained in said capacity.

Before me,

Sara Amiro Jones

Notary Public

My Commission Expires: 6/26/2020



April 14, 2021

IOKA Properties (Plum Island, LLC)
24 Graf Road
Newburyport, MA 01950

Exeter Masonic Association
Tax Map 72, Lot 33 (59, 61, 63, and 65 Water Street)
33 Ashbrook Road
Exeter, NH 03833

Re: Abutter Concurrence for NHDES Wetlands Bureau
Jurisdictional Impacts within 10 feet of property line [Env-Wt 307.13(d)]

I, Dwaine Staples, President EMA, am the owner (or authorized representative of the owner) of the property located at 59, 61, 63, and 65 Water Street the Town of Exeter, identified by the Town Assessor Tax Map 72, as Lot 33. I understand that a project on property immediately abutting mine to the southeast, located at 53 Water Street on Lot 34 is requesting concurrence for impacts for pier repairs and buidling improvements in proximity to jurisdictional Exeter River resources within 10-feet of our shared property boundary. Best Management Practices (BMPs) will include, but will not be limited to, deployment of a temporary sediment boom to prevent sediment and material loss to the Exeter River and facilitate the construction, via foot traffic, for concrete/brick archway pier repointing and construction of the basement level deck and successive building level decks supported by steel I-beams over the Exeter River. I understand that deployment of the temporay sediment boom may need to be anchored in close proximity to the shared property boundary; however, all construction activities will be conducted in accordance with approved plans and permits.

I concur with the impacts within ten feet of this shared property boundary.

Signature Dwaine Staples, President EMA

Date: 4/16/2021

Witness Daryl W. Alm DIRECTOR EMA

Date: 4/16/2021

March 17, 2021

IOKA Properties (Plum Island, LLC)
24 Graf Road
Newburyport, MA 01950

DAC IV, LLC
Tax Map 72, Lot 35 (45 Water Street)
79 Parker Street
Newburyport, MA 01950

Re: Abutter Concurrence for NHDES Wetlands Bureau
Jurisdictional Impacts within 10 feet of property line [Env-Wt 307.13(d)]

I, David A. Cowie, am the owner (or authorized representative of the owner) of the property located at 45 Water Street the Town of Exeter, identified by the Town Assessor Tax Map 72, as Lot 35. I understand that a project on property immediately abutting mine to the southeast, located at 53 Water Street on Lot 34 is requesting concurrence for impacts for pier repairs and buidling improvements in proximity to jurisdictional Exeter River resources within 10-feet of our shared property boundary. I concur with the impacts within ten feet of this shared property boundary.

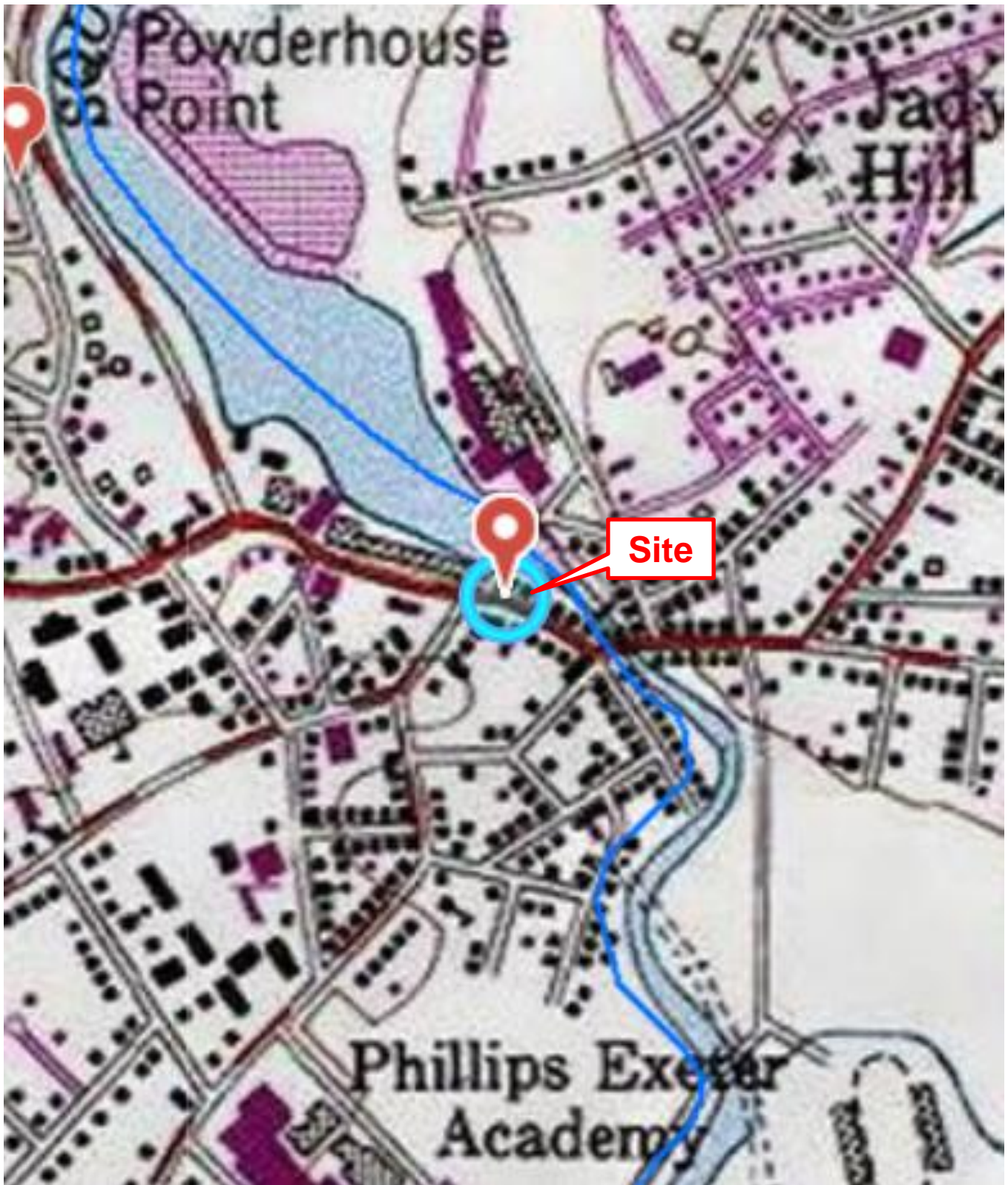
Signature David A. Cowie

Date: 4/13/2021

Witness Elizabeth Moulton-Cowie

Date: 4/13/21

LOCUS MAP AND TAX MAP



0.4km

0.2mi

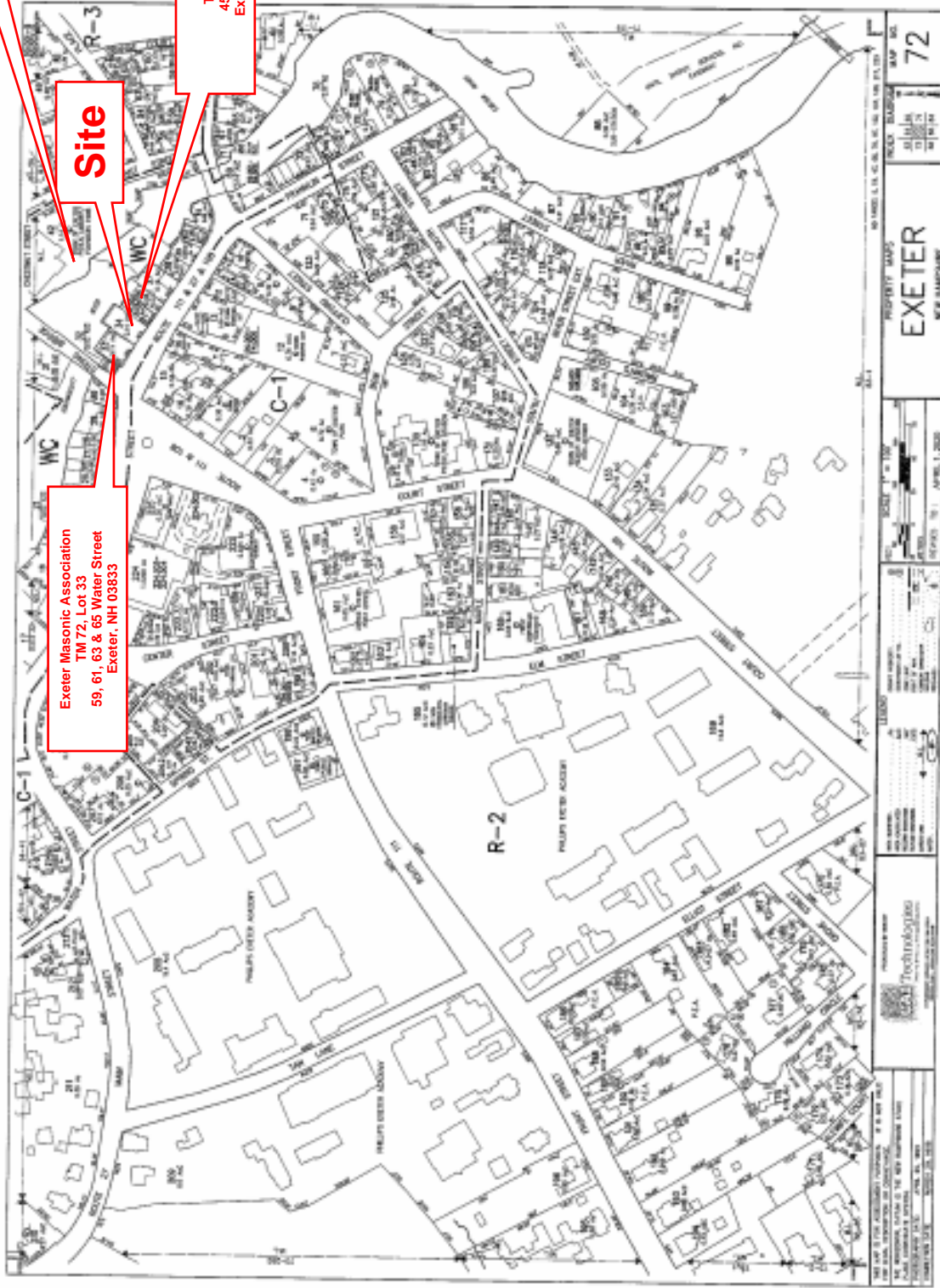
SITE LOCUS MAP

53 WATER STREET
EXETER, NH



FIGURE 1

Town of Exeter Assessors Tax Map 72, Lot 34 – 53 Water Street



Town of Exeter
TM 72, Lot 42
4 Chestnut Street
Exeter, NH 03833

Site

Exeter Masonic Association
TM 72, Lot 33
59, 61, 63 & 65 Water Street
Exeter, NH 03833

DAC IV, LLC
TM 72, Lot 35
45 Water Street
Exeter, NH 03833

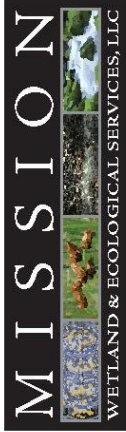
PROPERTY MAPS
EXETER
NEW HAMPSHIRE

72

APRIL 1, 2023

Technographics

ABUTTER LIST, NOTIFICATIONS,
AND
PROOF OF CERTIFIED MAILINGS



ABUTTERS LIST

Client Name: IOKA Properties, LLC	Site Location: 53 Water Street Exeter, New Hampshire (Tax Map 72, Lot 34)	Project No. 20-044
<p>Exeter Masonic Association Tax Map 72, Lot 33 (59, 61, 63, and 65 Water Street) 33 Ashbrook Road Exeter, NH 03833</p> <p>DAC IV, LLC Tax Map 72, Lot 35 (45 Water Street) 79 Parker Street Newburyport, MA 01950</p> <p>Town of Exeter Tax Map 72, Lot 42 (4 Chestnut Street) 10 Front Street Exeter, NH 03833</p>		

**ABUTTER NOTIFICATION
OF
WETLANDS PERMIT APPLICATION**

Via Certified Mail/Return Receipt Requested

April 19, 2021

Exeter Masonic Association
Tax Map 72, Lot 33 (59, 61, 63, and 65 Water Street Exeter, NH)
33 Ashbrook Road
Exeter, NH 03833

Re: NHDES Wetland Permit Application
53 Water Street
Exeter, NH
Tax Map 72, Lot 34

Dear Sir or Madam:

This letter is to inform you that a Wetlands Permit Application will be submitted to the NH Department of Environmental Services (NHDES) Wetland Bureau for a *Minor Impact Wetland Permit* for the repair to the concrete piers that support the IOKA Theater Building and construction of a basement level deck and upper level decks above the Exeter River at the above-referenced location. Under state law RSA 482-A, via certified mail, we are required to notify you about this wetland permit application which proposes work abutting your property (or properties).

Once the permit application is submitted to NHDES, a copy of the permit application, including the plans associated with the project proposal, will be available for public review at the Town Clerk's Office in Exeter New Hampshire. A copy of the permit application, including the plans associated with the project proposal, can also be reviewed at the NHDES headquarters in Concord. It is suggested that you review Covid-19 protocol and call ahead (603-271-2147) to ensure the application is available for review.

If you have questions, you may contact David Cowie or Sergio Bonilla at the contact information provided below.

Sincerely,

IOKA Properties, LLC (David Cowie)
24 Graf Road
Newburyport, MA 01950
(978) 992-3321
dac@plumislandllc.com

Sergio Bonilla, PWS, CWS (Mission Wetland & Ecological Services, LLC)
P.O. Box 4028
Portsmouth, NH 03802
(603) 361-3204
missionwetland@gmail.com

**ABUTTER NOTIFICATION
OF
WETLANDS PERMIT APPLICATION**

Via Certified Mail/Return Receipt Requested

April 19, 2021

DAC IV, LLC
Tax Map 72, Lot 35 (45 Water Street)
79 Parker Street
Newburyport, MA 01950

Re: NHDES Wetland Permit Application
53 Water Street
Exeter, NH
Tax Map 72, Lot 34

Dear Sir or Madam:

This letter is to inform you that a Wetlands Permit Application will be submitted to the NH Department of Environmental Services (NHDES) Wetland Bureau for a *Minor Impact Wetland Permit* for the repair to the concrete piers that support the IOKA Theater Building and construction of a basement level deck and upper level decks above the Exeter River at the above-referenced location. Under state law RSA 482-A, via certified mail, we are required to notify you about this wetland permit application which proposes work abutting your property (or properties).

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If you have questions, you may contact David Cowie or Sergio Bonilla at the contact information provided below.

Sincerely,

IOKA Properties, LLC (David Cowie)
24 Graf Road
Newburyport, MA 01950
(978) 992-3321
dac@plumislandllc.com

Sergio Bonilla, PWS, CWS (Mission Wetland & Ecological Services, LLC)
P.O. Box 4028
Portsmouth, NH 03802
(603) 361-3204
missionwetland@gmail.com

**ABUTTER NOTIFICATION
OF
WETLANDS PERMIT APPLICATION**

Via Certified Mail/Return Receipt Requested

April 19, 2021

Town of Exeter
Tax Map 72, Lot 42 (4 Chestnut Street)
10 Front Street
Exeter, NH 03833

Re: NHDES Wetland Permit Application
53 Water Street
Exeter, NH
Tax Map 72, Lot 34

Dear Sir or Madam:

This letter is to inform you that a Wetlands Permit Application will be submitted to the NH Department of Environmental Services (NHDES) Wetland Bureau for a *Minor Impact Wetland Permit* for the repair to the concrete piers that support the IOKA Theater Building and construction of a basement level deck and upper level decks above the Exeter River at the above-referenced location. Under state law RSA 482-A, via certified mail, we are required to notify you about this wetland permit application which proposes work abutting your property (or properties).

Once the permit application is submitted to NHDES, a copy of the permit application, including the plans associated with the project proposal, will be available for public review at the Town Clerk's Office in Exeter New Hampshire. A copy of the permit application, including the plans associated with the project proposal, can also be reviewed at the NHDES headquarters in Concord. It is suggested that you review Covid-19 protocol and call ahead (603-271-2147) to ensure the application is available for review.

If you have questions, you may contact David Cowie or Sergio Bonilla at the contact information provided below.

Sincerely,

IOKA Properties, (David Cowie)
24 Graf Road
Newburyport, MA 01950
(978) 992-3321
dac@plumislandllc.com

Sergio Bonilla, PWS, CWS (Mission Wetland & Ecological Services, LLC)
P.O. Box 4028
Portsmouth, NH 03802
(603) 361-3204
missionwetland@gmail.com

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<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
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<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
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Total Postage and Fees	\$7.00

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APR 19 2021

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 City, State, ZIP+4® *Exeter, NH 03833*

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.55
Total Postage and Fees	\$7.00

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04/19/2021

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 City, State, ZIP+4® *Newburyport, MA 01950*

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.55
Total Postage and Fees	\$7.00

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APR 19 2021

04/19/2021

Sent To *Town of Exeter*
 Street and Apt. No., or PO Box No. *10 Front Street*
 City, State, ZIP+4® *Exeter, NH 03833*

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

NEW HAMPSHIRE NATURAL HERITAGE BUREAU
US FISH & WILDLIFE SERVICE IPAC AND
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
CONSULTATION CORRESPONDENCE

CONFIDENTIAL – NH Dept. of Environmental Services review

Memo



NH Natural Heritage Bureau
NHB Datacheck Results Letter

To: Sergio Bonilla, Mission Wetland & Ecological Services, LLC
P.O. Box 4028
Portsmouth, NH 03802

From: Amy Lamb, NH Natural Heritage Bureau
Date: 11/17/2020 (valid for one year from this date)
Re: Review by NH Natural Heritage Bureau

NHB File ID: NHB20-3358 **Town:** Exeter **Location:** Tax Maps: TM 72, L 34
Description: The project proposes to convert the theater into a mixed use building with several improvements. There is significant public benefit to be derived from the reuse of this former iconic theater building that is centrally located in downtown Exeter. The improvements include balconies and a deck over the river where one cantilevered balcony exists, and repairs to the concrete/brick piers in the bed of the Exeter River.

cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments: Please send NHB a site plan (digital) of existing and proposed conditions, as well as photos of impact areas, preferably taken during the growing season (if available). Several state listed plant species have been documented in the vicinity and could be within work areas. Please provide details about how work will be completed and how impacts to vegetation will be avoided and minimized.
Contact the NH Fish & Game Department to address wildlife concerns.

Plant species	State ¹	Federal	Notes
climbing hempvine (<i>Mikania scandens</i>)	E	--	Threats include changes to the hydrology (e.g., water levels) of its habitat and increased sedimentation or nutrients and pollutants in stormwater runoff.
seaside brookweed (<i>Samolus valerandi</i> ssp. <i>parviflorus</i>)	E	--	Occurs on river and streambanks, as well as estuarine and seashore habitats. Threats include direct destruction of the plants and major alterations of their habitat.
spongy-leaved arrowhead (<i>Sagittaria spatulata</i>)	E	--	Primarily vulnerable to changes to the hydrology of its habitat, especially alterations that change water levels. It may also be susceptible to increased pollutants and nutrients carried in stormwater runoff.

Vertebrate species

American Eel (*Anguilla rostrata*) **State¹** SC **Federal** -- **Notes** Contact the NH Fish & Game Dept (see below).

¹Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

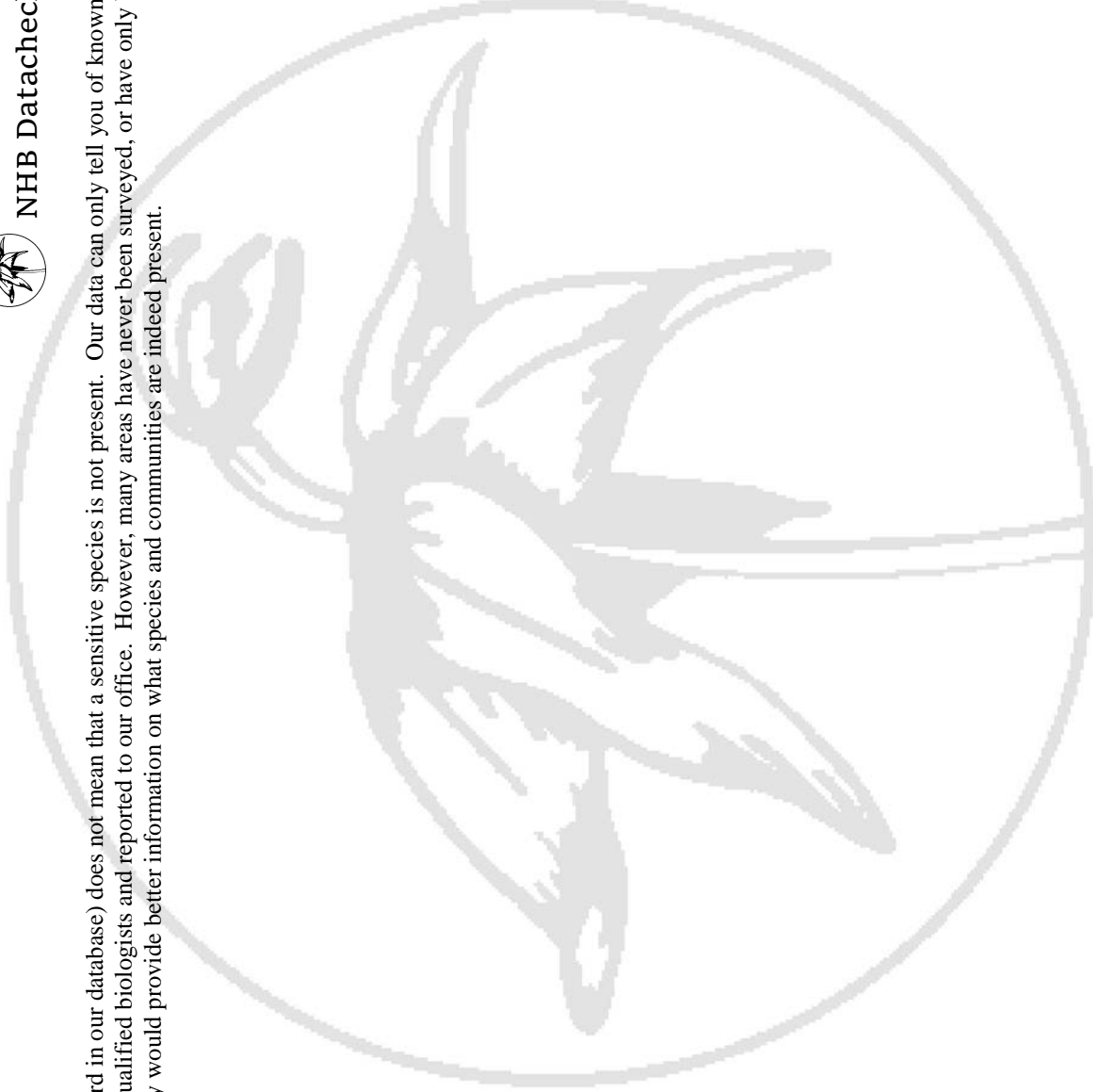
CONFIDENTIAL – NH Dept. of Environmental Services review

Memo



NH Natural Heritage Bureau
NHB Datacheck Results Letter

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.



Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301



Sergio Bonilla <missionwetland@gmail.com>

Re: NHB review: NHB20-3358

1 message

Sergio Bonilla <missionwetland@gmail.com>

Fri, Apr 16, 2021 at 12:54 PM

To: "Lamb, Amy" <Amy.E.Lamb@dncr.nh.gov>, "Tuttle, Kim" <Kim.A.Tuttle@wildlife.nh.gov>

Cc: David Cowie <dac@plumislandllc.com>, Jay Caswell <jay@caswelldevelopment.com>, Henry Boyd <hboyd@mei-nh.com>

Hello Amy and Kim,

The project team has conducted more design and refined the plans that are attached, as requested, as well as a project photographic log. There are 1,500 square feet (SF) of temporary impacts proposed to conduct pier repairs and steel I-beam joist connections and deck installation on foot in the dry summer months during periods of no-flow. In addition, the applicant proposes three decks to serve the commercial and residential tenants of the rear units and supported by cantilevered steel beams at respective floor levels. The riverbed area of the 1,500 SF of temporary impacts does not appear to contain any herbaceous vegetation except for appears to be a few small culms of reed canary grass (*Phalaris arundinacea*) and there is one woody shrub specimen growing out of one of the seams of the pier. From a distance, it appears to be an alternately arranged twig, possibly pussy willow (*Salix discolor*) or glossy buckthorn (*Frangula alnus*). I can verify this prior to construction as this shrub will be removed to facilitate pier scouring assessment and repointing with compound grout. In addition, prior to construction and installation of the sediment boom representing the limit of temporary impacts, the area will be canvassed for presence of the climbing hempvine (*Mikania scandens*), seaside brookweed (*Samolus valerandi* ssp. *parviflorus*), and spongy-leaved arrowhead (*Sagittaria spatulata*), the listed listed herbaceous plants. I believe these plants, if present, may be located in the vegetated island with open water areas located in the riverbed and outside of the proposed temporary impact area which is essentially under the footprint of the IOKA theater building site.

The construction is proposed for the summer months during periods of no-flow. The applicant and their contractor will monitor weather forecasts prior sediment boom deployment and ensure there are no open water areas as they may provide a run for catadromous American eel (*Anguilla rostrata*) that may migrate during early summer months. The NOAA consultations and USFWS IPAC consultations resulted in hits for Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), shortnose sturgeon (*Acipenser brevirostrum*), and northern long-eared bat (*Myotis septentrionalis*), respectively. We anticipate concurrence from these Federal agency consultations. The applicant is open to suggestions for avoidance measures, such as pre-construction inspection of the work area and turbidity curtain/boom that the applicant proposes to deploy and represents the limit 1,500 SF of temporary impacts for the construction area. Additional proposed BMP measures include PVC containment boxes for riverbed stone and backfill in-place/in-kind, and sediment bladders, as needed) Construction of the cantilevered decks associated with the rear commercial and residential units of the building will follow after the pier repairs are completed and the elevated decks are constructed.

In summary, there are no permanent impacts proposed and there will be no permanent impacts of shading or altered hydrology that would potentially impact any documented plants in the vicinity.

Thank you,

Sergio

Sergio Bonilla, PWS, CWS, CESSWI
Principal Wetland & Wildlife Ecologist

MISSION WETLAND & ECOLOGICAL SERVICES, LLC



P.O. Box 4028
Portsmouth, NH 03802
(603) 361-3204
missionwetland@gmail.com
www.missionwetland.com

WETLANDS - WILDLIFE - WATERWAYS

On Tue, Nov 17, 2020 at 5:22 PM Lamb, Amy <Amy.E.Lamb@dncr.nh.gov> wrote:

Attached, please find the review we have completed. If your review memo includes potential impacts to plants or natural communities please contact me for further information. If your project had potential impacts to wildlife, please contact NH Fish and Game at the phone number listed on the review.

Best,
Amy

Amy Lamb
Ecological Information Specialist

NH Natural Heritage Bureau
DNCR - Forests & Lands
172 Pembroke Rd
Concord, NH 03301
603-271-2834

2 attachments



20-044 Plan Set 20210415.pdf
7493K



20-044 NHDES WB Photolog IOKA Exeter NH 20210309.pdf
673K



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
<http://www.fws.gov/newengland>

In Reply Refer To:

April 07, 2021

Consultation Code: 05E1NE00-2021-SLI-2279

Event Code: 05E1NE00-2021-E-07162

Project Name: IOKA Theatre

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

<http://>

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2021-SLI-2279

Event Code: 05E1NE00-2021-E-07162

Project Name: IOKA Theatre

Project Type: DREDGE / EXCAVATION

Project Description: A structural engineer has determined that the supporting archway piers in the river require repairs, in-kind, with an appropriate structural grout, as scouring has occurred in these piers along the river. This scouring has taken a long time, as there is no evidence that repairs have been undertaken since the building has been erected. Repairs and grout replacement will be limited to the original dimensions of the piers as measured at the directly adjacent uncompromised area of the structural piers of the building. Manual tools and hand-operated mechanical tools will be required in order to temporarily shovel out the base of the archway piers in order to ascertain the extent of the scouring; however, it is anticipated that the scouring does not extend beyond the area of the piers exposed to flowing water. The archway piers have no reinforcing in them, so they will be built back in-kind to the original dimensions with a strong durable grout patch material and may require structural rebar that will not extend beyond the original dimensions and volume.

In addition, the applicant proposes a basement level-accessed deck to provide restaurant seating for the commercial tenants of the building. The 1,500 square feet (SF) of temporary impacts are required to facilitate foot traffic during construction and to construct the plywood coffer dams/forms in order to evaluate the magnitude and extent of scouring of the archway piers and to conduct the repairs. Minor hand-shoveling inside the plywood coffer dams will be required to evaluate the extent of pier scouring and subsequent repair with appropriate structural grout. Manual or hand-operated mechanical tools will be utilized and all grout and equipment will be stored in PVC containment boxes and removed from the temporary work area on a daily basis. The hand-removed riverbed stone will also be cast aside and stored in PVC containment areas for backfill upon completion of pier evaluations. Galvanized steel beams will be installed at each pier will connect to the pressure-treated wood joists. At the building side, the steel beams will connect to the foundation wall of the building with epoxy bolts.

In order to reduce the potential for material and equipment loss and sedimentation in the Exeter River, the applicant proposes to install a temporary containment boom to contain construction material and equipment as well as any debris or fine sediments associated with construction activity and temporary riverbed disturbance. This containment boom demarcates the limit of disturbance and temporary

impact area. The applicant will approach the adjacent landowners to obtain permission to secure the containment boom on their respective properties.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.9816663,-70.94513682781536,14z>



Counties: Rockingham County, New Hampshire

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.





Drawn Action Area & Overlapping S7 Consultation Areas

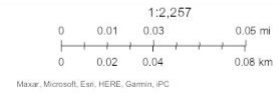
Area of Interest (AOI) Information

Area : 2,031.48 acres

Apr 12 2021 10:17:04 Eastern Daylight Time



-  Atlantic Sturgeon
-  Shortnose Sturgeon



Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	2	118.42	N/A
Shortnose Sturgeon	1	59.21	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	0	0	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	0	0	N/A

Atlantic Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	ANS_PIS_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	Piscataqua River	01/01	12/31	N/A	N/A	59.21
2	ANS_PIS_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	Piscataqua River	01/01	12/31	N/A	N/A	59.21

Shortnose Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	SNS_PIS_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	Piscataqua River	04/01	11/30	N/A	N/A	59.21

DISCLAIMER: Use of this App does NOT replace the Endangered Species Act (ESA) Section 7 consultation process; it is a first step in determining if a proposed Federal action overlaps with listed species or critical habitat presence. Because the data provided through this App are updated regularly, reporting results must include the date they were generated. The report outputs (map/tables) depend on the options picked by the user, including the shape and size of the action area drawn, the layers marked as visible or selectable, and the buffer distance specified when using the "Draw your Action Area" function. Area calculations represent the size of overlap between the user-drawn Area of Interest (with buffer) and the specified S7 Consultation Area. Summary table areas represent the sum of these overlapping areas for each species group.

NHDHR MAILING AND EXETER-SQUAMSCOTT RIVER

LOCAL ADVISORY COMMITTEE MAILING



April 16, 2021

New Hampshire of Historical Resources
Attn: Tanya Krajcik, Records Coordinator
State Historic Preservation Office
Attention: Review and Compliance
19 Pillsbury Street
Concord, NH 03301-3570

Re: **IOKA Properties, LLC**
53 Water Street
Tax Map 72, Lot 34
Exeter, NH 03833

Dear Tanya:

On behalf of Plum Island, LLC, Mission Wetland and Ecological Services, LLC (Mission) is hereby submitting this letter, a Request for Project Review (RPR) form, and the site plans entitled "A Proposed Building Rehabilitation" dated 4/15/21, and prepared by Millennium Engineering, Inc. In Addition, please find a photolog to support the New Hampshire Historic Resource (NHDHR) database review and overall RPR for the above-referenced commercial redevelopment project. The location of the project is marked on the enclosed USGS topographic map. This review is requested in fulfillment of a New Hampshire Department of Environmental Services Wetlands Bureau application. Additionally, Mission will apply for local permits from the Town of Exeter.

The parcel identified as Tax Map 72, Lot 34 located at 53 Water Street, is also known as the Mayer Building, the houses the Iconic IOKA Theatre that has been vacant since 2008. The parcel is approximately 0.14 acres, or 5,902 square feet (SF) in size. The original building was constructed in 1915 and has been configured as such since that time. The building hosted theatrical, cinema, and musical events until 2008 when it was closed for good and has been vacant since. As you are aware, the dam impoundment in this portion of the Exeter River was removed some years ago, restoring the fish passage capacity of the is portion of the Exeter River. The applicant purchased the building and is proposing to convert the use into commercial, restaurant, and residential units. As part of the proposal, and the requirement for the wetland permitting, a structural engineer has determined that existing concrete/brick archway piers of the building that lay on the substrate (riverbed) of the Exeter River are in need of repair. The proposed in-kind repair of the concrete portion of the footings would not be complicated and would be undertaken in the dry summer months during no-flow periods in the Exeter River and in accordance with any mandated seasonal restrictions. The minor hand-shoveling required in the riverbed stone to examine the extent, if any, of scouring below the riverbed grade, will be conducted by hand with shovel and/or utilizing hand-operated power tools only. The riverbed stone will be cast aside in temporary 5' by 5' PVC containment boxes for backfill, in-kind, upon completion of pier evaluations and repairs. In

P.O. Box 4028 Portsmouth, NH 03802 | 603.361.3204
Email: missionwetland@gmail.com | www.missionwetland.com



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Debit Card Remitted \$2.00
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Approval #: 002138
Transaction #: 204
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Mission Wezards.
P.O. Box 4028
Portsmouth, NA

03802



Exeter Squanscott River Local Advisory Committee
c/o Rockingham Planning Commission
156 Water Street
Exeter

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Product Qty Unit Price

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Expected Delivery Date
Wed 04/21/2021
Tracking #: 9505 5157 9167 1110 9376 53
Insurance up to \$50.00 included

Total \$8.55

Grand Total: \$8.55

Debit Card Remitted
Card Name: VISA
Account #: XXXXXXXXXX7612
Approval #: 029379
Transaction #: 036279
Receipt #: 036279
Debit Card Purchase: \$8.55
AID: A000000980840
AL: US DEBIT
PIN: Verified

USPS is experiencing unprecedented volume increases and limited employee availability due to the impacts of COVID-19. We appreciate your patience.

EXPECTED DELIVERY DAY: 04/21/21

USPS TRACKING® #



9505 5157 9167 1110 9376 53

WETLAND FUNCTIONS AND VALUES ASSESSMENT

Wetland Functional Assessment

Proposed Building Rehabilitation
IOKA Theater
53 Water Street
Tax Map 72, Lot 34
Exeter, NH 03833

Prepared for:

IOKA Properties, LLC
24 Graf Road
Newburyport, MA 01950

April 20, 2021





WETLAND FUNCTIONS & VALUES ASSESSMENT

**IOKA Theatre
53 Water Street
Exeter, NH**

This report presents the findings of a Wetland Functions and Values Assessment (FVA) for the greater Exeter River ecosystem and the small study area of the Exeter River associated with the property at 53 Water Street in Exeter, New Hampshire which is identified on the Town Exeter Assessor's Tax Map 72 as Lot 34. Sergio Bonilla, Principal Wetland Ecologist with Mission Wetland and Ecological Services, LLC (Mission), and Certified Wetland Scientist in the State of New Hampshire (#261) has prepared this FVA report in support of a New Hampshire Department of Environmental Services Wetland Bureau application filed for the project at the above-referenced location. The iconic IOKA Theater building is being redeveloped as a commercial facility and several repairs and improvements are being undertaken by the developer, IOKA Properties, LLC. The repairs consist of re-pointing the concrete and brick archway piers that have been located in the Exeter River since its original construction in 1915. In addition, a basement level deck over the Exeter River within the existing building footprint and decks well above the Exeter River at each of the three floors associated with the building. As such, the study area is limited to that immediate reach of the Exeter River directly adjacent to the building, directly upstream, and directly downstream. In addition, the proposed 1,500 square feet (SF) area proposed for temporary riverbed impacts is discussed relative to the lack of principal functions and values, that are clearly exhibited in the greater Exeter River ecosystem. Refer to **Figure 1. Army Corps of Engineers Wetland Impact Plan - A Proposed Building Rehabilitation.**

The Exeter River is capable of providing more function and is of higher when taken from the perspective of the entire ecosystem, the overall watershed and to the public as the Highway Methodology is qualitatively designed for; however, the study area and analysis discussion is limited to the small study area mentioned above in the context of temporary impacts of foot traffic to facilitate repairs and construction. In addition, several assumptions will be made based upon the nature of the function and/or value and the subsequent preservation of said function or value in the context of the temporary impact area (1,500 SF).

This report provides an assessment of the existing functions and values of the greater Exeter River ecosystem and then at the study area and project site in accordance with the United State Army Corps of Engineers - New England Region, Highway Methodology Workbook Supplement (September 1999). As previously mentioned, this proposed project will require a Dredge and Fill Permit application to be filed with the New Hampshire Department of Environmental Services Wetlands Bureau for the temporary impacts associated with the construction activities and to repair the concrete/brick archway piers and proposed decks. The New Hampshire Method for the Comparative Evaluation of Nontidal Wetlands in New Hampshire ("The NH Method"), revised 2015, lends itself to the assessment of large wetland complex with a variety of vegetation cover types, hydroperiods, and subsequently a diversity of habitats. For purposes of this FVA and in accordance with the above-references rules, Ecological Integrity from the NH Method will be

incorporated into this FVA as well as the balance of the functions and values outlined in the ACOE Highway Methodology.

Mission conducted site visits on November 18, 2020 and December 10, 2020 to observe water levels and habitat structure, document, and record data to support the FVA. The relevant portion of the Exeter River associated with the property and temporary impacts is classified in accordance with the *US Fish & Wildlife Service Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, et. al., 1979) as primarily a riverine lower perennial unconsolidated bottom system composed of gobble and gravel that is intermittently exposed (R2UB1G). Refer to **Appendix A. FVA Photolog** for a depiction of the evaluation areas and **Appendix C, Functions and Values Form**, including the Ecological Integrity assessment form the NH Method described above).

Ecological Integrity

Ecological Integrity relates to how much the wetland has retained its native biotic and abiotic features and the overall health and stability of the wetland ecosystem.

The Ecological Integrity of the Exeter River has been improved with the removal of the Great Dam in 2016. This has restored the functional capacity of the Exeter River to provide migratory fish passage associated with anadromous alewife (*Alosa pseudoharengus*) and catadromous American eel (*Anguilla rostrata*). In addition, removal of the impoundment has alleviated the stagnation that some of the upstream portions of this reach of the Exeter River experience and subsequently, improved water quality.

Floodflow Alteration (Storage and Desynchronization)

This function considers the effectiveness of a wetland to reduce flood damage by attenuating flood waters for prolonged periods following precipitation events.

There are designated FEMA flood zones and floodplains located upstream of this study area of the perennial Exeter River which, in this location of the study area, is a designated regulatory floodway. The Exeter River at this location and study area has limited value for storing floodwaters. It does serve to confine floodwaters during relatively recent storm events such as the Mother's Day flood of 2006 storm and the Patriots Day flood of 2007. The upstream and downstream banks are well-armored and the structural confinements of the study area exists as a concrete foundation, and rip-rap representing the limit of the Ordinary High Water (OHW). These structural components have served to protect the building and property, as well as adjacent properties, since its original construction in 1915. Removal of the dam has reduced flooding on some 1,000 acres of land in the upstream reaches of the Exeter River.

Fish and Shellfish Habitat

This function considers the effectiveness of seasonal or permanent waterbodies associated with the wetland in question for fish and shellfish habitat.

The Exeter River system plays an important role in providing habitat or number of common, rare, threatened, and endangered species. Mission does not anticipate that proposed temporary impacts coupled with the approach with numerous BMPs will impact any fish or shellfish habitat. Construction activities for the concrete/brick archway piers and basement level deck will be conducted during dry, no-flow periods in the summer months and in accordance with Federal or State mandated seasonal restrictions.

Sediment/Toxicant Retention

This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens.

The greater Exeter River ecosystem is capable of this function; however, the study area is a variable and dynamic flowing riverine system that lacks slow-moving water and possesses little water retention and/or opportunity for settling of sediments and toxicants.

Nutrient Removal/Retention/Transformation

This function relates to the effectiveness of the wetland to prevent adverse effects of excess nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.

The greater Exeter River ecosystem is capable of this function; however, the study area lacks vegetation diversity and or organic, fine grained soils. This function is better realized further upstream in the watershed. Refer to **Appendix B. Plant Species List**, for an inventory of existing vegetation.

Production Export (Nutrient)

This function relates to the effectiveness of the wetland to produce food or usable products for humans or other living organisms.

The greater Exeter River ecosystem is capable of this function; however, the study area lacks plant community structure and diversity, and any export of fruiting shrubs is attenuated within. Alewife (*Alosa pseudoharengus*) and other fishes historically and traditionally supported commercial and recreational fisheries along the Exeter River corridor like striped bass, cod, and tuna. Today, these populations are at historic low levels due to habitat degradation and fishing impacts. With the restoration of the passage and fish run with the removal of the Great Dam in 2016, populations in the Great Bay Area should experience an increase.

Sediment/Shoreline Stabilization

This function relates to the effectiveness of the wetland to stabilize streambanks and shorelines against erosion.

The greater Exeter River ecosystem is capable of this function; however, the study area is structurally well-armored. The upstream reaches of the Exeter River system is generally afforded

a well-vegetated riparian buffer with capacity to provide shoreline and sediment stabilization and plays an important role in maintaining stable soil associated with the banks of the Exeter River during storm events. In the densely-populated urban downtown Exeter, the waterfront properties are well-armored with varying structural anchoring, including the subject IOKA Theater building. The natural sediment shoreline stabilization occurs upstream of the study area.

Wildlife Habitat

This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species must be considered. Species lists of observed and potential animals should be included in the wetland assessment report.

Wildlife habitat is a principal function in the greater Exeter River ecosystem and the associated habitats also contain numerous species of concern in New Hampshire. There are several Wildlife Action Plan focus areas and themes located upstream. Areas in the watershed and adjacent to the greater Exeter River ecosystem are dominated by Appalachian Oak-Pine Forest and floodplain forest located along the river; however, the study area is a small, approximately 1 acre area does not contain the substance and diversity of wildlife habitat that the riverine system does refer to **Appendix D: Army Corps of Engineers Checklist Figure** which depicts impaired waters, highest ranking habitat focus areas, and FEMA data themes). There is the tidally influenced brackish water riverine system, the associated system directly downstream of the String Bridge, that is provides habitat for those birds and mammals typically associated with brackish water systems and there is significant overlap, especially with respect to the birds. The study area in the vegetated island for perching and foraging birds, as well as wading or feeding herons to capture prey. Refer to **Appendix E. Potential. Observed Wildlife Species List**.

Recreation (Consumptive and Non-consumptive)

This value considers the effectiveness of the wetland and associated watercourses to provide recreational opportunities such as canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive activities consume or diminish the plants, animals, or other resources, that are intrinsic to the wetland, whereas non-consumptive activities no not.

The greater Exeter River ecosystem has high recreation value and can be enjoyed from Founders Park; however, the smaller study area lacks public access for boating, where the balance of the upstream portions of the Exeter River ecosystem are host to abundant publicly- and privately accessed launch sites for non-mechanized boats, hunting and fishing, as well as nature and hiking trails.

Educational Scientific Value

This value considers the effectiveness of the wetland as a site for an “outdoor classroom” or as a location for scientific study or research.

The Exeter River ecosystem has an abundance of opportunities for educational value with prevalent public access to study, research, and observe the cultural and natural resources the Exeter River has to offer; however, the small study area lacks access to the river for study and research.

Uniqueness/Heritage

This value relates to the effectiveness of the wetland or its associated waterbodies to produce certain special values. Special values may include such things as archaeological sites, unusual aesthetic quality, historical events, or unique plants, animals, or geologic features.

The Exeter River and the associated receiving Squamscott River have both been recognized by the New Hampshire Rivers Management and Protection Program (RMPP). The upper reaches of the Exeter River were designated into the RMPP in 1995, while the lower 2.2 miles of the Exeter River and Squamscott were added into the RMPP in 2011. Exeter's extensive Waterfront Commercial-Historic District is significant for the maritime history and early settlement with several buildings eligible for listing on the National Register of Historic Places. Mission has filed a Request for Project Review with the New Hampshire Division of Historical Resources (NHDHR) of the proposed project to determine any NHDHR findings. As proposed, it is not anticipated that the project will impact this value in the study area of the Exeter River.

Visual Quality Aesthetics

This value relates to the visual and aesthetic qualities of the wetland.

Visual Quality and Aesthetics is a principal function at the study and, clearly, for portions of the greater Exeter River ecosystem upstream. The perspective of the Exeter River from Founders Park, String Bridge, and High Street in densely populated and developed downtown Exeter is visually and aesthetically pleasing. The proposed project will serve to increase the available viewing opportunities of the Exeter River from this iconic building.

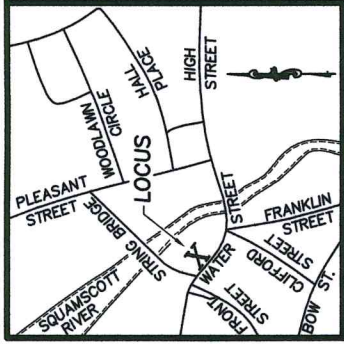
Threatened or Endangered Species Habitat

This value relates to the effectiveness of the wetland or associated waterbodies to support threatened or endangered species.

Mission initiated the online Information for Planning and Consultation (IPAC) consultation with the United State Fish & Wildlife Service (USFWS) for potential threats to the Federally endangered Northern Long Eared Bat (*Myotis septentrionalis*) in fulfillment of Section 7 of the Endangered Species Act. There are no trees or tree clearing that would impact the maternity colonies of northern long-eared bats (see attached USFWS IPAC species list). Mission also conducted the analysis using determination keys and trusts that the Concord Field Office has been notified of this fulfillment. Similarly, the Greater Atlantic Regional Fisheries Office (GARFA) of the National Oceanic and Atmospheric Administration (NOAA) was consulted to produce a Section 7 Mapper and this revealed Federally endangered Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) and shortnose sturgeon (*Acipenser brevirostrum*) in various life stages associated within the action area. It is not anticipated that the minor hand-shovel excavations will

impact any viability for the potential presence of these fishes in any stage, as the foot traffic and relevant construction activity is proposed for dry, no-flow summer months (see attached Area of Interest and Section 7 Action Area information). In both cases, the applicant anticipates letters of concurrence from both the USFWS and NOAA in concert with the ACOE Programmatic General Permit (PGP) review in Concord. The Natural Heritage Bureau consultation (NHB File #20-3358) reported several aquatic and/or wetland dependent herbaceous plant species in the area or vicinity of the proposed project. In addition, NHB records reported American eel (*Anguilla rostrata*) in 2008 in the vicinity of the project and upstream of the project location. Given the commitment of the project team to BMPS and seasonal restrictions in the riverbed, Mission does not anticipate impacts to any of the documented plant and animal species outlined in the NHB report.

There is significant public benefit to be derived from the reuse of this former iconic theater building that is centrally located in downtown Exeter. There will be increased opportunities for commercial and residential tenants for viewing and enjoyment of the Exeter River for their patrons and guests, respectively. The decks will provide a much-needed feature in attracting business for the adaptive reuse of the brick-box building that is in dire need of repair and has stood vacant for the past decade. The brick and masonry exterior of the building will be preserved to maintain the character of the building. The 1,500 SF temporary wetland impact within the study area, coupled with the project and construction approach, including the deployment of Best Management Practices (BMPs) and observation of seasonal restrictions, will result in no permanent or adverse impact wetland impacts. Moreover, the capacity of the Exeter River to provide those functions and values as outlined in this document and supporting information, and the NHDES form as a whole, and in the study area, will be preserved in the post-construction condition.



- NOTES:**
- THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT VISIBLE USES OF THE LAND; HOWEVER, THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
 - ELEVATIONS SHOWN HEREON ARE BASED ON N.G.V.D. 1929.
 - THIS PARCEL LIES WITHIN A FLOOD ZONE. SEE F.I.R.M. COMMUNITY PANEL 33015C 0420 E EFFECTIVE DATE MAY 17, 2005 AND LOMR 18-01-1446 EFFECTIVE DATE NOVEMBER 5, 2018

LOCUS MAP
NOT TO SCALE

ZONING DISTRICT
WC WATERFRONT COMMERCIAL

AREA	5,000 S.F.
DWELLING AREA	750 S.F.
WIDTH	50'
DEPTH	100'
FRONT SIDE	
10' TO THE SIDE YARD OF THE ABUTTING PROPERTY, OR 10 FEET WHICHEVER IS LESS; TO BE DETERMINED INDIVIDUALLY	
REAR	
3'/35'	
75%	
5	

CONSTRUCTION SEQUENCE:

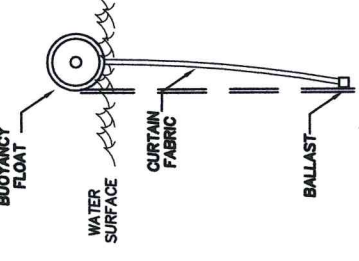
- WORK IN THE SHORELINE TO BE CONDUCTED MANUALLY WITH HAND AND OR HAND-OPERATED POWER TOOLS.
- DEPLOY SHORELINE CONTAINMENT BOOM AROUND ENTIRE WORK AREA AS INDICATED ON PLAN.
- LINE CONTAINMENT BOOM WITH EROSION CONTROL BOOM.
- APPROXIMATELY 1.5' TO 2' BEYOND CONCRETE FOOTING OF BRICK ARCHWAYS, HAND SHOVEL TRENCHES 7' TO 8" DEEP IN RIVERBED WATER.
- CONSTRUCT A COFFERDAM AROUND EACH FOOTING BY BOXING-IN CONCRETE FOOTINGS WITH 5/8" MARINE-GRADE PLYWOOD SHEETING BRACED WITH 2" X 4" LUMBER. EXTEND PLYWOOD SHEETING 12" TO 18" ABOVE THE NATURAL RIVERBED ELEVATION.
- USING 80 MILLIMETER THICK X 24" WIDE SINGLE-PLY EPDM RUBBER ROOFING MEMBRANE, WRAP AND SEAL OUTER WALLS OF COFFERDAMS.
- BACKFILL OPEN TRENCHES WITH DISPLACED RIVER-STONE AND HAND-TAMP FOR COMPACTION.
- IF NECESSARY, USE ENVIRONMENTALLY FRIENDLY BURLAP SANDBAGS TO CREATE STARTER COFFERDAM(S) IN AREAS OF STANDING WATER, OR SHALLOW RUNNING WATER.
- FURNISH AND INSTALL A DEWATERING AND SEDIMENT CONTROL BLADDER CAPABLE OF PROCESSING UP TO 500-GALLONS-PER-MINUTE.
- PLACE BLADDER ONSHORE BEYOND THE TOE OF RIVERBANK WITH EROSION CONTROL SILT FENCE STAKED BETWEEN BLADDER AND RIVERBANK.
- AS NECESSARY, DEWATER COFFERDAM(S) WITH SUBMERSIBLE PUMP(S) TO MAINTAIN DRY WORK AREA IN AND AROUND CONCRETE FOOTINGS OF BRICK ARCHWAYS.
- CHISEL/ REMOVE SECTIONS OF CRUMBLY CONCRETE FROM BASE TO BRICK ARCHWAY FOOTINGS.
- REMOVE CONCRETE AND MASONRY DEBRIS FROM THE RIVERBED WORK AREA AT THE END OF EACH WORK-SHIFT.
- AS NECESSARY, DRILL AND PIN DAMAGED AREAS OF FOOTINGS WITH 1/2" #4 REBAR.
- AS NECESSARY, UTILIZE CONCRETE CHEMICAL ANCHORS TO SECURE REBAR PINS AND EXISTING FOOTINGS.
- HAND TROWEL AND APPLY HIGH PERFORMANCE CONCRETE REPAIR MORTAR PER MANUFACTURER SPECIFICATIONS.
- UPON INSPECTION OF CURED CONCRETE AND REPAIRS TO FOOTINGS CAREFULLY DISMANTLE AND REMOVE COFFERDAMS, HAND-TAMP AND COMPACT DISTURBED RIVER-STONE.
- UPON COMPLETION OF WORK IN RIVERBED REMOVE CONTAINMENT BOOM AND REMOVE AND PROPERLY DISPOSE OF EROSION AND SEDIMENT CONTROLS.

LEGEND

- ASSESSORS MAP AND PARCEL
- EXISTING SPOT ELEVATION
- BASE FLOOD ELEVATION
- PHOTO LOCATION
- AREA OF TEMPORARY IMPACT

RIVER STONE TOTE
NOT TO SCALE

5'X5' PVC BOX TO BE PLACED INSIDE WORKING AREA. ALL DISTURBED RIVER STONE IS TO BE PLACED WITHIN CONTAINER DURING EXCAVATION OF PIER BASES. ONCE PIER IS COMPLETED STONE SHALL BE REPLACED AT THE BASE.



NOTE: A PROPRIETARY CURTAIN DESIGN MAY BE USED IN PLACE OF THE DETAIL SHOWN. THE INTENT OF THE DESIGN IS TO CREATE A SEALED AREA FOR ALL SEDIMENT DISTURBANCE

TURBIDITY CURTAIN DETAIL
NOT TO SCALE

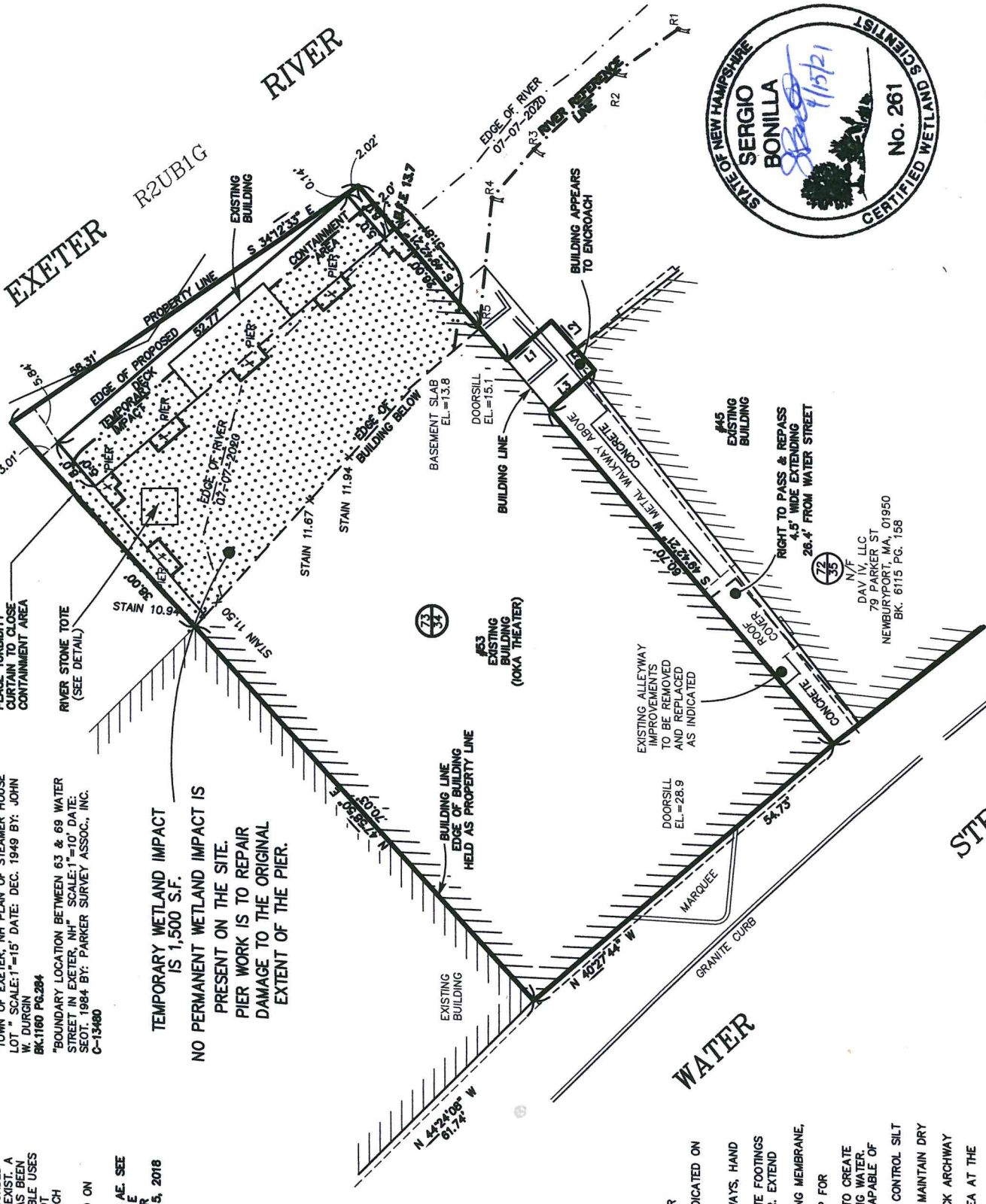
POSTS TO BE 2" X 4" OR 2.5" DIA. WOOD

GRAPHIC SCALE



THE ORDINARY HIGH WATER (OHW) WAS DELINEATED BY OTHERS, THEN REVIEWED, ACCEPTED, AND INTERPOLATED IN ACCORDANCE WITH ENV-W. 406.04(A)(2) IN JANUARY OF 2021.

BY MISSION WETLAND & ECOLOGICAL SERVICES LLC
SERGIO BONILLA
CERTIFIED WETLAND SCIENTIST (#261)



TEMPORARY WETLAND IMPACT IS 1,500 S.F.
NO PERMANENT WETLAND IMPACT IS PRESENT ON THE SITE.
PIER WORK IS TO REPAIR DAMAGE TO THE ORIGINAL EXTENT OF THE PIER.

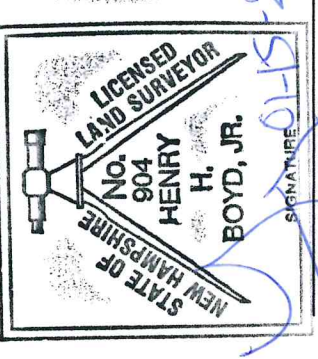
PLAN REFERENCE
"TOWN OF EXETER, NH PLAN OF STEAMER HOUSE LOT " SCALE: 1"=15' DATE: DEC. 1949 BY: JOHN W. DURGIN BK.1160 PG.284
"BOUNDARY LOCATION BETWEEN 63 & 69 WATER STREET IN EXETER, NH" SCALE: 1"=10' DATE: SECT. 1984 BY: PARKER SURVEY ASSOC., INC. C-13480

RECORD OWNER
IOKA PROPERTIES
24 GRAF ROAD
NEWBURYPORT, MA, 01950
BK. 6098 PG. 1375
5,902 S.F.
0.14 ACRES

LINE TABLE

L1	S 41°12'44" E 8.19'
L2	S 48°47'16" W 9.13'
L3	L3 N 41°12'44" W 8.33'

I CERTIFY:
THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN MARCH AND DECEMBER 2020.
THAT THIS SURVEY CONFORMS TO THE REQUIREMENTS FOR ACCURACY FOR N.H. URBAN SURVEY.



DATE

ARMY CORPS OF ENGINEERS
WETLAND IMPACT PLAN

IN
EXETER, NH
SHOWING
A PROPOSED BUILDING REHABILITATION
AT 53 WATER STREET
(ASSESSORS MAP 72 LOT 34)

RECORD OWNERS
IOKA PROPERTIES
24 GRAF ROAD, NEWBURYPORT, MA, 01950
PREPARED FOR

EXETER STATION LLC
1 ROCKINGHAM STREET EXETER, NH 03833

MILLENNIUM ENGINEERING INC.
ENGINEERS AND LAND SURVEYORS
P.O. BOX 745 13 HAMPTON ROAD EXETER, NH 03833
PHONE:(603)778-0528 FAX:(603)772-0689 WWW.MEI-NH.COM
SCALE: 1"=20'
DATE: APR. 15, 2021
CALC. BY: K.I.R.
CHKD. BY: H.H.B.
PROJECT: E202439
SHEET: INSERT

NO.	DATE	DESCRIPTION	BY



WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET

Water Division/Land Resource Management
Wetlands Bureau



[Check the Status of your Application](#)

RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: **IOKA Properties, LLC**

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the [Coastal Area Worksheet \(NHDES-W-06-079\)](#) for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the [Avoidance and Minimization Written Narrative \(NHDES-W-06-089\)](#) and the [Avoidance and Minimization Checklist \(NHDES-W-06-050\)](#) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached to the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)	
ADJACENT LAND USE: Urban Waterfront Development	
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet): 0	
SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Sergio Bonilla, CWS, PWS, CESSWI	
DATE(S) OF SITE VISIT(S): 11/18/20, 12/10/20	DELINEATION PER ENV-WT 406 COMPLETED? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
CONFIRM THAT THE EVALUATION IS BASED ON: <input checked="" type="checkbox"/> Office and <input checked="" type="checkbox"/> Field examination.	
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if "other"): <input checked="" type="checkbox"/> USACE Highway Methodology. <input type="checkbox"/> Other scientifically supported method (enter name/ title): 	

irm@des.nh.gov or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
WETLAND ID: R-1	LOCATION: (LAT/ LONG) 42 58.88669 N/70 56.71989 W
WETLAND AREA: study area ~1 acre	DOMINANT WETLAND SYSTEMS PRESENT: R2UB1G
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 2-3	COWARDIN CLASS: Riverine
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No if not, where does the wetland lie in the drainage basin? []	IS THE WETLAND PART OF: <input checked="" type="checkbox"/> A wildlife corridor or <input type="checkbox"/> A habitat island? IS THE WETLAND HUMAN-MADE? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ARE VERNAL POOLS PRESENT? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If yes, complete the Vernal Pool Table)
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
PROPOSED WETLAND IMPACT TYPE: temporary	PROPOSED WETLAND IMPACT AREA: 1,500 SF
SECTION 4 - WETLANDS FUNCTIONS AND VALUES (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
<p>The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values:</p> <ol style="list-style-type: none"> 1. Ecological Integrity (from RSA 482-A:2, XI) 2. Educational Potential (from USACE Highway Methodology: Educational/Scientific Value) 3. Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat) 4. Flood Storage (from USACE Highway Methodology: Floodflow Alteration) 5. Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge) 6. Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat) 7. Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient Removal) 8. Production Export (Nutrient) (from USACE Highway Methodology) 9. Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics) 10. Sediment Trapping (from USACE Highway Methodology: Sediment /Toxicant Retention) 11. Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization) 12. Uniqueness/Heritage (from USACE Highway Methodology) 13. Wetland-based Recreation (from USACE Highway Methodology: Recreation) 14. Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Wildlife Habitat) <p>First, determine if a wetland is suitable for a particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE <i>The Highway Methodology Workbook Supplement</i>. Second, indicate which functions and values are principal ("Principal Function/value?" column). As described in <i>The Highway Methodology Workbook Supplement</i>, "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective". "Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.</p>	

irm@des.nh.gov or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The Exeter River ecosystem (see NH Method data form)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.3
2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1, 3, 4, 5, 7, 9, 10, 14	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	The greater Exeter River ecosystem has educational value; however, public access is limited to the study area. Greater education value can be obtained upstream of the study area.
3	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1,2,3,4,5,6,7,10,11,12,14,15	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	As of July 2016, the anadromous fish run has been restored facilitating migratory fish passage.
4	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4, 9, 10	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Exeter River is a regulated floodway; however this portion does not contain floodplain; floodplains occur upstream.
5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4, 7, 15	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	no stratified Drift present; no capacity for aquifer transmissivity and no aquifer
6	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1,2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	There are known State and Federal occurrences of rare, threatened or endangered species in the vicinity of this reach of the Exeter River (see NHB File # 20-3358, IPAQ, NOAA)
7	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1, 3, 4, 8, 9, 10, 12, 13, 14	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	The greater Exeter River ecosystem is capable; however, the study area lacks vegetation diversity and or organic, fine grained soils.
8	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	The greater Exeter River ecosystem is capable; however, the study area lacks plant community structure and diversity and any export of fruiting shrubs is attenuated within.
9	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7, 8, 9, 11, 12	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The perspective of the Exeter River from Founders Park, String Bridge, and High Street, in densely-populated and developed downtown Exeter is visually and aesthetically pleasing.
10	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1, 2, 7, 8, 10, 11, 12, 14, 15	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	The greater Exeter River ecosystem is capable; however, the study area lacks slow moving water and/or extended retention time.
11	<input type="checkbox"/> Yes <input type="checkbox"/> No	2, 3, 4, 8, 9, 16	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	The greater Exeter River ecosystem is capable; however, the study area is structurally well-armored. The natural sediment shoreline

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				stabilization occurs upstream of the study area.
12	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1,3, 6,14, 19, 20, 22, 23, 24, 26, 27, 28, 30	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The Exeter River is a State-designated with the New Hampshire Rivers Management Protection Program (RMPP) and part of the Exeter Waterfront Commercial-Historical District.
13	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1, 2, 3, 4, 5, 7, 9, 10, 12	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The greater Exeter River ecosystem has high recreation value and can be enjoyed from Founders Park; however the smaller study area lacks public access for boating.
14	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wildlife habitat is a principal function in the greater Exeter River ecosystem. The study area is a small, approximately 1 acre area.

SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of “vernal pool” in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- *Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed.*, 2016, published by the New Hampshire Fish and Game Department; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

“Important Notes” are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE “Vernal Pool Assessment” form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1	N/A				
2	N/A				
3	N/A				

4	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION 6 - STREAM RESOURCES SUMMARY

DESCRIPTION OF STREAM: Exeter River STREAM TYPE (ROSGEN): Perennial

HAVE FISHERIES BEEN DOCUMENTED? DOES THE STREAM SYSTEM APPEAR STABLE?
 Yes No Yes No

OTHER KEY ON-SITE FUNCTIONS OF NOTE: Restored Anadromous fish run with 2016 Great Bridge dam removal

The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4. *refer to the FVA form and report. The Exeter River is the subject jurisdictional resource

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
2	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
3	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
4	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
5	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
6	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
7	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
8	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
9	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
10	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
11	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>

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12	<input type="checkbox"/> Yes <input type="checkbox"/> No	[REDACTED]	<input type="checkbox"/> Yes <input type="checkbox"/> No	[REDACTED]
13	<input type="checkbox"/> Yes <input type="checkbox"/> No	[REDACTED]	<input type="checkbox"/> Yes <input type="checkbox"/> No	[REDACTED]
14	<input type="checkbox"/> Yes <input type="checkbox"/> No	[REDACTED]	<input type="checkbox"/> Yes <input type="checkbox"/> No	[REDACTED]

SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

- Wildlife and vegetation diversity/abundance list.
- Photograph of wetland.
- Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.
- For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04. Please refer to the [Coastal Area Worksheet \(NHDES-W-06-079\)](#) for more information.

Client Name:
 IOKA Properties, LLC

Site Location:
 53 Water Street (TM 72 Lot 34)
 Exeter, New Hampshire

Project No.
 20-044

Photo No.
 1

Date:
 11/18/20

Description:

Looking northwesterly at the existing IOKA Theater building over the Exeter River with structural concrete/brick archway piers in the Exeter River.



Photo No.
 2

Date:
 11/18/20

Description:

Looking southeasterly at the existing IOKA Theater building over the Exeter River with the vegetated island and clumps of persistent herbaceous vegetation. No impacts are proposed in this area.




Client Name: IOKA Properties, LLC		Site Location: 53 Water Street (TM 72 Lot 34) Exeter, New Hampshire	Project No. 20-044
Photo No. 3	12/10/20		
Description: Looking southeasterly at the existing piers and the Exeter River. Note some persistent herbaceous vegetation with woody shrubs/saplings.			

Photo No. 4	Date: July 2020	
Description: Looking at an example of the scouring that has historically occurred on the concrete/brick archway piers in the river. The applicant proposes to evaluate the scouring, if any, located below the existing riverbed grade.		

Appendix B. Observed Plant Species List

53 Water Street
Tax Map 72, Lot 34
Exeter, NH

COMMON NAME

SCIENTIFIC NAME

Herbaceous layer:

Reed canary grass	<i>Phalaris arundinecea</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Spotted Joe-pye weed	<i>Eupatorium maculatum</i>
Daisy fleabane	<i>Erigeron glabellus</i>
White paniced American-aster	<i>Symphotrichum lanceolatum</i>
Sedges	<i>Carex</i> spp.

Shrubs:

Highbush blueberry	<i>Vaccinium corymbosum</i>
Red maple	<i>Acer rubrum</i>
American elm	<i>Ulmus americana</i>
Red osier dogwood	<i>Cornus stolonifera</i>
Pussy willow	<i>Salix discolor</i>
Glossy buckthorn	<i>Frangula alnus</i>

Saplings:

Red maple	<i>Acer rubrum</i>
-----------	--------------------













Wetland Function-Value Evaluation Form

Total area of wetland _____ Human made? _____ Is wetland part of a wildlife corridor? _____ or a "habitat island"? _____
 Adjacent land use _____ Distance to nearest roadway or other development _____
 Dominant wetland systems present _____ Contiguous undeveloped buffer zone present _____

Is the wetland a separate hydraulic system? _____ If not, where does the wetland lie in the drainage basin? _____
 How many tributaries contribute to the wetland? _____ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. _____
 Latitude _____ Longitude _____
 Prepared by: _____ Date _____
 Wetland Impact:
 Type _____ Area _____

Evaluation based on:
 Office _____ Field _____
 Corps manual wetland delineation completed? Y _____ N _____

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
 Groundwater Recharge/Discharge				
 Floodflow Alteration				
 Fish and Shellfish Habitat				
 Sediment/Toxicant Retention				
 Nutrient Removal				
 Production Export				
 Sediment/Shoreline Stabilization				
 Wildlife Habitat				
 Recreation				
 Educational/Scientific Value				
 Uniqueness/Heritage				
 Visual Quality/Aesthetics				
ES Endangered Species Habitat				
Other				

Notes: *The study area is approximately 1.0 acre in size from the String Bridge crossing to the High Street Crossing and is classified in accordance with the USFWS Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et. al, 1979) as riverine lower perennial unconsolidated bottom system composed of cobble and gravel that is intermittently exposed (R2UB1G). The temporary nature of the impacts will pose no permanent impact to the functional capacity of this study area (or downstream) of Exeter River to provide the above functions and values.

* Refer to backup list of numbered considerations

NH METHOD FOR THE EVALUATION OF FRESHWATER WETLANDS *(revised December, 2015)*

Wetland Name/Code: R-1 Exeter River Evaluation Date: 11/18/20;12/10/20 Evaluator: Sergio Bonilla, CWS, PWS

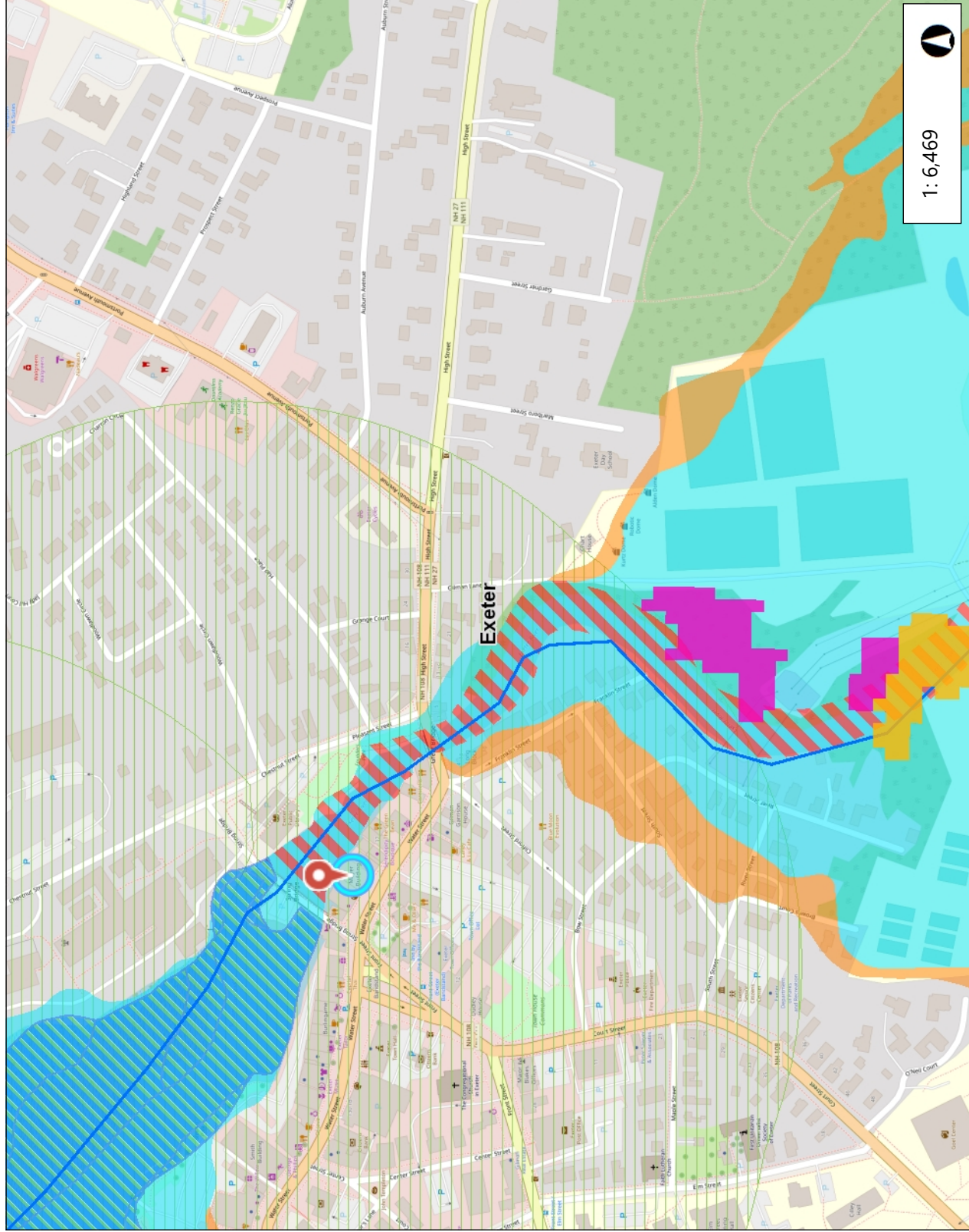
1 – ECOLOGICAL INTEGRITY

Evaluation Questions	Observations & Notes	Answers	Score
1. Are there land uses in the wetland's watershed that could degrade water quality in the wetland?	The watershed contains land uses, including athletic fields, agricultural, and other anthropogenic sources of toxicants that may contribute to water quality degradation and/or cultural eutrophication.	a. Less than 5% of the watershed has land uses that could degrade water quality. b. 5-10% of the watershed has land uses that could degrade water quality. c. > 10% of the watershed has land uses that could degrade water quality.	10 5 1
2. Is there evidence of fill in the wetland?	There is historical fill in the form of the existing concrete and brick archway piers in the Exeter River since the building was constructed in 1915. The fill of the piers is approximately 61 square feet (SF). There is permitted fill within the Exeter River wetland ecosystem both upstream and downstream of the site.	a. Less than 1 % b. From 1-3 % c. More than 3 %	10 5 1
3. What percentage of the wetland has been altered by agricultural activities?	Approximately 5-25% of watershed of the Exeter River ecosystem has been altered by agricultural activities.	a. Less than 5 % b. From 5 to 25 % c. More than 25 %	10 5 1
4. What percentage of the wetland has been adversely impacted by logging activity within the last 10 years?	It is assumed that greater than 10% of the overall Exeter River ecosystem has been adversely impacted by logging and silvicultural operations in the last 10 years.	a. Less than 1% b. From 1 to 10 % c. More than 10 %	10 5 1
5. How much human activity is taking place in the wetland (e.g. ATV use, trails, cars, dumping of brush and garbage, etc.)?	There are existing ATV trails associated with private and publicly accessed land and trail systems of the greater Exeter River wetland system. There are no ATV activities and little evidence of littering at the study area.	a. Low: Few trails in use, little or no traffic, and little or no litter. b. Moderate: Some used trails, roads, litter c. High: Many trails, roads, and/or litter	10 5 1
6. What percentage of the wetland is occupied by invasive plant species?	There are several common herbaceous invasive species present throughout the greater Exeter River ecosystem, including reed canary grass (<i>Phalaris arundinacea</i>), purple loosestrife (<i>Lythrum salicaria</i>), Japanese knotweed (<i>Reynoutria japonica</i>), and common reed (<i>Phragmites australis</i>); however, the study area contains approximately 1-5% coverage of purple loosestrife and reed canary grass.	a. None b. 1-5% of the wetland has invasive species c. > 5% of the wetland has invasive species	10 5 1
7. Are there roads, driveways and/or railroads crossing or adjacent to the wetland or come within 500 ft. of the wetland?	There are numerous road crossings and railroad crossings throughout the greater Exeter River ecosystem. The subject study area and parcel is within 500 feet of High Street, Water Street, and the String Bridge.	a. No roads, driveways or railroads. within 500 ft. of, or in the wetland b. Roads, driveways, railroads are within 500 ft of the wetland c. Roads, driveways, railroads cross, or are adjacent to, the wetland	10 5 1
8. How much human activity is taking place in the upland within 500 feet of the wetland edge?	The subject study area (wetland) is located within the densely-developed urban area of downtown Exeter and has greater than 25% human activity within 500 feet of the study area.	a. Less than 5% or no activity b. Human activity evident in up to 25% of the 500 ft zone c. Human activity evident in more than 25% of the 500 ft zone	10 5 1
9. What is the percent of impervious surface within 500 feet of the wetland edge?	The subject study area (wetland) is located within the densely-developed urban area of downtown Exeter and has greater than 10% impervious surfaces within 500 feet of the study area.	a. Less than 3% impervious area within 500 ft of the wetland edge b. 3-10% impervious area within 500 ft of the wetland edge c. Greater than 10% impervious area within 500 ft of the wetland edge	10 5 1
10. Is there a human-made structure that regulates the flow of water through the wetland?	The Great Dam located directly downstream of the High Street corridor impounded water upstream. This dam was removed in 2016 and restored unobstructed migratory fish passage.	a. No human made structures present upstream of, or in the wetland. b. One or more human made structures present upstream of, or in the wetland but hydrologic modification is slight c. One or more human made structures present upstream of, or in the wetland that severely block or alter surface water hydrology	10 5 1

AVERAGE SCORE FOR ECOLOGICAL INTEGRITY

(Add scores for each question and divide by 10)

43/10= 4.3



1:6,469

0 0.10 0.2 Miles

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

- Highest Ranked Wildlife Habits
 - 0
 - 1 Highest Ranked Habitat in NH
 - 2 Highest Ranked Habitat in Region
 - 3 Supporting Landscape
- Shoreland Act Urban Exempt 4th Order and Above Streams
- Shoreland Jurisdiction - Lakes NH City/Town Boundaries
- Flood Plain Wetlands Adjacent Prime Wetlands
- FEMA Floodplains
 - 1 pct. Annual Chance Flood Hazard
 - Floodway
 - 0.2 pct. Annual Chance Flood Hazard
 - Area of Undetermined Flood Hazard
 - Area Protected by Levee
- Watersheds with Chloride Impaired Surface Waters with Impaired Quarter Mile Buffer
- World Imagery
- Low Resolution 15m Imagery

Notes

- Impaired Waters
- Wildlife Action Plan - Highest Ranking Habitat
- FEMA Data

Appendix E. Potential and Observed Wildlife Species List

Wildlife Species			
Common Name	Scientific Name	Status*	
Eastern American toad	<i>Bufo americanus</i>		X
Green frog	<i>Rana clamitans melanota</i>		X
Bullfrog	<i>Rana catesbiana</i>		X
Painted turtle	<i>Chrysemys picta</i>		X
Eastern garter snake	<i>Thamnophis s. sirtalis</i>		X
Sharp-shinned hawk	<i>Accipiter striatus</i>		X
Snapping turtle	<i>Chelydra serpentina</i>		X
Northern water snake	<i>Nerodia sipedon</i>		X
Red-tailed hawk	<i>Buteo jamaicensis</i>		O
Cooper's hawk	<i>Accipiter cooperii</i>		X
Black-throated blue warbler	<i>Dendroica caerulescens</i>		X
Redbacked salamander	<i>Plethodon cinerius</i>		X
Common loon	<i>Gavia immer</i>		X
Eastern phoebe	<i>Sayornis phoebe</i>		X
Downy woodpecker	<i>Picoides pubescens</i>		X
Hairy woodpecker	<i>Picoides villosus</i>		O
Great blue heron	<i>Ardea herodias</i>		X
Green heron	<i>Butorides virescens</i>		X
Red-eyed vireo	<i>Vireo olivaceus</i>		X
Blue jay	<i>Cyanocitta cristata</i>		X
American crow	<i>Corvus brachyrhynchos</i>		O
Black-capped chickadee	<i>Poecile articapillus</i>		X
Tufted titmouse	<i>Baeolophus bicolor</i>		X
White-breasted nuthatch	<i>Sitta carolinensis</i>		X
American robin	<i>Turdus migratorius</i>		X
Pied-billed grebe	<i>Podilymbus podiceps</i>		X
Double-crested cormorant	<i>Phalacrocorax auritus</i>		X
northern mockingbird	<i>Mimus polyglottos</i>		X
Canada goose	<i>Branta canadensis</i>		X
Mallard	<i>Anas platyrhynchos</i>		X
Ring-necked duck	<i>Aythya collaris</i>		X
Bufflehead	<i>Bucephala albeola</i>		X
Common merganser	<i>Mergus merganser</i>		X
Osprey	<i>Pandion halieatus</i>		X
Bald eagle	<i>Haliaeetus leucocephalus</i>		X
Ring-billed gull	<i>Larus delawarensis</i>		O
Herring gull	<i>Larus argentatus</i>		X
Belted kingfisher	<i>Ceryle alcyon</i>		X
Eastern chipmunk	<i>Tamias striatus</i>		X
Eastern gray squirrel	<i>Sciurus carolinensis</i>		X
Raccoon	<i>Procyon lotor</i>		X
White-tailed deer	<i>Odocoileus virginianus</i>		X

A species is considered observed when an animal is seen or presence is verified by tracks, scat, call or song. Observed species are indicated by an "O" and potential species (i.e. those that may use the property based on available habitat types) are indicated by an "X". *Species that are listed as Threatened, Endangered, or Species of Special Concern are indicated by a "T", "E", and "S", respectively.

CONSIDERATIONS/QUALIFIERS

1. Area of this wetland is large relative to its watershed.
2. Wetland occurs in the upper portions of its watershed.
3. Effective flood storage is small or non-existent upslope of or above the wetland.
4. Wetland watershed contains a high percent of impervious surfaces.
5. Wetland contains hydric soils which are able to absorb and detain water.
6. Wetland exists in a relatively flat area that has flood storage potential.
7. Wetland has an intermittent outlet, ponded water, or signs are present of variable water level.
8. During flood events, this wetland can retain higher volumes of water than under normal or average rainfall conditions.
9. Wetland receives and retains overland or sheet flow runoff from surrounding uplands.
10. In the event of a large storm, this wetland may receive and detain excessive flood water from a nearby watercourse.
11. Valuable properties, structures, or resources are located in or near the floodplain downstream from the wetland.
12. The watershed has a history of economic loss due to flooding.
13. This wetland is associated with one or more watercourses.
14. This wetland watercourse is sinuous or diffuse.
15. This wetland outlet is constricted.
16. Channel flow velocity is affected by this wetland.
17. Land uses downstream are protected by this wetland.
18. This wetland contains a high density of vegetation.
19. Other

FISH AND SHELLFISH HABITAT (FRESHWATER) — This function considers the effectiveness of seasonal or permanent watercourses associated with the wetland in question for fish and shellfish habitat.



CONSIDERATIONS/QUALIFIERS

1. Forest land dominant in the watershed above this wetland.
2. Abundance of cover objects present.

STOP HERE IF THIS WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE

3. Size of this wetland is able to support large fish/shellfish populations.
4. Wetland is part of a larger, contiguous watercourse.
5. Wetland has sufficient size and depth in open water areas so as not to freeze solid and retain some open water during winter.
6. Stream width (bank to bank) is more than 50 feet.
7. Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish populations.
8. Streamside vegetation provides shade for the watercourse.
9. Spawning areas are present (submerged vegetation or gravel beds).
10. Food is available to fish/shellfish populations within this wetland.
11. Barrier(s) to anadromous fish (such as dams, including beaver dams, waterfalls, road crossing) are absent from the stream reach associated with this wetland.
12. Evidence of fish is present.
13. Wetland is stocked with fish.
14. The watercourse is persistent.
15. Man-made streams are absent.
16. Water velocities are not too excessive for fish usage.
17. Defined stream channel is present.
18. Other

Although the above example refers to freshwater wetlands, it can also be adapted for marine ecosystems. The following is an example provided by the National Marine Fisheries Service (NMFS) of an adaptation for the fish and shellfish function.

FISH AND SHELLFISH HABITAT (MARINE) — This function considers the effectiveness of wetlands, embayments, tidal flats, vegetated shallows, and other environments in supporting marine resources such as fish, shellfish, marine mammals, and sea turtles.

CONSIDERATIONS/QUALIFIERS

1. Special aquatic sites (tidal marsh, mud flats, eelgrass beds) are present.
2. Suitable spawning habitat is present at the site or in the area.
3. Commercially or recreationally important species are present or suitable habitat exists.
4. The wetland/waterway supports prey for higher trophic level marine organisms.
5. The waterway provides migratory habitat for anadromous fish.
6. Essential fish habitat, as defined by the 1996 amendments to the Magnuson-Stevens Fishery & Conservation Act, is present (consultation with NMFS may be necessary).
7. Other



SEDIMENT/TOXICANT/PATHOGEN RETENTION — This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens in runoff water from surrounding uplands or upstream eroding wetland areas.

CONSIDERATIONS/QUALIFIERS

1. Potential sources of excess sediment are in the watershed above the wetland.
2. Potential or known sources of toxicants are in the watershed above the wetland.
3. Opportunity for sediment trapping by slow moving water or deepwater habitat are present in this wetland.
4. Fine grained mineral or organic soils are present.
5. Long duration water retention time is present in this wetland.
6. Public or private water sources occur downstream.
7. The wetland edge is broad and intermittently aerobic.
8. The wetland is known to have existed for more than 50 years.
9. Drainage ditches have not been constructed in the wetland.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

10. Wetland is associated with an intermittent or perennial stream or a lake.
11. Channelized flows have visible velocity decreases in the wetland.
12. Effective floodwater storage in wetland is occurring. Areas of impounded open water are present.
13. No indicators of erosive forces are present. No high water velocities are present.
14. Diffuse water flows are present in the wetland.
15. Wetland has a high degree of water and vegetation interspersion.
16. Dense vegetation provides opportunity for sediment trapping and/or signs of sediment accumulation by dense vegetation is present.
17. Other



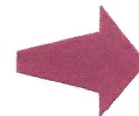
NUTRIENT REMOVAL/RETENTION/TRANSFORMATION — This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.

CONSIDERATIONS/QUALIFIERS

1. Wetland is large relative to the size of its watershed.
2. Deep water or open water habitat exists.
3. Overall potential for sediment trapping exists in the wetland.

4. Potential sources of excess nutrients are present in the watershed above the wetland.
 5. Wetland saturated for most of the season. Pondered water is present in the wetland.
 6. Deep organic/sediment deposits are present.
 7. Slowly drained fine grained mineral or organic soils are present.
 8. Dense vegetation is present.
 9. Emergent vegetation and/or dense woody stems are dominant.
 10. Opportunity for nutrient attenuation exists.
 11. Vegetation diversity/abundance sufficient to utilize nutrients.
- STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.
12. Waterflow through this wetland is diffuse.
 13. Water retention/detention time in this wetland is increased by constricted outlet or thick vegetation.
 14. Water moves slowly through this wetland.
 15. Other

PRODUCTION EXPORT (Nutrient) — This function evaluates the effectiveness of the wetland to produce food or usable products for humans or other living organisms.



CONSIDERATIONS/QUALIFIERS

1. Wildlife food sources grow within this wetland.
2. Detritus development is present within this wetland.
3. Economically or commercially used products found in this wetland.
4. Evidence of wildlife use found within this wetland.
5. Higher trophic level consumers are utilizing this wetland.
6. Fish or shellfish develop or occur in this wetland.
7. High vegetation density is present.
8. Wetland exhibits high degree of plant community structure/species diversity.
9. High aquatic vegetative diversity/abundance is present.
10. Nutrients exported in wetland watercourses (permanent outlet present).
11. "Flushing" of relatively large amounts of organic plant material occurs from this wetland.
12. Wetland contains flowering plants that are used by nectar-gathering insects.
13. Indications of export are present.
14. High production levels occurring, however, no visible signs of export (assumes export is attenuated).
15. Other

SEDIMENT/ShORELINE STABILIZATION — This function considers the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.



CONSIDERATIONS/QUALIFIERS

1. Indications of erosion or siltation are present.
2. Topographical gradient is present in wetland.
3. Potential sediment sources are present up-slope.
4. Potential sediment sources are present upstream.
5. No distinct shoreline or bank is evident between the waterbody and the wetland or upland.
6. A distinct step between the open waterbody or stream and the adjacent land exists (i.e., sharp bank) with dense roots throughout.
7. Wide wetland (>10') borders watercourse, lake, or pond.
8. High flow velocities in the wetland.
9. The watershed is of sufficient size to produce channelized flow.
10. Open water fetch is present.
11. Boating activity is present.
12. Dense vegetation is bordering watercourse, lake, or pond.
13. High percentage of energy-absorbing emergents and/or shrubs border a watercourse, lake, or pond.
14. Vegetation is comprised of large trees and shrubs that withstand major flood events or erosive incidents and stabilize the shoreline on a large scale (feet).
15. Vegetation is comprised of a dense resilient herbaceous layer that stabilizes sediments and the shoreline on a small scale (inches) during minor flood events or potentially erosive events.
16. Other



WILDLIFE HABITAT — This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species must be considered. Species lists of observed and potential animals should be included in the wetland assessment report.¹

CONSIDERATIONS/QUALIFIERS

1. Wetland is not degraded by human activity.
2. Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.
3. Wetland is not fragmented by development.
4. Upland surrounding this wetland is undeveloped.
5. More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., brushland, woodland, active farmland, or idle land) at least 500 feet in width.
6. Wetland is contiguous with other wetland systems connected by a watercourse or lake.
7. Wildlife overland access to other wetlands is present.
8. Wildlife food sources are within this wetland or are nearby.
9. Wetland exhibits a high degree of interspersions of vegetation classes and/or open water.
10. Two or more islands or inclusions of upland within the wetland are present.
11. Dominant wetland class includes deep or shallow marsh or wooded swamp.
12. More than three acres of shallow permanent open water (less than 6.6 feet deep), including streams in or adjacent to wetland, are present.
13. Density of the wetland vegetation is high.
14. Wetland exhibits a high degree of plant species diversity.
15. Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses)
16. Plant/animal indicator species are present. (List species for project)
17. Animal signs observed (tracks, scats, nesting areas, etc.)
18. Seasonal uses vary for wildlife and wetland appears to support varied population diversity/abundance during different seasons.
19. Wetland contains or has potential to contain a high population of insects.
20. Wetland contains or has potential to contain large amphibian populations.
21. Wetland has a high avian utilization or its potential.
22. Indications of less disturbance-tolerant species are present.
23. Signs of wildlife habitat enhancement are present (birdhouses, nesting boxes, food sources, etc.).
24. Other

¹In March 1995, a rapid wildlife habitat assessment method was completed by a University of Massachusetts research team with funding and oversight provided by the New England Transportation Consortium. The method is called WETHings (wetland habitat indicators for non-game species). It produces a list of potential wetland-dependent mammal, reptile, and amphibian species that may be present in the wetland. The output is based on observable habitat characteristics documented on the field data form. This method may be used to generate the wildlife species list recommended as backup information to the wetland evaluation form and to augment the considerations. Use of this method should first be coordinated with the Corps project manager. A computer program is also available to expedite this process.

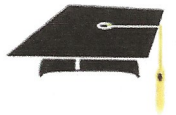
RECREATION (Consumptive and Non-Consumptive) — This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland. Non-consumptive opportunities do not consume or diminish these resources of the wetland.



CONSIDERATIONS/QUALIFIERS

1. Wetland is part of a recreation area, park, forest, or refuge.
2. Fishing is available within or from the wetland.
3. Hunting is permitted in the wetland.
4. Hiking occurs or has potential to occur within the wetland.
5. Wetland is a valuable wildlife habitat.
6. The watercourse, pond, or lake associated with the wetland is unpolluted.
7. High visual/aesthetic quality of this potential recreation site.
8. Access to water is available at this potential recreation site for boating, canoeing, or fishing.
9. The watercourse associated with this wetland is wide and deep enough to accommodate canoeing and/or non-powered boating.
10. Off-road public parking available at the potential recreation site.
11. Accessibility and travel ease is present at this site.
12. The wetland is within a short drive or safe walk from highly populated public and private areas.
13. Other

EDUCATIONAL/SCIENTIFIC VALUE — This value considers the suitability of the wetland as a site for an “outdoor classroom” or as a location for scientific study or research.



CONSIDERATIONS/QUALIFIERS

1. Wetland contains or is known to contain threatened, rare, or endangered species.
2. Little or no disturbance is occurring in this wetland.
3. Potential educational site contains a diversity of wetland classes which are accessible or potentially accessible.
4. Potential educational site is undisturbed and natural.
5. Wetland is considered to be a valuable wildlife habitat.
6. Wetland is located within a nature preserve or wildlife management area.
7. Signs of wildlife habitat enhancement present (bird houses, nesting boxes, food sources, etc.).
8. Off-road parking at potential educational site suitable for school bus access in or near wetland.
9. Potential educational site is within safe walking distance or a short drive to schools.
10. Potential educational site is within safe walking distance to other plant communities.
11. Direct access to perennial stream at potential educational site is available.
12. Direct access to pond or lake at potential educational site is available.
13. No known safety hazards exist within the potential educational site.
14. Public access to the potential educational site is controlled.
15. Handicap accessibility is available.
16. Site is currently used for educational or scientific purposes.
17. Other



UNIQUENESS/HERITAGE — This value considers the effectiveness of the wetland or its associated waterbodies to provide certain special values. These may include archaeological sites, critical habitat for endangered species, its overall health and appearance, its role in the ecological system of the area, its relative importance as a typical wetland class for this geographic location. These functions are clearly valuable wetland attributes relative to aspects of public health, recreation, and habitat diversity.

CONSIDERATIONS/QUALIFIERS

1. Upland surrounding wetland is primarily urban.
2. Upland surrounding wetland is developing rapidly.
3. More than 3 acres of shallow permanent open water (less than 6.6 feet deep), including streams, occur in wetlands.
4. Three or more wetland classes are present.
5. Deep and/or shallow marsh or wooded swamp dominate.
6. High degree of interspersion of vegetation and/or open water occur in this wetland.
7. Well-vegetated stream corridor (15 feet on each side of the stream) occurs in this wetland.
8. Potential educational site is within a short drive or a safe walk from schools.
9. Off-road parking at potential educational site is suitable for school buses.
10. No known safety hazards exist within this potential educational site.
11. Direct access to perennial stream or lake exists at potential educational site.
12. Two or more wetland classes are visible from primary viewing locations.
13. Low-growing wetlands (marshes, scrub-shrub, bogs, open water) are visible from primary viewing locations.
14. Half an acre of open water or 200 feet of stream is visible from the primary viewing locations.
15. Large area of wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
16. General appearance of the wetland visible from primary viewing locations is unpolluted and/or undisturbed.
17. Overall view of the wetland is available from the surrounding upland.
18. Quality of the water associated with the wetland is high.
19. Opportunities for wildlife observations are available.
20. Historical buildings are found within the wetland.
21. Presence of pond or pond site and remains of a dam occur within the wetland.
22. Wetland is within 50 yards of the nearest perennial watercourse.
23. Visible stone or earthen foundations, berms, dams, standing structures, or associated features occur within the wetland.
24. Wetland contains critical habitat for a state- or federally-listed threatened or endangered species.
25. Wetland is known to be a study site for scientific research.
26. Wetland is a natural landmark or recognized by the state natural heritage inventory authority as an exemplary natural community.
27. Wetland has local significance because it serves several functional values.
28. Wetland has local significance because it has biological, geological, or other features that are locally rare or unique.
29. Wetland is known to contain an important archaeological site.
30. Wetland is hydrologically connected to a state or federally designated scenic river.
31. Wetland is located in an area experiencing a high wetland loss rate.
32. Other

VISUAL QUALITY/AESTHETICS — This value considers the visual and aesthetic quality or usefulness of the wetland.



CONSIDERATIONS/QUALIFIERS

1. Multiple wetland classes are visible from primary viewing locations.
2. Emergent marsh and/or open water are visible from primary viewing locations.
3. A diversity of vegetative species is visible from primary viewing locations.
4. Wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
5. Land use surrounding the wetland is undeveloped as seen from primary viewing locations.
6. Visible surrounding land use form contrasts with wetland.
7. Wetland views absent of trash, debris, and signs of disturbance.
8. Wetland is considered to be a valuable wildlife habitat.
9. Wetland is easily accessed.
10. Low noise level at primary viewing locations.
11. Unpleasant odors absent at primary viewing locations.
12. Relatively unobstructed sight line exists through wetland.
13. Other

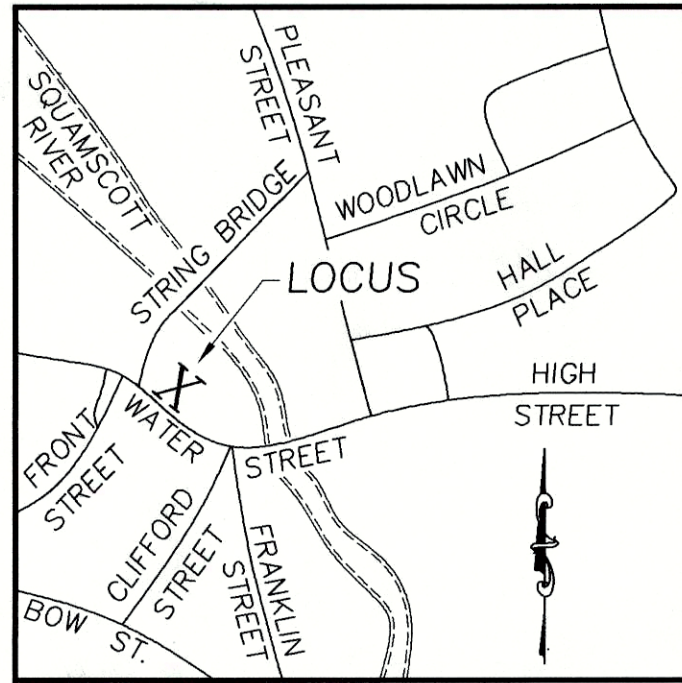
ENDANGERED SPECIES HABITAT — This value considers the suitability of the wetland to support threatened or endangered species.

ES

CONSIDERATIONS/QUALIFIERS

1. Wetland contains or is known to contain threatened or endangered species.
2. Wetland contains critical habitat for a state or federally listed threatened or endangered species.

**SITE PLANS, STRUCTURAL ENGINEERING
ASSESSMENT AND ARCHITECTURAL RENDERINGS**



LOCUS MAP
NOT TO SCALE

- NOTES:**
- 1) THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT VISIBLE USES OF THE LAND; HOWEVER, THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
 - 2) ELEVATIONS SHOWN HEREON ARE BASED ON N.G.V.D. 1929.
 - 3) THIS PARCEL LIES WITHIN A FLOOD ZONE AE. SEE F.I.R.M. COMMUNITY PANEL 33015C 0420 E EFFECTIVE DATE MAY 17, 2005 AND LOMR 18-01-1449 EFFECTIVE DATE NOVEMBER 5, 2018

PLAN REFERENCE

"TOWN OF EXETER, NH PLAN OF STEAMER HOUSE LOT " SCALE: 1"=15' DATE: DEC. 1949 BY: JOHN W. DURGIN BK.1160 PG.284
 "BOUNDARY LOCATION BETWEEN 63 & 69 WATER STREET IN EXETER, NH" SCALE: 1"=10' DATE: SEPT. 1984 BY: PARKER SURVEY ASSOC., INC. C-13480

72/42
 TOWN OF EXETER
 10 FRONT STREET
 EXETER, NH 03833
 BK. 2400 PG. 0085

RECORD OWNER

73/34
 IOKA PROPERTIES
 24 GRAF ROAD
 NEWBURYPORT, MA, 01950
 BK. 6098 PG. 1375
 5,902 S.F.
 0.14 ACRES
 EXISTING SEALED SURFACE
 5,3014 S.F. = 90.0% OF LOT

MAGNETIC
 JUNE 2015

ZONING DISTRICT

WC WATERFRONT COMMERCIAL

AREA 5,000 S.F.
 DWELLING AREA 750 S.F.
 WIDTH 50'
 DEPTH 100'

BUILDING SETBACKS

FRONT SIDE 10'
 TO THE SIDE YARD OF THE ABUTTING PROPERTY OR 10 FEET WHICHEVER IS LESS; TO BE DETERMINED INDIVIDUALLY

REAR 25'

MAX. HEIGHT 3/35'
 MAX. BLDG. COVERAGE 75%
 OPEN SPACE % 5

LEGEND

- 0/00 ASSESSORS MAP AND PARCEL
- x 19.7 EXISTING SPOT ELEVATION
- B.F.E. BASE FLOOD ELEVATION

WATER STREET

EXETER RIVER

72/15
 N/F
 64 WATER STREET LLC
 181 HIGH STREET
 EXETER, NH 03833
 BK. 4910 PG. 1909

72/14
 N/F
 SUASN BLAIR
 C/O SUSAN RISLONE
 42 WATER STREET
 EXETER, NH 03833
 BK. 2487 PG. 1828

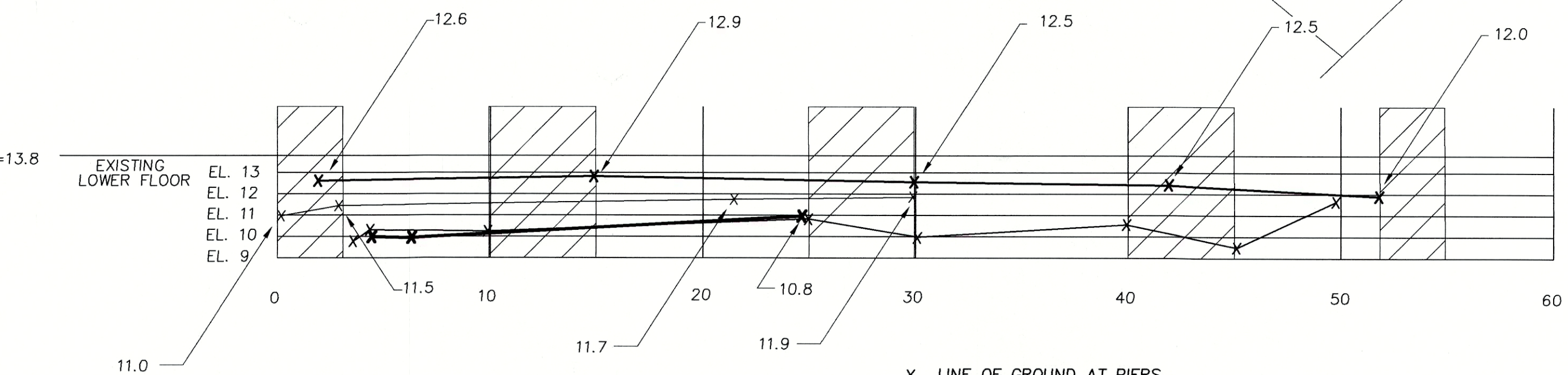
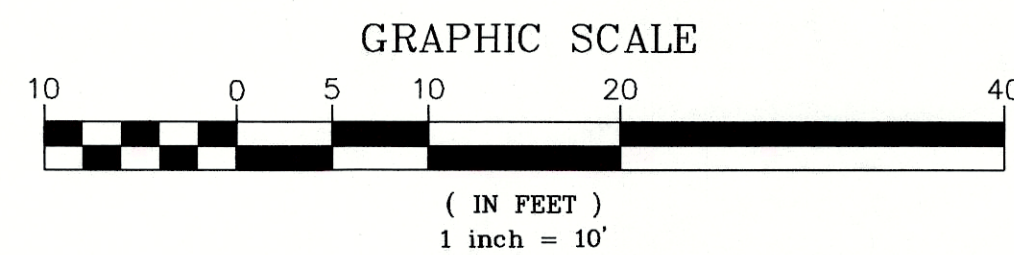
73/34
 #53 EXISTING BUILDING (IOKA THEATER)

72/35
 N/F
 DAV IV, LLC
 79 PARKER ST
 NEWBURYPORT, MA, 01950
 BK. 6115 PG. 158



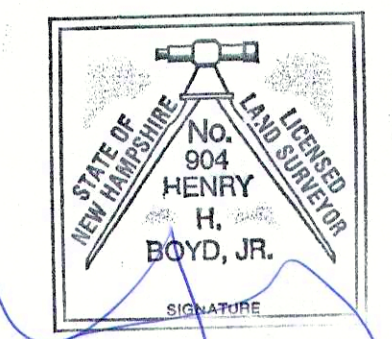
THE ORDINARY HIGH WATER (OHW) WAS DELINEATED BY OTHERS, THEN REVIEWED, ACCEPTED, AND INTERPOLATED IN ACCORDANCE WITH ENV-W. 406.04(A)(2) IN JANUARY OF 2021.

BY MISSION WETLAND & ECOLOGICAL SERVICES LLC
 SERGIO BONILLA
 CERTIFIED WETLAND SCIENTIST (#261)



- x LINE OF GROUND AT PIERS
- x BUILDING STAINING
- x PIER STAINING
- x JULY RIVER OBSERVATION

I CERTIFY:
 THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN MARCH AND DECEMBER 2020.
 THAT THIS SURVEY CONFORMS TO THE REQUIREMENTS FOR ACCURACY FOR N.H. URBAN SURVEY.



LICENSED LAND SURVEYOR DATE

EXISTING CONDITIONS

NHDES WETLAND PERMIT PLAN
 IN
EXETER, NH

SHOWING
A PROPOSED BUILDING REHABILITATION AT 53 WATER STREET (ASSESSORS MAP 72 LOT 34)

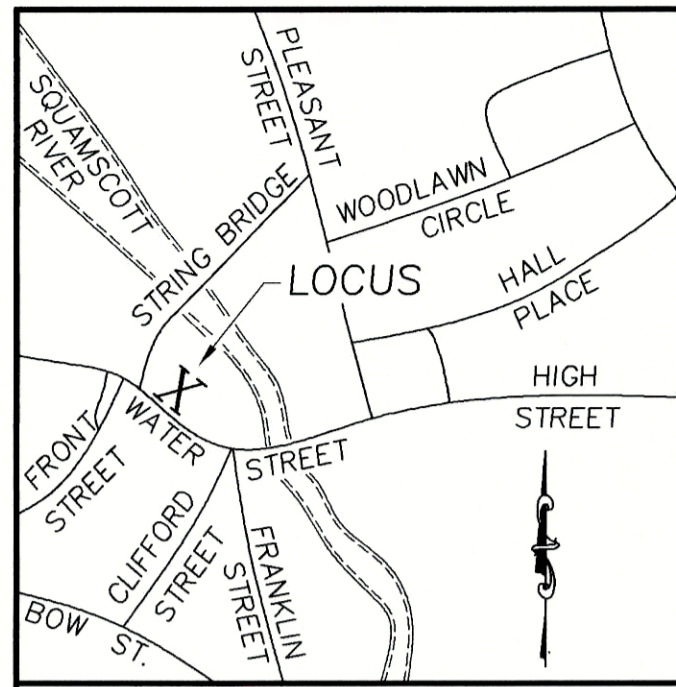
RECORD OWNERS
IOKA PROPERTIES
 24 GRAF ROAD, NEWBURYPORT, MA, 01950

PREPARED FOR
EXETER STATION LLC
 1 ROCKINGHAM STREET EXETER, NH 03833

MILLENNIUM ENGINEERING INC.
 ENGINEERS AND LAND SURVEYORS
 P.O. BOX 745 13 HAMPTON ROAD EXETER, NH 03833
 PHONE:(603)778-0528 FAX:(603)772-0689 WWW.MEI-NH.COM

SCALE: 1"=10'	CALC. BY: K.I.R.	PROJECT: E202439
DATE: APR. 15, 2021	CHKD. BY: H.H.B.	SHEET: 1 OF 3

NO.	DATE	DESCRIPTION	BY



- NOTES:**
- 1) THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT VISIBLE USES OF THE LAND; HOWEVER, THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
 - 2) ELEVATIONS SHOWN HEREON ARE BASED ON N.G.V.D. 1929.
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LINE TABLE

L1	S 41°12'44" E	8.19'
L2	S 48°47'16" W	9.13'
L3	N 41°12'44" W	8.33'

72
42
TOWN OF EXETER
10 FRONT STREET
EXETER, NH 03833
BK. 2400 PG. 0085

RECORD OWNER

73
34
IOKA PROPERTIES
24 GRAF ROAD
NEWBURYPORT, MA, 01950
BK. 6098 PG. 1375
5,902 S.F.
0.14 ACRES

EXISTING SEALED SURFACE
5,314 S.F. = 90.0% OF LOT
PROPOSED SEALED SURFACE
5,703 S.F. = 96.6% OF LOT

EXISTING BUILDING OVER RIVER
TO BE REMOVED = 103 S.F.
PROPOSED FIRST FLOOR
COMMERCIAL DECK (EL. 28.8) = 372 S.F.
PROPOSED SECOND FLOOR
RESIDENTIAL DECK (EL. 37.9) = 217 S.F.
PROPOSED THIRD FLOOR
RESIDENTIAL DECK (EL. 47.6) = 217 S.F.
TOTAL NET AREA OVER RIVER = 274 S.F.

DECK ELEVATIONS ARE PROVIDED
AT FINISHED SURFACE

ZONING DISTRICT
WC WATERFRONT COMMERCIAL

AREA	5,000 S.F.
DWELLING AREA	750 S.F.
WIDTH	50'
DEPTH	100'
BUILDING SETBACKS	
FRONT SIDE	10'
TO THE SIDE YARD OF THE ABUTTING PROPERTY OR 10 FEET WHICHEVER IS LESS; TO BE DETERMINED INDIVIDUALLY	
REAR	25'
MAX. HEIGHT	3/35'
MAX. BLDG. COVERAGE	75%
OPEN SPACE %	5

LEGEND

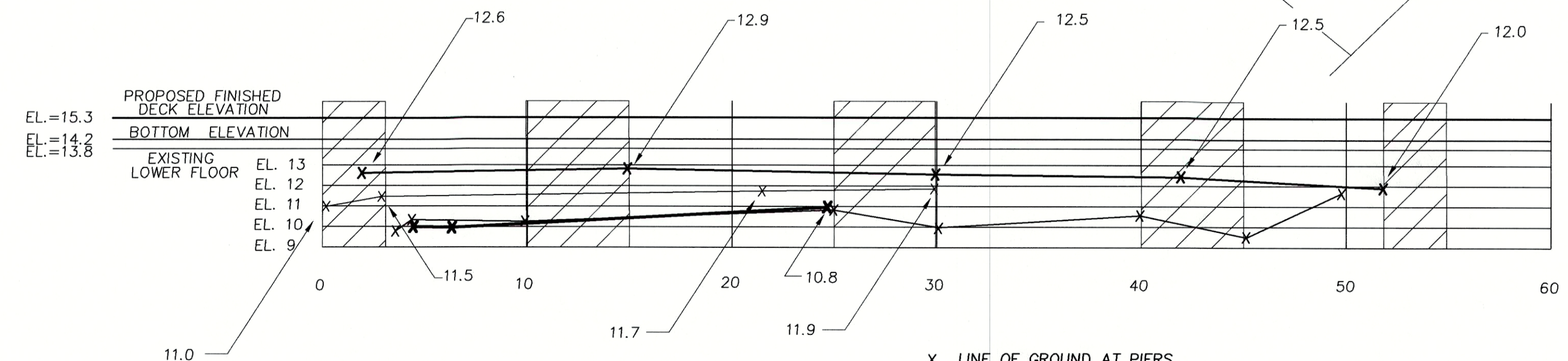
- ASSESSORS MAP AND PARCEL
- EXISTING SPOT ELEVATION
- B.F.E.
- PHOTO LOCATION

MAGNETIC
JUNE 2015

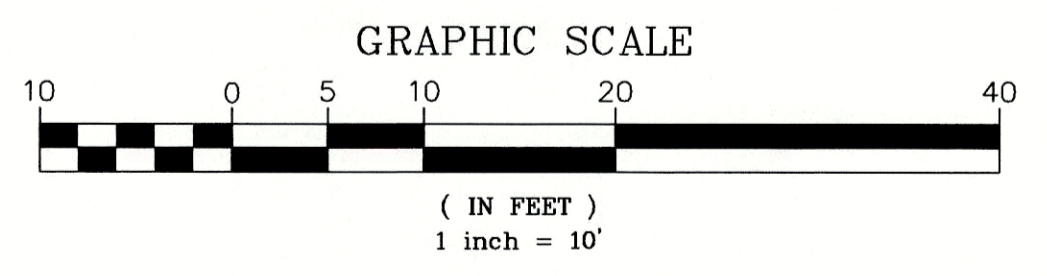
WATER

STREET

EXETER RIVER



- X LINE OF GROUND AT PIERS
- X BUILDING STAINING
- X PIER STAINING
- X JULY RIVER OBSERVATION

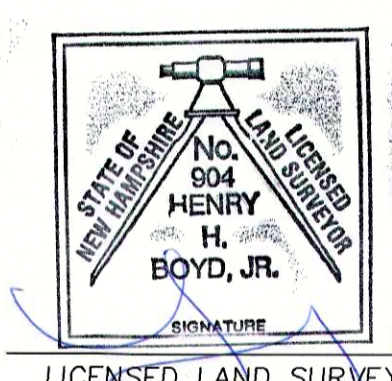


THE ORDINARY HIGH WATER (OHW) WAS DELINEATED BY OTHERS, THEN REVIEWED, ACCEPTED, AND INTERPOLATED IN ACCORDANCE WITH ENV-W. 406.04(A)(2) IN JANUARY OF 2021.

BY MISSION WETLAND & ECOLOGICAL SERVICES LLC
SERGIO BONILLA
CERTIFIED WETLAND SCIENTIST (#261)



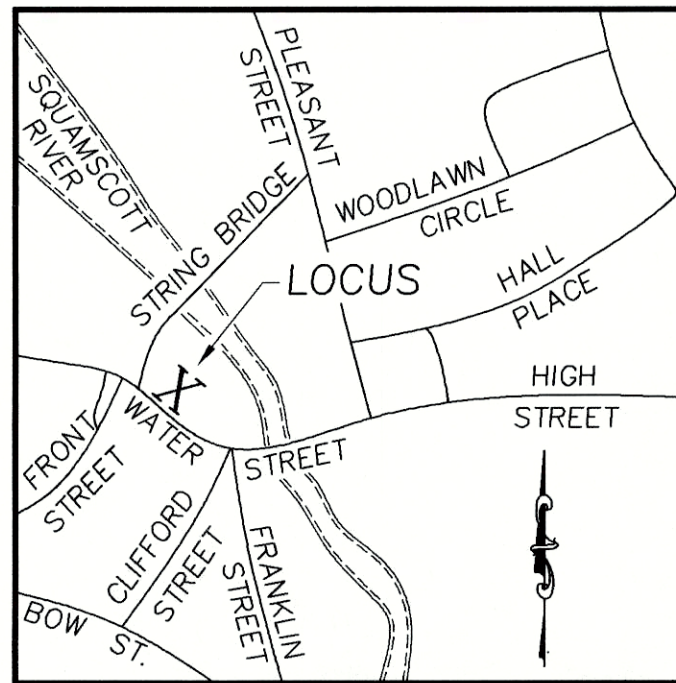
I CERTIFY:
THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN MARCH AND DECEMBER 2020.
THAT THIS SURVEY CONFORMS TO THE REQUIREMENTS FOR ACCURACY FOR N.H. URBAN SURVEY.



01-15-2021
LICENSED LAND SURVEYOR DATE

PROPOSED CONDITIONS		
NHDES WETLAND PERMIT PLAN		
IN EXETER, NH		
SHOWING A PROPOSED BUILDING REHABILITATION AT 53 WATER STREET (ASSESSORS MAP 72 LOT 34)		
RECORD OWNERS IOKA PROPERTIES 24 GRAF ROAD, NEWBURYPORT, MA, 01950		
PREPARED FOR EXETER STATION LLC 1 ROCKINGHAM STREET EXETER, NH 03833		
MILLENNIUM ENGINEERING INC. ENGINEERS AND LAND SURVEYORS P.O. BOX 745 13 HAMPTON ROAD EXETER, NH 03833 PHONE:(603)778-0528 FAX:(603)772-0689 WWW.MEI-NH.COM		
SCALE: 1"=10'	CALC. BY: K.I.R.	PROJECT: E202439
DATE: APR. 15, 2021	CHKD. BY: H.H.B.	SHEET: 2 OF 3

NO.	DATE	DESCRIPTION	BY



LOCUS MAP
NOT TO SCALE

ZONING DISTRICT

WC WATERFRONT COMMERCIAL

AREA	5,000 S.F.
DWELLING AREA	750 S.F.
WIDTH	50'
DEPTH	100'

BUILDING SETBACKS

FRONT SIDE	10'
TO THE SIDE YARD OF THE ABUTTING PROPERTY OR 10 FEET WHICHEVER IS LESS; TO BE DETERMINED INDIVIDUALLY	
REAR	25'

MAX. HEIGHT	3/35'
MAX. BLDG. COVERAGE	75%
OPEN SPACE %	5

CONSTRUCTION SEQUENCE:

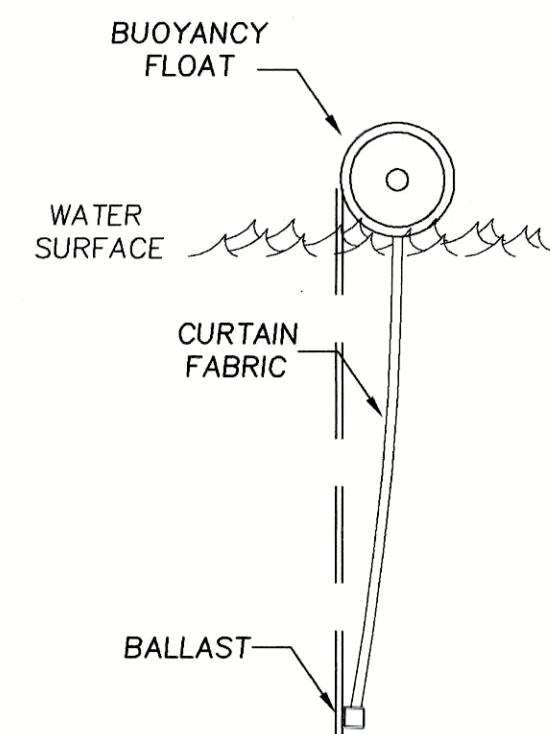
1. WORK IN THE SHORELINE TO BE CONDUCTED MANUALLY WITH HAND AND OR HAND-OPERATED POWER TOOLS.
2. DEPLOY SHORELINE CONTAINMENT BOOM AROUND ENTIRE WORK AREA AS INDICATED ON PLAN.
3. LINE CONTAINMENT BOOM WITH EROSION CONTROL BOOM.
4. APPROXIMATELY 1.5' TO 2' BEYOND CONCRETE FOOTING OF BRICK ARCHWAYS, HAND SHOVEL TRENCHES 7" TO 9" DEEP IN RIVERBED RIVER-STONE.
5. CONSTRUCT A COFFERDAM AROUND EACH FOOTING BY BOXING-IN CONCRETE FOOTINGS WITH 5/8" MARINE-GRADE PLYWOOD SHEETING BRACED WITH 2" X 4" LUMBER. EXTEND PLYWOOD SHEETING 12" TO 18" ABOVE THE NATURAL RIVERBED ELEVATION.
6. USING 60 MILLIMETER THICK X 24" WIDE SINGLE-PLY EPDM RUBBER ROOFING MEMBRANE, WRAP AND SEAL OUTER WALLS OF COFFERDAMS.
7. BACKFILL OPEN TRENCHES WITH DISPLACED RIVER-STONE AND HAND-TAMP FOR COMPACTION.
- IF NECESSARY, USE ENVIRONMENTALLY FRIENDLY BURLAP SANDBAGS TO CREATE STARTER COFFERDAM(S) IN AREAS OF STANDING WATER, OR SHALLOW RUNNING WATER.
8. FURNISH AND INSTALL A DEWATERING AND SEDIMENT CONTROL BLADDER CAPABLE OF PROCESSING UP TO 500-GALLONS-PER-MINUTE.
9. PLACE BLADDER ONSHORE BEYOND THE TOE OF RIVERBANK WITH EROSION CONTROL SILT FENCE STAKED BETWEEN BLADDER AND RIVERBANK.
10. AS NECESSARY, DEWATER COFFERDAM(S) WITH SUBMERSIBLE PUMP(S) TO MAINTAIN DRY WORK AREA IN AND AROUND CONCRETE FOOTINGS OF BRICK ARCHWAYS.
11. CHISEL/ REMOVE SECTIONS OF CRUMBLING CONCRETE FROM BASE TO BRICK ARCHWAY FOOTINGS.
12. REMOVE CONCRETE AND MASONRY DEBRIS FROM THE RIVERBED WORK AREA AT THE END OF EACH WORK-SHIFT.
13. AS NECESSARY, DRILL AND PIN DAMAGED AREAS OF FOOTINGS WITH 1/2" #4 REBAR.
14. AS NECESSARY, UTILIZE CONCRETE CHEMICAL ANCHORS TO SECURE REBAR PINS AND EXISTING FOOTINGS.
15. HAND TROWEL AND APPLY HIGH PERFORMANCE CONCRETE REPAIR MORTAR PER MANUFACTURER SPECIFICATIONS.
16. UPON INSPECTION OF CURED CONCRETE AND REPAIRS TO FOOTINGS CAREFULLY DISMANTLE AND REMOVE COFFERDAMS. HAND-TAMP AND COMPACT DISTURBED RIVER-STONE.
17. UPON COMPLETION OF WORK IN RIVERBED REMOVE CONTAINMENT BOOM AND REMOVE AND PROPERLY DISPOSE OF EROSION AND SEDIMENT CONTROLS.

LEGEND

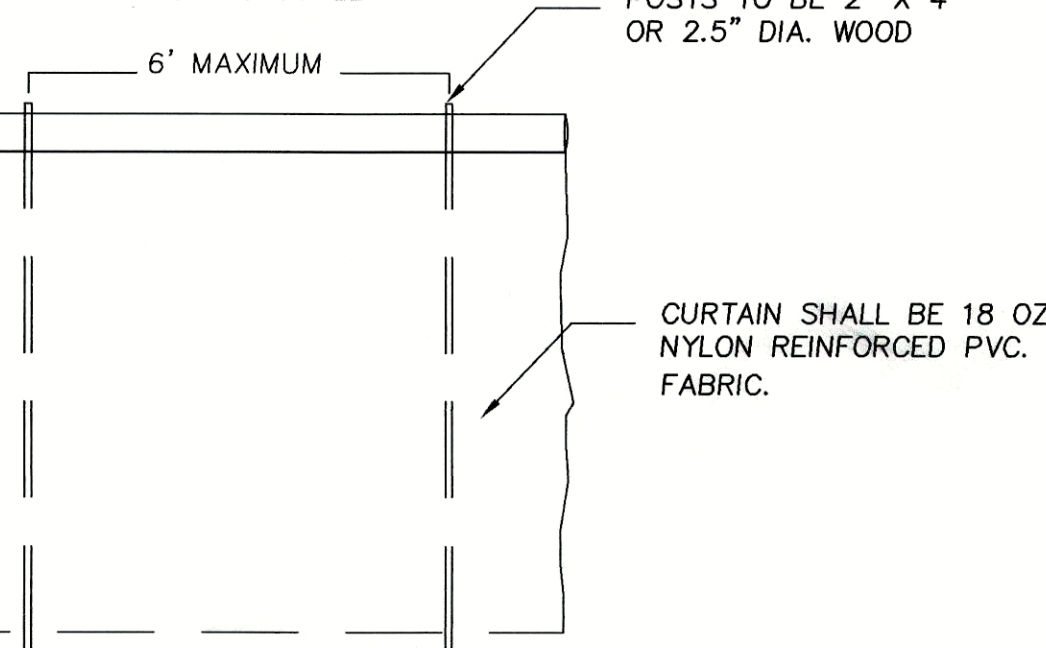
- ASSESSORS MAP AND PARCEL
- EXISTING SPOT ELEVATION
- B.F.E.
- PHOTO LOCATION
- AREA OF TEMPORARY IMPACT

RIVER STONE TOTE

NOT TO SCALE
5'X5' PVC BOX TO BE PLACED INSIDE WORKING AREA. ALL DISTURBED RIVER STONE IS TO BE PLACED WITHIN CONTAINER DURING EXCAVATION OF PIER BASES. ONCE PIER IS COMPLETED STONE SHALL BE REPLACED AT THE BASE.



TURBIDITY CURTAIN DETAIL



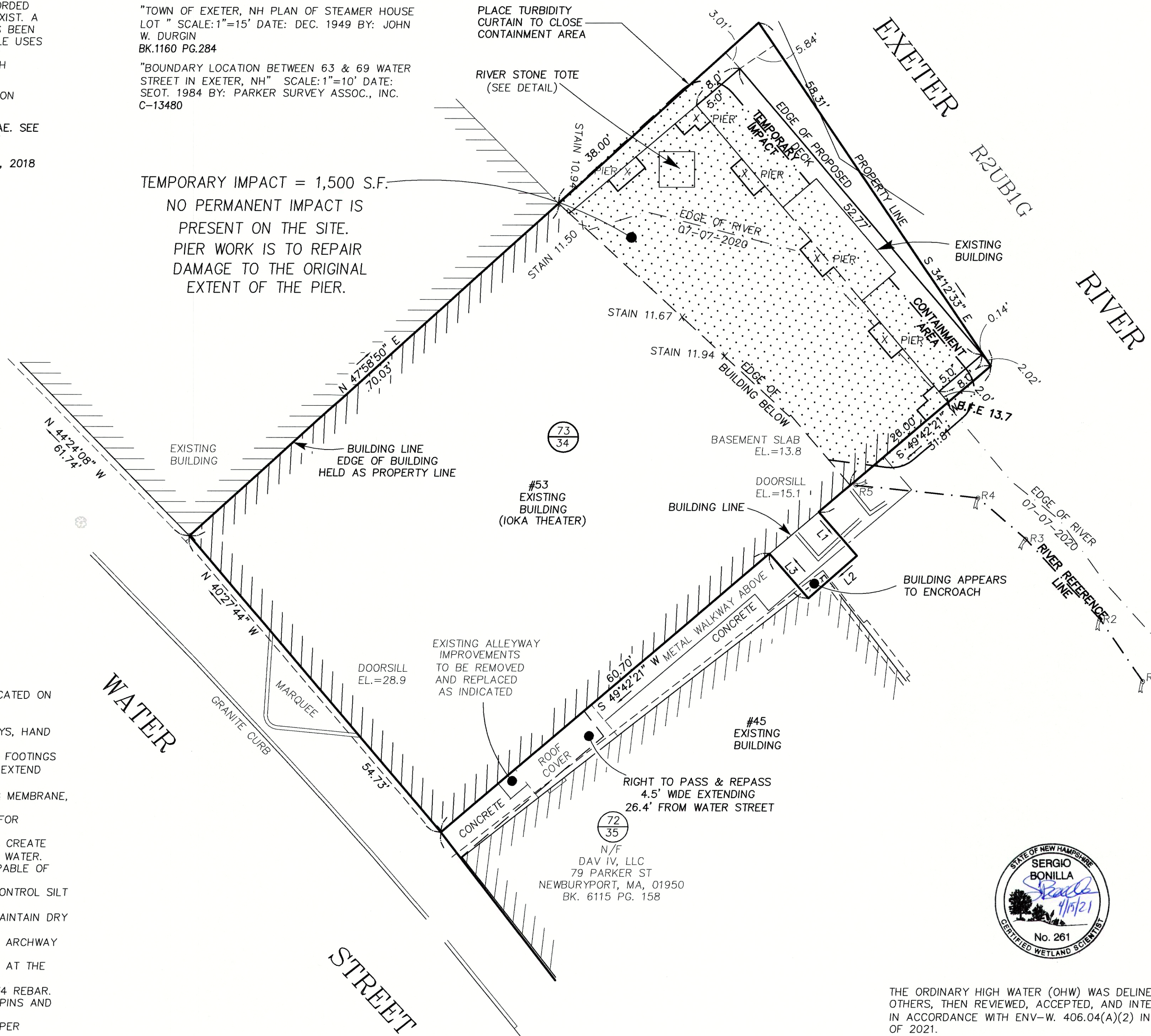
NOTE: A PROPRIETARY CURTAIN DESIGN MAY BE USED IN PLACE OF THE DETAIL SHOWN. THE INTENT OF THE DESIGN IS TO CREATE A SEALED AREA FOR ALL SEDIMENT DISTURBANCE

NO.	DATE	DESCRIPTION	BY

PLAN REFERENCE

"TOWN OF EXETER, NH PLAN OF STEAMER HOUSE LOT " SCALE: 1"=15' DATE: DEC. 1949 BY: JOHN W. DURGIN BK.1160 PG.284
"BOUNDARY LOCATION BETWEEN 63 & 69 WATER STREET IN EXETER, NH" SCALE: 1"=10' DATE: SEOT. 1984 BY: PARKER SURVEY ASSOC., INC. C-13480

TEMPORARY IMPACT = 1,500 S.F.
NO PERMANENT IMPACT IS PRESENT ON THE SITE.
PIER WORK IS TO REPAIR DAMAGE TO THE ORIGINAL EXTENT OF THE PIER.



73/34

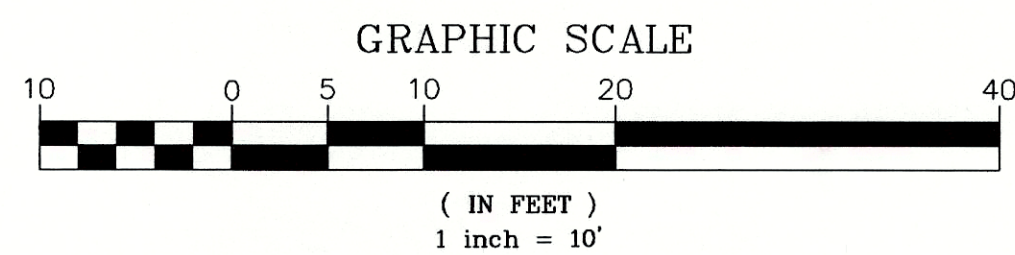
72/35

N/F
DAV IV, LLC
79 PARKER ST
NEWBURYPORT, MA, 01950
BK. 6115 PG. 158



THE ORDINARY HIGH WATER (OHW) WAS DELINEATED BY OTHERS, THEN REVIEWED, ACCEPTED, AND INTERPOLATED IN ACCORDANCE WITH ENV-W. 406.04(A)(2) IN JANUARY OF 2021.

BY MISSION WETLAND & ECOLOGICAL SERVICES LLC
SERGIO BONILLA
CERTIFIED WETLAND SCIENTIST (#261)



RECORD OWNER

73/34
IOKA PROPERTIES
24 GRAF ROAD
NEWBURYPORT, MA, 01950
BK. 6098 PG. 1375
5,902 S.F.
0.14 ACRES

MAGNETIC
JUNE 2015

LINE TABLE

L1	S 41°12'44" E 8.19'
L2	S 48°47'16" W 9.13'
L3	N 41°12'44" W 8.33'

I CERTIFY:
THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN MARCH AND DECEMBER 2020.
THAT THIS SURVEY CONFORMS TO THE REQUIREMENTS FOR ACCURACY FOR N.H. URBAN SURVEY.

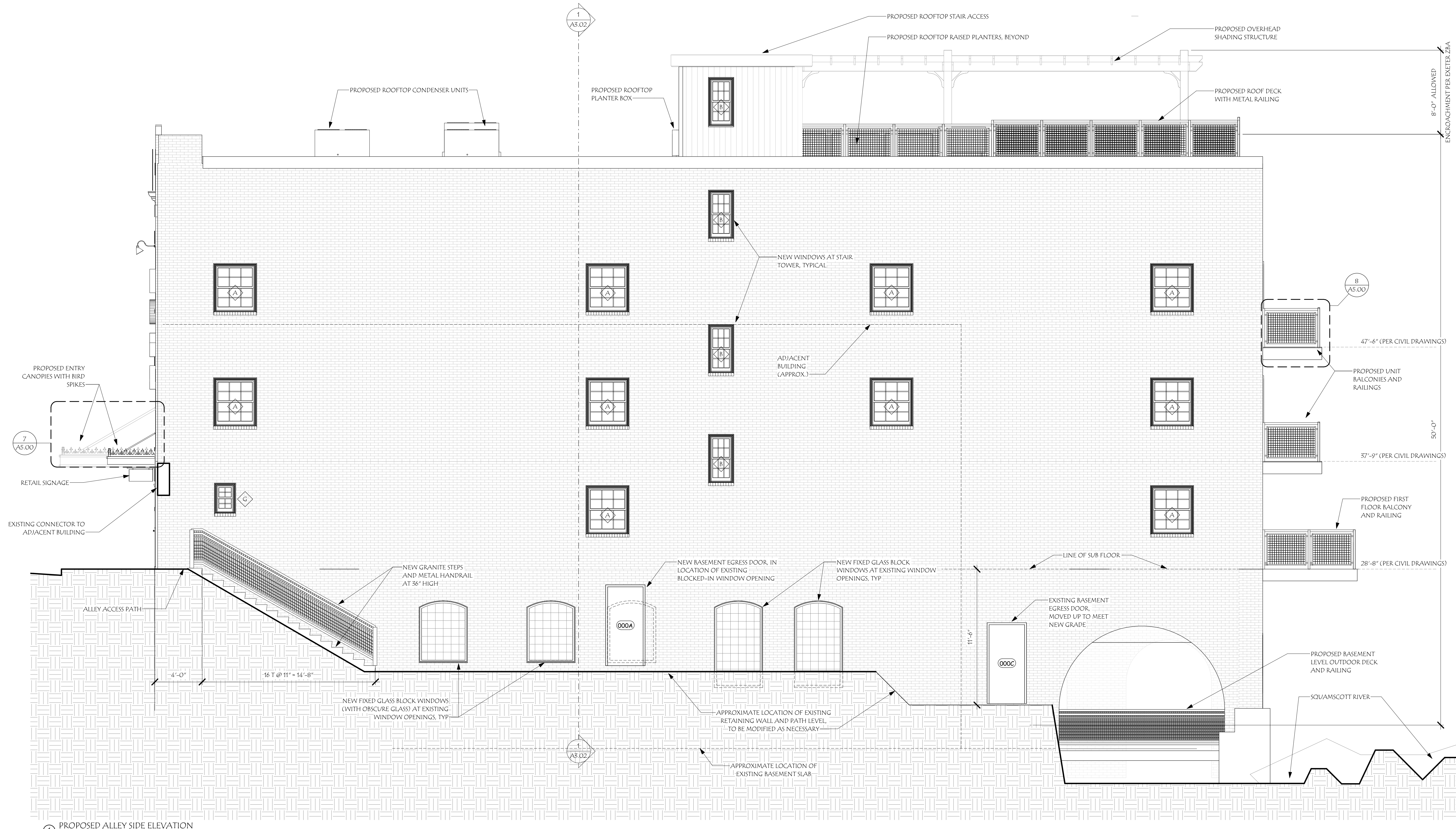
STATE OF NEW HAMPSHIRE
No. 904
HENRY H. BOYD, JR.
LICENSED LAND SURVEYOR
01-15-2021
DATE

PIER REPAIR | CONSTRUCTION DETAILS

NHDES WETLAND PERMIT PLAN
IN
EXETER, NH
SHOWING
A PROPOSED BUILDING REHABILITATION AT 53 WATER STREET (ASSESSORS MAP 72 LOT 34)
RECORD OWNERS
IOKA PROPERTIES
24 GRAF ROAD, NEWBURYPORT, MA, 01950
PREPARED FOR
EXETER STATION LLC
1 ROCKINGHAM STREET EXETER, NH 03833
MILLENNIUM ENGINEERING INC.
ENGINEERS AND LAND SURVEYORS
P.O. BOX 745 13 HAMPTON ROAD EXETER, NH 03833
PHONE:(603)778-0528 FAX:(603)772-0689 WWW.MEI-NH.COM
SCALE: 1"=10'
DATE: APR. 15, 2021
CALC. BY: K.I.R.
CHKD. BY: H.H.B.
PROJECT: E202439
SHEET: 3 OF 3

IOKA THEATER

55 WATER STREET
 EXETER, NH 05855



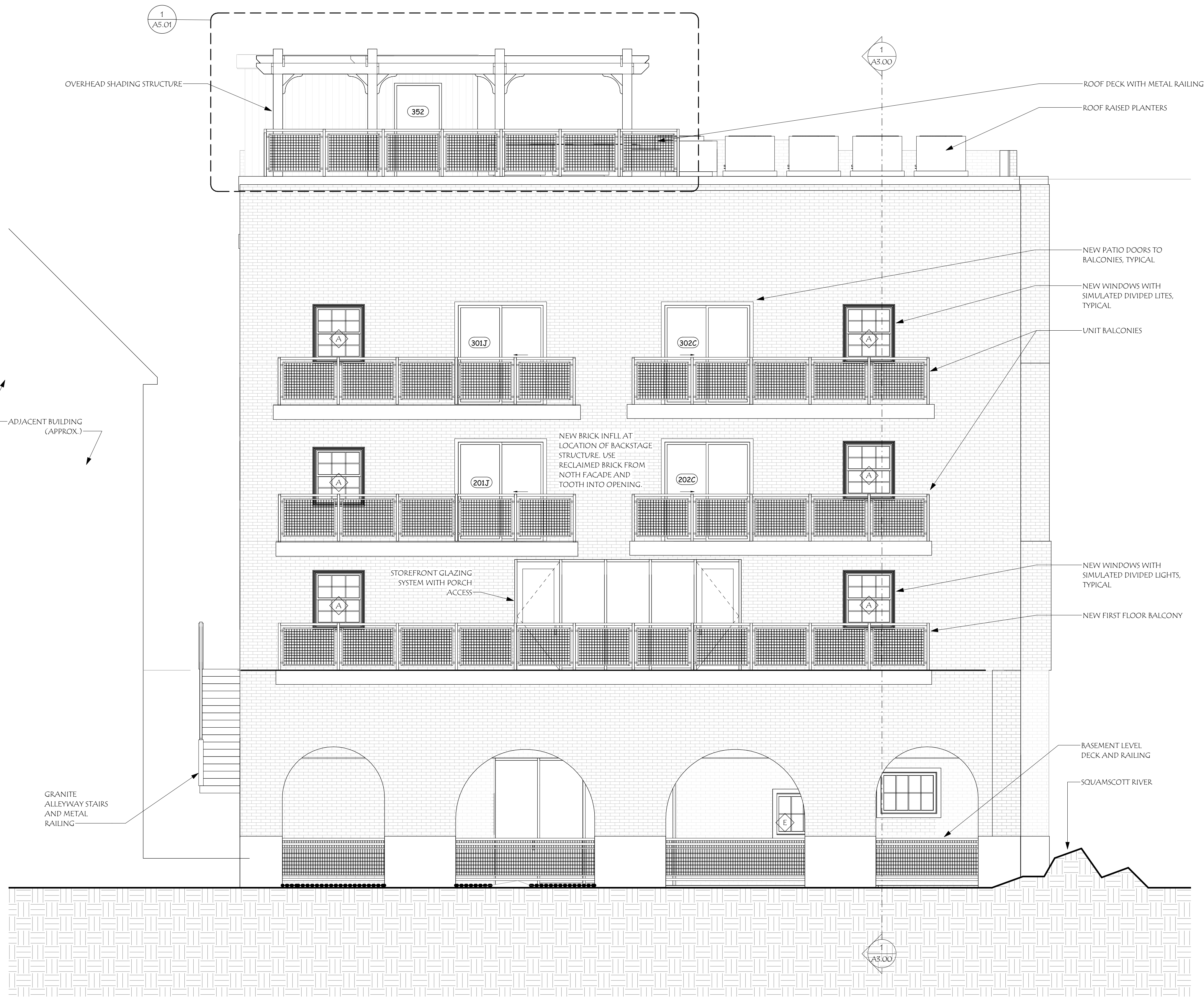
1 PROPOSED ALLEY SIDE ELEVATION
 1/4" = 1'-0"

GENERAL NOTES:
 1. POWER WASH ENTIRE BRICK FACADE AND REPOINT FACADE IN ENTIRETY.
 2. RESTORE METAL COPING AT BRICK PARAPET.

Revisions:	Date
# Description	
1/4" = 1'-0"	
Author	MCA
Drawn By:	
Checked By:	
Project No.:	2020016
Date:	04/19/21

Title:
EAST EXTERIOR ELEVATIONS

A2.01



1 PROPOSED RIVER FRONT ELEVATION
1/4" = 1'-0"

GENERAL NOTES:
1. POWER WASH ENTIRE BRICK FACADE AND REPOINT FACADE IN ENTIRETY.
2. RESTORE METAL COPING AT BRICK PARAPET.

IOKA THEATER

55 WATER STREET
EXETER, NH 05853

Revisions:	#	Description	Date

Scale:	1/4" = 1'-0"
Drawn By:	Author
Checked By:	MCA
Project No.:	2020016
Date:	04/19/21

Title:
NORTH EXTERIOR
ELEVATIONS

A2.02



RIVER SIDE RENDERING

NOT FOR CONSTRUCTION

IOKA THEATER
 55 WATER STREET
 EXETER, NH 05853

Revisions:	#	Description	Date

Scale:	1/8" = 1'-0"
Drawn By:	PPS
Checked By:	ALW
Project No.:	2020016
Date:	07/06/20

Title:	BUILDING RENDERINGS
	A0.12

US ARMY CORPS OF ENGINEERS
APPENDIX B CHECKLIST AND
SUPPORTING INFORMATION



**US Army Corps
of Engineers**®
New England District

**New Hampshire General Permits (GPs)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)**

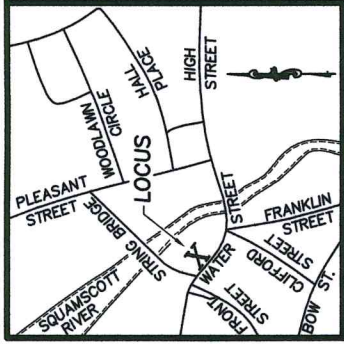
1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to “work” include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*	X	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www2.des.state.nh.us/nhb_datacheck/ . The book Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	N/A	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres?		X
2.6 What is the area of the previously filled wetlands?	~61 SF	
2.7 What is the area of the proposed fill in wetlands?	<small>no proposed fill; 1,500 SF temporary impacts for foot traffic to facilitate construction</small>	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	same	
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: https://www2.des.state.nh.us/nhb_datacheck/ USFWS IPAC website: https://ecos.fws.gov/ipac/location/index	X	

3.2 Would work occur in any area identified as either “Highest Ranked Habitat in N.H.” or “Highest Ranked Habitat in Ecological Region”? (These areas are colored magenta and green, respectively, on NH Fish and Game’s map, “2010 Highest Ranked Wildlife Habitat by Ecological Condition.”) Map information can be found at: <ul style="list-style-type: none"> • PDF: https://wildlife.state.nh.us/wildlife/wap-high-rank.html. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html. 		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 21?	N/A	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	X	<small>located in the regulated floodway</small>
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		X
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**	X	

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

** If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.



- NOTES:**
- THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT VISIBLE USES OF THE LAND; HOWEVER, THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
 - ELEVATIONS SHOWN HEREON ARE BASED ON N.G.V.D. 1929.
 - THIS PARCEL LIES WITHIN A FLOOD ZONE. SEE F.I.R.M. COMMUNITY PANEL 33015C 0420 E EFFECTIVE DATE MAY 17, 2005 AND LOMR 18-01-1446 EFFECTIVE DATE NOVEMBER 5, 2018

LOCUS MAP
NOT TO SCALE

ZONING DISTRICT
WC WATERFRONT COMMERCIAL

AREA	5,000 S.F.
DWELLING AREA	750 S.F.
WIDTH	50'
DEPTH	100'
FRONT SIDE	10'
TO THE SIDE YARD OF THE ABUTTING PROPERTY, OR 10 FEET WHICHEVER IS LESS; TO BE DETERMINED INDIVIDUALLY	25'
REAR	3/35'
MAX. HEIGHT	75%
MAX. BLDG. COVERAGE	5
OPEN SPACE %	

CONSTRUCTION SEQUENCE:

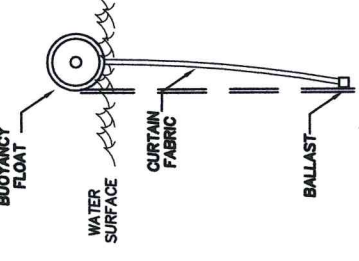
- WORK IN THE SHORELINE TO BE CONDUCTED MANUALLY WITH HAND AND OR HAND-OPERATED POWER TOOLS.
- DEPLOY SHORELINE CONTAINMENT BOOM AROUND ENTIRE WORK AREA AS INDICATED ON PLAN.
- LINE CONTAINMENT BOOM WITH EROSION CONTROL BOOM.
- APPROXIMATELY 1.5' TO 2' BEYOND CONCRETE FOOTING OF BRICK ARCHWAYS, HAND SHOVEL TRENCHES 7' TO 8" DEEP IN RIVERBED WATER.
- CONSTRUCT A COFFERDAM AROUND EACH FOOTING BY BOXING-IN CONCRETE FOOTINGS WITH 5/8" MARINE-GRADE PLYWOOD SHEETING BRACED WITH 2" X 4" LUMBER. EXTEND PLYWOOD SHEETING 12" TO 18" ABOVE THE NATURAL RIVERBED ELEVATION.
- USING 80 MILLIMETER THICK X 24" WIDE SINGLE-PLY EPDM RUBBER ROOFING MEMBRANE, WRAP AND SEAL OUTER WALLS OF COFFERDAMS.
- BACKFILL OPEN TRENCHES WITH DISPLACED RIVER-STONE AND HAND-TAMP FOR COMPACTION.
- IF NECESSARY, USE ENVIRONMENTALLY FRIENDLY BURLAP SANDBAGS TO CREATE STARTER COFFERDAM(S) IN AREAS OF STANDING WATER, OR SHALLOW RUNNING WATER.
- FURNISH AND INSTALL A DEWATERING AND SEDIMENT CONTROL BLADDER CAPABLE OF PROCESSING UP TO 500-GALLONS-PER-MINUTE.
- PLACE BLADDER ONSHORE BEYOND THE TOE OF RIVERBANK WITH EROSION CONTROL SILT FENCE STAKED BETWEEN BLADDER AND RIVERBANK.
- AS NECESSARY, DEWATER COFFERDAM(S) WITH SUBMERSIBLE PUMP(S) TO MAINTAIN DRY WORK AREA IN AND AROUND CONCRETE FOOTINGS OF BRICK ARCHWAYS.
- CHISEL/ REMOVE SECTIONS OF CRUMBLY CONCRETE FROM BASE TO BRICK ARCHWAY FOOTINGS.
- REMOVE CONCRETE AND MASONRY DEBRIS FROM THE RIVERBED WORK AREA AT THE END OF EACH WORK-SHIFT.
- AS NECESSARY, DRILL AND PIN DAMAGED AREAS OF FOOTINGS WITH 1/2" #4 REBAR.
- AS NECESSARY, UTILIZE CONCRETE CHEMICAL ANCHORS TO SECURE REBAR PINS AND EXISTING FOOTINGS.
- HAND TROWEL AND APPLY HIGH PERFORMANCE CONCRETE REPAIR MORTAR PER MANUFACTURER SPECIFICATIONS.
- UPON INSPECTION OF CURED CONCRETE AND REPAIRS TO FOOTINGS CAREFULLY DISMANTLE AND REMOVE COFFERDAMS, HAND-TAMP AND COMPACT DISTURBED RIVER-STONE.
- UPON COMPLETION OF WORK IN RIVERBED REMOVE CONTAINMENT BOOM AND REMOVE AND PROPERLY DISPOSE OF EROSION AND SEDIMENT CONTROLS.

LEGEND

- ASSESSORS MAP AND PARCEL
- EXISTING SPOT ELEVATION
- BASE FLOOD ELEVATION
- PHOTO LOCATION
- AREA OF TEMPORARY IMPACT

RIVER STONE TOTE
NOT TO SCALE

5'X5' PVC BOX TO BE PLACED INSIDE WORKING AREA. ALL DISTURBED RIVER STONE IS TO BE PLACED WITHIN CONTAINER DURING EXCAVATION OF PIER BASES. ONCE PIER IS COMPLETED STONE SHALL BE REPLACED AT THE BASE.

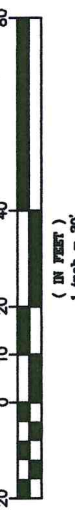


TURBIDITY CURTAIN DETAIL
NOT TO SCALE

POSTS TO BE 2" X 4" OR 2.5" DIA. WOOD

CURTAIN SHALL BE 18 OZ NYLON REINFORCED PVC FABRIC.

GRAPHIC SCALE



NOTE: A PROPRIETARY CURTAIN DESIGN MAY BE USED IN PLACE OF THE DETAIL SHOWN. THE INTENT OF THE DESIGN IS TO CREATE A SEALED AREA FOR ALL SEDIMENT DISTURBANCE

PLAN REFERENCE

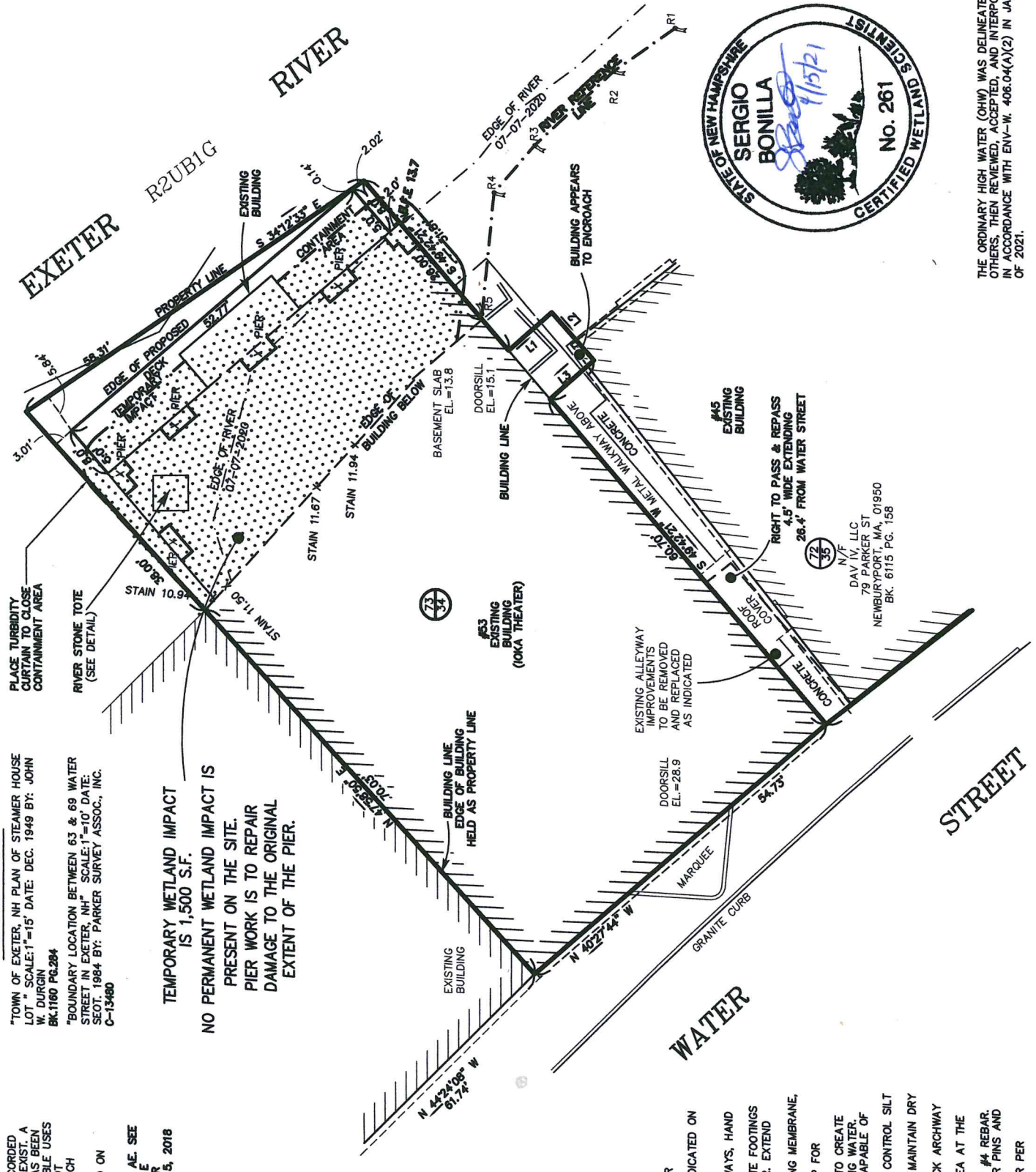
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NO PERMANENT WETLAND IMPACT IS PRESENT ON THE SITE.

PIER WORK IS TO REPAIR DAMAGE TO THE ORIGINAL EXTENT OF THE PIER.



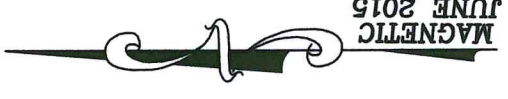
RECORD OWNER

IOKA PROPERTIES
24 GRAF ROAD
NEWBURYPORT, MA, 01950
BK. 6098 PG. 1375

5,902 S.F.
0.14 ACRES

LINE TABLE

L1	S 41°12'44" E 8.19'
L2	S 48°47'16" W 9.13'
L3	L3 N 41°12'44" W 8.33'



I CERTIFY:
THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND BETWEEN MARCH AND DECEMBER 2020.
THAT THIS SURVEY CONFORMS TO THE REQUIREMENTS FOR ACCURACY FOR N.H. URBAN SURVEY.

STATE OF NEW HAMPSHIRE
NO. 904
LICENSED LAND SURVEYOR
HENRY H. BOYD, JR.
SIGNATURE: [Signature]
DATE: 01-15-2024

STATE OF NEW HAMPSHIRE
NO. 261
CERTIFIED WETLAND SCIENTIST
SERGIO BONILLA
[Signature]

THE ORDINARY HIGH WATER (OHW) WAS DELINEATED BY OTHERS, THEN REVIEWED, ACCEPTED, AND INTERPOLATED IN ACCORDANCE WITH ENV-W. 406.04(A)(2) IN JANUARY OF 2021.

BY MISSION WETLAND & ECOLOGICAL SERVICES LLC
SERGIO BONILLA
CERTIFIED WETLAND SCIENTIST (#261)

ARMY CORPS OF ENGINEERS
WETLAND IMPACT PLAN

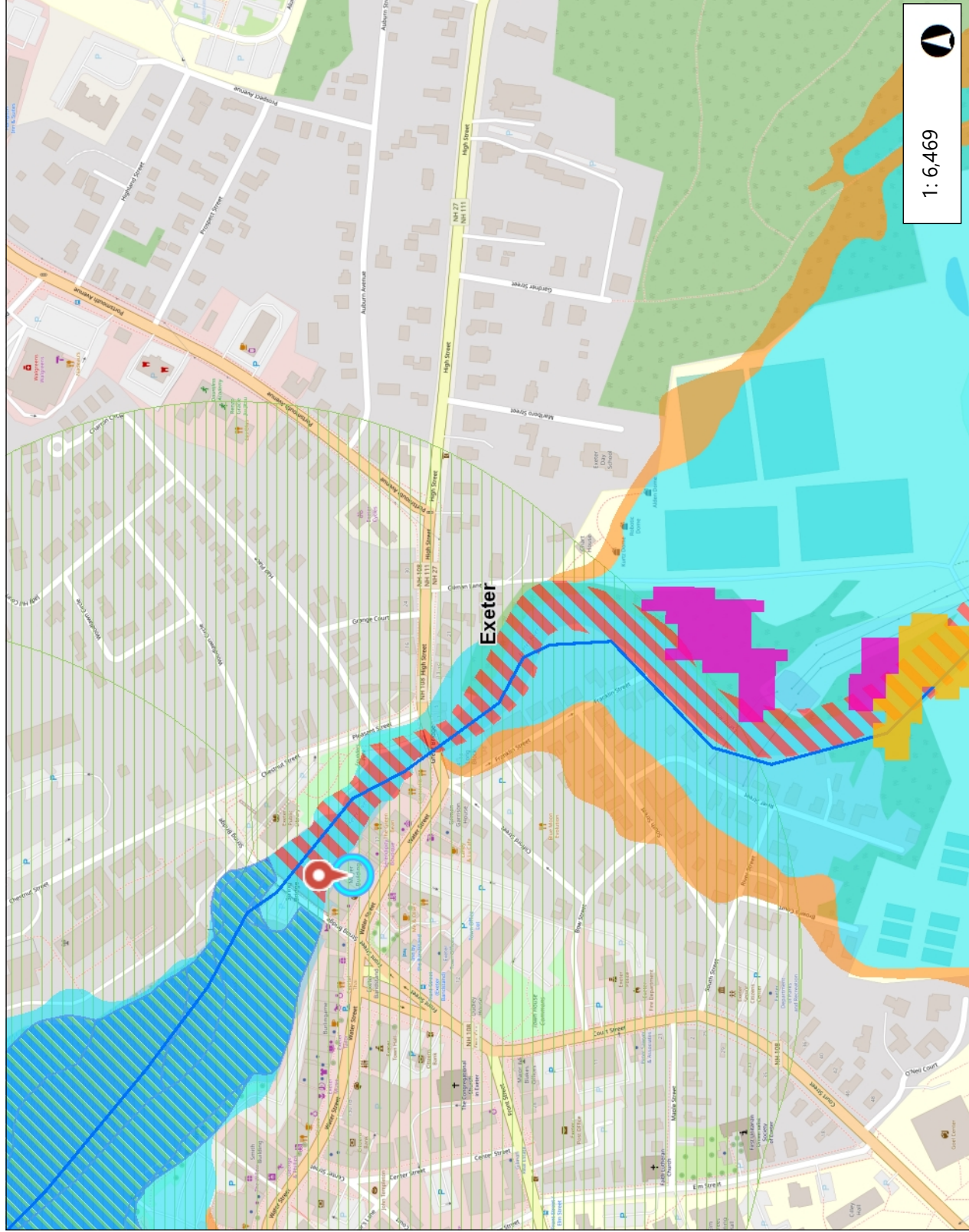
SHOWING
A PROPOSED BUILDING REHABILITATION
AT 53 WATER STREET
(ASSESSORS MAP 72 LOT 34)

RECORD OWNERS
IOKA PROPERTIES
24 GRAF ROAD, NEWBURYPORT, MA, 01950

PREPARED FOR
EXETER STATION LLC
1 ROCKINGHAM STREET EXETER, NH 03833

MILLENNIUM ENGINEERING INC.
ENGINEERS AND LAND SURVEYORS
P.O. BOX 745 13 HAMPTON ROAD EXETER, NH 03833
PHONE: (603) 778-0528 FAX: (603) 772-0689 WWW.MEI-NH.COM

SCALE: 1"=20'
DATE: APR. 15, 2021
CALC. BY: K.I.R.
CHKD. BY: H.H.B.
PROJECT: E2024.39
SHEET: INSERT



1:6,469

0 0.10 0.2 Miles

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

- Highest Ranked Wildlife Habits
 - 0
 - 1 Highest Ranked Habitat in NH
 - 2 Highest Ranked Habitat in Region
 - 3 Supporting Landscape
- Shoreland Act Urban Exempt 4th Order and Above Streams
 - 4
 - 5
 - 6
 - 7
- Shoreland Jurisdiction - Lakes NH City/Town Boundaries
 - Flood Plain Wetlands Adjacent
 - Prime Wetlands
 - FEMA Floodplains
 - 1 pct. Annual Chance Flood Hazard
 - Floodway
 - 0.2 pct. Annual Chance Flood Hazard
 - Area of Undetermined Flood Hazard
 - Area Protected by Levee
 - Watersheds with Chloride Imp: Surface Waters with Impaired Quarter Mile Buffer
 - World Imagery
 - Low Resolution 15m Imagery

Notes

- Impaired Waters
- Wildlife Action Plan - Highest Ranking Habitat
- FEMA Data



May 6, 2021

Dear Town of Exeter Conservation Commission:

Since its accidental introduction in the mid-1990's, the invasive woodboring beetle commonly known as the emerald ash borer (*Agrilus planipennis* Fairmaire; EAB), has killed millions of ash trees and caused immense ecological and economic damage across the midwestern and eastern United States. Since its first detection in Concord in 2013, EAB has rapidly spread to regions throughout New Hampshire, including the Town of Exeter, where it was first detected in 2019. Understanding the biology of this invasive pest and the trees it attacks is key to developing effective management programs to protect our natural and managed forested areas. One of the goals of the Garnas laboratory at the University of New Hampshire is to study interactions between introduced organisms and novel environments to improve forest health. To this end, we have an ongoing collaboration with USDA-APHIS to evaluate how the age of green and white ash in New Hampshire influences their susceptibility to attack by EAB, and how this may interact to improve or antagonize ongoing efforts to release biological control agents to reduce populations of this pest.

Our proposed project (attached immediately after this letter) to occur at the Little River Conservation Area property in Exeter, NH is the final year of a three-year project. Specifics of this project are detailed in our proposal including, the number of trees required for our project, a map of the region within the Exeter property that we anticipate using, information about our activities, as well as outcomes from our research.

Please do not hesitate to contact us with any questions, concerns or additional requests for information. Thank you for your consideration of our proposed project.

Regards,

Todd D. Johnson, Ph.D.
Postdoctoral Research Associate
University of New Hampshire

Jeff R. Garnas, Ph.D.
Associate Professor, Forest Ecosystem Health
University of New Hampshire



**Request for Permission to use the Little River Conservation Area property for
Emerald ash borer (EAB) research on biological control and tree defenses
in small diameter ash trees in NH.**

Contact information:

Dr. Todd D. Johnson, Postdoctoral Research Associate
Department of Natural Resources and the Environment
University of New Hampshire
todd.johnson@unh.edu
610-984-5636

Dr. Jeff R. Garnas, Associate Professor, Forest Ecosystem Health
Department of Natural Resources and the Environment
University of New Hampshire
jeff.garnas@unh.edu
603-862-2094

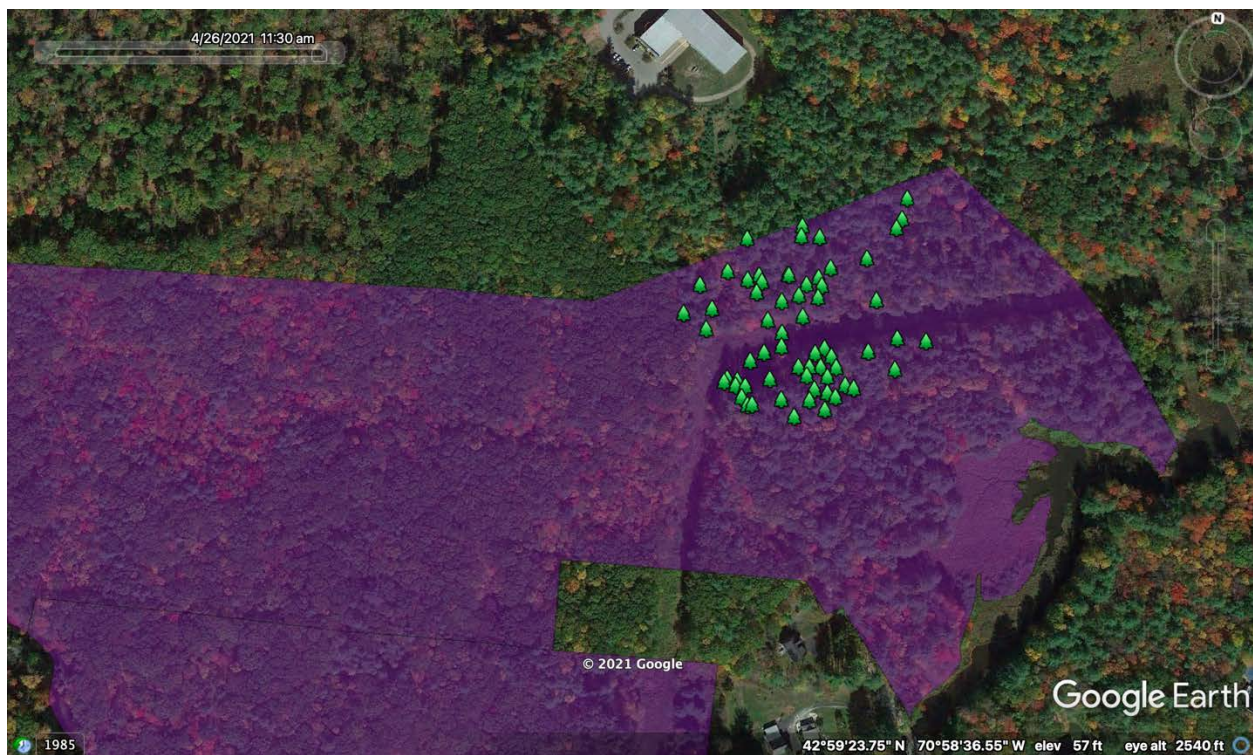


Research Project Description:

The Emerald ash borer (EAB) is an invasive, woodboring beetle that threatens the persistence of North American ash trees by killing 90-100% of mature stems in as few as 3-5 years following attack. Once larger ash trees die, seedlings and saplings are key to retaining ash in our forests. Protecting small stems, however, requires active management of low-density EAB populations that often linger in aftermath forests. While small, vigorously growing ash are less preferred by EAB they are still attacked, and vulnerability to EAB increases as they age. Suppressing beetle populations using classical biological control (tiny parasitic wasps that feed on EAB but are harmless to humans) gives trees a fighting chance to persist in the canopy, at least long enough to produce seed. Understanding the protective properties of low-susceptibility small ash, including how such properties influence biological control, is crucial to informing best management practices. The proposed study examines age-specific patterns of resistance to EAB in small ash focusing on potential physical and chemical defenses, while also investigating their interaction with EAB populations and biocontrol agents. This research will be core to conserving white and green ash in NH by simulating the conditions in aftermath forests before they exist as a proactive way to study, inform, and enhance future EAB and ash management using biocontrol in aftermath forests.

Proposed site location:

The Google Earth aerial photo below shows the boundaries of Little River Conservation Area property in Exeter, NH in purple. The bright green trees, are the GPS coordinates of trees we have proposed to use for our study, all of which fall within the boundaries of the Little River Conservation Area. Preliminary site scouting was conducted to confirm that white ash was present at the Little River Conservation Area in the appropriate size ranges and nearby presence of Emerald ash borer. This site contains the perfect mix of size classes of white ash and is ideal for our work. Given the difficulty of finding such sites, they are of great value from a research perspective.



Proposed Site Alterations:

- 68 white ash trees along the edges of the trails in off trail in the forest will be studied. 44 of these trees will be cut and removed in October. See Table 1 for details.
- Controlled releases of biological control wasps to act on EAB populations (see Figure 1). It is important to note that these wasps are nearly microscopic, do not have the ability to sting, and are not attracted to humans in any way. It is extremely unlikely that despite their importance in EAB management, that anyone would even know they are there.
- Artificially infesting a subset of trees with EAB eggs (see Figure 1)
- Application of the plant hormone, methyl jasmonate (harmless to humans), to experimental trees to study the impacts of this chemical on the survival of EAB.
- Signs will be posted informing the public of our project and providing contact information for anyone who wishes to reach out with questions and concerns

*All activities will be subject to the rules surrounding an Invasive Species Variance Permit granted by State of New Hampshire with the goal of insuring that accidental augmentation of EAB populations is extremely unlikely. In fact, multiple safeguard (careful tracking and removal of all EAB-infested ash trees well before adult beetles emerge) together with regular releases of biological control wasps, are very likely to result in a net reduction of EAB-impacts at this site.

**Should there be a need or even an opportunity to engage with the public, whether to address any concerns to from an educational perspective, we would be more than happy to do so.

Project timeline (2021):

March: Site scouting

April - May: Site permissions

Early-June: Apply EAB eggs to treatment and sentinel trees and bark sampling

Mid-June through July: Methyl Jasmonate (plant hormone) application

Late-July: Monitoring of sentinel trees to track larval development. Destruction of waste from monitoring and peeling sentinel trees.

August: Bark sampling and release of biological control agents (*Spathius galinae*, *Tetrastichus planipennis*) at experimental sites and trees.

October: Removal of all EAB-infested trees from experimental sites followed by dissection and destruction. All trees will be processed by mid-November.

Research Benefits:

- Improve predictive ability regarding the fate of the regeneration layer of white ash as it grows and ages into susceptibility which could inform the utility and prioritization of parasitoid releases
- Enhance knowledge critical feedback between top down (i.e., biological control) and bottom up (e.g., plant defenses) controls on EAB that could impact long term population dynamics of both the beetle and host trees, including potential interactions between tree defenses and parasitism
- Provide key information on constitutive and induced chemical profiles and physical bark traits of ash across age/size classes which could be used as targets for artificial selection of more resistant trees, markers for selective removal of highly-susceptible ash (or for retaining putatively more resistant individuals), or for evaluating the utility of artificial induction as a protection strategy

Broader impacts and perceived benefits to the Town of Exeter:

- Targeted releases of biological agents will be beneficial the remaining ash trees on the property
- Removal of vulnerable ash trees that are likely to die due to EAB attack. Left unmanaged, these trees would likely become hazard trees where co-localized with trails or parking areas, etc.
- Detailed feedback on the current state of invasion of the area; estimates of current EAB population densities at research sites
- Potential for community involvement through outreach

Potential drawbacks:

We have found residents of NH towns where we have performed similar work to be very supportive of our efforts. Still, there is always the potential that some will not approve of tree removal (even of those trees that are highly likely to succumb to EAB). If this perception exists, we would very much like the opportunity to engage further. Also, we are highly respectful of land manager wishes with respect to site cleanup post-experiment.

Table 1: Full experimental design of this research project, where specifics regarding size classes of trees, treatments, and sampling can be found in greater detail.

a)	Factor	Count of levels (k)	Description of treatment/levels
	Site	2	Two sites in Strafford/Rockingham County near the advancing front of the EAB in NH
	Species	2	Green and white ash
	DBH	2	(5-10, 11-16 cm)
	Control Treatments	2	Control (No modification), EAB (Artificial infestation)
	Control Inductions (Meja)	3	2 weeks prior, 1 week prior, 0 weeks prior (all relative to larval colonization)
	Induction Treatments (EAB + Meja)	3	2 weeks prior, 1 week prior, 0 weeks prior (all relative to larval colonization)

b)	Replicates	Count	Description of treatment/levels
	Tree reps per treatment combination	4	Number of biological replicates per treatment combination
	Samples (per tree)	2	2 samples (1 prior, 1 after EAB egg hatch)

c)	Total trees	Count	Description
	Tree reps per treatment combination	4	2 sites per species × 2 species × 2 DBH classes × 8 treatments × 4 reps = 256 trees
	Total samples	512	256 trees × 2 sampling events

Figure 1: Photographic depiction of experimental methods. The first photo strip shows the process of preparing and applying emerald ash borer eggs to experimental trees. Tyvek tents are constructed around trees to protect eggs from moisture until hatched, then all materials are removed prior to Methyl Jasmonate application and punch sampling. The last photo (on the right) shows a sentinel tree, or a tree infested with eggs for peeling to appropriately time parasitoid releases. The second photo strip shows the process of Methyl Jasmonate application to experimental trees, followed by the punch sampling method. The third photo strip shows the process of peeling sentinel trees to confirm that EAB larvae are big enough to be parasitized, followed by releases performed by hanging log bolts infested with parasitoid wasps in field sites. Experimental trees will be harvested in the fall and peeled for data collection on emerald ash borer larval establishment and parasitism at that time.



Figure 2: Approved Invasive Species Variance Permit for work on the emerald ash borer in locations in New Hampshire (including Doe Farm) May through November 2020. Our 2021 permit is currently under review (we anticipate approval) and the Little River Conservation Area was included as a potential site.

Invasive Species Act Variance Request Form For Scientific/Educational Research

Return this form to: Invasive Species Coordinator, NH Department of Agriculture, Markets and Food, Plant Industry Division, Lab D, 29 Hazen Drive, Concord, NH 03301

All requirements of this form must be completed by the applicant. The information that you provide must be legible. Please type or print (clearly) in black ink.

Scientific Name: *Agrilus planipennis* Common Name: Emerald Ash Borer

Applicant Information

Name: Dr. Jeff Garnas Affiliation: Assistant Professor, University of New Hampshire
 Phone Number: (603) 862-2094 Fax Number: (603) 862-4976
 Mailing Address: 56 College Rd./ 162 James Hall Town/City: Durham
 State: New Hampshire Zip Code: 03824
 Email Address: jeff.garnas@unh.edu

Purpose/Need for Variance

Project Description (additional pages can be submitted if needed): See "Project Description and Purpose" in attached pages.

Purpose of Project: To understand constitutive and induced defenses in white and green ash to Emerald ash borer and their impacts on parasitoids

Start and End Dates: May 1, 2020 through November 30, 2020

Project Location: Table 1, attached Town/City: Please see Table 1 Zip Code: Please see Table 1

What measures will be taken to ensure that the invasive species being applied for in this variance will not escape, spread or negatively affect the surrounding natural environment, agricultural or forest crops, and/or human health? Please see "EAB Risk Abatement Strategy" in the attached pages.

Once the project has ended, how will the species be disposed of (please describe in detail)? _____
Please see "EAB Risk Abatement Strategy" in the attached pages.

Additional Materials Required


- USGS Topographical Map with Site clearly shown see Appendix A
- Photographs before project begins and after project ends } forthcoming
- A description of the results/findings of the research work }

Applicant's Signature:  Date: April 1, 2020

For Department of Agriculture's Use Only

Does the applicant meet the requirements for a variance? Yes: X No: _____

Notes: _____

Approved:  Digitally signed by Peter Siegert
DN: cn=Peter Siegert, o=NH
email=peter.siegert@agr.nh.gov, c=US
Date: 2020.04.06 10:22:10 -0400 Date: 6 April 2020
 Denied: _____ Date: _____

Project title: Integrated understanding of American ash resistance to the emerald ash borer across tree sizes, and impacts on biocontrol

Project timeline, funding source, and locations of previous work within NH

Our proposed research is the third year of an ongoing project studying the impacts of ontogeny (characteristics associated with age/size of trees) of green and white ash trees on the survival and development of the emerald ash borer (EAB), as well as parasitism of larval EAB by two species of non-native specialist parasitic wasps that have been introduced biological control agents (*Spathius galinae*, *Tetrastichus planipennis*) throughout the United States and in New Hampshire.

Our work is funded by the USDA Farm Bill. Below I have listed each location we have worked at and when, including a relevant contact (if needed):

2019

Lyndsay Flanders Conservation Area (Town of Deerfield; John Harrington; Deerfield, NH)
Strafford Town Forest (Town of Strafford; Scott Young; Strafford, NH)
Tuttle Swamp (NH Fish and Game; Jim Oehler; Durham, NH)

2020

Doe Farm (Town of Durham; Ellen Snyder; Durham, NH)
East Foss Farm (UNH; Steve Eisenhaure; Durham, NH)
Farmington Conservation Area - French Site (Town of Farmington; Laura Bogardus; Farmington, NH)
Jennings Forest (SPNHF; Steve Junkin; Middleton, NH)

2021

Powder Major's Forest SPNHF; Steve Junkin; Durham/Lee/Madbury, NH)
Lee Town Forest (Town of Lee; Anne Tappan)
Proposed – Little River Conservation Area
Tuttle Swamp (NH Fish and Game; Jim Oehler; Durham, NH)

Selection of trees for study

All trees in our study need to be apparently healthy (no visible signs of tree stress or EAB-infestation) at the beginning of our experiment. We need 32 trees that fall within the diameter at breast height (DBH) range of 2.36-3.54 in, and 32 trees that fall within a DBH range of 4.72-5.90 in, for a total of 64 experimental trees. We usually select 4 additional trees that are artificially infested with EAB to monitor development of the beetle throughout the summer. Trees that are used in our study are flagged with fluorescent flagging, marked with a metal tree tag, and have their GPS point collected. In the past (at Doe Farm) we have also been happy to include signs on trees that inform the public about the experiment. At the conclusion of our experiment, we remove all flagging and tree tags from trees left standing.

Treatments applied to trees and approximate timeline of deployment

As part of the design of our experiment, we artificially infest trees by placing eggs of EAB on them (32 of the 64 trees). Artificial infestation of trees allows us to study the impacts of tree size and age on a known number of EAB allowing comparisons to be made amongst trees of different sizes or species (we are also studying green ash elsewhere). All ash to be used in our study at the Town of Lee forest study area are white ash. We receive eggs of EAB by permit from the US Dept. of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Emerald Ash Borer (USDA-APHIS PPQ EAB) rearing facility in Brighton, MI. These eggs will only survive if they are placed directly on ash trees, and therefore there is a near non-existent chance of eggs hatching and ending up in places other than where we put them. In addition to our permit from the USDA, we also have to apply for and receive a Variance Permit from the State of New Hampshire from the state entomologist, Pierra Siegert, who must first review and approve our proposed work prior to the beginning of experiments (we have received approval for multiple projects in 2019 and 2020 and anticipate receiving approval for 2021). We place eggs on trees in June, which is approximately when EAB naturally lays eggs on trees in the field.

Our second treatment that will be applied to trees is the plant hormone methyl jasmonate. The production of this hormone is increased when plants are attacked by herbivores. When plants produce/detect this hormone it causes them to invest more resources in defense. This summer we are studying if applying methyl jasmonate to plants decreases the survival of EAB, and if the time at which methyl jasmonate is applied is important for decreasing the survival of EAB. This chemical is non-toxic to humans and is applied to the outer bark of trees with q-tips. Methyl jasmonate will be applied to trees in the month of June.

Modifications to be made to experimental trees

All trees in our study receive a small hole that is punched through the bark and allows removal of the phloem tissue of the tree. These holes are the size of a dime to a quarter. We take a total of eight punches per tree, four at the beginning of our experiment in late-May/early-June, prior to the implementation of the treatments described above, and four after the application of treatments in late-July/early-August. The phloem tissue is where EAB spends its larval stage feeding and is where the tree produces defensive chemicals against the beetle. Taking these two samples allows us to understand the baseline level of defenses in each tree prior to implementation of our treatments, as well as after the application of treatments wherein changes in the chemistry on the tree will have taken place.

At the conclusion of our experiment in the fall, every experimental tree that was artificially infested with eggs of EAB (32 trees), along with 4 sentinel trees and 8 control trees (total of 44 trees) will be cut down per our Variance Agreement with the State of New Hampshire. Each tree that is cut down will have a large section of bark around the infestation area scraped off, exposing larval emerald ash borer and any biological control agents that attacked the beetle. We also scrape sections of trees that are cut under the crown of the tree. This is the first area where

EAB naturally attack and allows us to determine the natural levels of EAB within the area. All EAB and biological control agents are removed from the trees and killed. We take photos of the tunnels dug by EAB for analysis and we later confirm the developmental stages and weight of EAB in the lab, as well as confirm biological control agent identities. All debarking of logs takes place on site and all tree material is left in the woods or can be dealt with as the Town of Lee wishes.

Biological control releases

Another component of our project is releasing two species of host-specific parasitic wasps that are biological control agents against the emerald ash borer (https://www.nrs.fs.fed.us/disturbance/invasive_species/eab/control_management/biological_control/). These wasps have been released against EAB throughout the United States since 2006/2007 and have been released in New Hampshire as well. We are studying the impact of tree size and species on the ability of these wasps to attack and kill the emerald ash borer. We will conduct three releases of these wasps at the end of August and in early-September. These wasps are very small, one fits on your pinky finger nail and the other is the size of a grain of rice. They cannot sting humans and are very rarely observed by humans.

Analysis of phloem samples

After our phloem samples are collected, they will be analyzed in the laboratory on analytical equipment to determine the identity of each defensive chemical present and their respective amounts.

All employees of UNH that work on this project in the field are covered by insurance provided by UNH.

Thank you for your consideration of our project.

Todd D. Johnson, Ph.D., Postdoctoral Research Associate
Department of Natural Resources and the Environment
University of New Hampshire

Jeff R. Garnas, Associate Professor of Forest Ecosystem Health
Department of Natural Resources and the Environment
University of New Hampshire

Additional information for Town of Exeter Conservation Commission

In this document I have attached additional information about our proposed project in the Little River Conservation Area. Please do not hesitate to reach out to me (todd.johnson@unh.edu) if you have questions/concerns, or would like further clarification regarding the specifics of our project.

Additional Information about Tree Felling: Page 2

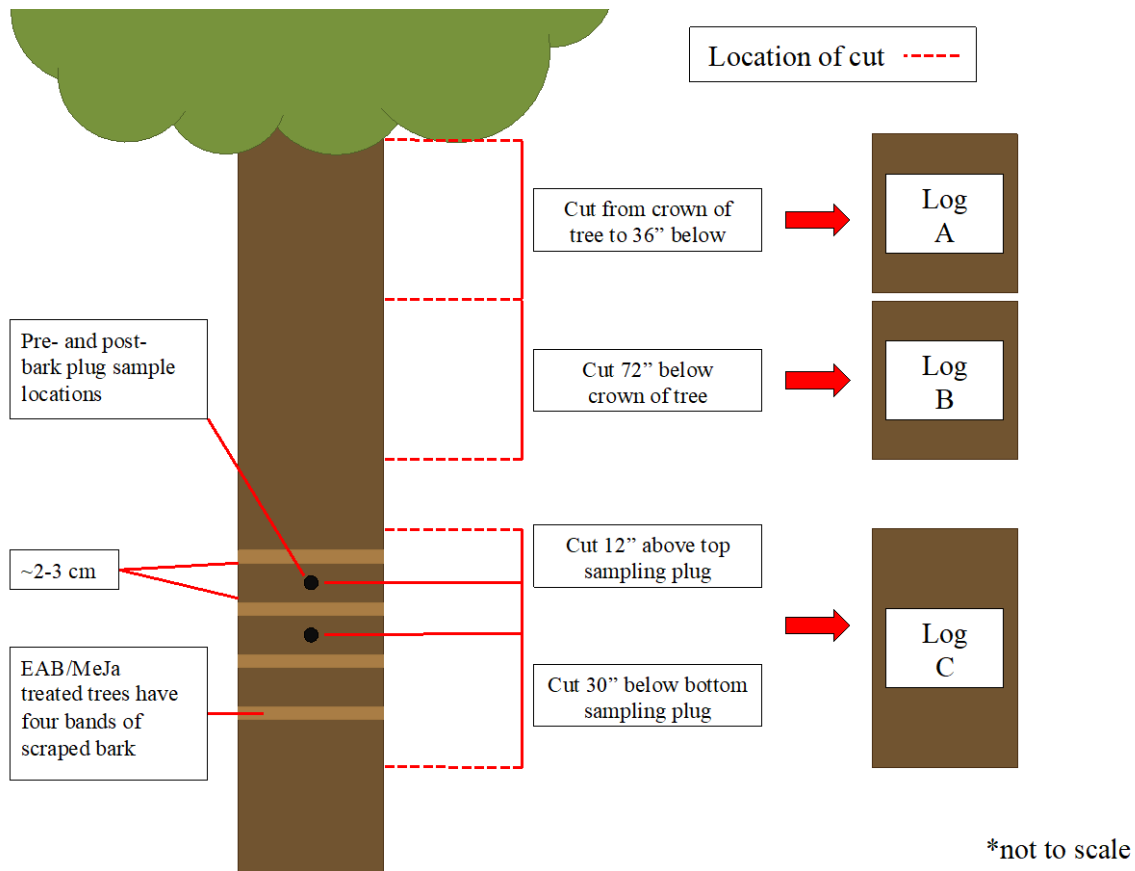
Answers to Common Questions about our project: Pages 3-7

Updates published in 2020 Doe Farm Newsletter: Pages 8-15

*Report to the NH State Entomologist Demonstrating Compliance with 2020 Variance Permit:
Pages 16-31*

Additional Information about Tree Felling

All trees will be felled by field crews of at least 2 individuals with a chainsaw. Individuals performing the cutting have all received chainsaw training and are insured by the University of New Hampshire. After trees have been felled, three sections (A-C) of the tree (see Figure below) are removed for further study. The bottom section (C) is where the emerald ash borer will be experimentally introduced, and the top sections (A,B) allow an assessment of natural colonization by the emerald ash borer.



After the three sections have been removed from each tree, we move these logs by hand or by hand cart to a central location where they will be peeled. The central location is usually a spot that is equidistant from most of the trees, off the trail, and on flat ground. We construct a temporary shelter with a tarp and peel logs in this location until we complete this task (usually 2-5 days). At the conclusion of peeling we leave logs in the field and can move or dispose of tree material as the property owner wishes.

Answers to Common Questions about our project

- **If the emerald ash borer has been in the United States for 30 years, why does this work need to be conducted and why do trees need to be cut down?**

Early and rapid detection of invasive species is often difficult

While scientists believe that the emerald ash borer has been in the United States for approximately 30 years, the beetle itself was not detected and identified by researchers until the early 2000s. This is because newly introduced, invasive species often require time to build up their populations to levels that can be observed by scientists or the general public. There may be a time lag between when an invasive insect is introduced and when it is actually detected for multiple reasons: 1) Insects are small and many invasive species often have native counterparts that can look nearly identical to non-experts, 2) Damage caused by invasive insects may take years to become obvious, or damage may appear to be caused by other potential stressors such as drought. The way we know emerald ash borer has been in North America since the 1990s was because of dendrochronological work (tree rings) that pinpointed the time of introduction for the emerald ash borer.

Many open questions remain about the management of the emerald ash borer

Even though the emerald ash borer has been studied intensively since its detection in North America, the process of science takes many years and even at the conclusion of experiments, we may still be left with more questions than answers. With respect to the emerald ash borer, it was first introduced into the United States in Michigan, and has since spread throughout the Midwest and the east coast. The emerald ash borer was first detected in NH in 2013 near Concord and has begun to slowly move across the state. It was first detected in Exeter in 2019. While we do know a lot of things about the emerald ash borer, some of the ash trees it attacks, and its introduced biological control agents, there are still many open questions.

For instance, some ash trees which have been termed *lingering ash* seem to have the ability to resist attack, or are avoided altogether by the beetle. We know very little about how or why this is happening. Other trees that are attacked seemingly vary in their ability to defend themselves against the beetle (some die quickly, while others survive for longer periods of time). We have a moderate understanding of how different species of trees vary in their ability to defend against the beetle, but our experiment is exploring two open questions about how trees protect themselves against the emerald ash borer:

- 1) Within a species of tree (i.e., white ash), how much do individuals vary in their ability to defend themselves against the emerald ash borer? We are specifically looking at many white and green ash to understand this phenomenon across different sites and years.
- 2) How well do trees of different sizes defend themselves against the emerald ash borer? This second question (maybe surprisingly) has not been explored whatsoever with the emerald ash borer. Theoretical work and preliminary data from colleagues suggests that smaller trees may be able to defend themselves better against the emerald ash borer vs. larger trees. Whether this is actually the case or not for ash, this is particularly relevant as many of the larger ash die,

understanding how susceptible or not smaller ash may be to the emerald ash borer is key to protecting these trees from extinction.

Studying the impacts of emerald ash borer in New England is necessary

So why are we doing this work here in New Hampshire opposed to elsewhere? In the Midwest where the beetle was first detected and studied, nearly all of the ash are dead. While this may seem to be an exaggeration at first, but the beetle has killed millions of trees and will continue to do so unless we develop a better understanding and an integrated ability to manage the pest. So, many of the places where the emerald ash borer has been for decades are not suitable for the type of research we are conducting because the trees are either dead, very unhealthy, or in small numbers which makes conducting robust scientific studies not possible. Even if we could conduct our work in the Midwest, the Midwest and Northeast are fundamentally different regions of the country that experience different climates as well as have different ecologies (different species of plants, animals, etc.). These types of regional differences often affect the organisms that live there, and thus understanding regional context will improve our ability to make management decisions that are specific our community.

Using apparently healthy trees is key to our experiment and understanding differences between trees attacked and not attacked by the emerald ash borer

Our need for apparently healthy trees in our study has to do with tree stress and tree defense. When trees are healthy their internal chemistry is different from that of trees that are stressed, dying, or dead. Performing our experiment as we have proposed allows a careful partitioning and understanding of how the chemistry varies between healthy and artificially attacked trees.

Outcomes from our work will assist in the selection of varieties of ash that are more resistant to the emerald ash borer

These findings can be used to help select for trees that may be more resistant to the emerald ash borer. Additionally, much of the work that has been done on ash tree resistance to emerald ash borer has been conducted with very small ash in green houses. Our experiment seeks to understand how natural variability in the environment contributes to tree defense against the emerald ash borer, something which has not been done by anyone yet. Our preliminary findings indicate that potentially location or year has a strong effect on a tree's ability to defend itself, a result that has not been shown for emerald ash borer previously.

- **Why aren't we attempting to manage emerald ash borer? What is the purpose of introducing the beetle for our research?**

There are limited options for the management of the emerald ash borer and our proposed research performs two of them

Unfortunately, our current understanding of emerald ash borer has limited us to the following management techniques for the beetle:

- 1) Cut trees down and remove the ability for the beetle to reproduce
- 2) Inject pesticides into every ash tree every 2-4 years to provide protection against the beetle
- 3) Release biological control agents.

In the situation where none of the above (1-3) are done, ash trees in the Little River Conservation Area will die. This is readily apparent in the Concord region where there are many dead ash, as well as about an hour North of Exeter, especially around Alton, New Durham, Gilmanton, etc. With 2-3 years of infestation by the emerald ash borer, nearly every ash has its bark stripped through a process known as "blonding" or "flecking". This is the result of woodpecker damage when birds detect trees that are heavily infested by insects. Unless it's a very rare occasion/tree, all of these trees will die.

The Town of Exeter has the option to manually inject ash that they want to protect, but this is usually limited to trees in urban environments (e.g., on streets, on public/private properties). Injection of trees is a labor-intensive process that costs hundreds of dollars per tree, per application. Further, the injection of pesticides into trees may also have non-target effects, wherein the pesticides used to control the emerald ash borer may affect other organisms that live in, on, or around that tree that have been injected.

Our proposed research is an attempt to learn about the emerald ash borer and its management before all the ash trees in the Little River Conservation Area die. While not obvious, during our scouting of the Little River Conservation Area, we observed multiple trees showing early symptoms of infestation by emerald ash borer. One of the benefits of our research is that any ash trees that are adjacent to trails or areas traversed by the public will likely need to be removed in the future to prevent dead trees from falling and causing personal injury, loss of life, or property damage. Us removing these trees removes this hazard (and is free). Further, in our proposed research we are actually performing one of the best and suggested approaches for the long-term control of the emerald ash borer, releasing specialized biological control agents. The biological control wasps we are releasing have been shown to slow the growth of populations of the emerald ash borer, but protection will likely not be achieved until emerald ash borer populations are lower and at manageable levels for the wasps to attack. Currently, the populations of emerald ash borer in New Hampshire are growing rapidly, and the earlier we introduce biological control agents, the quicker these wasps (very tiny, not harmful to humans) will be able to establish and begin to kill populations of the emerald ash borer. We hope that this long-term solution will be able to protect younger ash in the future.

- **Shouldn't we be trying to protect the trees rather than cutting them down?**

Unfortunately the ash trees at Little River Conservation Area will die regardless of whether we carry out our proposed work or not. We view this work as an opportunity to learn more about the management of the emerald ash borer before this work is impossible to conduct in our region.

The Little River Conservation area has many ash trees in it that are not a part of our proposed work. Regardless of whether we perform our proposed work at the Little River Conservation Area, these trees will ultimately die to the beetle, which is already in the Town of Exeter and on public property. The only way to protect these trees would be to inject each with pesticides which is usually not feasible for trees outside of urban settings, and would be very costly.

After cutting trees and removing the emerald ash borer that we find, we leave the wood in the forest. This allows the wood to naturally decompose and still provide habitat for other organisms that live there.

- **Could this research be conducted in a more controlled environment? Could the emerald ash borer be accidentally released into the forest? Why work at the Little River Conservation Area?**

Research conducted in greenhouse settings is often on young plants, many of which are impossible to acquire now due to restrictions.

Our research questions are not amenable to work in a controlled environment such as a greenhouse. Much of the work that could be done in greenhouses has already been completed by other scientists. Regardless, it is very difficult to find suppliers of ash seeds or seedlings to conduct research studies with. Since the emerald ash borer became a federally quarantined pest, it has not been legal to ship ash plant material in many places, and growers have encountered difficulties growing ash. Many suppliers have stopped selling ash altogether.

There is a very low chance of accidentally introducing emerald ash borer into the field

In our experiment there is a very low, nearly non-existent chance of beetles escaping and infesting the town:

1) The Town of Exeter already has emerald ash borer present on public property and I have inspected and confirmed this with another expert on the emerald ash borer

2) We are working within a window of time that is impossible for the beetle to complete a full generation (requires 1 year of development) and "escape". We place the eggs of the emerald ash borer directly onto trees (they cannot survive elsewhere) and let them artificially infest the tree. If left untouched, these beetles would emerge the following spring in late May or early June. In our experiment we do not allow this to happen and cut all artificially infested trees down in October. The emerald ash borer at this point are in their larval stage inside the tree. This stage of development does not have wings or legs. In the case of a larva being dropped on the ground and left in the Little River Conservation Area, it would die as these insects cannot survive outside their host trees as immatures.

The Little River Conservation Area already has a low-density population of emerald ash borer, and many ash that have not yet been attacked.

To maintain safety in our experiment, we have conducted our research each year at field sites where the emerald ash borer has already naturally occurred, preventing accidental introduction of the beetle into new locations. While locally abundant, white ash is an uncommon tree across New Hampshire. With populations of emerald ash borer moving rapidly across the state, finding natural areas with enough healthy trees to conduct our research has been extremely difficult. Lastly, the Little River Conservation Area is a perfect site for us as it is near sites that will be used in the Summer of 2021 (Powder Major's Forest [Madbury/Durham/Lee], Town of Lee Forest [Lee], Tuttle Swamp [New Market]).

- **Have the biological control agents we are proposing to introduce been released/studied elsewhere?**

Biological control agents of the emerald ash borer have been released throughout the United States but we are still learning the best conditions to release them under

Yes, the biological control agents have been released in at least twenty states by now, including by myself in both Wisconsin (2010-2013) and New Hampshire (2019-2020). There is evidence that these wasps do slow down the growth of emerald ash borer populations, but they are not a silver bullet, especially when populations of emerald ash borer are large. They are seen as a long-term solution for the emerald ash borer, to be used in combination with other tools such as pesticide injection and selective tree felling, as appropriate.

The two species of wasps we are releasing are *Spathius galinae* (Family Braconidae) and *Tetrastichus planipennis* (Family Eulophidae) are parasitic wasps. These two species of wasps are highly host-specific and do not attack anything but the emerald ash borer in its larval form. If there are nearby ash trees that are infested with the emerald ash borer and not a part of our experiment, it is possible that these wasps could also attack them.

You can find more information about these biological control agents here: https://www.nrs.fs.fed.us/disturbance/invasive_species/eab/control_management/biological_control/

Updates published in 2020 Doe Farm Newsletter

During our summer 2020 field season we conducted part of our project at the Doe Farm property in the Town of Durham. Throughout the summer I wrote non-technical explanations of each part of our project. While our proposed project for the summer of 2021 is slightly different, the explanations remain largely the same. I have copied those updates here.

UPDATE ON ONGOING EMERALD ASH BORER RESEARCH AT DOE FARM

Provided by Todd Johnson, Postdoctoral Research Associate, Dept. of Natural Resources and the Environment, UNH

June 24, 2020

At the beginning of June, we initiated our research project (see Todd's presentation to the Land Stewardship Subcommittee [here](#)) on the invasive beetle known as the emerald ash borer at Doe Farm. Our project is part of a larger study across multiple field sites evaluating how as green and white ash get older (and bigger), they may differ in their ability to defend themselves against the beetle. We are also studying how tree age and size may influence how likely the emerald ash borer is to be parasitized by specialized parasitoid wasps that have been released as part of management programs against the beetle throughout the United States (learn more about emerald ash borer management in NH here: <https://nhbugs.org/detection-control-and-protection-methods>).

Shortly after we identified, flagged, and took GPS points of all of the trees we will be studying at Doe Farm, we began the first part of our project. This involves creating a dime-sized hole in our ash so that we can remove a portion of the phloem tissue that exists directly underneath the bark of trees. The phloem tissue is where the immature emerald ash borer spends most of its 1-2 years of feeding before chewing its way out of the tree as an adult beetle. Because the beetle feeds within the phloem of trees, we are most interested in the defensive chemicals that exist within this tissue.

How plants defend themselves against herbivores such as insects can be broken down into two categories. The first category is referred to as 'constitutive' defenses, which are those that are always present. A familiar example may be the thorns on a rosebush that serve to deter feeding at all times. There are also chemical defenses that are always present, although we may not be able to see and detect them as easily. By sampling the phloem tissue at the beginning of our study, we are able to determine the amounts and identities of defensive chemicals in ash prior to being attacked by an herbivore. If some trees have specific chemicals present, or large amounts of others, it may explain why those trees are able to resist the beetle more than others.

The second category of defenses in plants is referred to as "induced". These are physical or chemical changes that occur within a plant after it has been damaged by some event, such as an herbivore beginning to feed on it. To return to the example of thorns, some plants after damage may produce *more* thorns in response to ongoing, and to protect against future herbivory. Chemical defenses function in the same way, the amounts of some compounds may increase or decrease, as well as new compounds may be produced to protect the plant. A strong or rapid response by some trees may also explain their ability to resist the emerald ash borer.

One week after we completed the removal of phloem tissue from all of our study trees, we returned to Doe Farm to impose the first of our experimental treatments to the same trees. We have three treatments that allow us to study the responses of trees to the emerald ash borer. One of these treatments is a

control. In the control treatment we do nothing but sample the chemistry of our trees at the beginning and end of our experiment. In our first experimental treatment, we artificially infest the trees with emerald ash borer by placing its eggs onto their bark. This treatment allows us to understand how feeding by the emerald ash borer causes changes in the defensive chemicals present in the phloem of our study trees. As part of this treatment, we protect the eggs that we have placed on trees from rain and predation with cotton, gauze, and Tyvek house wrap. We also place Tyvek house wrap on some of our other trees in the event that this may influence the production of defensive chemicals in our trees. In approximately two weeks, these eggs will hatch and the immature emerald ash borer will begin feeding. It is at this time we will impose our second experimental treatment that simulates insect attack to the trees. Stay tuned for future updates where I will explain the purpose of this treatment.

A SECOND UPDATE REGARDING ONGOING EMERALD ASH BORER RESEARCH AT DOE FARM

In our last update (if you haven't read it yet, please see:

https://www.ci.durham.nh.us/sites/default/files/fileattachments/conservation_commission/page/19571/update-1_24june2020.pdf), we described the initial phases of our ongoing study at Doe Farm investigating the role of tree size and age on the suitability of green ash to the emerald ash borer and two species of parasitic wasps released to slow down the growth of populations of the pest. This update included an explanation of our first experimental treatment, wherein we placed eggs of emerald ash borer on some ash trees in our study at Doe Farm. Allowing emerald ash borer to colonize some trees in our study facilitates our understanding of how attack by an herbivore that feeds within the phloem of ash may change the composition of defensive chemicals that influence the success of immature emerald ash borer, referred to as larvae. After hatching from their eggs, young larvae are often highly susceptible to tree defenses. It is at this point that many larvae may be outright killed by the presence of certain defensive chemicals. Comparing the defensive chemicals present in artificially infested trees against control trees (*i.e.*, those that have nothing done to them other than sampling their phloem) will allow us to identify changes in the amounts of specific chemicals, or the presence or absence of other chemicals which may be responsible for killing the larvae of emerald ash borer.

Since the previous update on our research progress at Doe Farm, we applied the second treatment to ash trees in our study, the plant hormone methyl jasmonate. We timed this treatment to occur approximately two weeks later, coinciding with initiation of feeding by young larvae of emerald ash borer. Methyl jasmonate is a chemical produced by most, if not all plants after they are attacked by herbivores that chew on parts of the plant (as opposed to herbivores such as aphids or some stink bugs that insert their mouthparts into plant tissues and feed by sucking plant nutrients into their bodies). Numerous studies (including those on ash trees) have shown that application of methyl jasmonate to plants simulates attack by an herbivore, leading to the production of additional defensive chemicals. Thus our second treatment is what is known as a "positive control". The use of a positive control in our experiment will allow us to compare: 1) the composition of defensive chemicals in trees that we know have received the signal (methyl jasmonate) that they are under attack, 2) our emerald ash borer treatment, which should have a similar composition of defensive chemicals to our positive control, and 3) our control trees, which should have a composition of defensive chemicals similar to trees that have not been attacked by an herbivore. After the completion of our methyl jasmonate treatment, all eggs that were previously placed on trees were removed. These eggs will be examined at a later date to determine the number of eggs that hatched, allowing a more accurate measurement of mortality caused by tree defenses to the emerald ash borer. The Tyvek wrap that was placed on trees to protect the eggs (or control for the effect of Tyvek on trees) was also removed to limit its potential impacts on our study trees.

More recently, in the last week of July, we collected our set of post-treatment phloem samples from all of our experimental trees. At this point in time, ash trees in our experiment should have modified their composition of defensive chemicals in response to authentic (emerald ash borer egg treatment) or simulated (methyl jasmonate treatment) attack. Collecting these two sets of samples allows us to compare the composition of defensive chemicals from all trees at

both their constitutive, non-induced levels (*i.e.*, the pre-treatment samples we collected from all trees in June, prior to application of treatments), as well as those in their induced state (post-treatment samples). Ultimately, these data should answer the question of how tree size and age affects the composition of defensive chemicals within ash trees, and how trees of different sizes or ages may be better or worse at defending themselves from emerald ash borer.

While we have completed the chemical defense part of our research, we still have additional, ongoing components of our study. In the beginning of September we will return to Doe Farm to release two species of parasitic wasps that are specialists on the emerald ash borer. This will begin the second part of our study, which evaluates the impacts of the size and age of our experimental trees on larvae of the emerald ash borer that can tolerate plant defenses. Our next update will explain this in detail.

ANOTHER UPDATE REGARDING ONGOING EMERALD ASH BORER RESEARCH AT DOE FARM

Welcome to another update regarding our ongoing research project studying the emerald ash borer and the ash trees it attacks at Doe Farm. If you have missed any of our previous updates, you can find our initial project outline [here](#), and our last two updates from [June](#) and [July](#) on the Doe Farm website.

We recently completed our sampling of the chemical defenses produced by ash trees at Doe Farm (detailed in our July update). Now we have begun the second phase of our study, which investigates the impacts of ash trees on the larvae of emerald ash borer that survive the presence of defensive toxins. While the larvae of emerald ash borer may be able to tolerate and survive the presence of some toxins within ash trees, it doesn't mean that these toxins don't affect them. There have been numerous studies on organisms (especially the impacts of pesticides on insect pollinators) that experience what are known as 'sublethal effects'. These phenomena include but are not limited to, changes in the physiology and behavior of organisms after exposure to toxins. We are particularly interested in how larvae of the emerald ash borer may develop at different rates (e.g., they develop more rapidly or more slowly) or alter their feeding behavior when in trees of different sizes, and how these changes may alter their suitability to introduced biological control agents. This is also the subject of other ongoing studies in our laboratory that focus specifically on impacts of pesticides on larvae and adults of emerald ash borer. Changes that we observe in the development and behavior of our larvae may also be attributed to variable amounts of essential nutrients present in trees of different sizes or ages, and this may be another important angle to study in the future.

In the last week of August we began releases of *Spathius galinae* and *Tetrastichus planipennis*, two species of parasitic wasps (also known as parasitoids) that are native to Asia and have evolved over many years of evolutionary time with their host, the emerald ash borer. Unlike organisms that are predators, parasitoids complete their development on or inside a host organism, usually resulting in the death of the host. This unique lifestyle often leads to parasitoids being highly specialized to locate and develop on the specific physiology of their hosts, making them good candidates for biological control, especially in places like forests where humans cannot easily locate and control pests.

Research has shown that parasitoids are highly adapted to locate and attack the emerald ash borer. First, parasitoids locate where the emerald ash borer is feeding by flying towards odors produced by the foliage of ash trees. After landing on a tree, it is believed that these wasps then use vibrations created by feeding of their host to locate the emerald ash borer. Vibrations produced by insects feeding in trees are produced at very specific frequencies and occur at specific intervals, allowing parasitoids to assess the identity and size of their target without actually seeing them. These wasps may also be attracted to odors from the waste produced by the larvae (called frass) of emerald ash borer as they feed. After locating a potential host, parasitoids conduct an assessment of the quality of that larva before laying their eggs on or inside of it.

On a larger larva of emerald ash borer, a parasitoid may lay more eggs, as there will be more nutrients for their young. When evaluating a smaller larva of the emerald ash borer, a

parasitoid may lay fewer eggs. These decisions ultimately affect the rate of growth of populations of biological control agents, which then influences how effective wasps may be at reducing the population of emerald ash borer within a region. Thus, releases of parasitoids may be more or less effective in some forests, depending on the size and ages of the ash trees there and how potent their defensive chemistry is to emerald ash borer. We will be conducting a total of three releases of parasitoids at Doe Farm to increase the chances that parasitoids will survive and parasitize emerald ash borer in our study. An added benefit of these releases is that parasitoids may also attack emerald ash borer that naturally occur at Doe Farm. This will allow populations of beneficial parasitoids to build and slow the growth of populations of the beetle in the area.

Biological control has been one of the preferred tools for the management of emerald ash borer in North America since its discovery in Michigan in 2002. Because the invasive beetle can attack and kill any ash trees it encounters, it is particularly difficult to manage. When trees planted along streets or are growing in parks become stressed or damaged, arborists can treat these trees with pesticides or fungicides to remove insect or fungal stressors, water plants that are experiencing drought, fertilize plants when needed, and remove trees before they die and become hazards to people or property. This type of management is nearly impossible to do when trees are growing in natural or managed forests such as at Doe Farm and many other locations throughout New Hampshire. Thus, introducing parasitoids that have adapted to locate and develop on the emerald ash borer allows management to occur in many locations where it would be very challenging to do otherwise.

When parasitoids are introduced for biological control from outside of regions where they are native, it is called classical biological control. Ideally, classical biological control allows natural enemies (*i.e.*, the organisms that feed on or develop on another organism) to become re-associated with their prey or hosts, leading to a reduction in the population of this target pest. Before non-native organisms are released in the United States, they undergo rigorous and careful host-specificity tests that confirm that they will not attack non-target organisms. In the case of the emerald ash borer, each of its [introduced biological control agents](#) were [tested against numerous species of insects](#) that could potentially co-occur in ash, occur in forests where ash grows, or are closely related to the emerald ash borer. Studies that evaluate the host-range or breadth of organisms that biological control agents can feed or develop on are conducted for each species that may be released, and releases are not conducted of these organisms unless they have been determined to not cause ecological harm.

After we complete the releases of our parasitoids we move into our final (and arguably the biggest part) phase of our project. In mid-October we will return to Doe Farm to cut down all of the ash trees we artificially infested with emerald ash borer. We will then take these trees and carefully scrape their bark. This will allow us to evaluate the survival, development, and behavior of emerald ash borer larvae in our trees, as well as evaluate of the impact of our parasitoid releases. Stay tuned for that update in October.

WHAT GOES UP MUST COME DOWN—THE COMPLETION OF FIELD RESEARCH ON EMERALD ASH BORER AT DOE FARM

Welcome to the final update on the field portion of our ongoing research project studying the emerald ash borer and the ash trees it attacks at Doe Farm. If you have missed any of our previous updates, you can find our initial project outline [here](#), and our previous three updates from [June](#), [July](#), and [September](#) on the Doe Farm website.

In our last update, we described the process of releasing biological control agents against the emerald ash borer at Doe Farm. This included an explanation of the complex interactions that may occur between ash trees with potentially different capacities to defend themselves against the emerald ash borer, and how this may ultimately affect the behavior and success of the two species of parasitic wasps released to control this beetle. We completed the last of three releases of these wasps approximately one month ago. Since then, our parasitic wasps should have had ample time to investigate and parasitize the larvae of emerald ash borer associated with our project. Starting this weekend (October 16-18th), we begin the momentous task of cutting every tree down that we artificially infested with the emerald ash borer in early June.

Removing these artificially infested trees is integral to our project, as well as our agreement with the State of New Hampshire to conduct our research on an invasive species. With respect to our project, removing these trees allows us to collect data on how tree size and species affects the development of larvae of the emerald ash borer. After cutting each tree down we remove three sections from each tree. The first section is a large area above and below the location where placed eggs of the emerald ash borer on trees in June. We remove this area carefully to confirm that we remove any larvae of the emerald ash borer that are in this section of the tree. Our second and third sections come from what we have deemed the "sentinel region", which lies immediately below the crown or top of the tree. Emerald ash borer and many other species of jewel beetles (the insect family Buprestidae) prefer to attack trees immediately under the crown. Removing these sections allows us to assess how many trees at Doe Farm have been naturally colonized by populations of emerald ash borer already present in the region. To further understand this, we also cut down four additional trees that have been used in our study, but were not artificially infested with the beetle. This allows us to better understand the natural populations of emerald ash borer at Doe Farm, as well as control for any irregularities that may arise when we analyze our chemical samples taken earlier in the year.

After we remove each section from our trees at Doe Farm, we begin the collection of data. This includes measuring the length and diameter of each section of tree, as well as collecting measurements of bark structure (which is known to influence the survival of many species of insects that feed in trees). Once these measurements have been completed, we begin the careful process of peeling the bark off of our logs. Within each log, we remove and count the number of larvae of the emerald ash borer, as well as that of any parasitic wasps that may have parasitized these beetles. Later in the laboratory, we will measure each emerald ash borer larva to determine its developmental stage, as well as confirm the identities of each parasitic wasp that was found. As part of bark removal process, we also uncover and take photographs of the galleries, or tunnels created by each emerald ash borer larva. We then take measurements from the photographs to determine how much of the tree was consumed by larvae of the emerald ash borer. As larvae develop, they consume more phloem tissue in the tree. But, there are other

factors that may influence how much or how little the beetles consume. If trees are well defended (but not enough to outright kill the invading larva), the quality of the phloem that emerald ash borer feed on may be comprised. This may cause the emerald ash borer to become stressed, and have to feed over greater distances to compensate for the poor quality of their food source. It is during this period of time that larvae of the emerald ash borer may become more susceptible to attack by natural enemies such as pathogens, predators, and in our case, parasitic wasps. It is also possible that longer galleries make the beetles more difficult to locate by natural enemies. These hypotheses will be tested once we complete the analysis of our images and measurements of our beetles.

The data collected at Doe Farm will help researchers and land managers better understand the growth of populations of the emerald ash borer in the northeast, as well as the success (or lack thereof) of introduced biological control agents against the beetle. Additionally, understanding how tree size/age influence the defensive capacity of trees will inform management not only of emerald ash borer, but other woodboring pests of trees. As we move forward with the analysis of our data we hope to continue sharing our insights into the emerald ash borer with the community at Doe Farm and the Town of Durham. So, please stay tuned in the future, as we will be back to report on our findings. It has been an absolute pleasure to work at Doe Farm and we have enjoyed all of our interactions with individuals along the trails, as well as with the Town of Durham Conservation Commission and Land Stewardship Committee. Thank you for making this research possible.

Project Title: Patterns and consequences of complex interactions between ash tree size and resistance to Emerald ash borer and effects on parasitoids in the Northeast

Principal Investigators: Dr. Jeff Garnas (University of New Hampshire)
Dr. Juli Gould (USDA-APHIS)

Risk abatement strategy for EAB containment – see Appendix A

Variance Request Justification:

Our field research informs the management of the invasive emerald ash borer (*Agrilus planipennis* Fairmaire; EAB) in New Hampshire, as well as across North America by exploring interactions between tree age and size on the resistance of ash (*Fraxinus* spp.) to the EAB, and suitability for two species of introduced biological control agents (*Spathius galinae* Belokobylskij & Strazanac, *Tetrastichus planipennis* Yang). This project builds on established knowledge providing managers of forests with updated information about susceptibility of ash to EAB, as well as the timing and impact of biological control in regeneration forests. Our controlled experiment requires artificially inoculating trees with the eggs of EAB. This purposeful introduction of EAB is a prohibited activity under New Hampshire's Invasive Species Rules and requires a Variance permit approved by the NH Dept. Agriculture, Markets & Food to ensure that activities do not increase populations of EAB in the state. Our work as performed satisfied the conditions of the permit, as required by Agr 3800, to mitigate the risk of spreading EAB through this work because: 1) all sites were within or adjacent to towns in which populations of EAB are known to occur; 2) landowners provided verbal or written authorization to complete this work on their property, and contact information has been provided to the Dept. Agriculture, Markets & Food; 3) EAB eggs were guarded from accidental release and only released on marked trees at field sites; 4) all work, from introduction of EAB to completion of the project occurred within a timeframe that is inadequate for the completion of the EAB life cycle; 5) bark plus 0.5 cm of surface xylem of all artificially infested trees was removed prior to adult emergence on all observational and sentinel units in the experiment; and 6) all debris in which experimentally introduced EAB was present was fully peeled (including removal of surface xylem to expose embedded pupae. Attached is the most recent report submitted to APHIS on the results of this work with the Dept. Agriculture, Markets & Food as a part of this variance permit.

Project Description and Purpose:

Along the invasion front of EAB, host material (i.e., *Fraxinus* spp.) is abundant and readily available, including many regions that consist of moderate to high densities of large-diameter ash trees. In aftermath forests (i.e., those where most large-diameter trees have been killed), subsequent generations of EAB encounter a variable density of small stems that apparently harbor elevated resistance over larger stems. The long-term fate of ash depends critically on not only top-down control by natural enemies but also bottom up control in the form of tree defenses. Young ash trees are immune to attack until they reach a minimum size that can support larval development. They later age into susceptibility in ways that increase with tree diameter. The mechanisms of “ontogenetic resistance” to EAB – which here refers to differences in ash tree trait expression (physical or chemical, constitutive or induced) that confer age-specific patterns of resistance and/or tolerance to attack are currently unknown. Likewise, how such resistance will interact with biological control (e.g., via reduced

developmental rates and phenological mismatching between EAB and relevant parasitoids, or via toxicity in larval hosts/environments) is also key to understanding long-term population dynamics. We propose to examine ontogenetic resistance across two species of ash (green and white) by directly examining tree vigor, bark and thickness and rugosity as well as selected constitutive and induced defensive chemistry of the phloem in trees of different sizes. Alongside chemical and morphological defensive characterization of phloem, we will assess natural variation in larval densities, survival and development rates, and also use controlled colonization of trees between 3 to 15 cm diameter at breast height (DBH) to examine the degree to which young ash are protected from attack in ways that might facilitate the persistence of ash in the landscape and/or inform management protocols (e.g., for prioritizing parasitoid releases and/or the protection of young ash at a local or landscape scale).

Sites:

Four sites were chosen. Sites were located in or near the Doe Farm, Durham, NH (1), East Foss Farm, Durham, NH (2), Farmington Conservation Area, French Site, Farmington, NH (3), and Jennings' Forest in Middleton, NH (4). Sites were selected primarily on the basis of having low but non-zero EAB infestations and were identified with the help of Bill Davidson at the NH Department of Resources and Economic Development, Division of Forests and Lands. Seventy-two small diameter ash trees (3 – 15cm DBH) will be selected across these four sites as observation units.

Experimental Infestation of Trees:

On 15 – 16 June 2020, selected trees were artificially infested with up to 48 EAB eggs to simulate EAB infestation prior to removal of phloem tissue for chemical analyses. Treatments (EAB inoculation, methyl jasmonate application, and control) were completely randomized. EAB eggs were received from the USDA rearing facility in Brighton, MI and shipped to the Garnas lab at UNH's main campus in Durham. UNH is now within an EAB management zone in New Hampshire. Nevertheless, we have established protocols (employed in 2017 – 2020) to ensure that no augmentation of EAB populations will occur in our experimental field sites, all of which are within areas where EAB is present and the population is actively expanding. In the lab, eggs will be maintained in sealed and escape-proof containers in a fridge set at 4°C. Eggs will be transported to the field in sealed and escape-proof containers within an enclosed vehicle. Any accidental release of eggs will be reported to the NH Division of Plant Industry, 603-271-2561, in addition to the USDA permit office within one business day of the event. Any eggs not used as part of this experiment will be destroyed by sterilization in an autoclave. A log of receipt of EAB eggs, date of deployment in the field, or date of destruction was kept. Additionally, the shipment, maintenance, and release of these EAB eggs were dealt be in accordance with the conditions outlined in USDA Permit Number: P526P-17-01045.

At each site we selected four trees in each of four diameter classes (diameter at breast height, or DBH = 3–6, 6.01–9, 9.01–12, and 12.01–15 cm). Of the 192 total trees in this study (Table 2), one third (n = 64) were randomly selected for each of three treatments: 1) induction of tree defensive metabolic pathways using methyl jasmonate; 2) artificial infestation with EAB; and 3) control (no induction). Within approximately one week from the time that ash trees had reached full leaf expansion (early June), we collected four phloem samples along the bole of the tree at diameter at breast height level, ~2.0 m aboveground, using a 0.5 cm diameter bark punch. The location of each sample (both height and cardinal direction) was selected randomly.

These “early” samples are used to characterize constitutive (standing, “pre-induction”) phloem chemistry profiles. Trees in the “induction with EAB” treatment were infested with between 16–48 EAB eggs standardized by tree diameter, as described in the “Protocol for infesting trees” section below. To coincide with the hatch of EAB eggs and larval tunneling, induction treatments were imposed on treatment trees approximately one week after the “induction with EAB” treatment. Trees in the “induction with methyl jasmonate” treatment had four evenly spaced 10 cm bands around the tree soaked with 500 mmol/L methyl jasmonate in sterile water with 0.1% Tween 20 (to enhance absorption of methyl jasmonate through hydrophobic bark) after Whitehill (2014) and Cipollini (personal communication). Control trees in each of the diameter classes were left untreated. Methyl jasmonate application was repeated three times within a week to ensure adequate induction. During 27–30 July 2020, after EAB larvae have developed for at least one month, a second set of four phloem samples were taken to represent the “induced” condition of the tree, with the controls providing a measure of seasonal change. Table 1 contains a detailed account of factors to be included in the experimental design of this project.

Twenty trees at each site received EAB eggs. Four trees per site served as sentinel trees and were peeled periodically throughout the course of the experiment to assess the larval development of EAB to assist in accurate timing of biocontrol releases. Trees that received EAB eggs were marked and numbered using aluminum tags wired to trees, marked with flagging, and had their GPS point taken for easy relocation. Eggs were placed on the lower 3 m of the tree by taping a free corner of the oviposition substrate (coffee filters) to the bark and then covering with loose cotton and gauze wrapped around the tree. A tent was then be constructed by wrapping a rectangular sheet of Tyvek around a tree conically and caulking it in place to protect the eggs from water damage/mortality.

Introduction of biocontrol:

Following infestation of trees and development of EAB to suitable larval stages (3rd-4th instars) in late August, we conducted multiple targeted releases of *S. galinae* and *T. planipennis* occurring every week for from the 26th of August through the 10th of September, 2020 at each site. Adult *S. galinae* were released as adults, whereas *T. planipennis* were allowed to naturally emerge from infested small diameter bolts at each experimental site (permit #: P526P 15 04 796).

Tree Removal and Data Collection:

All trees artificially infested with EAB were felled, their bark peeled, and EAB removed from them at their respective field sites in October 2020. Three independent counts of artificially infested trees were performed to ensure complete removal of experimentally introduced EAB at each site. A fourth count was performed by Bill Davidson (NH Division of Forests and Lands) by examining photos of tree stumps or accumulated aluminum tags, uniquely numbered across sites. Once trees were cut, all parts of the tree exposed to experimental EAB eggs, including 1 m above any egg release point (to include any larvae that might have tunneled vertically), were separated for peeling and data analysis. Remaining parts of the tree, which were not exposed to experimentally introduced EAB were left on site. Any material experimentally exposed to EAB was fully dissected, including removal of all bark down to the cambium layer followed by the removal of the wood to a depth of 0.5 cm below the cambium. Data quantified includes development of larval EAB and tunneling behavior, dry weights of

collected EAB, rates of parasitism by introduced biological control agents, as well as other tree and insect performance measures.

Data Reporting:

As per the requirements of the variance request, results of this study will be shared with the Division of Plant Industry and other EAB cooperators in the state in a project report by **March 2021**. It is understood that any changes to operating procedure necessitated by on-the-ground conditions will be reported to the Division of Plant Industry within one week.

Project timeline (2020):

Site scouting

- April–May: Obtained site permissions
- Early June: Applied EAB eggs to treatment and sentinel trees
- Early July: Methyl jasmonate application and bark sampling
- Late July: Monitoring of sentinel trees to track larval development. Destruction of waste from monitoring and peeling sentinel trees.
- Late August–early September: Release of *S. galinae* and *T. planipennis* adults at all experimental sites and trees.
- Late October–early November: Removal of all EAB-infested trees from experimental sites followed by dissection and destruction.

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Table 1. Locations and coordinates for the four sites used in the 2019 field study. Permission was granted by the Strafford and Deerfield Conservation Commissions and by NH Fish and Game respectively.

Site #	Site Location	Point of Contact	Contact Information	Ownership	Latitude	Longitude
1	Strafford Town Forest	Liz Evans (Cons. Comm.)	603-664-2192 (x105)	Town	43.281834	-71.148
2	Deerfield Ball field	Nick Lawrence (Dir. Rec. Dept.)	603-663-8811 (x305)	Town	43.131157	-71.176143
3	Deerfield, NH	SELT	603-778-6088	SELT	43.139238	-71.178543
4	Tuttle Swamp Conservation Area	NH Fish and Game	603-271-3421	NHF&G	43.081233	-70.993382

Table 2. Experimental design showing treatments (a), sample and tree replication (b and c).

a)	Factor	Count of levels (k)	Description of treatment/levels
	Site	4	Four sites in near the advancing front of the EAB in NH
	Species	2	Green and white ash
	DBH	2	(3-6, 6.01-9, 9.01-12, 12.01-15 cm)
	Induction Type	2	Control, EAB infestation (16-48 eggs/tree), MeJa (methyl jasmonate bole drench)
	Time (repeated measures variable)	2	Early (pre-treatment) v. Late (post-treatment)
b)	Replicates	Count	Description of treatment/levels
	Tree reps per treatment combination	4	Number of biological replicates per treatment combination
	Samples (per tree)	2	2 samples (1 prior, 1 after EAB egg hatch)
c)	Total trees	Count	Description
	Tree reps per treatment combination	4	2 sites per species × 2 species × 2 DBH classes × 6 induction times × 4 reps = 192 trees
	Total samples	384	192 trees × 2 sampling events
	Total trees to be infested with EAB and later removed	80	One third of total experimental trees + 16 sentinel trees

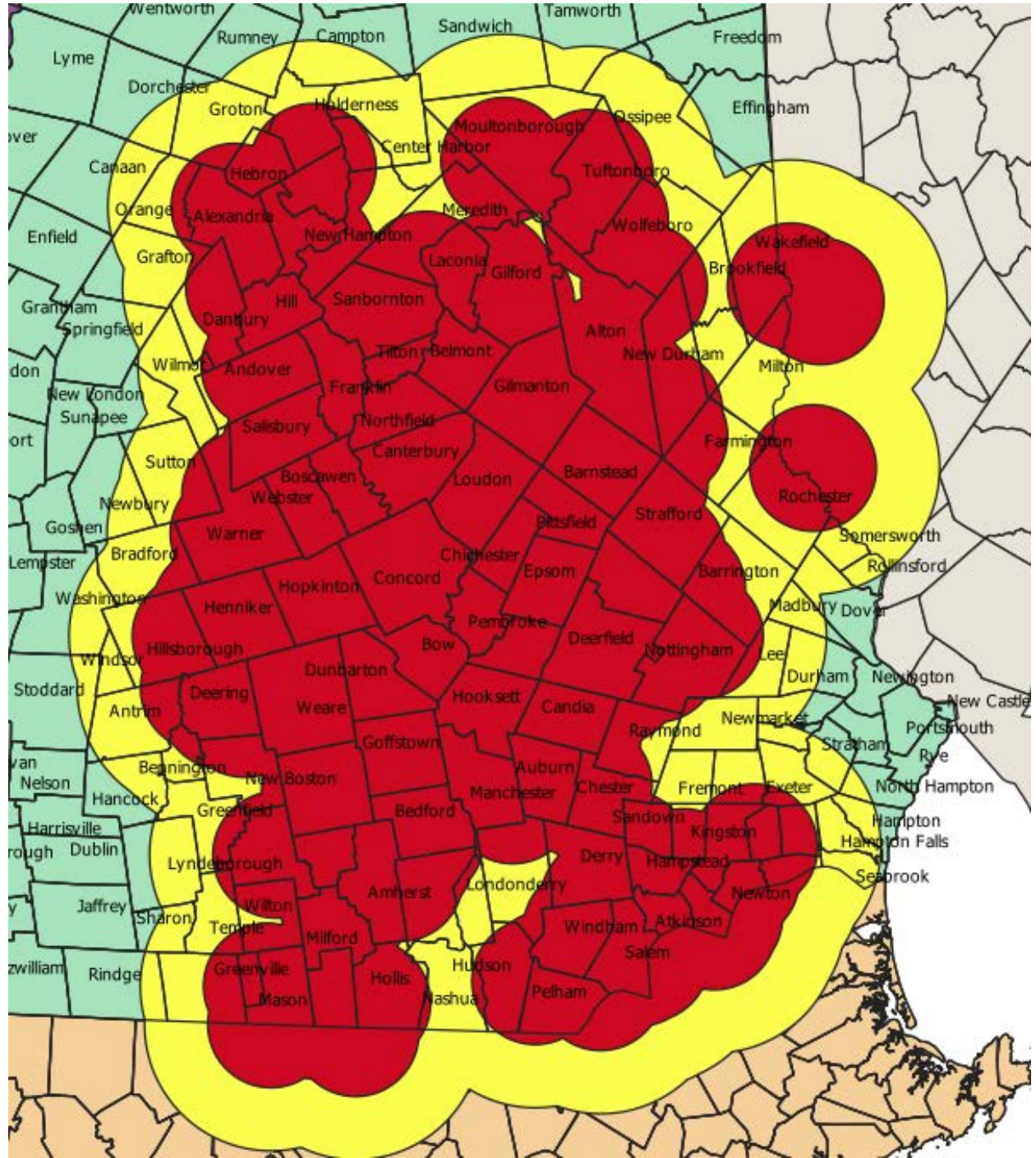
Appendix A. EAB Risk Abatement Strategy for Invasive Insect Variance Request

Timeline and mitigation strategies.

1. All sites used during 2019-20 studies were in places where EAB has already been detected and is within the EAB “Generally Infested Area” (Fig. 1).
2. Emerald ash borer as eggs were received from the rearing facility in Michigan in early June and kept from developing by storing them at 4 °C before placing them on trees.
3. Eggs were placed directly on 64 trees total at four different densities on 15 – 16 June 2020 (two white and two green ash sites total). In addition, we artificially infested 16 “sentinel” trees which were peeled throughout the season so as to monitor larval development. All trees mapped and marked with flagging. All eggs were placed on the bottom 3 meters of the trees.
4. Once EAB larvae have reached the appropriate stage to be parasitized late-August, we released ~25– 50 *S. galinae* adults and bolts with predicted emergence of ~80– 100 adult *T. planipennisi*, at each EAB treatment tree, during each week of release.
5. In October of 2020, long before released EAB would emerge from the tree (June of 2021) we cut and removed all infested trees (Appendix D). We performed four independent counts to ensure that all experimental and sentinel trees were accounted for per site. Trees were transported to a central area and all the bark peeled to ensure accurate counts and zero escapes.
6. All parts of the tree exposed to experimental eggs, including 0.5 m above any egg release point were fully dissected. Dissection entailed the removal of all bark down to the cambium followed by the removal of the surface wood to a depth of 0.5 centimeters below the cambium.

Appendix B. Topographic maps of study sites. All sites are numbered as in Table 1.

Fig. 1. EAB distribution at the beginning of ontogeny project, Summer 2019, in New Hampshire.

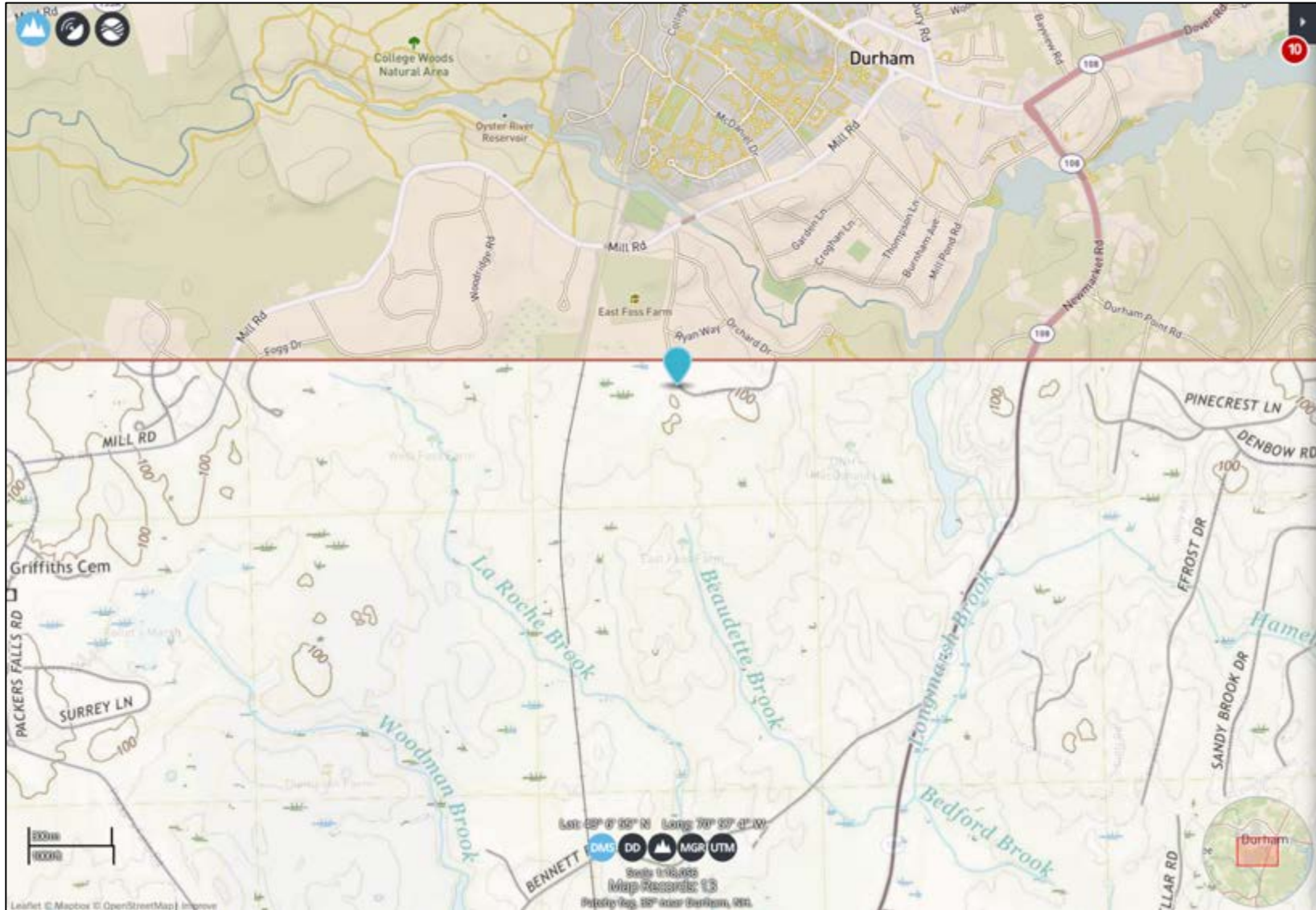


Appendix B. Topographic maps of study sites. All sites are numbered as in Table 1.

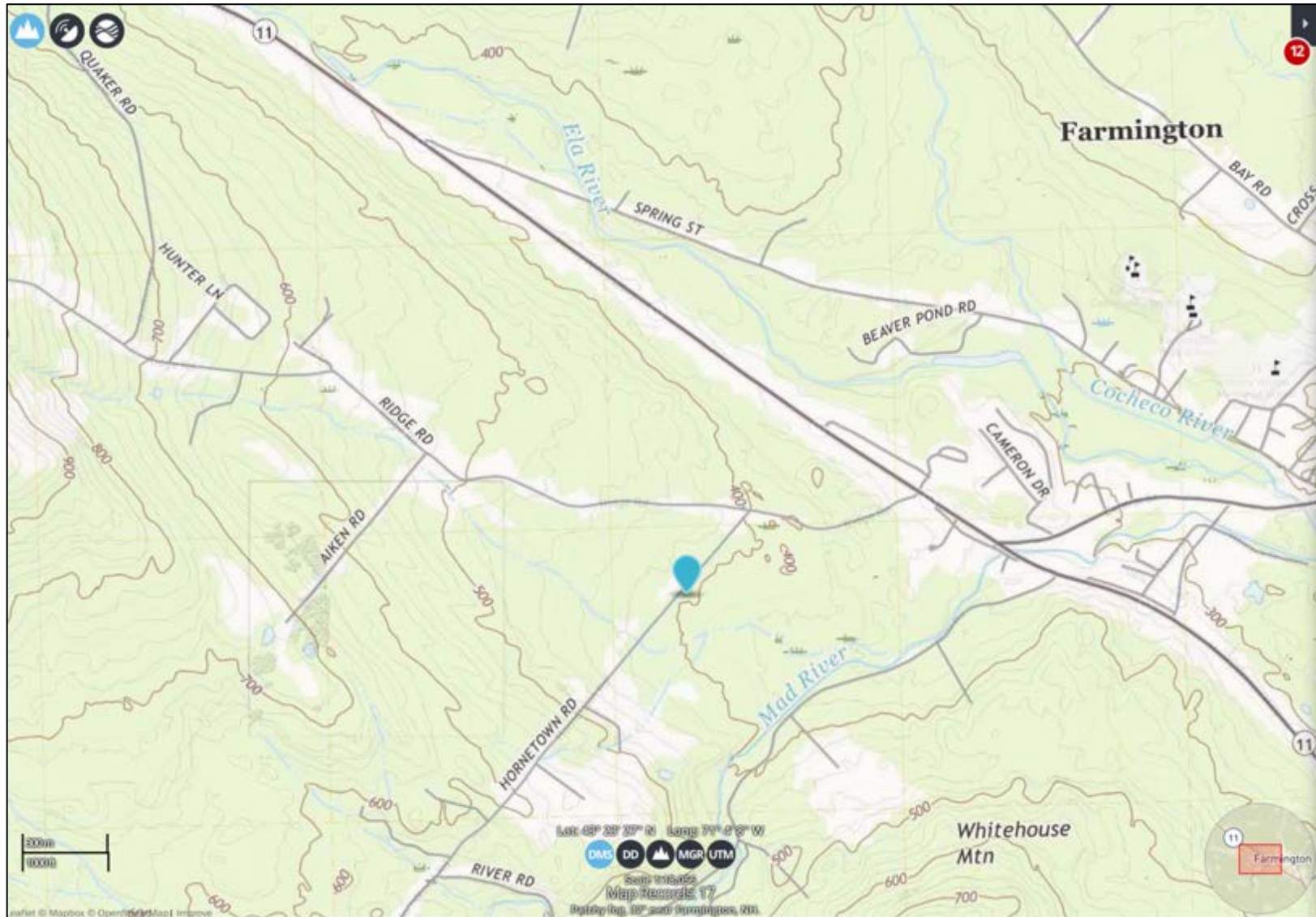
Site 1, Doe Farm, 43.1083 N, -70.9417 W



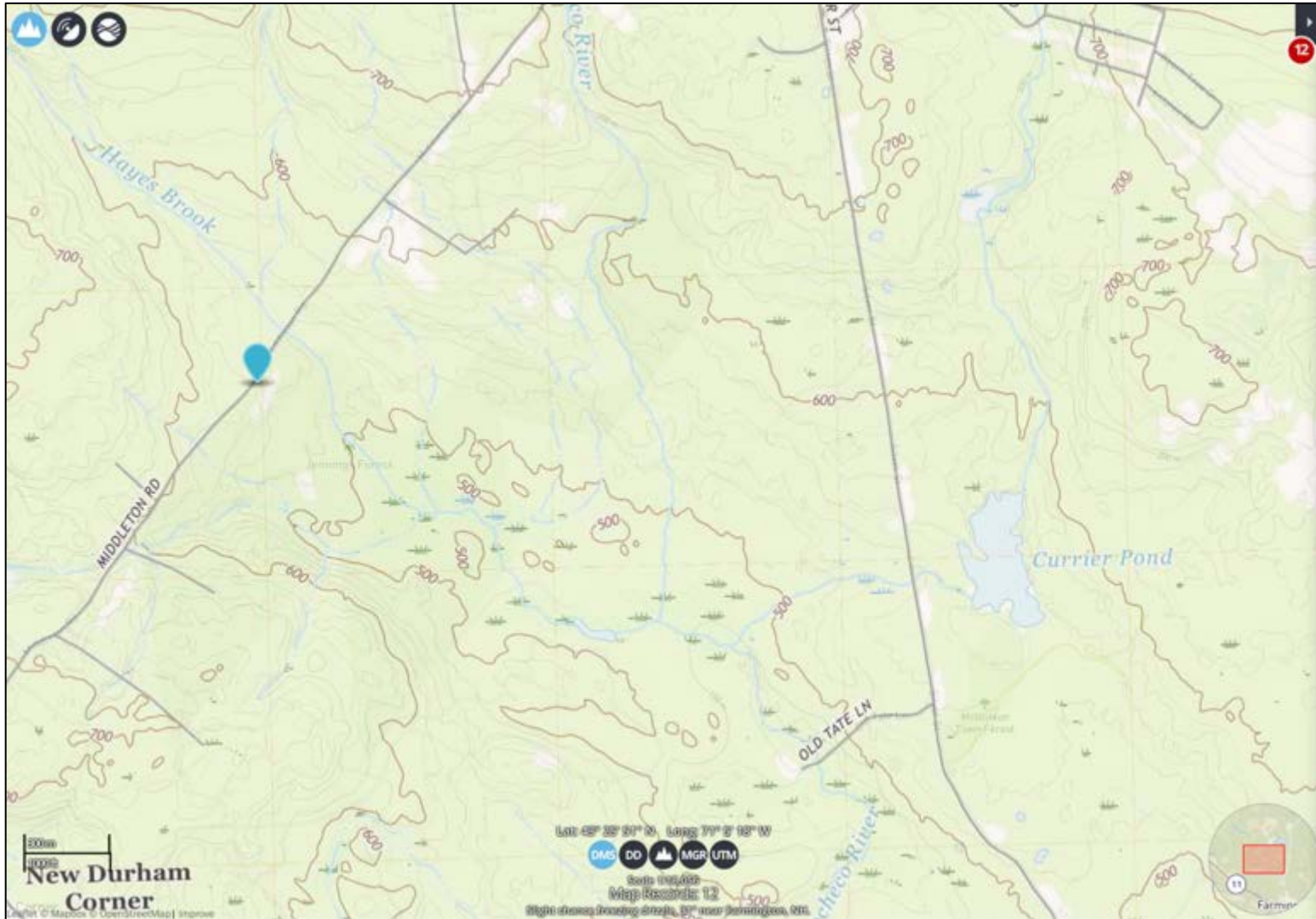
Site 2, East Foss Farm, 43.12417 N, -70.93593 W



Site 3, Farmington Conservation Area (French), 43.38554 N, 71.09561 W



Site 4, Jennings's Forest, 43.43837 N, 71.11321 W



Appendix C. Photos and additional project details:

This picture series shows the process of preparing and applying emerald ash borer eggs to experimental trees. Tyvek tents are constructed around trees to protect eggs from moisture until hatched, then all materials are removed prior to Methyl Jasmonate application and punch sampling. The last photo (on the right) shows a sentinel tree, or a tree infested with eggs for peeling to appropriately time parasitoid releases.



This picture series shows the process of Methyl Jasmonate application to experimental trees, followed by the punch sampling method.



When larvae in sentinel trees are big enough to be parasitized, releases will be performed by with adult parasitoid wasps (*S. galinae*) or by hanging log bolts infested parasitoid pupae (*T. planipennis*) in field sites. Experimental trees will be harvested in the fall and peeled for data collection on emerald ash borer larval establishment and parasitism.



Appendix D. Compliance with 2020 variance permit for year 2 of EAB resistance project. Bill = Bill Davidson, NH Division of Forests and Land. Todd = Todd Johnson, UNH. Bre = Breanne Aflague, UNH. Jeff = Jeff Garnas, UNH.

Doe Farm Felled Trees



Site + Tree ID	Tree size (cm)	Checked by			
		Bill	Todd	Bre	Jeff
Doe Farm 1-1	3-6	x	x	x	x
Doe Farm 1-6	6.01-9	x	x	x	x
Doe Farm 1-9	9.01-12	x	x	x	x
Doe Farm 1-12	12.01-15	x	x	x	x
Doe Farm 2-2	3-6	x	x	x	x
Doe Farm 2-6	6.01-9	x	x	x	x
Doe Farm 2-8	9.01-12	x	x	x	x
Doe Farm 2-12	12.01-15	x	x	x	x
Doe Farm 3-1	3-6	x	x	x	x
Doe Farm 3-4	6.01-9	x	x	x	x
Doe Farm 3-8	9.01-12	x	x	x	x
Doe Farm 3-10	12.01-15	x	x	x	x
Doe Farm 4-1	3-6	x	x	x	x
Doe Farm 4-5	6.01-9	x	x	x	x
Doe Farm 4-9	9.01-12	x	x	x	x
Doe Farm 4-12	12.01-15	x	x	x	x

East Foss Farm Felled Trees



Site + Tree ID	Tree size (cm)	Checked by			
		Bill	Todd	Bre	Jeff
East Foss 1-1	3-6	X	X	X	X
East Foss 1-5	6.01-9	X	X	X	X
East Foss 1-9	9.01-12	X	X	X	X
East Foss 1-11	12.01-15	X	X	X	X
East Foss 2-2	3-6	X	X	X	X
East Foss 2-5	6.01-9	X	X	X	X
East Foss 2-7	9.01-12	X	X	X	X
East Foss 2-10	12.01-15	X	X	X	X
East Foss 3-2	3-6	X	X	X	X
East Foss 3-4	6.01-9	Tree did not receive EAB eggs			
East Foss 3-9	9.01-12	X	X	X	X
East Foss 3-12	12.01-15	X	X	X	X
East Foss 4-3	3-6	X	X	X	X
East Foss 4-4	6.01-9	X	X	X	X
East Foss 4-7	9.01-12	X	X	X	X
East Foss 4-11	12.01-15	X	X	X	X

French Conservation Area Felled Trees



Site + Tree ID	Tree size (cm)	Checked by			
		Bill	Todd	Bre	Jeff
French 1-2	3-6	x	x	x	x
French 1-6	6.01-9	x	x	x	x
French 1-8	9.01-12	x	x	x	x
French 1-12	12.01-15	x	x	x	x
French 2-1	3-6	x	x	x	x
French 2-4	6.01-9	x	x	x	x
French 2-8	9.01-12	x	x	x	x
French 2-10	12.01-15	x	x	x	x
French 3-1	3-6	x	x	x	x
French 3-5	6.01-9	x	x	x	x
French 3-8	9.01-12	x	x	x	x
French 3-12	12.01-15	x	x	x	x
French 4-2	3-6	x	x	x	x
French 4-5	6.01-9	x	x	x	x
French 4-9	9.01-12	x	x	x	x
French 4-11	12.01-15	x	x	x	x

Jenning's Forest Felled Trees



Site + Tree ID	Tree size (cm)	Checked by			
		Bill	Todd	Bre	Jeff
Jennings 1-3	3-6	x	x	x	x
Jennings 1-4	6.01-9	x	x	x	x
Jennings 1-7	9.01-12	x	x	x	x
Jennings 1-12	12.01-15	x	x	x	x
Jennings 2-1	3-6	x	x	x	x
Jennings 2-4	6.01-9	x	x	x	x
Jennings 2-7	9.01-12	x	x	x	x
Jennings 2-12	12.01-15	x	x	x	x
Jennings 3-1	3-6	x	x	x	x
Jennings 3-4	6.01-9	x	x	x	x
Jennings 3-7	9.01-12	x	x	x	x
Jennings 3-12	12.01-15	x	x	x	x
Jennings 4-2	3-6	x	x	x	x
Jennings 4-6	6.01-9	x	x	x	x
Jennings 4-7	9.01-12	x	x	x	x
Jennings 4-10	12.01-15	x	x	x	x



Kristen Murphy <kmurphy@exeternh.gov>

Land access request for wildlife research

1 message

Butler, Andrew <arv39@wildcats.unh.edu>
To: "kmurphy@exeternh.gov" <kmurphy@exeternh.gov>
Cc: "Moll, Rem" <Remington.Moll@unh.edu>

Fri, Apr 30, 2021 at 11:17 AM

Dear Ms. Murphy,

My name is Andrew Butler, and I am a Ph.D. student in the Department of Natural Resources and the Environment at UNH. I am co-leading a project to evaluate methods for monitoring furbearer species and to study furbearer-habitat relationships in New Hampshire. The project is a research collaboration between the New Hampshire Fish and Game Department and UNH. Dr. Remington Moll, an assistant professor at UNH, is the project director.

I am reaching out to you to request permission to conduct fieldwork on a subset of town properties. Briefly, we would like to deploy camera traps in the summer and track stations in the fall to gather data on furbearer occurrence. I have attached a document that details the purpose and extent of our field work for this project for your consideration.

Please let me know if there are any questions I can answer and I look forward to hearing from you.

Sincerely,

Andrew

 **FBM_Study_Summary_ExeterCC.pdf**
82K

Project Title

Evaluating Furbearer Monitoring Methods in New Hampshire

Project Researchers

Dr. Remington J. Moll (Project Director)
Assistant Professor of Wildlife Ecology and
Management
University of New Hampshire
Remington.Moll@unh.edu | 603-862-3054

Andrew Butler (Field Contact)
Ph.D. Student
University of New Hampshire
arv39@wildcats.unh.edu | 215-704-7490

Study Purpose and Research Objectives

The Northeastern U.S. hosts a diverse community of terrestrial furbearer species. These species are an integral part of a functioning ecosystem and provide substantial social, cultural, and economic value to multiple stakeholders. Ecologically, furbearers contribute directly to processes such as prey population regulation and seed dispersal, which in turn influence floral and faunal biodiversity, ecosystem stability, and community-level dynamics such as disease transmission. Beyond these ecological roles, furbearers are valued by stakeholders for a variety of reasons, including those related to wildlife viewing and harvest. Given this ecological and social importance, effective management of these species is paramount. Such management requires accurate information on species' distribution and abundance across space and over time. However, acquiring such information for furbearers is challenging because they are secretive, cryptic, highly mobile, and often persist at low densities.

This research project is cooperatively funded through a partnership between the University of New Hampshire and the New Hampshire Fish and Game Department. The project will develop and evaluate monitoring methods for furbearer species in New Hampshire. In turn, these monitoring protocols will potentially inform wildlife management and conservation. In addition, this study will evaluate the habitat relationships of wildlife to advance ecological understanding and improve predictive accuracy of species distribution models and abundance estimates.

Specific objectives include:

Objective 1. To determine the efficacy of an emerging non-invasive technique to estimate furbearer abundance and wildlife-habitat relationships using camera trap data.

Objective 2. To compare population estimates from camera traps with those from track station surveys.

Objective 3. To determine the effect of lure on wildlife detection rate.

Type and Extent of Field Work

This project is intended to run from June 1, 2021 – May 30, 2022 with possible extension dependent upon continued funding. The proposed field work will entail approximately five field visits to each site. Three of these visits will be focused on camera trapping and entail setting up non-invasive wildlife cameras and downloading their data (i.e., replacing an SD card). One visit will entail setting up track stations and one for checking track stations.

The number of proposed site locations on Town of Exeter lands is three. The approximate locations of these sites are provided below. A final GPS location can be provided once sites are established.

At each camera site a wildlife camera will be attached to a tree at knee height. The wildlife camera will detect wildlife via passive infrared sensor technology that is invisible to humans and wildlife and minimally invasive to the environment. Cameras will be attached to trees using a single, small screw, a small metal security box (approximately 10cm x 10cm x 8cm), and a python cable lock to deter theft. Target sites will include those where the camera viewshed will be clear of vegetation. In exceptional circumstances, vegetation (forbes and brush < 2.5cm in diameter) immediately falling in front of the camera's viewshed (within 2 m) might be trimmed to enable efficient wildlife detection. No sensitive vegetation (e.g., rare plants) will be trimmed. For the majority of the camera deployment, no bait or lure will be used. For a brief (i.e., ~ 4-6 week) period in fall, a scent lure will be placed in front of the camera to evaluate Objective 3. Cameras will be removed at the end of the study period (Spring 2022).

Within the general proximity of each the camera trap (i.e., within 1km), a track station transect will be deployed in early fall. The establishment of scent station transect will follow methods employed by long-term monitoring efforts in North America. Each transect will consist of 1-10 track stations, which will be 36-inch diameter circles of sifted soil that will be brought to the site. Stations will be spaced ~250 m apart. A scent lure (e.g., skunk essence) will be placed at each station. Stations will be established for one night and checked the following day. The presence of wildlife will be determined via track identification. This information evaluate Objective 2.

Project Timeline

- **April and May:** Coordinate site access with landowners.
- **July and August:** Set up trail cameras.
- **September and October:** Add scent lure to subset of cameras. Set up track stations and check track stations.
- **April-May:** Remove trail cameras.

Approximate Site Locations

- Oaklands Town Forest (1 camera)
- Colcord Pond (1 camera)
- Stone and Leighton Lands (1 camera)



STATE OF NEW HAMPSHIRE
DEPARTMENT of NATURAL and CULTURAL RESOURCES
Division of Forests and Lands

172 PEMBROKE ROAD CONCORD, NEW HAMPSHIRE 03301
PHONE: 271-2214 FAX: 271-6488 WWW.NHDFL.ORG

April 26, 2021

Board of Selectmen
Town of Exeter
10 Front Street
Exeter, NH 03848

Dear Selectmen:

The Division of Forests and Lands is planning to harvest timber and improve wildlife habitat on 55 acres of the Piscassic River Wildlife Management Area in the town of Exeter, NH. Attached is a location map of the planned harvest for your reference.

This harvest will not require transportation of forest products over Exeter town roads.

We are in the early stages of planning this harvest operation which we do not anticipate offering for public bidding until later this year. At that time you will be notified as to the timber volume sold and the successful bidder who will be responsible for the timber tax.

If you have any questions or comments, please contact Sam Taylor, the forester in charge of the project, directly at (603) 227-8735 or Scott Rolfe, Regional Forester, at (603) 227-8741. Please reference project P1-659.

This letter is in compliance with RSA 541-A:22 Notice to Municipalities. We would appreciate it if you would post this letter in a public place. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "William T. Guinn".

William T. Guinn, Administrator
Forest Management Bureau

Attachments

cc: Exeter Conservation Commission
Michael Matson, Forest Ranger
Abutter: Mathes Family Limited Partnership



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



Victoria F. Sheehan
Commissioner

William Cass, P.E.
Assistant Commissioner

April 26, 2021

Re: Exeter, 43254

Mr. Andrew Koff
Conservation Commission Chair
10 Front Street
Exeter, NH 03833

Dear Mr. Koff:

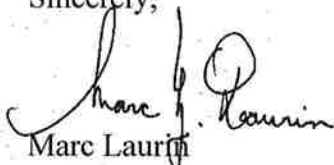
The New Hampshire Department of Transportation (NHDOT) proposes to conduct repairs on a 42" Corrugated Metal Pipe (CMP) culvert spanning Rocky Hill Brook located on NH Route 85 (Newfields Road) in Exeter approximately 140 feet south of the NH 85 intersection with Walters Way. The repairs will consist of slip lining the pipe, replacing the headwalls and potentially adding a diffuser to the outlet. A location map is enclosed.

Engineering studies have been initiated to refine the scope and limits of work necessary for this project. The Department's Bureau of Environment is in the process of evaluating the potential environmental impacts associated with the project. To assist in this evaluation, I am asking that you notify me of any concerns relative to the project's potential impacts on environmental, social, economic, or cultural resources, such as wetlands, historic properties, and invasive plant species.

The tentative advertising date for this project is March 2022. Please feel free to contact me if you have any questions or require further information regarding the project. This letter has been sent to the Select Board, Town Manager, Town Planner, Public Works, Heritage Commission, and Conservation Commission.

Thank you for your assistance.

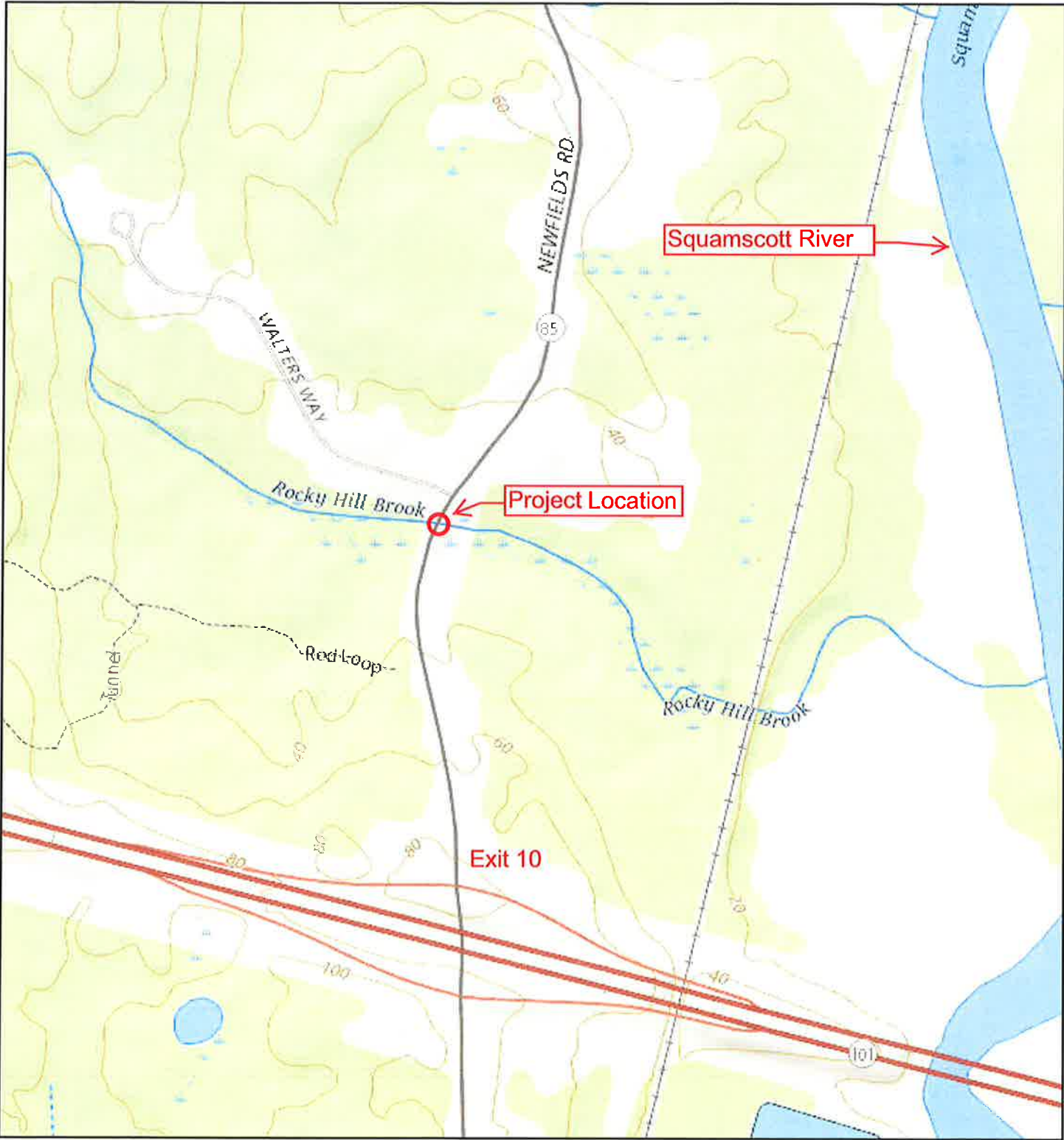
Sincerely,



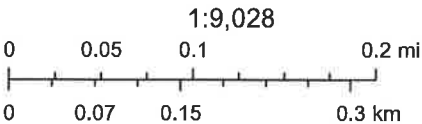
Marc Laurin
Senior Environmental Manager
NH Department of Transportation
Bureau of Environment
271-4044
marc.g.laurin@dot.nh.gov

MGL:mgl
Encl.

Exeter, 43254



April 20, 2021



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census

Exeter Conservation Commission
March 9, 2021
Virtual Meeting
Draft Minutes

Call to Order

1. Introduction of Members Present (by Roll Call)

Present at tonight's meeting were by roll call, Chair Andrew Koff, Vice-Chair Trevor Mattera, Sally Ward, Clerk, Dave Short, Treasurer, Bill Campbell, Carlos Guindon, Alyson Eberhardt, Donald Clement, (Alternate), Nick Campion (Alternate), Kristen Osterwood (Alternate), Conor Madison (Alternate) and Kristen Murphy, Natural Resource Planner.

Members present indicated there was no one else present in the room with them during this meeting.

Absent: Ginny Raub, (Alternate) and Julie Gilman Select Board Liaison

Mr. Koff read the meeting preamble indicated that an emergency exists and the provisions of RSA 91-A:2 III (b) are being invoked. As federal, state and local officials have determined gatherings of ten or more people pose a substantial risk to the community and the meeting imperative to the continued operation of Town and government and services which are vital to public, health, safety and confidence. This meeting will be conducted without a quorum physically present in the same location and welcome members of the public accessing the meeting remotely.

2. Public Comment (7:00 PM)

None.

Mr. Koff called the meeting to order at 7 PM.

Action Items

1. Raynes Barn Current Conditions RFP Update and Firm Selection/Conservation Fund Expenditure

Ms. Ward reported an RFP was sent out in January to update the older assessment and cost estimates to update the historic structure in support of the L-CHIP application to be submitted in May. Two companies went on a site walk of the property. The committee met last week and recommended Bedard's proposal. The committee, which consisted of Ms. Murphy, Ms. Ward, Mr. Campbell and Doug Eastman, was impressed with the detail of steps to be taken and experience of Bedard. The committee was impressed with the enthusiasm of both companies who submitted proposals and hope they will both be interested in sending proposals for the work to be done.

Mr. Koff asked to describe the scope of work and Ms. Ward noted the historic structures assessment is a guidance document for needed repairs to get the property into condition for public use such as maintenance, replacement of clapboards, structural items such as the foundation and any additional items identified since the last report using 2021 criteria and standards for the Secretary of Interior L-CHIP application and 2021 cost estimates. Ms. Murphy added the type of materials and cuts would be identified to maintain the historic integrity of the property.

Mr. Mattera asked if the L-CHIP cycle would be met and Ms. Ward responded yes, both companies were able to meet the deadline. The intent is to apply in May.

Ms. Eberhardt asked about prioritization and Ms. Ward noted Bedard used a phasing approach which is useful when L-CHIP asks if you couldn't get all the funding what smaller items would you focus on this round.

MOTION: Ms. Eberhardt motioned to approve the review committee's selection of Bedard Preservation & Restoration LLC for the preparation of a Current Conditions Assessment of Raynes Barn and authorize the Chair to send a letter indicating the selection to the applicants. Mr. Mattera seconded the motion. A roll call vote was taken Koff – aye, Mattera – aye, Ward – aye, Short – aye, Campbell – aye, Guindon – aye and Eberhardt – aye. The motion passed 7-0-0.

MOTION: Ms. Eberhardt motioned to approve the expenditure of \$2,500 from the Conservation Fund account in support of the contract with Bedard Preservation & Restoration LLC to prepare the Current Conditions Assessment for Raynes Barn. Mr. Guindon seconded the motion. A roll call vote was taken Koff – aye, Mattera – aye, Ward – aye, Short – aye, Campbell – aye, Guindon – aye and Eberhardt – aye. The motion passed 7-0-0.

Ms. Ward extended thanks to Nick and Kristen for installing the cameras at Raynes and compiling the images and data. Mr. Campion noted there were hundreds of visitors and wildlife among the images.

2. NHACC Dues Approval

MOTION: Ms. Ward motioned to approve the expenditure of \$700 for the 2021 Annual NHACC Dues from the Dues category of the Town allocated budget. Mr. Campbell seconded the motion. A roll call vote was taken Koff – aye, Mattera – aye, Ward – aye, Short – aye, Campbell – aye, Guindon – aye and Eberhardt – aye. The motion passed 7-0-0.

3. Committee Reports

a. Property Management

Mr. Campbell commented on the use of the trail machine at Oaklands which was a big hit. Mr. Short noted there was a brief window when they were able to use it and it did a great job with potholes and ruts.

b. Trails

i. Trail Conditions and Temp Closure Discussion

Mr. Short noted he would keep an eye on the condition of the trails and if they become saturated there may be need to close some trails temporarily. Ms. Murphy noted metal signs had been purchased and Mr. Short will reach out to Mr. Kelly to see if he has those.

Ms. Eberhardt recommended the trail etiquette signs lead with the direction to trail users, the thing you want them to do. The Montpelier example is a little busy. Mr. Short noted the signs may be rendered for next year.

c. Outreach Events

i. ESRLAC – Septic Owner Outreach (Don C.)

Mr. Clement reported NHDES started an awareness campaign concerning septic systems and will be developing and sending out maintenance brochures on septic systems in partnership with ESRLAC next month. Ms. Ward asked what percentage of households are on Town sewer and Mr. Clement noted he believed 75%.

ii. Parks and Rec/ConsCom Hikes (Nick C.)

Mr. Campion noted Parks & Rec joined him for a few hikes, one was at Raynes Farm with about six kids. The 4th-6th grade kids saw a lot of wildlife and a bobcat.

Ms. Murphy noted her seven-person group went out on a family hike using the Continental Drive access which met up with the trail network. Snowshoes were borrowed and many of them had used snowshoes for the first time. Another hike is planned next Wednesday led by Mr. Campion and one will be during April vacation with hopeful vernal pool activity.

iii. Tree Committee Virtual Tree Walk Video (Sally W.)

Ms. Ward reported the Tree Committee is working on ordinances and had a tree walk to look at tree cover across Town with an arborist who led the walk. The walk was filmed by Exeter TV and the virtual walk should be posted soon. The Committee is meeting again tomorrow.

iv. Trail Puzzle and Grab and Go – Bird ID Concepts (Kristen/Nick)

Ms. Murphy reported that Mr. Campion had an idea to take a picture of a native NH critter such as an owl and cut it into puzzle strips. Visitors would collect the pieces which would be cached in different locations and can be colored and put together and a photo sent into us. Ms. Murphy hoped to launch the program on Earth Day or during April vacation.

Ms. Murphy recommended the Library could be another dedicated space and a field guide could be created for kids to use.

v. Green Minute

Mr. Koff reported the Commission had been asked along with other committees to provide a “Green Minute” narrative video highlighting what the Commission does to work on sustainability presentations to submit in April and ideas would be appreciated.

Ms. Murphy recommended focusing on invasive plant removal, wildlife corridors, Raynes Farm, Pollinator Pathways and trail use.

Ms. Osterwood recommended focusing on wetlands and protection efforts and highlighting the miles of trails and Conservation land the Town has to offer.

Mr. Campion offered use of his drone. Mr. Guindon noted his older son took some aerial footage of Raynes Farm that could be used. Ms. Murphy offered some still photos. Mr. Koff will work with them.

Ms. Eberhardt recommended focusing on the Commission's most important message.

4. Approval of Minutes: February 9, 2021 Meeting

Mr. Koff recommended an edit.

MOTION: Mr. Campbell motioned to accept the February 9, 2021 minutes as amended. Ms. Ward seconded the motion. A roll call vote was taken Koff – aye, Mattera – aye, Ward – aye, Short – aye, Campbell – aye, Guindon – aye and Eberhardt – aye. The motion passed 7-0-0.

5. Correspondence

a. Exploratory Drilling

6. Other Business

Rain Barrel Program

Ms. Murphy reported she is getting the rain barrel program started early this year with purchases up until April 11th and pick up on April 17th. Discounted rain barrels are offered through the Commission from Great American Rain Barrel Co. at \$79 each. Information will be posted on the Facebook page and Town webpage. 12 were sold last year.

Ms. Eberhardt and Ms. Ward noted they had purchased some and they were very handy during last year's drought.

Membership

Ms. Ward indicated she will not be continuing as a member after her term is up in April. Perhaps an alternate could be moved up. Ms. Ward noted she will continue to help on the committee with the L-CHIP application for Raynes.

Mr. Clement noted he would like to continue as an Alternate.

Ms. Murphy asked interested members to reach out prior to the April meeting.

Saving Special Places Conference

Ms. Murphy noted registration is open for the virtual conference this year and will send out the information.

7. Next Meeting: Date Scheduled (4/13/21), Submission Deadline (4/2/21)

Adjournment

MOTION: Mr. Koff moved to adjourn at 8:17 PM. Ms. Ward seconded the motion. A roll call vote was taken Koff – aye, Mattera – aye, Ward – aye, Short – aye, Campbell – aye, Guindon – aye and Eberhardt – aye. With all in favor the motion passed unanimously.

Respectfully submitted,

Daniel Hoijer, Recording Secretary

Exeter Conservation Commission
April 13, 2021
Virtual Meeting
Draft Minutes

Call to Order

1. Introduction of Members Present (by Roll Call)

Present at tonight's meeting were by roll call, Chair Andrew Koff, Vice-Chair Trevor Mattera, Sally Ward, Clerk, Bill Campbell, Carlos Guindon, Alyson Eberhardt, Julie Gilman Select Board Liaison, Ginny Raub, (Alternate), Donald Clement, (Alternate), Nick Campion (Alternate), Kristen Osterwood (Alternate), Conor Madison (Alternate) and Kristen Murphy, Natural Resource Planner.

Members present indicated there was no one else present in the room with them during this meeting.

Absent: Dave Short

Mr. Koff read the meeting preamble indicated that an emergency exists and the provisions of RSA 91-A:2 III (b) are being invoked. As federal, state and local officials have determined gatherings of ten or more people pose a substantial risk to the community and the meeting imperative to the continued operation of Town and government and services which are vital to public, health, safety and confidence. This meeting will be conducted without a quorum physically present in the same location and welcome members of the public accessing the meeting remotely.

2. Public Comment (7:00 PM)

Ms. Osterwood asked about land near the reservoir at Wheelwright Ave & Towle and potential conservation acquisition. Ms. Murphy indicated it is private land and early discussions were had with the owners who at the time were not interested. Ms. Gilman noted the location is at High Street and Rocky Hill Road. Two lots are being developed as single-family residence.

Mr. Koff called the meeting to order at 7 PM.

Action Items

1. Conceptual discussion in association with a conditional use permit for clean-up and construction of a residential multi-family unit within the prime wetland buffer and structural setback at 32 Charter Street, Tax Map #82-36 (One Home Builders, Jim Gove, Christian Smith, Frank Catapano and Colton Gove).

Mr. Catapano described the current condition of the property which had a site walk earlier. The wetlands are littered with trash and car parts, there are paths and docks, all to be removed but will require wetlands permits at a later date to do the removal work.

Christian Smith posted the two earlier development plans proposed but felt the large building would have more impact and so they reduced the proposal to 11 townhomes. Mr. Catapano posted the plan for the 11 townhomes.

Ms. Eberhardt asked about snow storage areas and Mr. Smith pointed to two areas and a possible third, one located to the center of parking, another at the bottom of the parking lot and potential at the right corner at the angle separating the buildings.

Mr. Campbell asked what would be done with the area behind the parking and Mr. Smith noted it would be loamed and seeded specific for wetland buffers, the junk piles would be removed.

Mr. Clement asked about garages and the number of parking spaces required and Mr. Smith noted two spaces are required for each of the two-bedroom units and one space for every four for visitors. Mr. Clement noted he preferred the 11-unit plan. Mr. Campbell agreed.

Ms. Ward asked about pervious material and Mr. Smith noted standard asphalt was planned. Mr. Koff noted stormwater system would be required but is not shown. Jim Gove noted the northern boundary was steep and the parcel is the bottom of an old gravel pit. The depth of the water table will determine whether porous pavement would function but usually the reason gravel pits stop digging is because they have come to that and he can guarantee there is no natural soil. Mr. Campbell asked about runoff and Mr. Gove noted it appears to be contained.

Mr. Koff noted there could be additional buffer impacts not shown.

Mr. Campbell noted the railroad cutoff the parcel from Little River and Mr. Gove indicated that was correct, as far as it being a physical barrier however there may be some hydrological flow. The parcel functions as a habitat island and there is a lot of wildlife diversity.

Ms. Osterwood asked about water features or rain gardens and gas hookup. Mr. Smith noted he believed there was gas hookup on Charter Street. Ms. Osterwood emphasized the importance of energy efficiency. Mr. Catapano noted a filtration, bioretention or rain garden would be the way to go.

Ms. Ward noted the condition of the site is problematic.

2. Wetland/Shoreland CUP for an open-space development at Cullen Way/Tamarind Lane, Tax Map 96-15 and 96-9 (Brian Griset, Attorney Justin Pasay, Christian Smith, Jim Gove and Luke Hurley)

Attorney Justin Pasay presented the plan and noted Brian Griset was present with him and Jim Gove and Christian Smith remotely. On April 2nd the CUP application filings and included plans, were submitted, the approved Yield Plan, Wetlands Impacts, Shoreland Impact plans and environmental site assessment. The applicant appeared in December 2019 with a similar plan. There will be discussion about donation of the 32-acre Mendez Trust property later in the process.

Mr. Koff noted the submission was a lot to cover in one night and recommended prioritizing. Attorney Pasay noted they would be appearing before the Planning Board at their next meeting and would like to get recommendations for the CUP first.

Attorney Pasay reviewed the history of the three parcels, the 23.6-acre Griset property, the 31-acre Mendez Trust property and the Town-owned property. Attorney Pasay posted the plan showing uplands in green and access points and indicated prime wetlands in brown. Attorney Pasay noted the applicant was before the Planning Board for their Yield Plan. The properties are in the R-1 and NP District. The Yield Plan is to develop 17 lots. The Town property which was donated in the 90s provides density through a contract with the Town for this development off Route 111. There are three crossings, 12,000 SF of wetland impact which could have been four times greater than they are actually proposing. 90% of the impact relates to proposed access at Wild Apple Lane. The WCD impact is 90% road and detention. 1,320 SF of structural impact with Unit 1, 10 and 11, 13, 15 and 16. A wet meadow will be maintained by the HOA. 80% of the parcels will be preserved and 20% developed.

Mr. Smith posted the plan showing the WC District overlay and noted technical reviews and reviews with Department Heads and Planning. The road would begin narrow at 20' wide with 5' sidewalk until the mail kiosk then become 24' wide with a 4' sidewalk. There is 2,960 SF of direct wetland impact. A manmade pond. 11,002 SF buffer impact, 1,320 SF into the 75' for paving and building setback. Unit 10 and 11 were re-engineered because access was needed for maintenance of the pond. Buildings will be 25' apart and sprinklered. There will be underground electric and gas and Town water and sewer. Attorney Pasay showed the shoreland setback impact which is 7,983 SF.

Jim Gove identified functions and values beginning with the manmade pond dug in the past. It is deep enough for fish and there are some sun fish and minnows present. It does not function as a vernal pool. The small edge will be impacted with proper erosion control in place, and he doesn't see any change to function. To the south the forested wetland is a larger ecosystem for wildlife and stormwater storage and nutrient trapping. Already been somewhat impacted by the existing road. Doesn't see degradation. A large open field will not see significant change. There may be some disruption to upland wildlife.

Luke Hurley reviewed the wildlife assessment noting it is potential not a survey. There were no hits with Natural Heritage. The parcels are significant wetlands with reptiles, amphibians and bird species and some meadow species. Lot of ground nesters and that is the place he sees impact. Mowing is recommended once a year in the late fall in September or October.

Mr. Campbell asked to see the vernal pools and Attorney Pasay pointed the two pools out noting the location avoids most of the impact and benefits the public. The crossing access is over an existing ROW with prior disturbance.

Mr. Griset noted the property is owned by his wife and reiterated what the others said previously adding the goal is to reduce impacts and protect the brook. The swamp was flagged and only four trees were impacted. Other swamp oak locations were located with 250 trees over 6" caliper. There are structural encroachments with Units 1, 10 and 11. Unit 10 will have a shared driveway. Unit 1 will have 202' impact due to steep contours. The driveway at elevation 37 and the retaining wall behind an additional 10.' The garage was designed under so it will be a drive through to reduce the size of the driveway and impact to the buffer of only 19.' The Mendez Trust property is being offered to the Town

as donation and waiver allows to provide a greater value wetland. The prime wetland and two vernal pools would be completely protected.

Ms. Murphy asked to show on the plan where the Commission went on the site walk through the Meadow and looked for the prime wetland. Mr. Koff, Mr. Guindon and Mr. Mattera attended. Mr. Koff noted a lot of phragmites.

Mr. Koff opened the hearing to the public for comments and questions.

Lisa Bleicken of 11 Tamarind Lane notes several areas of concern: drainage, impacts concentrated to one area, relation of upland and wetlands, neighboring properties, size/density of development, stormwater, snow storage, road treatment, chemicals, fertilizer, access, disruption and protecting resources. The donated land for preservation is the only benefit and she asked about public access, hunting rights, coyote control and also noted comments submitted by Laura Knott who could not be present who shared accessibility concerns and asked about the single -family home at the end of Cullen Way whether there would be impacts there as well?

Mark Paige of 13 Tamarind Lane noted legal concerns with the transfer of density and agreed with the hunting issue and noted the plans were difficult to follow.

Pete Steckler of 4 Locust Ave noted he is an alternate on the Planning Board and expressed concerns about the HOA maintained open space, pushing the habitat down to the wetland, restrictions on the open space, such as dog walking, dogs off leash and recreation impacting habitats and the prime wetland expansion changes.

Mr. Gove noted Mr. Steckler was correct with the rule change with prime wetlands however there are no impacts to prime wetlands in this case.

Mr. Koff asked about the restrictions on the HOA maintained open space and Mr. Griset noted mowing will be done at the end of fall, not during summer. There would be restrictions on dog walking and perhaps a designated dog park on Farm Road. Snow storage goes to drainage and pretreatment ponds, showing one located in the center of the cul-de-sac. Regulations don't require that the applicant turn over access. Mr. Griset noted he wants hunting for the benefit of veterans, especially disabled veterans. 9.4 acres were donated at Brickyard for a kid's park and there is access and parking there. Their goals are to preserve the property environmentally, allow veterans to hunt to thank them for their service, to regulate and manage coyote and beaver and possibly provide future groundwater sources.

Ms. Gilman noted state law prohibits discharge of firearms within 300' of a dwelling. HB 307 is coming up which would prohibit municipalities from prohibiting firearms on municipal property. Schools still fall under the federal law.

Mr. Clement asked the intent of the HOA maintained field and whether it would be public or private. Mr. Griset noted this would be restricted to the 16-unit owners and not a public park. The Mendez property could be open to the public if the Town allows.

Mr. Clement asked the status with the Planning Board and Attorney Pasay noted they have approved the Yield Plan and the site plan and CUP were filed. He expects to meet with them at their next meeting. Mr. Clement clarified the recommendation was what he was looking for from the Commission on the two CUP permits.

Mr. Koff asked if the decks were included in the impact calculations and Mr. Griset noted decks and pavilions were allowed, they were not included in the impact calculations and there would be temporary construction disturbance.

Ms. Murphy noted she did not have the full TRC response. Mr. Campbell asked if there was anything in the TRC response the Commission should see. Ms. Murphy noted she had not seen it and expressed concerns with the wildlife assessment/swamp white oak basin, brook, beaver control/management (which could be accomplished with a deceiver device), coyote control and trapping safely with residents and homes 300' from the meadow.

Ms. Osterwood asked about soil saturation and rain water impacts to the local area and Ms. Murphy noted the information was available in the drainage analysis and TRC comments.

Mr. Koff noted 7,983 SF of impact in the 150' shoreland protection line. The road overlaps the Wetlands Conservation District. Mr. Koff noted he saw no further minimization. 2,960 SF of direct wetland impact at the intersection of Tamarind and the new road and manmade pond. 11,000' of buffer impact and 90% of it road and detention pond related.

Mr. Clement noted State permits would also be required. Attorney Pasay added an AOT permit as well and have not been submitted yet.

Mr. Smith calculated 8,700 SF of temporary impact including construction of decks in the 75' setback. The Town engineer also reviews his calculations, and the state has their own criteria and reviews their drainage analysis.

Mr. Mattera agreed with Mr. Koff on the minimization efforts. Mr. Guindon agreed and noted he did walk the site. Mr. Mattera noted he appreciated Jim's comments about functions and feels the application has done a commendable job. Mr. Koff agreed.

Mr. Clement noted the Town had budgeted to deal with the drainage issues on Tamarind Lane last year and were supposed to replace the culvert. Mr. Griset noted the culvert began to collapse 20 years ago and fully collapsed three years ago. There is minimal flow. Tamarind is at elevation 37. Mr. Clement noted it is part of the drainage analysis.

Mr. Koff recommended tabling the application until the May meeting. Mr. Steckler can convey what happened at this meeting to the Planning Board. Ms. Ward agreed. Attorney Pasay welcomed contacting Mr. Griset for another site walk or individually.

Mr. Koff activated alternates Nick Campion and Conor Madison. Ms. Eberhardt departed the meeting.

MOTION: Mr. Campbell motioned to table the application for the two Conditional Use Permits to May 11th. Mr. Koff seconded the motion. A roll call vote was taken Koff – aye, Mattera – aye, Ward – aye, Campbell – aye, Guindon – aye, Campion – aye and Madison – aye. The motion passed 7-0-0.

3. Committee Reports

a. Tree Committee Update (Sally Ward)

Ms. Ward noted the Tree Committee is working on a tree ordinance and will share it with the Commission before bringing it to the Select Board. The Tree Walk is on the website and may become a

periodic event. Planting which was delayed will continue at Park Street Common. The Committee would like to have a budget for expenses. Ms. Murphy noted Jay Perkins the tree warden has a budget. Ms. Gilman noted she did not recommend having a budget separate from the Commission. Ms. Ward will provide feedback to the Committee.

b. Property Management

Ms. Murphy noted the farmer requested a change with mowing at Raynes Farm to do an early cut through the end of May and another in August. Concerns were expressed about nesting birds returning and how to assess that. Mr. Koff recommended a one-year trial period.

MOTION: Mr. Koff motioned to allow the mowing schedule as presented for May and August for a one-year trial period. Ms. Ward seconded the motion. A roll call vote was taken – Koff – aye, Mattera – aye, Ward – aye, Campbell -aye, Guindon – aye, Campion – aye and Madison – aye. The motion passed 7-0-0.

Ms. Ward updated the status of the L-Chip application for Raynes. The historic structure report will be done by Bedard so they can submit their intent by May and application in June. Ms. Ward noted the Chair of the Raynes Farm Stewardship Committee is a member of Conservation and recommended Nick Campion take her place. She will remain the point person for the L-Chip application. Mr. Campbell noted the Facilities Committee is meeting there Friday at 3:30. Mr. Campion will attend.

MOTION: Mr. Campbell motioned to nominate Mr. Campion as Chair of the Raynes Farm Stewardship Committee. Ms. Ward seconded the motion. A roll call vote was taken Koff – aye, Mattera – aye, Ward – aye, Campbell – aye, Guindon – aye, Campion – abstain and Madison – aye. The motion passed 6-0-1.

c. Trails

d. Outreach Events

i. Spring Tree Program (not to exceed \$200)

Ms. Murphy noted the tree program will be distributed through school and asked to approve expenses not to exceed \$200 for the seedlings. The trees would be packed up May 8th and 9th and volunteers would be appreciated.

MOTION: Mr. Koff motioned to approve up to \$200 from the Conservation fund for the purchase of seedlings. Mr. Campbell seconded the motion. A roll call vote was taken Koff – aye, Mattera – aye, Ward – aye, Campbell – aye, Guindon – aye, Campion – aye and Madison – aye. The motion passed 7-0-0.

ii. Pollinator Book trail/Grab and Go Seed Kits (not to exceed \$65)

Ms. Murphy noted the Pollinator Book Trail and Grab and Go Seed kits will be distributed at the Library. Each kit would have milkweed seed and soil and lay mix to make seed balls and plant. The event would take place the 1st of May. There will be a story walk at Morrisette the 1st of May and students will have readymade seed balls to plant with the Kindergarten class.

MOTION: Mr. Koff motioned to approve up to \$65 for the cost of the milkweed kits from the Conservation fund. Ms. Ward seconded the motion. A roll call vote was taken Koff – aye,

Mattera – aye, Ward – aye, Campbell – aye, Guindon – aye, Campion – aye and Madison – aye. The motion passed 7-0-0.

iii. Kites for Cancer – Raynes Field Use Request

Ms. Murphy reported the Exeter Hospital is seeking event permission from the Select Board to have a Kites for Cancer event at Raynes and would like Commission approval. There will be 10-15 kites and a crossing guard. They plan to have the event at the end of May and there is no problem with use of the field at that time.

MOTION: Mr. Campbell motioned to approve the use of Raynes field at the end of May for the Exeter Hospital's Kites for Cancer event. Ms. Ward seconded the motion. A roll call vote was taken Koff – aye, Mattera – aye, Ward – aye, Campbell – aye, Guindon – aye, Campion – aye and Madison – aye. The motion passed 7-0-0.

iv. Evening Picnic at Raynes

Mr. Koff recommended having a get together for the Commission in the form of a picnic at Raynes Farm in May especially with three members leaving soon. Mr. Koff will email details.

v. Opportunities – April 17-25 [Great New England Cleanup](#)

(Late May/Early June) [New England Garlic Mustard Challenge](#)

(Sept) [NH Statewide BioBlitz](#)

Mr. Koff noted Ms. Murphy provided links to the opportunities listed.

4. Approval of Minutes: March 9, 2021 Meeting - Tabled

5. Correspondence

6. Other Business

7. Next Meeting: Date Scheduled (5/11/21), Submission Deadline (4/30/21)

Adjournment

MOTION: Mr. Campbell moved to adjourn at 10:22 PM. Ms. Ward seconded the motion. A roll call vote was taken Koff – aye, Mattera – aye, Ward – aye, Campbell – aye, Guindon – aye, Campion – aye and Madison – aye. With all in favor the motion passed unanimously.

Respectfully submitted,

Daniel Hoijer, Recording Secretary