

August 12<sup>th</sup>, 2021  
6092-P

Town of Boxborough Planning Board  
29 Middle Road  
Boxborough, MA 01719

**RE: Revised Plan Set & Drainage Calculations  
Definitive Subdivision – Priest Lane  
Boxborough, MA 01719**

Dear Members of the Planning Board:

On behalf of the applicant, Boxborough Town Center, LLC., Dillis & Roy Civil Design Group, Inc. has prepared this letter to submit revised plans & additional materials. We have received review comments from Places Associates, Inc. in a letter dated August 5<sup>th</sup>, 2021. We have addressed all plan modifications in the latest revision of the plans and have summarized the changes below. The review comments are *italicized* with the responses from Ducharme & Dillis below them in **bold**.

- 1. The additional soil testing in the area of the chambers indicates that ledge is encountered at elevation 335. The proposed bottom of the chambers is 332.50, and 332.0 for the base stone. The applicant has not proven that there will be no increase in the rate of runoff to Priest Lane.*

*The details for the excavation of the ledge are insufficient to prove that the system will function as intended to recharge the necessary volume to provide attenuation. HydroCAD infiltration design is based on the presumption that there is soil beneath the system and that the stormwater will travel vertically through the soil then horizontally along the water table. It assumes that the groundwater is free flowing through the soil and not entrapped by ledge or other barriers.*

*The last drainage report was dated 7/2/2021 and is not reflective of the current configuration of Cultec chambers. It is also noted that given the location of the chambers on an 8% slope, if the capacity of the chambers is exceeded, rather than “burp” out the catchbasins, it is likely to follow the driveway subbase materials down to Priest Lane. A saturated subbase is one of the causes for pavement failure and should be avoided.*

**CDG Response: The proposed drainage system & HydroCAD model have been revised. Exfiltration has been removed as an outlet in the hydraulic model. The subsurface system has been revised to propose an outlet control structure to regulate the flow leaving the site. The attached plans & details have been revised to reflect the current configuration of the**

**proposed underground system. The system has been sized to manage the runoff associated with a 100-year storm event. Please refer to the revised Drainage Report dated August 12<sup>th</sup>, 2021, for updated calculations.**

- 2. The applicant proposes to tie into the Priest Lane catchbasin. While we agree in concept, the plans are lacking detail. It is noted that there is no actual information on this existing structure- it is shown as approximate. During our conference call with Dillis and Roy, we recommended that this structure and the drainage system be inspected, as-built reviewed and checked for capacity. The time of concentration for the runoff from these lots will be much faster (piped versus flowing overland and bleeding through the wall). No information has been presented to show that this system can accommodate these flows.*

**CDG Response: The subject catch basin has been located & inspected. Rim, invert, & pipe information has been added to the attached Definitive Plan set dated August 12<sup>th</sup>, 2021. The area of hydraulic analysis was expanded to include all tributary area to the subject existing catch basin. This catch basin has been added to the hydraulic model to analyze future storm events that could cause capacity issues. The rim appeared to have been replaced recently due to observed asphalt patching and the rest of the structure was noted to be in good condition. The catch basin was equipped with a hood to facilitate the removal of pollutants.**

- 3. The July 14<sup>h</sup> letter indicates that the Fire Chief has reviewed and approved the layout shown on the latest plans which do not provide a turning location within 100' of each dwelling unit (Shared Driveway Construction Standards 6104.5.A.9. It is recommended that the applicant request a waiver from this requirement. This waiver was not included in the revised waiver list.*

**CDG Response: The attached waiver list has been revised to include all requested waivers from the Rules & Regulations Governing the Subdivision of Land. The proposed project is presented as a Definitive Subdivision with reduced roadway standards to match the geometrics of a shared/common driveway. As such, there is no filing for a Shared Driveway and therefore would not necessitate a waiver from such standards. The Boxborough Fire Department reviewed & approved the layout for the proposed turnaround location despite it being located farther than 100' from each dwelling unit.**

- 4. The current length of Priest Lane is 793' as indicated in the original decision. (Priest Hill Estates Subdivision Modification dated July 14, 1999, Book 30673 page 591). This extension is approximately 150' for a total length of 943'. The subdivision regulations, under Plan Contents requires the tabulation of the length of ways and area contained in the way which was not found on the submitted plans.*

*Section IV A.14 of the Subdivision Rules and Regulations “A dead end street shall be no longer than 500' linear feet in combined total length unless, in the opinion of the Board, a greater length is necessitated by topography or other local conditions, excluding financial considerations, and there are clear and compelling benefits to the Town for granting a greater length”. This waiver has not been requested.*

**CDG Response: The table on Plan Sheet C1.0 has been revised to include the length & area of the proposed way. The attached waiver list has been revised to include all requested waivers from the Rules & Regulations Governing the Subdivision of Land.**

5. *The profile is incomplete as it does not show proposed elevations for the centerline grades, particularly through the vertical curve. We recommend that the location of the subsurface chambers be shown on the profile view as well as the catchbasins and drain manhole.*

**CDG Response: Plan Sheet C7.0 has been revised to include the above-mentioned information within the profile.**

We trust this meets your needs at this time. If you have any questions or require any additional information, please contact the undersigned

Regards,  
**DILLIS & ROY**  
Civil Design Group, Inc.



Ryan Vickers, E.I.T.  
Civil Engineer



Gregory S. Roy, P.E.  
Principal