

David W. Burke
WETLANDS RESOURCE SPECIALIST

16 Coburn Rd

Berlin MA

978-758-6957

September 11th, 2109

Lori Capone, Conservation Coordinator

Sudbury Conservation Offices

275 Old Lancaster Rd

Sudbury MA 01776

VIA: Email and hand delivery

Reference: Rose 35 Stone Root Ln NOI

Dear Tom, Angela and Commissioners:

Attached and at the applicant's request please find supporting documentation for a Form Three Notice of Intent Application filed under the Sudbury Wetlands Administrative Bylaw; the MA WPA and its pursuant Regs 310:CMR 10:00.

Site Conditions:

The subject property is 3.8 acres in size, it contains a colonial style home lawn and driveway. The property is at the end of a culdesac and is greater than 60% wetlands comprised of red maple swamp bordering on an intermittent stream system.

According to the attached Stream Stats program printout and USGS maps (See attached) the streams on site do not qualify as Perennial however testing was not completed to conclude Intermittent status under the Sudbury Wetlands Administrative Bylaws; therefore this filing will not consider the subject parcel as containing Riverfront Area under the MA WPA-RPA but will abide by Sudbury Bylaws which without conclusive testing must acknowledge the closest stream(s) as perennial thereby reflecting a 100 and 200' Inner and Outer Riparian Zone culminating in a 200' Riverfront Area as shown on plan.

A portion of the existing house does occur within the 100' Buffer Zone to BVW. No activities are proposed within the Inner 100' Riparian Zone.

A portion of the property is also preserved by a Conservation restriction, no work is proposed within the "CR" area.

Wetlands boundary riverfront extent, house, treeline and driveway have all been survey located and are shown accordingly on the attached plan done by David P. Terenzoni PLS

The property is largely wooded; uplands are predominantly red oak, ash, white pine and hickory overstory The house and yard are surrounded by and contain large trees none of which will be impacted by the proposal.

Wetlands:

Wetland areas are typical pit-mound red maple swamp bordering on unnamed streams. A stream exits the site flowing northeasterly, flows onto abutting Sudbury Conservation Lands, under Mossman Rd and drains to the Pantry Brook system and Sudbury River northeast of Concord Rd.

The wetlands boundary has been flagged in blue surveyors tape #1-12 as shown on plan the Inland Bank associated with the streams are flagged at the upper edge of first observable break in slope #1-15 red flagging. Riverbank and Inland Bank are well defined and we did not rely on MAHWL for Bank delineation.

Methods and Observations:

Per usual I reviewed this property in accordance with **DEP Handbook on Delineating Bordering Vegetated Wetlands.**

Wetlands Flags (Blue) #1-12 wrap around the rear yard. In this case the Maps Online GIS representation of wetlands edge is roughly consistent with a ground truthing as done by this office..

When delineating any wetlands boundary, I consider a standard three parameter approach focusing on: long term evidence of hydrology; the overall vegetative community; morphological adaptations within individual plants and trees; Obligate and Fac-wet species in particular; and very importantly, hydric versus non hydric soils and topography.

Normally I initially identify several strong representative wetlands plant species of a *Facultative (plus)* Federal ranking or "Wetter" within the groundcover, middle story and overstory which comprise the wetlands plant community.

I identify the BVW limits and reinforce the vegetative boundary with soil sampling; looking for hydric soils indicators within the first 20" of the bottom of the O Horizon, looking closely at the soil signature directly below the A Horizon and or otherwise looking for brightly colored upland mineral soils.

Hydric soils (excluding Histosols and Histic Epipedons or Organic based Mucks) are "depleted" of coloration (Iron) and oxygen and exhibit a signature profile with a low chroma and high value matrix including at least 10% mottling usually Iron oxide or Manganese nodules (Typical). Coloration nomenclature and enumeration are based on standard **Munsell Color Charts** .

Aquic , hydric or wetlands soils result from prolonged or frequent saturation or inundation by water at or near the surface for seven or more consecutive days during the growing season.

Wetland plant indicator species at this site include:

Overstory: *Red maple and American elm*; we also look closely for hydrophytic adaptations within the longer lived plants such as trees (*Multiple trunking, fluting, buttressed and or adventitious rooting etc. indicating high water table and Oxygen deprivation*). *Mature white ash and large pine trees are common transitional species and are present on the site, some ash are dying or in decline from blight.* Large white pines speckle the uplands and doo occur within this BVW area.

3.

Within the Middle story we encountered: *Alders (Spp). Huckleberry; Silky dogwood; Highbush blueberry; northern arrowwood; winterberry; spicebush; hazelnut and witch-hazel (Fac-up).*

Groundcover indicators were: *Cinnamon fern (Facwet); royal fern; Jack-in-the-pulpit; skunk cabbage; graduating up-gradient to hay-scented fern; partridgeberry, Lycopodium; ground cedars Virginia creeper and pipsissewa.*

Non native invasive species include: glossy buckthorn, Oriental bittersweet, winged euonymus, Japanese barberry, multiflora rose and honeysuckle.

Soils were consistent with the vegetative boundary in general and again actual ground conditions are similar to GIS representations. Ground truthing often reveals changes either way.

I had flagged this wetlands boundary in 1999 and 2003 and although it changed slightly it has not changed appreciably.

Typical Munsell description of hydric soils encountered at flag #4,5 and 6 was a 1"-6" Blackish topsoil 10YR 2/1 blending into a 10YR-5/2 (grayish brown coloration) subsoil at 6-12" with redoximorphic features and or mottles.

Upland soils across the property were typically brighter in coloration 10YR-5/6 with a solid matrix described as a yellowish brown in the **Munsell Color Booklet**.

Proposed Work:

No work is proposed within any wetlands or any portion of the Inner 100' Riparian Zone (Sudbury Bylaws only) no grade changes are proposed, no trees are to be removed and all work will occur in a flat area of previous disturbance much of which is presently covered by a deck system (underlaid by Broken stone $\frac{3}{4}$ to 1-1/2 ").

The dimensions of the proposed sunroom are 12'5"x19'5" and the refurbished deck is 9'x14'6". Most of this new work will replace existing deck structures. See plan.

Only 180 SF of increased in impervious surface area will result between new sunroom and new portion of deck.

We have provided on the plan a detail showing an infiltrative drainage strip to be employed immediately under the drip edge of the proposed roof thus attenuating stormwater roof runoff. We also show on plan and in detail erosion barriers in the form of straw wattles. The work area is flat, reducing erosion potential; no materials will be stockpiled in any Resource Areas.

We show a table of existing and proposed figures demonstrating compliance with RFA Regs by keeping the increase in impervious or degraded surfaces limited to 180 SF. Assuming, as calculated, that the entire RFA on site (North and east of streams) is 83,980 SF and existing degraded is 5,287 SF; resulting degraded after work will be 5,466 SF. By adding only 180 SF of additional impervious/degraded surface to the structure we stay well under the permitted 10% Threshold as allowed by 310 CMR 10.58 3. (d) 1. for the entire structure and driveway.

The proposed work does not involve tree removal, and again it is entirely contained in an area outside of the Inner Riparian Zone, no grade changes will occur no drainage patterns will be disrupted and we do plan to afford groundwater recharge using a drip strip. No work is within any CR Area and a 100' strip of native natural vegetation is and will be maintained within the entire 100' Inner Riparian Zone as required under 310CMR 10.58 3. (d).

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Alternatives Analysis would suggest that such a minor addition in impervious surface areas resulting by replacing the existing decking with the sunroom, not changing grades, not cutting trees, staying outside of the Inner 100' Rip Zone and avoiding any impact to the Eight Interests of the Act dictate that the proposal as sited, is the best feasible alternative available. Other locations on the house would not be as sensitive to the Riverfront Area OR Upland Resource Area (URA) as described in the Sudbury Bylaws and 310 CMR 10.58. Furthermore, we can attenuate stormwater using a drip strip infiltration device as shown.

I have attached as part of this NOI Application the following supporting materials:

- A survey plan by David P Terenzoni PLS at a 40 scale showing all existing and proposed conditions; wetlands flags, site features and property lines.
- Two copies of the entire filing including reduced plans
- A completed form 3 Notice of Intent Application.
- A completed Fee Transmittal Form with copies of the checks to Town and Commonwealth
- A check in the amount of \$67.50 to Town of Sudbury
- A copy of the check to the State for \$42.50
- A USGS of a locus map showing the site and its surroundings.
- A Stream Stats analysis
- GIS Maps
- USGS Maps
- All of the above is also transmitted electronically to the town of Sudbury
- Abutters List

This report is meant for submission to the **Conservation Commission** and/or the **MA DEP** in support of a Notice of Intent Application. As always I am available to walk the site with the Commission or you, at your request. I trust this is sufficient for your current needs in support of this NOI filing. Please contact me if I can be of further assistance or to advise us of a public hearing date.

Sincerely,

Dave Burke

David W. Burke

Wetlands Resource Specialist