

# Guidelines for Overlay Zones

- Any building owner wishing to construct, repair, renovate, or demolish a building; or intending to regrade property that incorporates the use of retaining walls within this area is required to obtain their own engineering soil studies. The studies should address both lateral and vertical movement within the soil and changes in groundwater. The building owner should also obtain their own engineered design for construction in this area, complete with drawings that are signed and sealed by a professional engineer with appropriate specialization in geotechnical engineering and licensed to practice in the Province of Saskatchewan.
- The type of development shall be clearly stated in the geotechnical report.
- Geotechnical reports shall not limit the City of Saskatoon from using or relying on the report to make decisions related to the proposed development.

## Geotechnical Reports with Respect to Slope Stability Analysis

Engineered building designs shall:

- be based on current engineering soil studies and ensure extent of investigation is appropriate for geological and geotechnical conditions within the area.
- demonstrate geometry has been accurately measured.
- demonstrate modifications to slope (grading, landscaping, application of structural loads etc.) have been considered.
- clearly demonstrate if stability of development and/or slope relies on infrastructure and/or features outside of site and communicate possible impacts to site if instability affects such structures/features.
- consider stability of whole slope including areas of active movement, erosion and previous instability and impact of slope stability outside of development site to the development site. Engineered building designs are required to consider analysis of existing conditions, during and post construction conditions of whole slope.
- consider effect of naturally fluctuating groundwater levels when completing slope stability analysis for the proposed development.
- consider effects and impact of long term and short term soil movement.
- achieve a slope factor of safety, defined as the ratio of maximum available resistance to the resistance mobilized under the applied load, as per the zoning bylaw for all major and minor developments. The use of monitoring to mitigate risk and reduce the required factor of safety is not permitted.
- for developments involving an in-ground swimming pool, provide a seepage analysis to demonstrate the impact and extent of impact of a leaking pool on the groundwater level. Any impacts to groundwater level should be incorporated into the slope stability analysis for the proposed development.
- provide provision of site drainage plan, which addresses final lot grading, surface drainage, roof drainage, weeping tile systems and groundwater control for subsurface structures, as applicable.
- include a toe erosion assessment, if applicable.
- indicate appropriate construction monitoring requirements, as applicable, and recommend these requirements to the client/building owner.

Additionally, the engineer shall complete a site visit to inspect the property to ensure existing conditions and impact of development on lot and surrounding lots are fully understood and communicated to the client/building owner.