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PEER REVIEW MEMORANDUM

Date: February 29, 2024
To: Lovell Planning Board
From: Matthew Reynolds, P.E., L.G.
Subject: Conditional Use Review of
Proposed Restaurant, Convenience Store and Gas Station – Route 5

At the request of the Lovell Planning Board, Drumlin Environmental, LLC (Drumlin) has reviewed site plans, soil survey and hydrogeologic assessment information submitted by Ambit Engineering, Inc./Haley Ward, Inc. on behalf of the applicant, Meatballs, LLC, for the above referenced project. This memorandum summarizes Drumlin’s review and provides comments and recommendations for consideration by the Planning Board.

I. Proposed Project Overview

The project is proposed on Subdivision Lot B, a 4.99-acre area identified by the Town of Lovell as Lot 038 of Tax Map R07. The property currently is undeveloped except for two leach fields, which according to the applicant have not been used. The property is bordered by Route 5 on the west and Alder Brook on the east. The eastern edge of the property falls within an area mapped by the Maine Geological Survey (MGS) as a significant sand and gravel aquifer (Open-File No. 98-206, 1998). The Town has identified the same area as part of its Aquifer Protection Overlay District.

The project proposes development of approximately 1.42 acres on the south end of the property with a 30-seat restaurant, convenience store and gasoline station with two underground storage tanks (USTs) and four pump islands. The project includes an on-site water supply well, an on-site subsurface wastewater disposal system and a stormwater management system

II. Review Scope

Drumlin has reviewed the elements of the project related to site soils, hydrogeology and the potential for the project to impact the water resources. Our review has included site plans and application materials submitted for the project including a High-Intensity Soil Survey and Hydro-Geologic Assessment dated 25 January, 2024.

In our review, we have referred to the Lovell Zoning Ordinance General Performance Standards related to Soils and Subsurface Wastewater Disposal (Section 17.15), Water Quality (Section 17.19) and Water Supply (Section 17.20). Maine Department of Environmental Protection and Maine Drinking Water Program regulations related underground storage tanks and drinking water wells were also considered.

III. Review Comments

The proposed project includes several elements that have the potential to pose a risk to surface water and groundwater resources. These include storage and dispensing of gasoline and diesel, on-site disposal of wastewater and management of stormwater. Resources that may be impacted by these activities include the proposed on-site water supply well, the mapped sand and gravel aquifer and Alder Brook. Specific comments based on our review of the Hydro-Geologic Assessment and other project documents are provided below.

- The Hydro-Geologic Assessment described the overall setting and regional geology of the site and included a review of the MGS Well Database and existing public drinking water system. No nearby existing public drinking water systems were identified and the closest private well was identified approximately 220 feet west and upgradient from the project site. Based on this information, the project does not appear to pose a risk to existing off-site private or public water supply wells.

The Hydro-Geologic Assessment also evaluated conditions on the property using seven test pits dug to depths between 60 and 70 inches. These test pits encountered soils classified by the high-intensity soil survey as moderately well drained Nicholville very fine sandy loam. This soil type is not indicative of the presence of a sand and gravel aquifer in the upper 70 inches. However, the Hydro-Geologic Assessment indicates that additional field explorations would be needed to determine whether these aquifer deposits are present below the Nicholville fine sandy loam.

The project includes two 20,000 gallon USTs, which will be installed significantly deeper than the 70 inches evaluated by the Hydro-Geologic Assessment. Deeper explorations would be required to determine if the sand and gravel aquifer underlies the shallow fine sandy loam and to evaluate the potential threat that these USTs may pose to the sand and gravel aquifer, if it underlies the site.

- The project proposal includes installation of a drinking water well approximately 150 feet north of the convenience store/restaurant building and approximately 265 feet from the UST installation. It appears that this well will be classified as a *transient, non-community public water supply* by the Drinking Water Program because the facility has the capacity to serve at least 25 people per day for at least 60 days per year. According to the Maine Rules Relating to Drinking Water [10-144 CMR 231(3)(G)(2)], “new wells shall be located at least 1,000 feet from Underground Storage Tanks...unless a waiver is obtained from the DWP and the MDEP”. Potential conditions that may be required to obtain this waiver include a Hydrogeologic Assessment, installation of treatment equipment for the well, installation of a monitoring well and on-going monitoring.
- The project includes a stormwater management system consisting of several catch basins that convey runoff to a detention pond, which discharges to a swale that slopes east toward Alder Brook. The stormwater system design is based on the Maine Department of Environmental Protection Natural Resources Protection Act (NRPA) Stormwater Management Law and a Permit-By-Rule application Form is included in the project material submitted to the Town.

The Maine Stormwater Law is intended to manage and control stormwater to mitigate potential impacts from erosion and runoff of sediment and phosphorous into surface water bodies. Components such as the proposed detention pond are included to allow for short term storage of runoff and settling of sediment before it is discharged from the pond. However, stormwater from this project also has the potential to include gasoline and diesel constituents from the fuel islands. In addition to these constituents in general stormwater runoff, if there were a spill by a customer or during filling of the USTs, there is a potential for larger volumes of gasoline or diesel to flow to the catch basins and detention pond.

According to information provided in the Hydro-Geologic Assessment, the applicant has modified the design of the stormwater detention pond to include an impermeable liner. Other infrastructure modifications are also possible for the stormwater system to provide additional containment and protection.

IV. Recommendations

According to the Lovell Land Use Ordinance, the Hydro-Geologic Assessment is required to evaluate “potential adverse impacts to groundwater quality”. The test pit explorations determined that the proposed UST installation is likely to extend below the water table, but the test pit explorations were not as deep as the UST installation and did not determine whether the mapped sand and gravel aquifer underlies the fine sandy loam encountered in the shallow subsurface. We recommend deeper borings to confirm the absence or presence of a sand and gravel aquifer beneath the area of the property proposed for development so that potential adverse impacts to groundwater quality can be more accurately evaluated.

The current configuration of the project, with USTs within 300 feet of a likely public water supply well, will require a waiver by the DWP and the MDEP. In order to obtain this waiver, adjustments will be required to the project layout and/or infrastructure. We recommend that the Planning Board request that the applicant contact the DWP and MDEP to confirm whether or not a well setback waiver will be required and if one is required, to determine what project changes will be needed to obtain a waiver. Once this information is provided to the Planning Board, the Board will be able to assess whether the project meets the performance standards in the Lovell Land Use Ordinance

As noted above, the Stormwater Management Law does not include design requirements to control or treat runoff containing gasoline, diesel or dissolved constituents from these fuels. Upgrading the stormwater system to include a lined detention pond is beneficial. We recommend consideration of other infrastructure upgrades to both the fuel storage system (system components, system management, employee training, etc.) and to the stormwater system (e.g., oil/water separator, detention pond outlet gate, etc.)

We hope that the comments and recommendations in this memorandum are helpful to the Planning Board and look forward to discussing any questions the Board might have at the upcoming March 6 meeting.