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From: Timothy O'Neill, PE
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Cc: Brian Kutz, Hillwood

Date: February 25, 2021

Re: Hudson Logistics Center Subdivision
Response to GeoInsight Comments
Langan Project No.: 151010101

Responses to comments received from BCM Environmental & Land Law, PLLC in their letter to the Conservation Commission entitled "Hudson Logistic Center Subdivision, Site Plan & Condition Use Permit, SB# 11-20, SP# 04-20, CU#02-20, Lowell & Steele Road – Map 234/Lots 5, 34, & 35, Map 239/Lot1, Letter of Opposition, Enclosing Consultant Review Letters" dated November 16th, 2020 are provided below in this memorandum.

Site Engineering

1. The proponent's AoT application states that the site is not a project in a "High Load Area". While we would agree that the existing use as a golf course does not currently qualify as a High Load Area, we believe this new use does convert the site into a High Load Area by NHDES definition:

Env-Wq 1502.30 "High-load area" means a land use or activity listed in (a) or (b), below, unless a source control plan for the site on which the use or activity occurs demonstrates that there will be no exposure or regulated substances to precipitation or run off and no release of [regulated substances] from any portion of the site: (b) Any land use or activity that typically generates higher concentrations of hydrocarbons, metals, or suspended solids that are found in typical stormwater runoff, including but not limited to the following: (6) Fleet storage areas;

We recommend AoT requirements for High-Load areas should be applied to this project, as appropriate.

RESPONSE: *The NHDES AoT Permit has been updated in the most recent resubmission to reflect a high-load generator designation. Required supporting materials for the use as a high-load generator have also been included in the resubmission.*

2. A thorough description of the operations and maintenance, as well as fire safety should be reviewed with regard to hydrogen storage as shown on the site plans. Has documentation been submitted to show that this on-site hazard has been reviewed with the Hudson Fire Department per Chapters 210 Fire Prevention and 233 Hazardous Materials of the HTC?

Hydrogen can be stored physically as either a gas or a liquid. Storage of hydrogen as a gas typically requires high-pressure tanks (5,000—10,000 psi tank pressure). <https://www.energy.gov/eere/fuelcells/hydrogen-storage>

Reference is also noted for OSHA 1910. 103 — Hydrogen. Has the Town identified the process for inspecting and certifying this installation?

RESPONSE: We understand that the Board has received a letter from Chief Buxton confirming compliance with this regulation.

3. Has the proponent provided calculations and documentation to be reviewed that the proposed sewer discharges do not exceed the limits of the sewer capacities under the Town of Hudson's agreement with the City of Nashua regarding sewer allocations (HTC Chapter 270-17)?

RESPONSE: The town engineer and peer review consultant has reviewed and determined the proposed sanitary sewer discharge volumes and the Board of Selectman has approved a daily usage of 36,900 GPD.

4. Per the HTC Chapter 276-13.E, sewer profiles and design data for the pump station were not noted in the project plans. The proposed sewer design should be identified and verified.

RESPONSE: The capability of providing public sanitary sewer to support the development has been granted by the Board of Selectman and design concepts of the system are shown on the site plans. Detailed design of the sewer mains and pump stations are under the jurisdiction of the town engineer and the Board of Selectman. The required information on the final proposed layout will be provided to the town engineer and Board of Selectman for their review and approval.

5. Has the proponent identified in plan and/or table any "critical areas" as defined in Chapter 290 Stormwater Management of the HTC?

290-2 Critical Area: Disturbed area of any size within 50-feet of a stream, bog, water body, or poorly or very poorly drained soils; or disturbed areas exceeding 2,000 square feet in highly erodible soils; or disturbed areas of more than 25 feet in length on slopes greater than 10%.

We recommend applicable requirements and additional protections be applied to 'critical areas' identified in this project.

RESPONSE: While a single, consolidated plan identifying critical areas is not included in the application, they can be found throughout the application.

6. Do the plans show the proposed location of on-site salt and/or winter deicing materials storage? Is the area proposed to be covered with loading/unloading areas protected from precipitation and/or stormwater runoff and run-on? (HTC Chapter 290-5(13) and NH MS4 General Permit)

COMMENT RESPONSE: The snow removal program has been designed in conformance with the NHDES Green SnowPro Certification program. The applicant has committed to employing a NHDES Certified Green SnowPro contractor for snow and ice management.

7. The limits of work do not appear to allow for the movement of equipment at the base of graded slopes. Impact areas should include realistic temporary disturbances for construction.

COMMENT RESPONSE: The limit of disturbance includes a buffer beyond the limits of the proposed grading to ensure a conservative, constructible limit.

8. No cut/fill calculations were noted. Is all excavated material expected to be re-used on-site? Is there a plan to test materials to be imported or removed from the site?

We recommend the Town should understand the volumes of materials expected to be imported and exported to assess if additional permitting (HTC Chapter 200, Excavation of Soil and or materials testing is necessary and for consideration with regards material handling specific to comment 21 below. Cut/fill calculations should also include estimated rock removal, as applicable.

COMMENT RESPONSE: The proposed design takes into account the required earthwork for the site. On-site materials will remain on on-site to the greatest extent practical. As with any construction project, materials not available on-site will be imported as part of the construction process.

Stormwater Management

9. Initial review of the soil data as presented in the proponent's submittals show discrepancies between USDA NRCS soil survey data and the Site Specific Soils Mapping (SSSM). Specifically, NRCS soils that are shown to be identified as Hydrologic Soil Group (HSG) 'A' are in conflict with SSSM areas shown as HSG 'B' which covers a fairly large area of the site. This discrepancy could be significant with respect to stormwater runoff calculations; peak flows and volumes that need to be managed; and to a lesser degree, infiltration, and groundwater recharge rates.

We recommend an independent and thorough review and verification of the SSSM be completed. Additionally, the proponent should provide a full explanation of the differences between the two data sets.

RESPONSE: The Site Specific Soils map was developed based on extensive on site testing performed by a certified soil scientist. The SSSM is more accurate than publically available soils information found on the NRCS web page. The SSSM is also under review by the NHDES and no comments have been received from Fuss and O'Neill, the project third party reviewer.

10. Infiltration testing at each proposed infiltration practice (basin) is required to be completed in accordance with the NHDES AoT Rules (Env-Wq 1504. /4) and the NHDES Stormwater Manual, Chapter 2-4.

The proponent states that infiltration testing for several basins is not expected to be completed until the construction phase. If the State and Town allow this nonconforming exception, how will field design changes for a complex drainage design be qualified, and standards that affect many design elements, such as setbacks and grading, be enforced once construction has begun?

In areas where ponds are proposed to be excavated, valid testing could be done now with piezometers and slug tests. In proposed fill areas, the nature of the future fill will control the design.

We recommend all proposed infiltration practices should meet all applicable design requirements as a prerequisite for Project approvals and permitting.

RESPONSE: Both the Town of Hudson and the NHDES AoT department are aware of the proposed approach to verify design infiltration rates used in the development of the proposed application during the construction period. Verification during construction is allowed under the guidelines and will allow the applicant to perform infiltration testing at the appropriate vertical and horizontal locations for each basin. Many of these specific locations are currently inaccessible while maintaining the operational integrity of the existing site. Rates will be confirmed, and adjustments made if necessary, to the proposed stormwater management system. The design infiltration rates have been reviewed by the town's peer review consultant, Fuss and O'Neill, and they are in support of design approach.

11. The HLC Stormwater Report describes a post-development reduction in peak stormwater runoff flow rates between 22% and 55%, and volume reductions of 32% to 58% as compared to pre-development. While post-development conditions are required to be designed to not exceed pre-development conditions, the intent of holistic stormwater management is to maintain pre-development conditions to the greatest extent possible, not to significantly reduce flows to existing receiving waters. Significantly reducing surface water flows to existing wetlands and streams may affect wetting cycles and flow regimes, especially in low- flow conditions.

Additionally, through several design pond interconnections, stormwater that currently flows to wetland catchments, under post-development conditions appears to be being transferred away from these wetland areas and into the Merrimack River catchment downstream, further reducing surface waters to existing wetlands.

A comprehensive review of the project stormwater management plan should be completed that includes an assessment of water budgets for each pre-development catchment and/or design point to ensure that the design maintains both water quality standards and maintains minimum inflows to sensitive areas.

RESPONSE: The stormwater management design has been reviewed and accept by the town's peer review consultant, Fuss & O'Neill. Reduction in stormwater velocity is a positive component of the design to protect against erosion and improve downstream flooding. Reduced off site volumes will also improve the potential for downstream flood. Reduced runoff volumes from the site to specific watersheds have been carefully considered. Wetland areas will continue to receive stormwater runoff from large areas beyond the project limits as well as a significant amount of groundwater recharge provided by proposed infiltration basins within close proximity.

12. Several snow storage areas as shown on the Site Plans appear to allow snow melt to flow directly into infiltration basins. Plowed snow can contain concentrated levels of pollutants including salt, oils, metals, and trash. Stockpiling snow off paved areas can bypass treatment devices such as oil/water separators. Snow storage sited upslope from a stormwater basin can allow contaminated snow to melt directly into the basin also bypassing basin pre- treatment areas.

Salt and/or deicing materials can reduce infiltration rates and introduce high concentrations of salts into groundwater. The accumulation of salt residues can also negatively affect plantings within basins. Removal and disposal of salts from infiltration basins also does not appear to be discussed in maintenance plans.

RESPONSE: Snow storage areas target locations directing melt to forebay locations or areas with long overland flow prior to leaving the site. The inspection and maintenance manual was designed in accordance with the NHDES guidelines and incorporates the Green SnowPro program. This is under review by the NHDES AoT permit.

13. Given the complexity of the proposed drainage system, specifically interconnected basins, we recommend drainage profiles be developed to facilitate review of this design.

RESPONSE: Noted, the application provides sufficient information detailing the design of the stormwater system. The system has been review extensively by the town's peer review consultant and they are supportive of the documentation and the design of the stormwater system.

14. Cross-sections for each infiltration basin should be developed to facilitate review. Individual basin cross-sections should illustrate: depth to groundwater, seasonal high water table, and bedrock; depths of excavation; maximum height of raised/fill berms; inflow elevations; treatment pool elevations; lengths of flow paths through the basin; outflow devices and elevations; and computed operating and flood elevations.

RESPONSE: *Noted, the application provides sufficient information detailing the design of the stormwater system. The system has been review extensively by the town's peer review consultant and they are supportive of the documentation and the design of the stormwater system.*

15. Our review of available plans showed that the interior portion of the cut-de-sac appears to have no drainage. We recommend provisions for drainage or revised grading of the cut-de-sac be considered.

RESPONSE: *The cul-de-sac has been redesigned and includes a drainage structure.*

16. Several drainage pipes are designed with slopes less than required by the HTC and may not adequately drain. This was also noted by the Town's review engineer as inadequate.

RESPONSE: *The third party reviewer, Fuss & O'Neill, stated that they "...would take no exception to the applicant requesting a waiver for these slopes...". The town engineer is aware of these slope and concurs that the system as designed is appropriate and he is supportive of a waiver request.*

Geotechnical Engineering

17. The AoT application and subsequent submittals note that blasting is not currently planned or expected. We would recommend that conditions, such as public notification, blasting hours, and groundwater and vibration monitoring, be established in the event that blasting and/or rock removal occurs during construction.

RESPONSE: *If blasting is necessary for the construction of the site, all permitting will be acquired and appropriate procedures will be followed.*

18. We recommend stormwater ponds with fill berms be verified that they do not meet the NH definition of a dam (RSA 482:2.I§. Were stormwater ponds with fill berms designed to be stable at prolonged full ponded height, including consideration for saturation of berm soils? Were stability analyses completed for berm designs?

RESPONSE: *The applicant has verified that the stormwater basins do not meet the definition of a dam.*

19. Ponds/basins should be reviewed to determine if they are proposed over shallow bedrock such that infiltration will not readily occur or could create horizontal 'infiltration' that may cause local mounding or an upwell downgradient. If certain areas designed for infiltration are found to be located over bedrock and infiltration cannot be applied, the designers should consider if the basins should be lined to reduce the opportunity for the development of a sliding surface condition.

RESPONSE: *Extensive geotechnical investigations have been conducted to document the soil strata of the site. Infiltration has been designed to be at an elevation above bedrock in conformance with the NHDES Stormwater Manual. The system has been review extensively by the town's peer review consultant and they are supportive of the documentation and the design of the stormwater system.*

20. As noted previously, the proposed site drainage is complex, including the proposed subgrade drainage design. Sufficient review should be made to fully and independently vet this design as a whole including (but not limited to): review of groundwater inflow methods and estimates; and elevations of adjacent proposed infiltration practices compared to the depths and elevation of the subsurface drainage design.

RESPONSE: *The system has been review extensively by the town's peer review consultant and they are supportive of the documentation and the design of the site drainage and stormwater system. Groundwater modeling was include in stormwater modeling program prepared for this site and reviewed by the town peer review consultant.*

Environmental Concerns

21. Soils in the Nashua-Hudson area are known for having contaminants such as asbestos. Were soil samples tested for in-situ contaminants? Is an Asbestos Disposal Site Work Plan anticipated for this project to address the likelihood of finding asbestos containing materials during construction?

RESPONSE: *Langan has completed soil sampling of the site for due diligence purposes and further sampling will be completed prior to off-site disposal activities associated with the redevelopment. Our site investigations to date have not identified asbestos containing materials (ACM) at the site. Should ACM be encountered during construction, the handling and disposal of such ACM will be completed in accordance with applicable State and Federal regulations.*

22. In newly submitted documents to the Town for the upcoming November 16, Conservation Commission meeting it is noted that the proposed future boat ramp has been removed from the design. Has the Local River Management Advisory Committee (LAC) been notified regarding this change and if so, have they provided comment?

RESPONSE: *The Boat ramp is no longer contemplated as part of this application.*

23. In 2017 when per- and poly-fluoroalkyl substances (PFAS) first became a known issue in NH, NHDES identified the sites they believed might be of highest concern for PFAS impacts and published this list. Although Hampshire Chemical Corp was not on NHDES' 2017 list, it ceased operations prior to 2000 and may have been outside of the State's timeframe for developing this list. PFAS have been detected in groundwater at the Hampshire Chemical Corp location. If Hampshire Chemical Corp had historically been an air emissions source, aerial deposition of PFAS could have resulted in impacts to soil at the site, despite its location across the river from the manufacturing facility. If PFAS are present in soils at the site, they will require special consideration with regards to off-site disposal. In addition, in some cases across the state, NHDES has required different stormwater infiltration designs for sites where PFAS is present in soils.

RESPONSE: The applicant is aware of this comment.

We recommend that NHDES review on- and off-site potential sources for PFAS impacts to soils at the site.

RESPONSE: The applicant is aware of this comment.

General Notes

24. Several reported numerical data are inconsistent across multiple documents. We recommend these inconsistencies be identified and rectified prior to Project approvals and permitting.

RESPONSE: The applicant has made the appropriate revisions.

25. Who is the Fire Engineer (PE) on the proponent's Team regarding site layout and design?

RESPONSE: The fire protection engineer for the project site is the Harrington Group.

26. What is the height of the tree line along the residential boundary in comparison to the combined height of the berm and sound wall? A cross-section through this area would be helpful for visualization and to ensure that the sound wall is not visually outsized with respect to the surrounding, natural tree line.

RESPONSE: Multiple cross-section views and visual depiction of the site have been presented at public hearings and are on record with the town of Hudson. The cross-sections include tree heights and the visual impacts of sound fence.

27. Has the Town had an independent review of the Noise Study? Will the proponent provide an Updated study as the design continues to change and progress?

RESPONSE: The town has conducted an independent peer review of the noise study and that peer review concluded that the proposed project is in compliance with the town of Hudson noise ordinance.

28. Can site lighting be designed to turn off or be reduced in intensity after a certain time at night to reduce light pollution? Is there a lighting report?

RESPONSE: Site lighting has been designed in accordance with the town of Hudson regulations and is a dark skies friendly design. Further light control features are proposed to place to reduce light shed at sensitive areas such as wetland crossings. Details of the lighting design and the isolux plan has been provided in the application.

We trust the responses above sufficiently address the comments. Should you need anything additional please don't hesitate to contact us.

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