

May 28, 2021

Mr. Dennis Paul Tobin, PhD
Land Use Administrator
Town of Litchfield
74 West Street
Litchfield, CT 06759

RE: Peer Review for Litchfield Inland Wetlands Commission
Green Two-Lot Subdivision
19 Little Pitch Road
Litchfield, Connecticut

Dear Mr. Tobin:

Following please find our review comments for the above-mentioned project. Our review included the following items associated with the application:

- Erosion and Sediment Control (referenced in Part 7.5.e of the IWW Regulations) – the standard of design will be the 2002 Connecticut Erosion Control Guidelines.
- Peak Flow Attenuation [hydrologic analysis] (referenced in Part 7.5.n of the IWW Regulations) – the standard of design is zero increase in peak flows for the 2- through 100-year design storms.
- Stormwater Quality Treatment (referenced in 7.6.g of the IWW Regulations) – the standard of design is the 2004 Connecticut Stormwater Quality Manual.

We reviewed the following application materials:

- “Green Two-Lot Subdivision, 19 Little Pitch Road, Litchfield, CT, Prepared by Dymar, 04-08-2021, rev 04-30-2021.”
- “Drainage Report, Two Lot Subdivision, Litchfield, CT” Prepared by Dymar.
- Greg Green Application to Conduct Activity in a Regulated Area, dated 04/05/2021.

We understand there is concern from the commission that the slope/fill placed west of the exiting drive between the drive and the wetlands will be a potential for sloughing and/or cause potential stability issues for the proposed house foundation. We met the owner and the engineer of record on site Friday, May 21, 2021 and walked the site. It was represented to Benesch that the fill/slope had been placed and compacted in lifts, which would be the appropriate method of placing an earthen embankment. Based on our observations, it appeared it had been properly compacted.

We offer the following comments.

- None of the fill has been placed in the wetlands.
- The wetlands are sufficiently protected with a double row of silt fence.
- The southern portion of the fill slope has been hydroseeded and appears to be stable with very little rutting

and no sloughing.

- The northern portion of the fill slope has not yet been hydroseeded and is exposed. It is our understanding that this has not been seeded yet because there is work (drainage and septic) that is yet to be completed, but cannot be completed without the appropriate land use approvals, which are in process. The unseeded portion of the slope exhibited minor rutting, as would be expected since it is not stabilized, but it did not exhibit obvious sloughing.
- The site is currently graded such that rainfall accumulating on the flat portion of the site flows to the east, away from the fill/slope. The proposed conditions are also designed such that no runoff will sheet flow from the flat portion of the site to the fill/slope.
- Regarding the long-term stability of the house and its potential for movement due to the fill/slope, we do not anticipate any issues. The bottom of house foundation is designed at approximate elevation 959 and the top of the slope, which is approximately 20' horizontally away, is at approximate elevation 970. The downward force of the house, which extends into the soil through the foundation, is typically assumed to extend downward and outward at a 45-degree angle of influence. There would be cause for concern if that angle of influence extended outward near or through the finish grade of the slope. In this case, the angle of influence elevation at the top of the slope would be at approximate elevation 940, which is 30 feet below the top of slope. Additionally, it appears that the natural grade at the top of the slope is approximate elevation 965, which is still 25 feet above the proposed angle of influence. The slope is set at approximately 2(H):1(V) so the angle of influence, which is assumed to be 1(H):1(V), extends vertically farther and farther away from the surface of the slope, as the slope extends westward to the wetlands.
- It appears the application is complete and conforms to the erosion control, peak flow detention, and water quality treatment requirements of the regulations.

Following are our recommendations:

1. As an extra measure of precaution to protect the existing slope before it is stabilized, place two (2) rows of straw wattles, properly secured with stakes, along the unstabilized portion of the slope; one (1) approximately 20 feet from the top slope and the other approximately 20 feet further down the slope. The wattles should be placed at a slight angle relative to the top of slope such that sheet flow is allowed to gravity flow along wattles and does not pond behind the wattles.
2. It appears that the proposed underground infiltration outlet culvert end is approximately 15 feet from the septic reserve area. Per CT DHP Technical Standards Table 1, Part E, a subsurface septic system is required to have a 25-foot separating distance from solid piping for the conveyance of surface or groundwater drainage. The appropriate health reviewing agency has jurisdiction over the septic design; however, the applicant should review the regulations and make appropriate design revisions if necessary.

Photos



Photo 1 – Stabilized Portion of Fill/Slope



Photo 2 – Unstabilized Portion of Fill/Slope



Photo 3 – Double Row of Silt Fence West Side



Photo 4 – Single Row of Silt Fence East Side

We can make ourselves available to clarify or discuss the above comments directly with the town or the applicant. If you have any questions about this information, please call or e-mail me at 860-494-4359 or wwalter@benesch.com.

Sincerely,
Alfred Benesch & Company

A handwritten signature in black ink that reads "Will Walter".

Will Walter, PE
Senior Project Manager