

File No.: 04-1000-20-2025-445

August 6, 2025

s.22(1)

Dear s.22(1)

Re: **Request for Access to Records under the Freedom of Information and Protection of Privacy Act (the "Act")**

I am responding to your request of July 9, 2025 under the *Freedom of Information and Protection of Privacy Act (the Act)* for:

Record of hydrogeological report, hydrology (or drainage) report, or geotechnical report (related to 426-428 W 14th Ave and 3015-3027 Yukon St rezoning application)* for the following properties:

1. 426 West 14th Avenue;
2. 428 West 14th Avenue;
3. 3015 Yukon Street; and
4. 3025 Yukon Street.

Date range: January 1, 2022 to July 8, 2025

***Relates to the rezoning application under Rezoning Submittal 2023 - 1214**

All responsive records are attached.

Under Part 5 of the Act, you may ask the Information & Privacy Commissioner to review any matter related to the City's response to your FOI request by writing to: Office of the Information & Privacy Commissioner, info@oipc.bc.ca or by phoning 250-387-5629.

If you request a review, please provide the Commissioner's office with: 1) the request number (2025-445); 2) a copy of this letter; 3) a copy of your original request; and 4) detailed reasons why you are seeking the review.

Yours truly,

[Signed by Cobi Falconer]

Cobi Falconer, MAS, MLIS, CIPP/C
Director, Access to Information & Privacy

If you have any questions, please email us at foi@vancouver.ca and we will respond to you as soon as possible. You may also contact 3-1-1 (604-873-7000) if you require accommodation or do not have access to email.

Encl. (Response Package)

:dl

Hassan Salari c/o Fabric Living
202-837 West Hastings Street
Vancouver, BC
V6C 3N6

November 28, 2023
File: 23570

Attention: Hassan Salari

**Re: Preliminary Hydrogeological Investigation Report – Proposed Residential Development
426 West 14th Avenue and 3015 – 3025 Yukon Street, Vancouver, B.C.**

1.0 INTRODUCTION

We understand that Fabric Living is considering the above referenced property for a new tower development. Architectural design drawings provided by Stuart Howard Architects Inc. (dated 27th November 2023) indicate that the site could accommodate an 18-storey tower with 2-level podium over up to 3 levels of buried underground parking. The P3 parking slab is shown at an elevation of between 37.07 and 38.59 m geodetic.

This report summarises the results of a desktop hydrogeological study completed for the above referenced site and provides preliminary recommendations pertaining to groundwater management for the design and construction of the proposed development and references the City of Vancouver's Groundwater Management Bulletin (last amended February 2023). This report has been prepared exclusively for Fabric Living, for their use and for the use of others on their design and development team. We expect that the City of Vancouver will also use this report in their development permitting process.

2.0 SITE DESCRIPTION

The site is comprised of the civic addresses of 426 West 14th Avenue and 3015 / 3025 Yukon Street, in Vancouver, BC. The site is situated southwest of the intersection of West 14th Avenue and Yukon Street. It is bounded by West 14th Avenue to the north, Yukon Street to the west, a municipal laneway to the south and by residential housing to the east. The site is currently improved with three single-family homes ranging in levels from 1 to 3, and associated landscaping and gardens.

The site encompasses an area of 1,724.5 m². Surface elevations at the site are sloped gently from southeast (49 m geodetic) to northwest (47.5 m geodetic), representing a vertical fall of 1.5 m over a horizontal distance of 45 m. According to the City of Vancouver's Historic Streams Map (Lesack, 2011) a historic stream is mapped as crossing the site, in the southwest corner trending southeast to northwest.

The location of the site relative to existing improvement is shown on Drawing No. 23570-01.

3.0 ANTICIPATED SOIL CONDITIONS

Reference to the Geological Survey of Canada Surficial Geology Map 1486A indicates that the site is underlain by Vashon Drift and Capilano Sediments including lodgment and minor flow till, lenses and interbeds of glaciolacustrine glaciofluvial sand to gravel, and lenses and interbeds of glaciolacustrine laminated stony silt, overlain by glaciomarine and marine deposits.

We anticipate that the soil profile on the site will comprise of a thin covering of topsoil or fill to about 1 m, then glacial till deposits up to 9 m, then sandstone bedrock.

4.0 ANTICIPATED GROUNDWATER CONDITIONS

4.1 Preliminary Hydrogeological Conceptualisation

According to the BC groundwater aquifer map, as shown on the BC Water Atlas, the site is located within the mapped extent of the Vancouver Quadra Sand Aquifer (Aquifer No.49), near to its southernmost mapped extent. The Quadra Aquifer is described as a confined aquifer system that is moderately productive. In Vancouver this aquifer is typically confined by glacial till deposits of the Vashon Drift.

Perched groundwater is expected to form at the upper contact of the glacial till soils, which we infer to be relatively impermeable. Perched groundwater may also accumulate in more permeable lenses within the glacial till. It is therefore expected that some perched groundwater may be encountered during the proposed excavation for the P3 slab. Though, we do not anticipate static groundwater conditions will be encountered as the sand and gravel of the Quadra Formation is likely to be absent in this area.

Perched groundwater that is stored in glacial till or at the upper contact of glacial till tends to drain relatively rapidly, by gravity, with groundwater inflows steadily decreasing to a negligible rate or ceasing entirely. Subsequent inflows of perched groundwater are typically coincident with periods of sustained precipitation.

Any groundwater encountered is expected to follow the regional topography and flow in a northern direction discharging to the inlet at False Creek.

4.2 BC Water Atlas and Vancouver Areas of Concern Map

A search was completed on the BC Water Atlas on the 24th of November, 2023. The search concluded that there is a single well record situated within 500 m of the site. The well record is designated as WTN-71186 and is located 144 m northwest of the site. WTN-71186 was drilled in 1962 as part of the Broadway Interceptor project. The soil profile was noted to be 0.45 m of topsoil, over 1.05 m of fill, then 3.4 m of glacial till, then bedrock to the maximum depth of investigation at 28.95 m.

The Vancouver Area of Concern map shows that the site is situated within the mapped extent of the “Cambie Corridor Sewershed” and additionally shows that the site is not located in an area known to be at risk from flowing artesian conditions.

5.0 PRELIMINARY GROUNDWATER MANAGEMENT PLAN

We anticipate that some perched groundwater may be encountered during the excavation for the proposed 3 levels of underground parking. We anticipate that this perched groundwater could be managed using conventional methods such as trenching, sumps and sump pumps.

The sump is to be constructed at the low point(s) of the excavation to the specifications outlined on the Erosion and Sediment Control Plan. Construction related water discharge will then be pumped from the sump to the onsite water treatment system which includes CO₂ adjustment, settling tanks and mechanical filtration. Discharge water will then be directed to a catch basin adjacent to the site. The City of Vancouver may request that construction related discharge flow rates are measured using a flow meter and reported monthly to groundwater@vancouver.ca. GeoPacific can provide this a flow monitoring service if requested.

6.0 PRELIMINARY GROUNDWATER IMPACT ASSESSMENT

To satisfy the City of Vancouver's *Groundwater Management Bulletin*, GeoPacific conducted an impact assessment to demonstrate that there will be no significant impacts resulting from groundwater extraction or diversion resulting from proposed works at the site.

I. Ground Subsidence

Given the anticipated soils, which we anticipate comprising of very dense glacial soils, we expect there would be a very low risk of ground subsidence. We further do not expect significant inflows of perched groundwater. Any groundwater that enters the site will be directed to a sump and removed using passive methods (*i.e.*, a sump pump) and should not draw water from the surrounding area (other than that which enters the excavation by gravity).

We note that a peat bog is mapped approximately 275 m southwest of the site, however we consider this to be too far from the site to be affected by the proposed excavation.

II. Impacts to Nearby Wells

The search completed on the BC Water Atlas concluded there are no known well records within 500 m of the site. The well record mentioned in Section 4.2 refers to a test hole and not a monitoring well. We therefore do not anticipate any impact would occur to nearby wells resulting from the proposed construction works.

III. Surface Water and Historic Streams

A historic stream is mapped at the southwest corner of the site, according to the City of Vancouver's Historic Streams map (as shown on Drawing No. 23570-01, following the text of this report). However, we do not expect that flowing conditions will be encountered in the footprint of this stream. There are several buildings and hardscaped features "upstream" from this mapped historic watercourse and hence the mechanism for stream recharge is therefore no longer present. As part of a future site investigation, a test hole and monitoring well would be advanced at or near to the footprint of this stream to determine whether the stream or channel fill material is present.

This section presents our preliminary groundwater impact assessment. If the project design changes, then this report should be revisited and updated.

7.0 DISCUSSION AND RECOMMENDATIONS

Architectural design drawings provided by Stuart Howard Architects Inc. (dated 27th November 2023) indicate that the site could accommodate a 18-storey tower with 2-level podium over up to 3 levels of buried underground parking. The P3 parking slab is shown at an elevation of between 37.07 and 38.59 m geodetic.

The findings of this preliminary study indicates that some perched groundwater may be encountered during excavation, though we do not expect this to be significant. Perched groundwater is anticipated to drain relatively rapidly by gravity during excavation, though an intrusive site investigation is recommended to confirm seepage rates.

Given our preliminary findings, we recommend that the parkade is completed with a conventional perimeter drainage board connected to underslab fills and a sump. This drainage system would prevent the build-up of hydrostatic pressure acting on the parkade wall and slab. Post-construction groundwater seepage is expected to be relatively light, and flow rates will be confirmed as part of a final hydrogeological investigation for the site.

We recommend that the following confirmatory works is completed at the site to confirm our preliminary findings and to conform to the requirements of the City of Vancouver's Groundwater Management Bulletin:

- Advance 2-3 test holes to depths of up to 12 m below existing site grades;
- Complete 2-3 of the test holes with a groundwater monitoring well;
- Install groundwater monitoring piezometers to facilitate continuous monitoring of groundwater levels below the site, and complete manual reading to calibrate the sensors, for a minimum period of 3-months including a portion of the rainy season (i.e., October to April);
- If groundwater is encountered, we would complete slug tests to provide estimates for the hydraulic conductivity of the subsurface soils;
- Complete a groundwater seepage analysis to estimate groundwater seepage rates both during and post construction; and
- Finalise our findings in a Final Hydrogeological Investigations Report that would be suitable for submission as part of a future Development Permit Application.

8.0 CLOSURE

This report has been prepared exclusively for our client, for the purpose of providing preliminary hydrogeological recommendations for the design and construction of the development proposed. This report remains the property of GeoPacific Consultants Ltd. and unauthorized use of, or duplication of this report is prohibited.

We are pleased to be of your assistance on this project and we trust that our recommendations are sufficient for your current purposes. If you would like further details or would like clarification of any of the above, please do not hesitate to contact the undersigned.

For:
GeoPacific Consultants Ltd.



Permit to Practice
EGBC
1000782

NOV 29 2023

Sean Heffernan, M.Sc., P.Eng.
Senior Hydrogeologist

Reviewed By:

Matt Kokan, M.A.Sc., P.Eng.
Principal



LEGEND:

- SITE BOUNDARY
- 1 M ELEVATION CONTOURS (VAN)
- VANCOUVER OLD STREAMS

NOTES

LOCATION OF SITE BOUNDARY IS APPROXIMATE.

REFERENCE:

Basemap copyright Google (2021)



GEOPACIFIC
CONSULTANTS

DATE: 24 NOVEMBER, 2023

DRAWN BY: SRH	APPROVED BY: MJK	REVIEWED BY: MJK
SCALE: NTS		

HYDROGEOLOGICAL REPORT 14TH AVENUE AND YUKON STREET, VANCOUVER, BC SITE PLAN

FILE NO.:

23570

DWG. NO.:

23570-01

REVISIONS:

A.
B.
C.