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To: Conservation Staff  
Via Email and NewGov

Date: May 22, 2023

Dan Green, Chair  
Via Email

Re: Response to Select Staff Comments, 130  
Nonantum Road, Newton, Massachusetts

From: John P. Rockwood, Ph.D., SPWS

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This memorandum provides a brief response to three select comments raised by Conservation Staff via the Email of May 18, 2023. No plan changes are proposed in response to the Staff Comments addressed below; it is EcoTec's opinion that the project as proposed complies with the performance standards for redevelopment within Riverfront Area as detailed in the submittal. The Staff Comments are in italics; the responses are in standard font.

*Area calculations for the restoration/mitigation area not shown on plans as stated in the narrative.*

As was detailed to Staff, the existing degraded and proposed degraded areas in Riverfront Area are provided in tables on the right side of the Civil Plan (Sheet 2 of 5) about half way down the page and the calculations referenced in the narrative are provided beneath these tables.

*Staff suggest possible ways to reduce the amount of impervious area:*

*Reduce the size of the homes,*

*Eliminate 1 bay of the garage, and*

*Narrow the driveway (which would also allow for more gentle grading).*

As discussed below, there is no need to revise the project to meet the applicable performance standards for redevelopment in the Riverfront Area.

*The project narrative states that degraded area will increase 962 sf however staff calculations indicate that degraded area will increase by over 1500 sf (see diagram). This means that the proposed 1600 sf restoration and mitigation area is not large enough to meet the requirements of the regulations.*

*Current proposal: 472 sf of 1:1 restoration (garage removal)*

*Current proposal: 1,128 sf of 2:1 mitigation (planting area)*

EcoTec disagrees with the first two sentences of this comment. As detailed below, Staff Calculations do not consider all existing degraded areas in their figure/calculations. Staff fail to include the existing degraded areas associated with the existing detached garage and the portion of the existing front walk that are proposed to be restored as part of the project. When those areas are considered, the figure/calculations provided by Staff yield the same result (subject to measurement errors by Staff) as those presented in the filing.

There are two questions to be asked for such projects: (1) What is the increase in degraded area in the Riverfront Area? and (2) How does the project provide the required restoration/enhancement to address the increase in degraded area in the Riverfront Area? These are two separate questions that must be answered

separately.

(1) As detailed on the Civil Plan (Sheet 2 of 5) and in the narrative, the proposed project will result in an increase in degraded area in the Riverfront Area on the site. This increase is simply determined by subtracting the combined area for all existing degraded areas from the combined area for all proposed degraded areas. These numbers are provided in the above-referenced tables which are copied below for reference.

<b>EXISTING DEGRADED AREA WITHIN THE RIVERFRONT AREA</b>	
	<b>EXISTING</b>
ROOF	1,188.3 S.F
GARAGE	398.4 S.F
WALKWAY/STEPS	223.9 S.F
<b>TOTAL:</b>	<b>1,810.6 S.F</b>

<b>PROPOSED DEGRADED AREA WITHIN THE RIVERFRONT AREA</b>	
	<b>PROPOSED</b>
ROOF	1,288.9 S.F
DRIVEWAY	1,169.3 S.F
WALKWAYS/STEPS/LANDINGS	124.0 S.F
RETAINING WALLS	190.1 S.F
<b>TOTAL:</b>	<b>2,772.3 S.F</b>

INCREASE IN DEGRADED AREA IN RIVERFRONT AREA:  $2,772.3 - 1,810.6 = 961.7$  SF

As detailed on the Civil Plan and in the narrative, the increase in degraded area in the Riverfront Area is simply  $2,772.3$  SF –  $1,810.6$  SF =  $961.7$  SF. Spruhan Engineering has confirmed the accuracy of these numbers in CAD. All existing degraded areas must be included in this calculation regardless of whether such areas are proposed to be degraded, lawn or landscaping, or part of a restoration/enhancement area under the proposed condition. The pertinent text from the narrative that details this calculation is from the compliance evaluation for 310 CMR(5)(e) and is as follows:

“(e) The area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58(5)(f) or (g).

The degraded area in the Riverfront Area on the subject site is proposed to be increased by  $961.7 \pm$  square feet from  $1,810.6 \pm$  square feet under existing conditions to  $2,772.3 \pm$  square feet under proposed conditions. The calculations for the restoration/enhancement planting area are shown on the Proposed Plan; proposed plantings are provided in the Planting Schematic. A  $1,600 \pm$  square foot restoration/enhancement planting area is proposed under Sections 10.58(5)(f) and (g) to address this increase in degraded area within the Riverfront Area.”

Again, the increase in degraded area in the Riverfront Area on the site is 961.7 SF. It is not over 1,500 SF (1,512 SF) as indicated by Staff. This discrepancy is very simply explained; Staff did not include all existing degraded area in the Riverfront Area on the site: Staff excluded the existing degraded area for the existing garage and walk that are located within the proposed restoration/enhancement area as part of the calculation. When that area is properly considered, using Staff numbers based upon rough measurements,

1,512 SF minus 411 SF for the garage and 79 SF for the walk to be restored yields 1,022 SF which is very close to the 961.7 SF determined by the engineer using areas generated by CAD.

**(2)** Now that the increase in degraded area in the Riverfront Area has been confirmed to be 961.7 SF, the second matter is how the size of the proposed restoration/enhancement area is determined. As discussed in the narrative and detailed on the Civil Plan (Sheet 2 of 5), the proposed mitigation area includes both restoration and enhancement. Restoration of existing degraded area in the proposed mitigation area is credited at a 1:1 ratio: 1 SF restoration provides 1 SF credit. Enhancement is credited at half that ratio: 2 SF of enhancement provides 1 SF credit. The calculations for the proposed restoration/enhancement planting area are provided on Civil Plan (Sheet 2 of 5) and are provided below for reference.

INCREASE IN DEGRADED AREA IN RIVERFRONT AREA:  $2,772.3 - 1,810.6 = 961.7$  SF  
EXISTING DEGRADED AREA IN RIVERFRONT AREA TO BE RESTORED (GARAGE & FRONT WALKWAY): 471.3 SF  
REQUIRED ENHANCEMENT IN RIVERFRONT AREA=  $961.7 - 471.3 = 490.4$  SF  $\times 2 = 980.8$  SF  
**TOTAL RESTORATION/ENHANCEMENT PLANTING AREA REQUIRED=  $980.8 + 471.3 = 1,452.1$  SF**  
**TOTAL RESTORATION/ENHANCEMENT PLANTING AREA PROVIDED = 1,600 SF**

The project proposes to restore the existing garage and front walk located within the mitigation area. These areas total 471.3 SF. In order to calculate the required enhancement area, the proposed restoration is subtracted from the increase in degraded area in the Riverfront Area on the site:  $961.7$  SF  $- 471.3$  SF =  $490.4$  SF. This latter number is multiplied by two to yield the required area of enhancement:  $980.8$  SF. Adding these two numbers together yields the total required size of the restoration/enhancement area:  $471.3$  SF +  $980.8$  SF =  $1,452.1$  SF. The project provides a total of 1,600 sf mitigation including both restoration and enhancement, approximately 148 SF more than is required by regulation. The pertinent text from the narrative that details this calculation is from the compliance evaluation for 310 CMR(5)(f) and (g) and is as follows:

“(f) When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Areas immediately along the river shall be selected for restoration. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Restoration shall include:

1. removal of all debris, but retaining any trees or other mature vegetation;
2. grading to a topography which reduces runoff and increases infiltration;
3. coverage by topsoil at a depth consistent with natural conditions at the site; and
4. seeding and planting with an erosion control seed mixture, followed by plantings of herbaceous and woody species appropriate to the site.

Restoration of  $471.3 \pm$  square feet of degraded area consisting of the detached garage and concrete front walk/stairs is proposed as part of this project. The calculations for the restoration/enhancement planting area are shown on the Proposed Plan; proposed plantings are provided in the Planting Schematic.

(g) When an applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), or (e) at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria or an equivalent level of environmental protection where square footage is not a relevant measure. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Mitigation may include off-site restoration of riverfront areas, conservation restrictions under M.G.L. c. 184, §§ 31 to 33 to preserve undisturbed riverfront areas that could be otherwise altered under 310 CMR 10.00, the purchase of development rights within the riverfront area, the restoration of bordering vegetated wetland, projects to remedy an existing adverse impact on the interests identified in M.G.L. c. 131, § 40 for which the applicant is not legally responsible, or similar activities undertaken voluntarily by the applicant which will support a determination by the issuing authority of no significant adverse impact. Preference shall be given to potential mitigation projects, if any, identified in a River Basin Plan approved by the Secretary of the Executive Office of Environmental Affairs.

A restoration/enhancement planting area totaling 1,600± square feet in size will be established within the Riverfront Area along Maple Street. The calculations for the restoration/enhancement planting area are shown on the Site Plan; proposed plantings are provided in the Planting Schematic. The intent of this plan is to eliminate the invasive thicket and establish a diverse, native habitat with fifteen (15) native saplings of five species including evergreen and deciduous species; forty-four (44) 4 to 5' tall shrubs of five evergreen and deciduous species; and 64 (64) 2 to 3' tall shrubs of six evergreen and deciduous species to be established throughout the entire restoration/enhancement planting area. These plantings will serve to stabilize this area, in conjunction with the proposed cross swale minimize stormwater runoff toward Maple Street and Nonantum Road, and provide enhanced, native wildlife habitat, including cover, perching, and foraging habitat, compared to the existing invasive-dominated thicket. The restoration/enhancement planting area will be monitored near the end of the growing season for two years after it is established. To be considered a success, the sapling and shrub plantings shall meet or exceed the survival rates specified in the Order at the end of the second growing season after establishment."

In conclusion, it is EcoTec's opinion that the information provided as part of the NOI filing is correct and adequately and properly complies with the performance standards for redevelopment within Riverfront Area. It is EcoTec's opinion that Staff calculations do not properly consider all existing degraded Riverfront Area: again, Staff calculations do not consider the existing garage and walk within the proposed restoration/enhancement area as existing degraded area. When these areas are considered Staff calculations are very close to those provided as part of the filing.

EcoTec hopes that you find this information helpful. If you have any questions please feel free to contact me by email or by cell phone at 508-294-2548.