



# City of Vancouver *Planning By-law Administration Bulletins*

## Planning, Urban Design and Sustainability Department

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# Groundwater Management Bulletin

*Authority - Director of Planning*  
*Effective July 11, 2018*

### In this Bulletin, the following definitions apply:

“Groundwater” means water occurring below the surface of the ground within voids within a soil or rock matrix.

“Water table” means the level below which the ground is saturated with water at a pressure of 1 atmosphere or greater.

“Hydrogeological Study” is a review of the occurrence, distribution and effect of groundwater. The Hydrogeological Study occurs in various progressions, from “Preliminary” to “Final” Hydrogeological Studies. The Final Hydrogeological Study, which must be submitted and approved for every development to which the requirements apply, incorporates a Groundwater Management Plan and an Impact Assessment, which may vary in complexity depending on the potential impact that the development will have on the groundwater system.

“Groundwater Management Plan” is a portion of a Hydrogeological Study that outlines a comprehensive approach to the planning, design, implementation, and operation of on-site groundwater management techniques to meet the City’s requirements.

“Impact Assessment” is a portion of the Hydrogeological Study that outlines any potential or realized environmental impacts which may or will result from extraction or diversion of groundwater on the development site.

### Introduction

The purpose of this bulletin is to provide applicants information on the required process and submissions related to on-site groundwater management.

In order to preserve sewer capacity, reduce the risk of combined sewer overflows, and maintain wastewater treatment effectiveness, groundwater flows are prohibited from entering the sewer system. This restriction aligns with Strategy 1.1.14 of the Metro Vancouver 2010 Integrated Liquid



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Waste and Resource Management Plan and the Greater Vancouver Sewage & Drainage District Sewer Use By-law No. 299, 2007 Section 5.1.

### Hydrogeological Study Requirements

These requirements apply to all developments on private property within the Cambie Corridor.

Applicants will be required to produce a Hydrogeological Study that details how the onsite groundwater management system meets requirements outlined below, prepared, signed, and sealed by a Registered Professional with experience in hydrogeology, subject to review. The applicant is to demonstrate how they meet the following:

#### 1. Groundwater Discharge to Sewer

No post-construction groundwater discharge is permitted to the City's sewer infrastructure.

#### 2. Groundwater Extraction/Diversion

If groundwater extraction or diversion is required, it must be proven that there are no significant negative impacts.

### Submission Requirements

**At time of Rezoning Application:** Applicants for rezoning will be required to:

- a. Produce a Preliminary Hydrogeological Study, which includes hydrogeological review of the study area. The Preliminary Hydrogeological Study includes:
  - i. Underlying stratigraphy;
  - ii. Existing wells;
  - iii. Planned wells, if necessary;
  - iv. Local groundwater extraction/diversion locations;
  - v. Approximate water levels;
  - vi. Expected dewatering rates and duration (construction and post-construction) of groundwater; and
  - vii. Other relevant information, as appropriate.
- b. Acknowledge in writing that a Groundwater Management Plan and Impact Assessment are required as part of the Hydrogeological Study, prior to enactment of the rezoning by-law. The complexity of the Groundwater Management Plan and Impact Assessment will be based on established groundwater conditions and expected dewatering rates, which may impact building/foundation and site design.

Any applicant for a rezoning should be aware that:

1. The Hydrogeological Study's "Groundwater Management Plan" must provide that no groundwater is discharged to the City's sewer system post-construction.



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2. The Hydrogeological Study's "Impact Assessment" must provide that no significant negative impacts result from any proposed groundwater extraction/diversion.

**Prior to Rezoning Enactment:** Every applicant will be required to produce a Hydrogeological Study, signed and sealed by a Registered Professional with experience in hydrogeology, which shall include:

1. Updates from the Preliminary Hydrogeological Study, based on any new findings, field work, or other relevant information.
2. A Groundwater Management Plan, which must outline how no discharge of post-construction dewatering of groundwater to City sewer infrastructure will be achieved, including a site plan and/or cross sections showing engineered groundwater management solutions; and
3. An Impact Assessment, which must demonstrate that no significant negative impacts result from groundwater extraction/diversion, and must include but is not limited to:
  - i. Anticipated flow rates;
  - ii. Ground subsidence;
  - iii. Impact to nearby wells;
  - iv. Evaluation of potential effects on known contamination; and
  - v. Water quality.

### **Prior to Development Permit Application:**

- For applicants proceeding from a rezoning, the City requires a Final Hydrogeological Study, based on a finalized iteration of the Hydrogeological Study from the rezoning submission, signed and sealed by a Registered Professional with experience in hydrogeology.
- For applicants applying directly at the development permit stage the City requires a Final Hydrogeological Study, signed and sealed by a Professional with experience in hydrogeology. The Final Hydrogeological Study must follow the outline for the Hydrogeological Study requirements as outlined above for the rezoning submissions, and must meet the City's conditions, as indicated below.

The application for a development permit must include a Final Hydrogeological Study, which incorporates:

1. Finalized Groundwater Management Plan that provides that no groundwater is to be discharged into City sewers post-development; and
2. Finalized Impact Assessment that demonstrates that there are no significant negative impacts from groundwater extraction/diversion.



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### Application flow diagram

