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Ms. Becky Masure  
Rural Edge  
Housing and Community Development  
48 Elm Street  
Lyndonville, VT 05851

RE: Site Feasibility Study  
Greensboro Town Hall and Grange Hall Properties, Vermont

This letter's intent is to report the findings of the Feasibility study for the Greensboro Town Hall and Grange Hall properties.

### **Site Visit**

A site visit was conducted on July 19, 2023. The goal of the site visit was to inspect and gather information for the proposed project feasibility study.

Points of emphasis during the site visit include, but are not limited to the following:

- Stormwater Infrastructure and Runoff
- Environmental Impacts, Wetlands
- Topographic Layout and Property Boundaries
- Existing Utilities, Water, Septic, Electricity
- Permitting Considerations
- Layout Considerations

### **Findings, Existing Conditions**

#### **➤ Wastewater (Septic System)**

The current septic system that serves the Town Hall was designed to serve Greensboro Graded School. The system then went through a formal change of use under wastewater permit PB-7-0387 in 1983. In these permit documents, the original septic system was permitted for 2,165 gallons per day (GPD). The change of use permit designated the building to use only 1,530 GPD. A conversation with the Vermont regional wastewater engineer determined that the system, due to age, cannot reasonably again support the original 2,165 GPD, thus leaving the system's current capacity at 1,530 GPD.

During the site visit Horizons Engineering (HEI) was able to locate the existing septic tanks on the Town Hall property. HEI also found documents showing the locations of the two holding tanks behind the Grange Hall. HEI could not find documented information, held by the town or the state, on the exact location of the septic field for the Town Hall.

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Excavation or other location methods will need to be utilized to locate the extent of the existing septic field. The existing septic field appears to be in working condition as no surface effluent or sewer odor was observed. The two holding tanks at the Grange Hall are currently pumped when full and have no field or other disposal method utilized.

➤ **Water Service**

During the site visit the water service connection was found to enter the Town Hall building in the basement through the utility/boiler room on the east wall of the building. The existing water service is 4” plastic and looks to be in good working condition. It is HEI’s understanding that the existing gravity pressure water system was replaced within the last 10 years and passes all state and federal drinking water regulations.

HEI was able to locate, possibly, the water service shutoff (curb stop) with a metal detector. It is located under the gravel drive at the edge of the paved roadway apron on the east side of the Town Hall. The condition of the curb stop and the method of connection to the water main is unknown. Further investigation will be required for future development connections.

➤ **Environmental Impacts**

HEI recommends having the wetlands delineated by a certified wetlands scientist. Based upon our site visit and visual cues HEI anticipates that wetlands will need to be considered on this site, specifically the 50’ wetlands buffer. In the northwest corner of the Town Hall property, there are probable wetlands just before the culvert that crosses underneath the driveway on the west side of the Town Hall. There also appears to be wetlands at the outlet of the stormwater drain on the southmost portion of the Town Hall property and on the west side culvert outlet across Craftsbury Road (Town Highway 1). The Grange Hall property directly abuts wetlands to the north and is mostly located within the 50’ wetlands buffer.

➤ **Stormwater**

Current stormwater practices are limited to catch basins and culverts near the roadways. At the south end of the Town Hall property, there are two catch basins. One collects runoff from the roadside ditch on the west and empties into the wetlands abutting the Grange Hall. The other catch basin collects runoff from the roadside on the east side of the property and empties across Lauredon Ave. into probable wetlands in the southeast. Currently, existing culverts on the north part of the Town Hall property are in poor condition. Many of the culverts in this area are crushed or buried in sediment. These culverts are meant to carry stormwater from the west side of Lauredon Ave. around the existing parking lot and empty into the wetlands to the northwest part of the property.

➤ **Roadway and Space Constraints**

The Town Hall property is surrounded by roads on two of the three sides (east and west). Lauredon Ave. to the east and Craftsbury Road (Town Highway 1) to the west. The third property line direction to the north abuts the current Greensboro school and probable wetlands below a steep bank in a wooded area. This property line could not be verified completely during the site visit. The existing community green area is the most likely spot for a new septic system. Consideration should also be given to road right-of-way widths. If a statutory width of 3 rods (49.5) is assumed on the roadways, setbacks per various Agency of Natural Resources rules will need to begin from that point somewhat limiting the areas that can be used for design purposes.

The Grange Hall property bordered by Town Highway 1 and wetlands to the east and north respectively. The size of the property limits potential development of a new septic system and even parking and access for foot traffic. This property will likely rely on the septic system located on the Town Hall property with crossing Craftsbury Road being necessary in that case.

**Recommendations and Design Considerations**

➤ **Wastewater (Septic System)**

The existing system has capacity for 1,530 GPD with the proposed loading breakdown below.

*Town Hall*

6 – One Bedroom Lofts

3- Two Bedroom Units

1- One Bedroom Unit

Total Flow (WWPWS Rules, 70 GPD/Person): 1,820 GPD

*New Construction*

4 – Three Bedroom Units

6 – Two Bedroom Units

Total Flow (WWPWS Rules, 70 GPD/Person): 3,360 GPD

*Grange Hall*

1 – Two Bedroom Unit -

3- One Bedroom Units –

Total Flow (WWPWS Rules, 70 GPD/Person): 700 GPD

Proposed Total Flow: 5,880 GPD

As the numbers above indicate, the renovation of existing buildings and the construction of a new residential building cannot be supported by the existing septic system. Due to the age, location, and design of the system it would not be a viable option to use in conjunction with a new development of the properties.

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The best location for a new septic system would be near the existing septic field on the Town Hall property green area. The new system would likely be a mound system and pressurized. The existing tanks on the Town Hall property will likely need to be replaced (undersized) or expanded to accommodate the increased loading. Additional septic tanks would need to be installed for the new building. The Grange Hall tanks will need to be evaluated to ensure they meet the size requirements of the increased septic loading. A grinder pump will need to be utilized for this building to effectively pump the effluent to the new septic disposal system on the Town Hall property. This would likely include a bored or excavated sleeved section of force main across Craftsbury Road (Town Highway 1).

Considerations shall be given to avoiding conflicts with existing open drainage (ditches), closed drainage (catch basins, culverts) and water supply lines per Vermont wastewater rules.

Locating the extents of the existing septic field and digging test pits to determine soil classification and water table depth are the first tasks in developing a new septic design.

➤ **Stormwater**

Existing stormwater practices will need to be upgraded and/or re-routed to accommodate the new building and renovations to the existing building. Increased impervious stormwater runoff will require a stormwater permit to be filed. Collection, conveyance, storage, and treatment practices will need to be surveyed and evaluated throughout the properties. The incorporation of new catch basins, culverts, and sand filters are likely required on the Town Hall property.

If the Grange Hall property does not increase in impervious area coverage, then a stormwater permit may be avoided for that property. Reducing the amount of impervious area for the Town Hall property renovation and new building designs will aid in the stormwater permitting process.

Completing a property stormwater flow analysis and model are the first steps to determine the requirements of a stormwater permit.

➤ **Survey and Wetlands**

HEI recommends having the wetlands delineated by a certified wetlands scientist this summer/fall (before October 15) before the growing season ends to establish the limits of a workable zone outside the wetland jurisdiction. Construction may be required within the wetlands and their associated 50' buffers. If construction is required in these areas, a wetlands permit will be required. The permitting process can be lengthy, and HEI recommends starting this process as early as possible.

HEI would then recommend conducting a base mapping survey and locating existing boundary lines along with the wetland delineation to begin the design process for both properties. This process includes utility locating, possibly dig safe may be contacted or other underground location services if deemed necessary.

➤ **Miscellaneous Considerations**

- Water connection permit/request to the Town of Greensboro
- Driveway/access permit/request to the Town of Greensboro
- Indirect Wastewater Discharge Permit, State of VT, if loading exceeds 6,500 GPD
- Electric/Communications connections
- Parking spaces, specifically lack of space at Grange Hall
- Vegetation and plantings near new and existing septic system components

**Opinion of Feasibility**

It is HEI's opinion that the proposed project of renovations to the existing Grange and Town Hall buildings along with the construction of a new apartment building on the Town Hall property is feasible provided there is careful consideration given to the aforementioned topics. Designs should account for the space and utility restraints discussed above. HEI also requests to comment on architectural/site plans during the design process if the project becomes fully authorized to minimize potential conflicts and delays with necessary state permitting and design practices.

If you have any questions, please feel free to contact me.

Sincerely,



Coleton Loura-Bumps  
Project Engineer  
Horizons Engineering, Inc.



Nathan P. Nadeau  
Senior Project Manager  
Horizons Engineering, Inc.

Attachments: Site Visit Photo Log

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Photo # 1  
Water service connection (4") into Town Hall building.

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Photo # 2

View east across front of Town Hall building with existing parking.



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Photo # 3

View looking south across the Town Hall green and over the existing septic system.



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Photo # 4  
View north of existing septic leach field.



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Photo # 5

View from existing septic tank outlet towards Town Hall building.



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Photo # 6

View west along the north side of the Grange Hall building. Wetlands can be seen abutting the property near the north west corner.



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Photo # 7

Existing stormwater catch basin at intersection of Lauredon Ave. and Craftsbury Road.



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Photo # 8

View looking south east towards wetlands and outlet of stormwater catch basin in Photo #7 across Craftsbury Road.



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Photo # 9  
Driveway entrance along Lauredon Ave.



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Photo # 10

View looking west at east side of Town Hall building at approximate location of water service shutoff.



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Photo # 11

View looking west from parking lot behind Town Hall building.



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Photo # 12

Existing stormwater ditch and culvert from Lauredon Ave. in parking lot behind Town Hall building, upstream.



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Photo # 13

Existing stormwater ditch and culvert from Lauredon Ave. in parking lot behind Town Hall building, downstream.



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Photo # 14

North west facing slope north of Town Hall property. Wetlands are located downslope along with likely intermittent stream.



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Photo # 15

View north east at intersection of parking lot at the Town Hall building with Craftsbury road.



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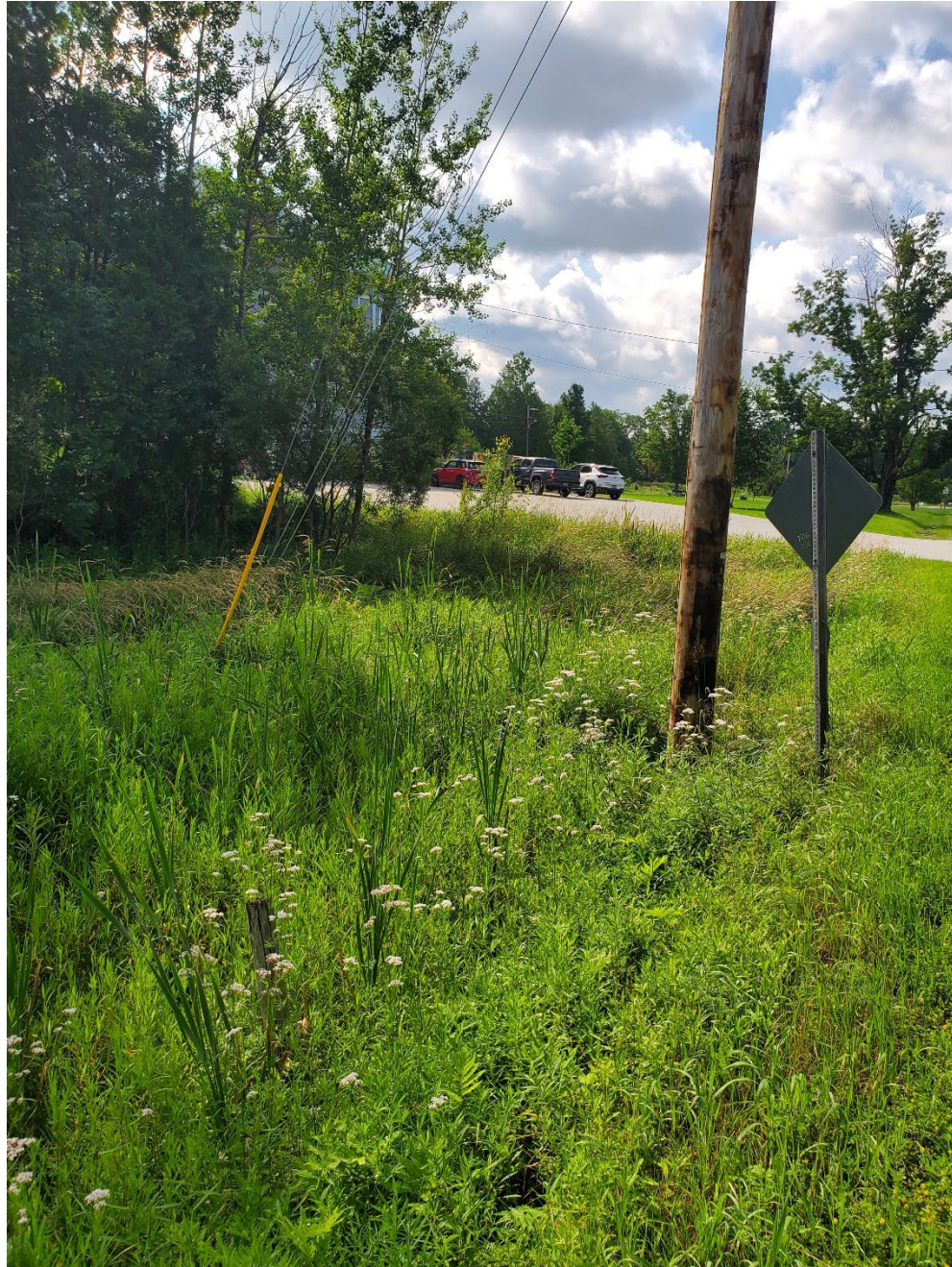


Photo # 16  
View south east of photo #15 location.



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