

## MEMORANDUM

Date: January 4, 2021  
To: Chief Administrative Officer  
From: James van Hemert  
Re: Application for a Development Permit for 288 Castley Heights, Lot 11, Section 5 Renfrew District, Plan VIP54940



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## APPLICATION

The applicant requests a Development Permit to support the construction of a single-detached residence.

## BACKGROUND

The subject property is zoned **R-1 Urban Residential** and is currently undeveloped. The character of the adjacent properties is single detached residential.

The proposal is subject to the Official Community Plan's Development Permit Area guidelines for natural hazard lands and to rainwater management provisions of the Subdivision, Works and Services Bylaw.

The site is encumbered with an encroaching fence and carport on the north side of the property.

## RELEVANT TOWN BYLAWS

### Official Community Plan, Development Permit Areas

The proposal is subject to Natural Hazard Lands DPA 2 guidelines.

Relevant guidelines are cited below, with a brief comment on the extent to which the proposal satisfies the guideline.

### ***Guidelines for Natural Hazard Lands DPA 2***

#### ***6.3.6***

Steep slopes

a) Significant excavation or filling to accommodate buildings or structures or to alter existing slopes shall not be undertaken, nor shall any building or structure be erected, constructed or placed in areas subject to bank instability or potential damage from bank instability. To avoid areas subject to unstable slopes, buildings and structures shall be sited in accordance with building setbacks and other requirements as determined by a geotechnical engineer registered as a Professional Engineer in British Columbia.

b) All lands shown on Map 4 Natural Hazard Lands Development Permit Area (DPA 2) with slopes of greater than 10% shall be subject to slope stability studies to determine where hazardous conditions exist prior to any development being permitted. These studies shall include but not be limited to identifying areas of slope equal to or greater than 30%, areas of springs and seepage and organic soils, the 200-year flood plain, and any areas with a high-water table, and other studies as required. Reports shall be prepared, signed and sealed by a qualified practising engineer, licensed to practise in British Columbia. If fish habitat areas are potentially affected by the proposed development, a report prepared by a qualified fish biologist specifying how the proposal will meet all applicable Federal and Provincial regulations.

### **Subdivision, Works and Services Bylaw**

Section 3 addresses integrated rainwater management and all development must be consistent with the standards of the supporting Integrated Rainwater Management Plan. Specific implementation methods are determined in consultation with the Town's building official.

### **Review and Comments:**

The site is already subdivided for single family and two-family residences and the majority of lots are already developed. The applicant notes that a three-story wood-framed residence will be constructed in a manner that 'fits the property and not to modify the property to fit the structure.'

#### ***Comment***

The 3D model view and site sketch provided by Pacific Homes suggest this is largely true, except to note that the southern elevation of the structure will require retaining structures.

A geotechnical assessment of the slope and building site by Lewkowich Engineering Associates is summarized in a Geotechnical Site Report, dated January 17, 2008, and reengaged on October 29, 2020. The report offers two options for foundation construction:

1. Removal of the existing fill with the foundation construction based on the naturally occurring, undisturbed subgrade soils, or
2. Removal of all the existing fill located in the extended footprint of the structure and replacement with structural fill. The extended footprint area is the footprint area plus the depth of the fill projected outwards from the footing perimeter.

The applicant notes that 'site preparation will include the removal of any material that is poorly compacted and, where possible, the foundation construction will be based on naturally occurring undisturbed subgrade soils. Any material that is not suitable for building (such as peat) will be removed from the foundation area and replaced with structural fill. Slope retention will be achieved by strategically placing the building to act as a retaining structure for the steepest slope on the lot with additional concrete retaining walls added where required.

#### ***Comment***

The approach to foundation construction is a hybrid of the two options identified by the geotechnical review. It is clear that retaining structures in some locations will be required. Any walls over 1 (one) metre in height require an engineered design. No retaining walls may be greater than 2 (two) metres in height.

Native species of low growing shrubs will be included in the landscaping which will further add to the stability of this sloped lot.

The applicant addresses rainwater management by proposing a rock pit that will tie into the existing storm sewer to ensure adequate drainage to protect the property and adjacent properties. No drainage from the building or landscaping will discharge directly onto the slope.

### **RECOMMENDATION**

That the approval by Council of a Development Permit to the owner of 288 Castley Heights, Lot 11, Section 5 Renfrew District, with the following conditions:

- 1) Prior to the issuance of a building permit, an updated geotechnical site assessment shall be prepared for review and consideration by the town's building inspector.
- 2) Prior to the issuance of a building permit, any retaining walls and structures higher than 1.0 metres must be designed by a professional geoscientist or structural engineer to the satisfaction of the town's building inspector and must be located entirely on the parcel.
- 3) Prior to the issuance of a building permit, the encroaching fence and portion of the carport on the north property line shall be removed.



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James van Hemert