Grading and Drainage Plan

Terms of Reference

1. Description

A Grading and Drainage Plan establishes the grading relationships between connecting (or abutting) properties. It serves as the basis for controlling surface runoff. A grading plan directs water from the building. The focus is on the landscaping around the house and soil elevation. The goal is to provide proper yard grading for drainage away from buildings.

2. When Required

A Grading and Drainage Plan may be required for a Site Plan Control application, Plans of Condominium and Detailed Design of Plans of Subdivision.

3. Contents

The following information is to be included in a Grading and Drainage Plan:

A. General Information

- Title block (including name of Owner/Applicant, name and address of firm preparing the drawing, address/legal description of Site, project name, drawing title and number, scale, date of submission, and revision box with all revision dates
- Key plan showing site location in respect to the City street network
- North arrow
- The Plan should have a note that references the horizontal and vertical datums that were used and tied into to complete the project. The drawing should also make reference (on the face of the plan) to a site benchmark that can be used by anyone with a level to carry out checks on the particular project
- Legend
- Clear identification of property lines and ROW limits, including any proposed road widenings, sight triangles and reserves adjacent to the subject property
- Any easement(s) and whom the easements are in favour of
- Abutting roads including the location of all existing surface features (i.e. edges of pavement and shoulders, curbs, traffic islands, utility poles, hydrants, bus shelters, mail boxes, sidewalks, watercourses, ditches, culverts, catch basins)

- All existing access/driveway entrances to the subject property and the adjacent properties, including those of properties on the opposite side of the road to the subject site.

B. Technical Information

- Existing elevations, contours and/or spot elevations within the project site, along the property boundaries, on abutting public streets, and a minimum 10m within the adjacent properties
- Identification of any existing swales, ditches, creeks, watercourses, ravines, and drainage easements/routes complete with elevations and arrows indicating the surface drainage direction
- Emergency overland flow routes
- Arrows indicating the direction of surface drainage on all proposed paved, granular, and grassed areas
- Proposed spot elevations and slope gradients at all critical locations, including but not limited to along the property boundaries; road centrelines; vehicle accesses and driveways; ramps; parking lots; edges of pavement, curb lines or sidewalks; swales; ditches; grassed areas; terraced areas and berms
- Proposed spot elevations at all high/low points; top and bottom of ditches; top and bottom of slopes that are 4:1 or greater; all changes in gradient; top and bottom of retaining walls; top of grate elevations for catch basins and manholes; building corners
- Finished floor elevation of the ground floor and entrances to all buildings plus the elevations of any underside of footings and top of foundation elevation
- Limits of storm water retention/ponding with frequency
- Proposed storm water management water quantity or quality techniques
- Cross section details of swales
- Location and details of all surface water outlets, including but not limited to catch basins, headwalls, riprap, and culverts (size, material and direction of flow)
- Proposed roof downspout locations,
- Roof drain and scupper locations
- Locations of any regulatory flood lines or development limit lines (i.e. setback and slope stability limits)
- For rural sites: location of septic tanks, outline of tile beds, wells, and holding tanks for fire fighting
- Road centreline elevations every 10m (subdivision).

4. Submission Requirements

Grading and Drainage Plan must be drawings stamped, signed, and dated by a Professional Engineer, qualified in the Province of Ontario. An Ontario Land Surveyor (O.L.S.) should be engaged when reporting on or relating information to a property's boundaries or existing conditions.

5. Resources / Background

- For subdivision drawings refer to Grading Plan.
- Ottawa Sewer Design Guidelines
- Ontario Stormwater Planning and Design Manual