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Mr. Abdo El-Arab
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Geotechnical Engineering
Environmental Engineering
Archaeological Studies
Hydrogeology
Geological Engineering
Materials Testing
Building Science

Attention: **Mr. Abdo El-Arab**

www.patersongroup.ca

Subject: **Servicing Brief**
Proposed Site Re-Development
6175 Rockdale Road
Vars, Ontario

Dear Mr. Abdo El-Arab:

As requested, Paterson Group has provided this servicing brief to outline the proposed services (water, wastewater and storm) for a proposed re-development of the commercial property located at 6175 Rockdale Road, Vars, Ontario. The subject property is located at the southeast corner of Rockdale Road and Russland Road/Highway Lane in Vars, Ontario.

Existing Conditions

The property consists of approximately 0.9 ha over two lots. The lots are currently occupied by two commercial businesses consisting of an Esso gas station and a used car dealership. The existing development is serviced by a private onsite sewage system and a drilled well. Refer to Figure 1 for an aerial photo of the existing site conditions.

The existing drilled well produces poor quality water with a high concentration of hydrogen sulphide. The current usage of the water supply is only for hand washing and bathroom needs. It is proposed the drilled well will be maintained in accordance with O.Reg. 903 as a car wash location using a portable hose.

Surficial drainage for the existing development is controlled by sheet drainage and open ditches surrounding three sides of the property.

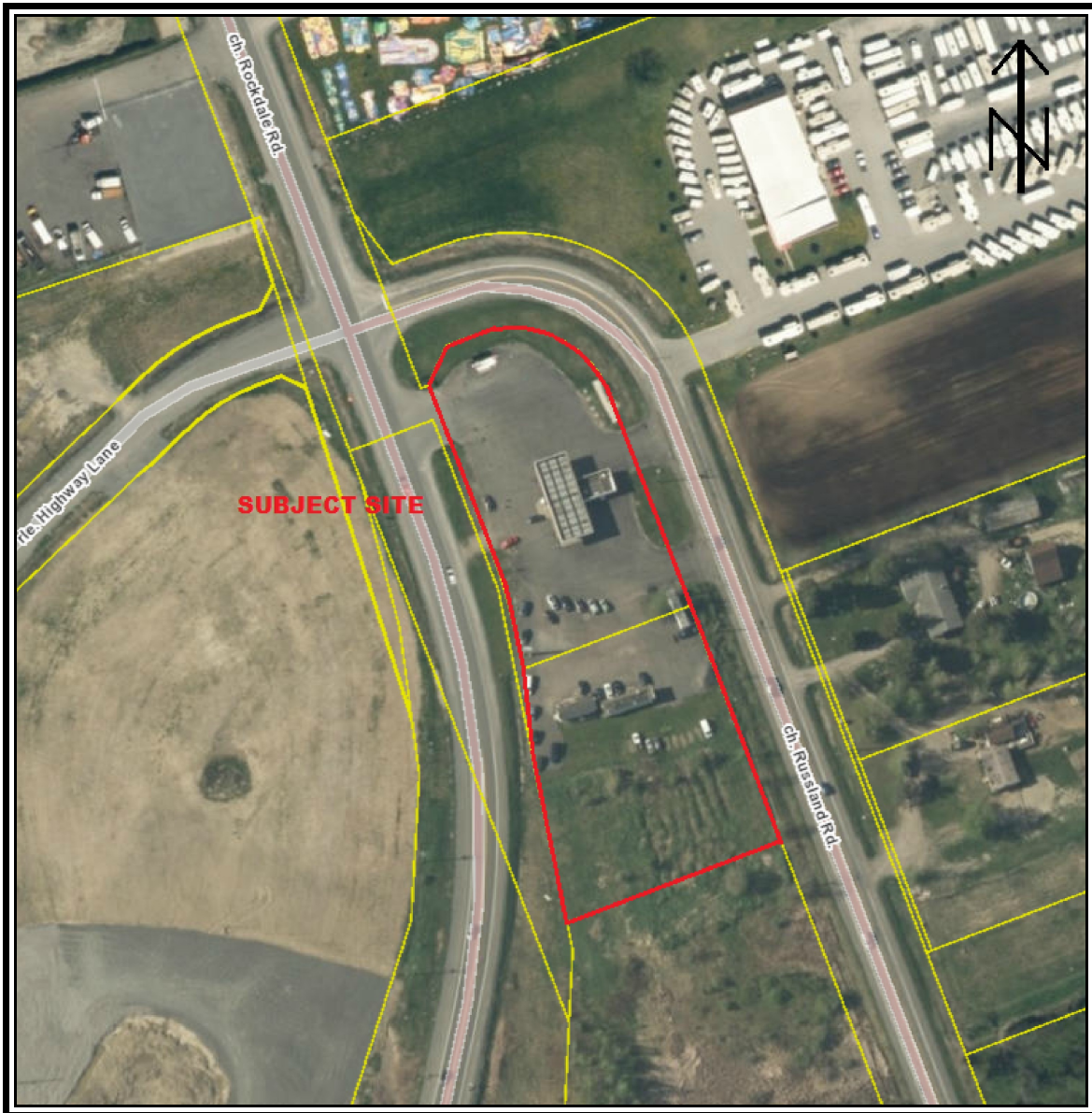


Figure 1: Key Plan

Development Proposal

The land is to be re-developed for an upgraded fuel station and convenience store with new parking lot and entrances. The gas pumps and canopy will be relocated and expanded. A drive-through service may be incorporated in the convenience store which will use paper service only. Any potable water necessary for site operations will be shipped to site in sealed bottles from an approved potable supply.

Municipal services are not available at this site. The proposed development will be privately serviced by a new onsite sewage system and a new water well supply.

Private Water Service

The water supply for the new development will consist of a dug well. Dug wells are typically used in this area due to the poor water quality of the bedrock aquifer. A new dug well was installed on the subject site and subsequently tested for water quality and quantity to determine its suitability to support the proposed development. The findings of the well study are detailed in the Water Supply Assessment Report No. PH3333-LET.01, dated July 3, 2018 prepared by Paterson Group (Paterson).

The new dug well was constructed by Maurice Cayer Ltd. and consists of a 1.2 m diameter concrete casing extending down to 4.9 m depth based upon the Ministry of the Environment, Conservation and Parks water well record. The casing extends approximately 0.6 m into the bedrock. Results of the testing program carried out on the new well indicate that it is suitable to support the proposed development with respect to quantity and quality.

The dug well water supply is intended to be used for hand washing and toilet supply only and bottled water will be used for drinking purposes, similar to the present operation. A disinfection system on the water supply will be installed.

Private Sewage Service

The proposed development will be serviced by an onsite sewage system. The sewage generated by the proposed development will consist of domestic quality waste associated mostly with bathroom use. The wastewater will be treated by a Class 4 sewage system, consisting of an Ecoflo Biofilter wastewater treatment system with subsurface disposal. The Ecoflo Biofilter is a pre-engineered treatment system which uses specialized peat and coconut fibres as a treatment media. The Ecoflo system is an approved tertiary treatment system listed in the Ontario Building Code (OBC).

The estimated sewage flow for the proposed development is 9,145 L/day and, as such, the sewage system falls under OBC jurisdiction. The sewage system must be designed and constructed in accordance with the requirements of Part 8 of the OBC and the manufacturer's recommendations. A permit for the sewage system will be required to be obtained from the Ottawa Septic System Office.

The design of the sewage system was carried out by Paterson and is recorded on the Sewage System Layout Plan, Drawing No. PH3333-1 and Sewage System Details and Notes, Drawing No. PH3333-2, dated February 2, 2018 as attached.

Stormwater Management Service

The stormwater management design was completed by WSP Canada Inc. and is detailed in the Stormwater Management Report - Gas Station Redevelopment - Vars - Project No. 171-14602-00, dated December 20, 2017

Summary

- The subject property will be redeveloped as a gas station and convenience store.
- The proposed water supply will consist of a dug well.
- The wastewater generated by the development will be treated by a new onsite system designed in accordance with the requirements of the Ontario Building Code.
- The stormwater management service is prepared under a separate cover by WSP Canada Inc. and should be referenced for further details.

We trust this satisfies your present requirements.

Best Regards,

PATERSON GROUP INC.



Erik Ardley,
BSc. Geology



Michael S. Killam,
P.Eng.

Attachments:

- Paterson Drawing PH3333-1
- Paterson Drawing PH3333-2



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