Re -1/3/23 Exhibit 42

1. Groton Utilities / Statement on Proposed Avery Brook Subdivision dated December 2, 2022, paragraph (1) states that there is "a high degree of permeability for soils throughout the site, as evidenced by the test pit data and percolation rates for the site of each proposed lot. This points to a relatively rapid discharge and migration of effluent to the underlying water table and to areas immediately surrounding the subsurface sewage disposal system, resulting in significant nutrient loadings detrimental to a safe drinking water supply."
   a. What is considered "a high degree of permeability" is not defined.
   b. What is acceptable permeability rates?
   c. What are acceptable levels of nutrient loadings to ensure a safe drinking water supply? Where is this defined?
2. Groton Utilities / Statement on Proposed Avery Brook Subdivision dated December 2, 2022, paragraph (2) questions:
   a. What is the "potential impact of drawdown from multiple wells in close proximity to other lots and to the adjacent neighborhood?
   b. Is there a "potential issue of drawing water from a water table that has significant effluent dispersal from multiple subsurface sewage disposal systems in close proximity to each other?
3. Groton Utilities / Statement on Proposed Avery Brook Subdivision dated December 2, 2022, paragraph (4) questions:
   a. What is the potential impact of non-treated storm water runoff "with respect to high percolation rates and gravelly soils"?
      (1) From the Groton Utilities Verified Notice of Intervention, paragraph 4.d, the impact of non-treated storm water runoff will be "through the discharge and introduction of sediments, salts, and other non-point sources of pollutants from proposed roadways, driveways and home sites on the Subject Premises."
   b. "Our wetlands and open bodies of surface waters, where adjacent to residential or commercial lands, should not be regarded as pretreatment for a drinking water supply."
      (1) Is this addressed or regulated in a professional standard or study?
4. Groton Utilities Verified Notice of Intervention, paragraph 4.a states there is a "significant increase in intensity of use on the Subject Premises (including the proposed addition of 26 new single family building lots, 26 new drinking water wells and 26 new underground sanitary septic systems) and inadequate management, treatment and detention of storm water runoff from 26 proposed new homes, roadway and other impervious surfaces, is reasonably likely to have the effect of unreasonably polluting and impairing the Billings-Avery Reservoir, and associated wetlands".
   a. What is considered inadequate management, treatment and detention?
   b. What is adequate management, treatment and detention of storm water runoff for this proposed development?
5. Groton Utilities Verified Notice of Intervention, paragraph 4.c states the proposal is "reasonably likely to unreasonably pollute and impair the shallow ground water on the Subject Premises and pollute and adversely impact the water quality of the Billings-Avery Reservoir and its associated wetlands."
   a. How will the water quality of the Billings-Avery Reservoir and its associated wetlands be specifically polluted and to what extent?
6. Groton Utilities Verified Notice of Intervention, paragraph 6 suggests "there are feasible and prudent alternatives to the proposed development including a significantly smaller development which incorporates and preserves more of the existing woodlands on the Subject Premises, with fewer proposed on-site drinking water wells, fewer on-site sanitary septic systems, less impervious surface, a more efficient and effective system for the treatment, management and detention of storm water runoff and less total site disturbance."
   a. Does Groton Utilities have a suggestion for an acceptable number of development lots?
   b. What does Groton Utilities recommend as an acceptable system for the treatment, management, and detention of storm water runoff?
7. Ian Cole's report dated December 5, 2022, Wetlands Functions and Values on page 6 states "the short section of the intermittent watercourse channel adjacent to the development primarily functions to convey surface runoff down slope during the high seasonal water table period and after heavy rains."
   a. Is the intermittent watercourse channel labeled as Wetland 1 on Figure 1?
   b. The proposed retention basin that collects all the storm water runoff discharges into this wetland area.
   c. What is the expected nutrient, sodium, and chloride content of the discharge from the retention basin?
   d. Does this surface runoff continue to flow into Billings-Avery Reservoir via the intermittent watercourse?

8. Ian Cole's report dated December 5, 2022, Wetland Soils on page 10 states "The primary wetlands soil series along the flagged wetland boundaries are classified as (3) Ridgebury, Leicester, and Whitman fine sandy loams." "Ridgebury and Leicester soils have a seasonal high-water table at a depth of about 6 inches."
    a. How will the water table be affected by the increase of storm water discharge via a retention basin?
    b. Will the additional nutrients, sodium, and chlorides be absorbed into the water table at a faster rate due to its shallow depth?
    c. How is the drinking water supplied from this interconnected water table affected across the site as a result of storm water discharge?
9. Ian Cole's report dated December 5, 2022, Proposed Activities on page 11 states "storm water generated from the entire road surface will be directed into a storm water quality basin which will renovate and treat the first one inch of storm water (90% of storm events) prior to its release as non-erosive sheet flow."
    a. Approximately how many storm events in the last two to three years have fell into this category?
    b. Is that a relevant question with respect to the CT DEEP 2004 Storm water Quality Manual, paragraph 7.4.1 as stated in the LBM Engineering report dated November 13, 2022?
10. Ian Cole's report dated December 5, 2022, Potential Water Quality Impacts on page 13 states "The CT DEEP Scientific Basis for Protecting Riprarian & Wetland Buffer Zones (REMA Ecological Services) indicates the following removal rates can generally be provided by a 100-foot buffer: 81 percent of total suspended solids; 89 percent of sediment; 89.5 percent of nitrogen; 82 percent of phosphorous."
    a. What is the estimated effluent characteristics from a subsurface sewage disposal system?
    b. The Scientific Basis for Wetland & Watercourse Buffer Zones, paragraph 1.0 defines the purpose of Buffer Zones as "a land use management tool that can effectively protect regulated resources from multiple "indirect" physical impacts associated with development proposals[1], including hydrologic alterations, sedimentation, degradation by excess nutrients and toxicants, and increases in light temperature, and/or ambient sound levels." and includes note 1: "Wetlands agencies in Connecticut must not make permiting decisions based on impacts to wildlife or plants, unless accompanied by physical impacts to wetlands.
        (1) The physical impacts to wetlands from this proposal are suspected to include degradation by excess nutrients and toxicants from storm water runoff and effluent discharge from 26 individual subsurface sewage disposal systems.
        (2) The degradation by excess nutrients and toxicants is claimed in Groton Utilities / Statement on Proposed Avery Brook Subdivision dated December 2, 2022 but is not quantified or demonstrated in any submitted document.
        (3) The applicant was requested to provide this information by the IWWC at its regular meetings on Oct 4 and Dec 6, 2022.
    c. The Scientific Basis for Wetland & Watercourse Buffer Zones, paragraph 2.4 states "Sediment, phosphorous, nitrogen, herbicides, and insecticides, can all be at least partly removed from runoff and leachate passing through naturally vegetated setback zones." And "The percentage of pollutant reduction depends on the pollutant load, nature of the material, amount of runoff, extent of dilution by groundwater, and the character of the buffer area."
        (1) What will the total pollutant load be from this proposal?
        (2) Are the characteristics of the site in its entirety sufficient to effectively treat the combined pollutants from storm water discharge and 26 subsurface sewage disposal systems?
    d. The Scientific Basis for Wetland & Watercourse Buffer Zones, paragraph 3.0 states "The width of wetland/watercourse buffer zone needed to prevent significant adverse impacts to the wetland and/or watercourse is related to three factors: (1) the intrinsic properties of the buffer zone and setbacks (e.g. habitat quality steepness, soil permeability, depth to water table, and vegetation density; (2) the intensity of the development, and (3) the sensitivity of the receiving wetland or watercourses.
        (1) The intrinsic properties of the buffer zone in this proposal are lightly slopes, highly permeable soils, a shallow depth to the water table along the wetland boundary, and light vegetation as described in Ian Cole's report dated December 5, 2022.
        (2) 26 buildable lots on 9.2 acres is an intense development.
        (3) The receiving wetlands and watercourses are highly sensitive as they feed into a public drinking water supply.
    e. The Scientific Basis for Wetland & Watercourse Buffer Zones, paragraph 3.0 states an "importance of the duration of travel time, in determining how much toxin actually reaches a sensitive wetland community or a sensitive receiving water body." "Travel time is a function of setback distance, moderated by factors such

as slope, soil infiltration capability and permeability, water storage capacity, and vegetative cover." "Larger distances are needed if soils are very pervious (sandy) or shallow, or if slopes are steep."

(1) The proposal contains "deep sands and gravels have rapid permeability and high infiltration rates" as stated in Ian Cole's report dated December 5, 2022, Soil Survey on page 10.

(2) What are the permeability and infiltration rates of the site's soils and do they provide sufficient travel time with the proposed setbacks to adequately filter the combined toxins from storm water runoff and 26 subsurface sewage disposal systems before reaching groundwater and/or wetlands that will supply the drinking water source for this proposed development in addition to the public drinking water supply from the Billings-Avery Reservoir?

f. The Scientific Basis for Wetland & Watercourse Buffer Zones, paragraph 4.3 states "properly functioning septic systems remove only 40-50% of the nitrogen that enters the system, though they do filter most of the phosphorous. With a 100-foot buffer, the roots of trees and shrubs, and dilution by groundwater will substantially reduce nitrate concentrations reaching the wetland." and includes the note "To accurately model the setback needed from the septic leach field to the wetland, use the latest CTDEP Dilution model (2003), which takes soil type and watershed area into consideration. It is usually used for community septic systems but is applicable to any setting, per CTDEP staff. Also consider resource sensitivity."

(1) Investigate use of the Dilution model with site characteristics in the proposal and determine applicability and outcome of results.

g. The Scientific Basis for Wetland & Watercourse Buffer Zones, paragraph 5.2 states "properly functioning septic systems unavoidably release effluent with high concentrations of soluble nitrate. When permitting any site plan with a septic system upgradient of a wetland, a question to be asked is whether the distance will be sufficient to adequately dilute nutrients in septic leachate?" Dilution and diffusion – within wetland setbacks – are relied upon to bring nitrogen concentrations in septic system leachate down to levels that do not present a human health risk. Wider setbacks to septic systems than mandated by the Connecticut health code (e.g. at least 100 feet to wetland boundaries) are typically needed to maintain concentrations in receiving water bodies that are close to the USEPA draft standards."

(1) Draft EPA nutrient standards are total phosphorous – 21.25 µg/l, and total nitrogen – 0.71 mg/l.

(2) "Although nitrate-nitrogen is soluble in groundwater, substantial plant uptake, denitrification, and dilution can be expected to occur in a watercourse buffer, particularly if it has a high proportion of moderately well drained soils."

(a) Upland soils on the proposed site are well drained – Agawam fine sandy loams and wetland boundary soils are poorly drained Ridgebury, Leicester, and Whitman fine sandy loams per Ian Cole's report dated December 5, 2022.

h. The Scientific Basis for Wetland & Watercourse Buffer Zones, paragraph 5.4 states "septic system spacing, per the Public Health Code, is intended to allow sufficient dilution to keep nitrate levels in the water table (and wells) at safe levels."

11. The Ledyard, Connecticut Source water Protection Plan dated March, 2008, paragraph 6.3 identifies on-site septic systems as "potential sources of nitrates, chlorides, bacteria, and viruses. In addition, if improperly used, such as for disposal of paints, solvents, petroleum products and other hazardous waste, they could be a source of organic compounds."

12. The Ledyard, Connecticut Source water Protection Plan dated March, 2008, paragraph 6.4.3 states "residential contamination threats to surface or groundwater, if taken on a case-by-case bases, are normally less than other land use contamination, but in the aggregate, form a significant source of contamination."

a. The applicant consistently states that each individual building lot in the proposal meets DPH requirements which is not contested.

b. What are the aggregate effects from storm water and 26 septic systems to the sites groundwater and nearby wetlands?

13. The Ledyard, Connecticut Source water Protection Plan dated March, 2008, paragraph 7.7 states "the town should not approve developments that may introduce hazardous materials or high concentrations of waste in the vicinity of wellheads or the reservoir system and should avoid decreasing lot sizes around these sensitive areas when sewers are not available."

a. Notable authors of the Source Water protection plan include Peter Gardner and Steve Maslin.

b. The importance of this particular paragraph is highlighted further by listing the authors of this document under this statement in addition to the front matter of the document.

14. The Ledyard, Connecticut Source water Protection Plan dated March, 2008, Exhibit VIII, Living In A Public Drinking Watershed Protecting The Watershed and Your Backyard document by the CT DPH Drinking Water

Division states "both surface and groundwater sources are vulnerable to potential contamination from non-point source pollution." "Non-point pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff travels through a drinking water source area, it picks up and carries away natural and human-made pollutants, which are deposited into lakes, rivers, wetlands, coastal waters, and underground sources of drinking water." Sources of non-point pollutants are listed including septic systems and residential runoff. This document also states "Careless or uninformed household and yard management also contributes to non-point pollution problems."

a. There are very limited means to enforce and prevent household and yard management practices that will minimize pollutants from entering the groundwater and nearby wetlands. This is primarily achieved by homeowner knowledge and adherence to household and yard management practices that prevent adding pollutants to the environment.
b. In this high density proposal, the likelihood of one or more "careless or uninformed" homeowners adding pollutants which may deposit into the groundwater and wetlands is high.

15. The Ledyard, Connecticut Source water Protection Plan dated March, 2008, paragraph 12.1.4 states "water quality protection and the provision of public sewers in identified higher density development areas are not at odds with each other. With proper planning and application, the two can be mutually pursued."
    a. This application does not provide adequate information to demonstrate the cumulative effects of storm water runoff and 26 individual subsurface sewage disposal systems.
    b. The application does not demonstrate the proper planning to mutually pursue the proposed development of this property with respect to the addition of pollutants to the groundwater and surrounding wetlands.
16. The CT DPH Drinking Water Section letter dated November 1, 2022 first comment states" it is recommended that Avery Brook Homes LLC coordinate with Ledge Light Health District, the Town of Ledyard and Groton Utilities in a comprehensive review of the site's Water Study (July 6th 2022, GEI Consultants) to ensure hydrogeological data reflect that the quality and supply of public drinking water resources will not be adversely impacted by the development, use or maintenance of the proposed subdivision."
    a. The referenced GEI study shows that the supply of public drinking water resources will not be adversely impacted by the development.
    b. The referenced GEI study does not address how the quality of the supply of public drinking water resources will be impacted by the development.
17. The CT DPH Drinking Water Section letter dated November 1, 2022 second comment recommends "the Town of Ledyard and Ledge Light Health review and consult of additional protections may be necessary to mitigate the potential for mobilization of contaminants from the construction and collective use of 36 individual subsurface sewage disposal systems within the drinking water watershed."
    a. Ledge Light Health District's letter dated November 9, 2022 paragraph 4 states "proposed septic layouts on the lots demonstrate the feasibility of siting code complying primary and reserve septic leaching areas on the lots using proprietary leaching products that provide a high leaching credit per linear foot. On a few lots, positioning of the septic tank in a way to meet code requirements may be difficult and should be demonstrated in the context of not just the property served but also with respect to the surrounding properties."
        (1) This statement supports that each individual septic system will meet code requirements but does not address the "potential for mobilization of contaminants from the construction and collective use of 36 [now 26] individual subsurface sewage disposal systems within the drinking water watershed."
        (2) The commission has requested the applicant provide an analysis of "potential for mobilization of contaminants from the construction and collective use of 36 [now 26] individual subsurface sewage disposal systems within the drinking water watershed" at the October 4th and December 6th IWWC meetings; however, no information has been provided.
18. The CT DPH Drinking Water Section letter dated November 1, 2022 seventh comment includes the following statement from the policies of GMP #5 of the Conservation and Development Policies Plan for Connecticut 2018-2023 (c and D Plan): "it is also important that municipal land use commissions fully consider the broader regional implications of their decision-making processes, whenever there are impacts to the integrity of environmental assets and working lands that are critical to the well-being of citizens beyond their local boundaries."
    a. Several statements of concern have been made by commission members, Groton Utilities, and abutting property owners with regards to "impacts to the integrity of environmental assets". The IWWC has been considering these concerns when discussing this application at meeting and has asked the applicant for

additional information at the October 4tyh and December 6th IWWC meetings to be considered in a decision to approve or deny the application. This additional information has not been provided.

19. GEI Water Study for the Proposed Stoddards Warf Road Subdivision dated July 6, 2022 paragraph 3.2.1 states "Pumping may alter groundwater flow where pumping withdraws water from the deeper aquifer and discharge to the stream is replaced by a greater fraction from septic return flow."
    a. Septic return flow will discharge to the wetland stream.
    b. What are the effects to the wetland area from septic return flow of 26 systems?
20. GEI Water Study for the Proposed Stoddards Warf Road Subdivision dated July 6, 2022 paragraph 3.2.1 states "25% of septic return flow (assumed as 85% of pumping demand per citation in Table 2) recharges downward to the bedrock aquifer." Also, "The water table is expected to be shallow, within stratified drift at the project location."
    a. Pumping demand is 150 gpd / bedroom per CT DPH. 150gpd * 3 bedrooms * 26 houses = 11,700gpd (8.1gpm as stated in The CT DPH Drinking Water Section letter dated November 1, 2022)
    b. 11,700gpd * 85% = 9945gpd of septic return flow
    c. 9945gpd * 25% = 2486.25gpd of effluent from 26 septic systems recharges toward groundwater supplies.
        (1) What are the contaminants in the septic effluent that recharge toward groundwater?
        (2) Is the soil able to effectively treat the quantity of those contaminants before reaching groundwater?
21. GEI Water Study for the Proposed Stoddards Warf Road Subdivision dated July 6, 2022 paragraph 3.2.2 states that "sand and gravel in the stratified drift beneath the site could potentially have hydraulic conductivities of 50 ft/d or higher."
    a. Is this information relevant for determining renovation characteristics of the soils in this proposal?
22. GEI Water Study for the Proposed Stoddards Warf Road Subdivision dated July 6, 2022 limitations are stated "as with any bedrock well, performance of individual wells may be affected by connectivity of fractures and interferences from other wells." And "No field testing was performed for this analysis."
    a. Paragraph 2 states "the fault zone can be expected to have a relatively high density of fracturing which would provide both storage and transmissivity."
        (1) The connectivity of fractures and interferences will provide transmissivity effects to distribution of groundwater pollutants across the development's wells and to the Billings-Avery Reservoir and nearby wetlands.
        (2) With no field testing, the assumptions and information used to develop this report cannot be refuted.
23. GEI Water Study for the Proposed Stoddards Warf Road Subdivision dated July 6, 2022 paragraph 3.1 and Table 1 show that there is likely no hardpan or other impervious layer that separates surface water and ground water and also that the only measured distance to bedrock on the site is 8 feet.
    a. Any contaminants transmitted to surface water from storm water runoff, lawn care chemicals, or other sources are not prevented from reaching the ground water that supplies the Billings-Avery Reservoir or nearby wetlands.
    b. Is 8 feet of soil sufficient to effectively treat surface contaminants before reaching the bedrock?
    c. If septic systems discharge at a depth of 36", is 5 feet of soil sufficient to effectively treat surface contaminants before reaching the bedrock?

- Although each individual lot meets the standards and guidelines set forth by the CT Department of Public Health, the IWWC has expressed concerns about the cumulative effect of effluent from 26 subsurface sewage disposal systems to the water table and associated wetlands in and near this proposed dense property layout.
- What is the expected cumulative nutrient loading impact to the water table and associated wetlands as a result of effluent dispersal from 26 subsurface sewage disposal systems in close proximity to each other combined along the same slope and outflow direction?
- Will the water table hydraulics and ability of the soils adequately treat or renovate the wastewaters prior to dispersal into the water table and associated wetlands?
- What is the impact of non-treated storm water runoff including sodium and chloride levels to the surrounding wetlands?
- Is the 100 foot wetland buffer zone and 75 foot septic system separation from wells sufficient to adequately treat the combined storm water runoff and effluent from 26 subsurface sewage disposal systems to not adversely affect the surrounding wetlands or increase pollutants to unacceptable levels in the groundwater that supplies those wetlands and Billings-Avery Reservoir?

- The proposed addition of 26 new single family building lots with 26 new drinking water wells and 26 new subsurface sewage disposal systems, along with detention and release of storm water runoff from the roadway and other impervious surfaces is reasonably likely to have the effect of unreasonably polluting the Billings-Avery Reservoir and associated wetlands and should be provided with feasible and prudent alternative proposals for site development or an acceptable analysis of the impact to the Billings-Avery Reservoir and associated wetlands as a result of the proposed subdivision and development of the site.
- Under CT General Statutes §8-30g(a)4), the provisions of §8-30g do not apply to inland wetland commissions applying the provisions of General Statutes 22a-36 et seq.; therefore, any discussion of the need for affordable housing in Ledyard or consideration for a balance of affordable housing verses environmental impact is not relevant for consideration by the IWWC for its decision on this application.