

BULLETIN 2016-005-BU

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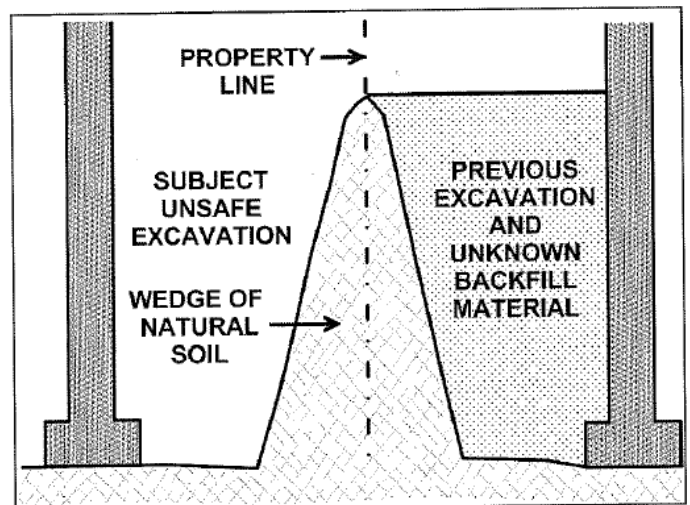
Geotechnical and Shoring Design - 1-2 Family Homes

The purpose of this Bulletin is to clarify additional requirement for a detailed geotechnical report and shoring design for excavations in peat, liquefiable soils, and deep excavations, and ensure professionals follow the “Housing Foundations and Geotechnical Challenges - Best Practices for Residential Builders in BC” by the Homeowner Protection Office, the Provincial Government, APEGBC, and AIBC.

There has been an increase in the number of deeper excavation for properties in soil types that have typically been utilizing shallow foundation design principles, as well as an increasing number of deeper basement designs for single family homes or deeper excavations adjacent to areas that have already been excavated. This has resulted in concerns over soil movement, slope stability and the impact on adjacent properties and City infrastructure.

While the City relies on professionals for the geotechnical and foundation design of homes, the City is increasing the submission requirements for Professionals undertaking this work. This applies to peat areas, liquefiable soils and excavations to accommodate a deep basement (greater than 8'-0") and excavations adjacent to sites where previous excavation can compromise stability of the excavation (the amount of native untouched fill is limited or unknown - see diagram).

All geotechnical and foundation design work will be required to follow the “Housing Foundations and Geotechnical Challenges - Best Practices for Residential Builders in BC”.



Additional requirements are:

- Detailed Geotechnical Report covering geology, soil and groundwater conditions, soil stability and movement potential;
- Review of impact of new materials and structure being added;
- Detailed design of shoring and associated construction details;
- A Pre-Survey of adjacent properties and additional follow-up surveys as required where movement may occur;
- Notification to neighbors of work and potential issues and mitigation;
- On site supervision by the registered professional of the excavation work and shoring construction;
- Final review and inspection to ensure minimal impacts;

- Mitigation details for any potential damage that may occur;
- Requirements for fill type, quality and how it is installed; and
- Groundwater Management during and after construction to avoid impact on adjacent properties.

In addition to the foregoing, the City may also require an independent review of the report as needed, or may require Professional Letters of Assurance where work is being carried out in support of a required permit.

These requirements represent a minor increased in the work required by the Professional Engineer or Geoscientist of Record.

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