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August 17, 2018

Sherre Greenbaum, Chair
Wayland Conservation Commission
41 Cochituate Road
Wayland, MA 01778

RE: 24 School Street, Wayland 40B Application

Dear Ms. Greenbaum:

As you know I was unable to attend the last Conservation Commission hearing at which the applicant testified in response to some of my previous comments about high groundwater levels and long-term groundwater mounding. I have reviewed the letter dated August 15, 2018 submitted by Creative Land Development relative to that meeting.

I believe that it would be easier and more clear to explain my comments and concerns about the applicant's analysis in person using some graphs and charts and request permission to do so at your August 23rd hearing. In general I can offer two responses to the Creative letter as follows:

1. High Groundwater Levels: In several previous letters I have commented that it is critical that the applicant and project designer utilize the most conservative (highest) existing groundwater elevation for this project. Creative has offered their most recent thoughts on this subject and I quote, "As a standard practice, USGS normally only take one reading in a month, which would carry a margin of error 6-7". The high water table we caught in March is only 0.19' or 2.28" from the highest point, which would be considered well acceptable in groundwater monitoring" I am not sure what the 6-7 inch error is that Creative refers to but a conservative approach would be to add that

value to the analysis. Secondly, they are relying on water level measurements in March and April, despite the fact that the Massachusetts Stormwater Standards recommend a May reading as the best estimate for high groundwater.

Furthermore there are inconsistencies in where the highest estimated seasonal water levels versus the measured water levels are. I pointed this out in my earlier comment letter (June 6. 2018) as follows: Monitoring Well 3 (MW3) is located in the location of the proposed stormwater infiltration facility and test pit DTH5. Groundwater levels at this location are consistently higher than MW1 that is located near test pit DTH6 (see table below). The estimated high groundwater (EHGW) is reported as 156.6 at DHT5. However the EHGW at DTH6 is reported at 161.87. It would stand to reason that the EHGW would be somewhat higher than this value (approximately 162).

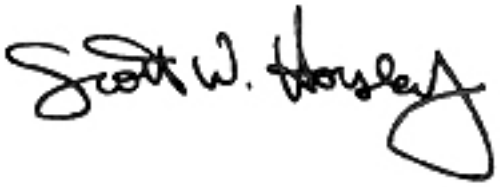
Monitoring well	Top of case, ft	Top of well, ft	Bottom of well	Ground elev., ft	Water Table Elev, ft			
					12/4/2017	1/10/2018	**1/29/2018**	2/9/2018
MW 1	170.18	169.97	142.7	167.7	158.07	155.85	**158.16**	157.95
MW 2	166.13	165.69	146.2	164.2	156.12	154.57	**156.02**	155.89
MW 3	165.08	164.91	148.1	163.1	158.15	156.06	**158.84**	158.72

2. Post-Development Long-Term Water Table Alterations: As I pointed out in my earlier July 1, 2017 comment letter I believe that this project will result in a higher post-development water table throughout the year (independent of the large storm, event-based mounding that will occur during the 25-year and 100-year storms). These higher groundwater levels will occur due to the nexus of the difficult site constraints and the proposed density (and associated impervious surfaces) of the proposed development. Due to these two factors the proposed site design requires the infiltration of significantly more stormwater into the subsurface than currently occurs. The Stormwater Report (page 183) prepared by Metrowest Engineering (revised July 19, 2019) indicates that the required volume of stormwater that needs to be infiltrated to equal existing recharge rates is 1003 cubic feet The system that is proposed will infiltrate 4842 cubic feet. This is more than four times the volume required to meet match (or balance) the existing hydrology. The proposed stormwater infiltration system will infiltrate

significantly more stormwater than currently occurs. This will result in a higher base water table, onto which the larger design storm mounding should be added.

The basic hydrologic principal at work here is that as recharge rates increase water tables rise, as recharge rates decrease they decline. This has been documented globally.

Please contact me directly with any questions that you might have.



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