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Approved by Council – November 28, 2016

### **GRADING INFORMATION TO BE PROVIDED WITH DEVELOPMENT PERMIT APPLICATIONS**

#### **BACKGROUND:**

The Town receives development permit applications for all kinds of development within the Town. The Town by the act of approving development applications exposes itself to some liability with respect to the development. The current Land Use Bylaw focuses on the horizontal aspects of locating a building on a site but largely ignores the vertical aspects of locating a building on a site and the associated grading around a building.

Changes in public expectations with respect to how runoff is handled and development industry changes (typically larger buildings on smaller lots) now make it essential that guidelines are in place with regards to what information is provided for a Development Permit application and who can provide the information, to minimize the Town's liability exposure. The current Land Use Bylaw does not layout sufficient requirements to ensure that:

1. Runoff from the property being developed does not negatively impact the adjacent properties;
2. Grading of the property being developed does not negatively impact the adjacent properties;
3. Town minimizes issues for the ultimate property owners, such as the deferral of development requirements from the builder to the ultimate property owner;
4. Town minimizes the potential for conflicts between neighbors.

One of the items that can lead to conflicts between neighbors is the requirement to build a retaining wall to make the grading between neighbors work. This often results in a conflict in which the municipality is pulled into the dispute because the municipality likely approved both of the Development Permits.

#### **Policy:**

The Town of Redcliff requires all new subdivision developments to provide a master lot grading plan for the development which will include at a minimum:

1. Geodetic elevations at every lot corner;
2. Geodetic elevations at every proposed grade break on lot lines shared between two or more developable parcels, to provide the grading control between lots. Typically, this is one or two dependent on the lot type;
3. Slopes on lot lines shared between two or more developable parcels between grade breaks. These slopes shall be within the limits specified below:
  - a. On back to front drainage lots, minimum slope is 2.0% in the building's side yard;
  - b. Front yard slopes are desirable in a range of 2.0% to 5.0% with a maximum range of 1.0% to 8%;
  - c. Back yard slopes are desirable in a range of 2.0% to 5.0% with a maximum range of 1.0% to 10%.

In any subdivision development where there is a master lot grading plan, it is the responsibility of the owner/developer to ensure that a lot grading plan is prepared which conforms to the master lot grading plan.

If there is no master lot grading plan for the parcel being developed, it is the responsibility of the owner/developer to survey the property and establish the existing parcel boundary elevations. There is no need for this plan to be referenced to the geodetic elevation (referenced to sea level) however it must be referenced to some fixed point that will not change during construction (hydrant flange, street light base, sidewalk, etc.).

It is the responsibility of the owner/developer to ensure that a lot grading plan is prepared which maintains the existing parcel boundary elevations or proposes changes and identifies the works the developer will undertake to mitigate any negative effects of the proposed grading. Examples of works that can be used to mitigate negative effects of proposed grading are retaining walls and written agreement from the owner of the affected property to allow grading changes on their property.

All development applications must address grading of the parcel and shall include a lot grading plan. Lot grading plans must be prepared in accordance with the following minimum requirements:

1. All grading must conform to the requirements of the Alberta Building Code;
2. Elevations of lot grading plans must match either the master lot grading property line grades in new developments or the existing property line grades in infill developments unless there is an agreement with the neighboring lot owner that allows otherwise;
3. Grades are to be provided at:
  - a. The corners of lot,
  - b. Intermediate grades (especially along common property lines with other residential lots),
  - c. Corners of the building,
  - d. Top and bottom of retaining walls;
4. Slopes are to be shown from the corners of the building to the property corners;
5. Slopes are to be shown from the building corners to the nearest property line where the proposed grade cannot be reasonably inferred from the corner of the building to the property corner. (i.e. typically the slope of a front driveway where the slope from the building corner to the front property corner is provided, the slope from the building corner to the front property line can easily be inferred, however, the slope from the building corner to the side property line cannot be easily inferred):
  - a. Slopes over 33% are not allowed and must be mitigated with retaining walls or other approved measures. Other approved measures will require plans authenticated by a Professional Engineer Licensed to Practice in the Province of Alberta;
  - b. Slopes over 5% towards a neighbor's property are assumed to drain into the neighbor's property. If the elevation difference cannot be resolved with a curb wall less than 200mm in height, either:
    - a retaining wall will have to be shown to resolve the issue, or
    - a joint drainage agreement between the two properties must be provided.

6. Driveway slopes are to be shown. Maximum permitted driveway grade is 8%;
7. Grading plans must demonstrate that runoff is not directed into neighbors' property. This may require the developer to show the location and direction of downspouts;
8. Any retaining walls required to make the grading plan work are to be shown and are the responsibility of the applicant to install;
9. The elevations from the grade slips are also to be shown on the elevation plans (front, back, and sides) for a building including:
  - a. The grade line at the property line,
  - b. The grade line at the building,
  - c. The top and bottom of any retaining walls,
  - d. Any drainage works required (i.e. drainage swales);
10. The approval of any Development Application shall be conditional on the grading being completed in compliance with the grades established in the Development Approval;
11. Prior to approval of the Development Application, the Office of the Development Officer must receive written confirmation from the Director of Planning and Engineering or designate that the grading plan provided, or any subsequent amended grade plan that might be required, meets with the requirements of this policy and is approved;
12. When an application for development is issued the applicant is to be made aware that:
  - a. The grades shown on the approved lot grading plan must be met,
  - b. That they may be required to provide proof that the approved grades have been met in the form of a "grade certificate" (to be certified by an Alberta Lands Surveyor or other acceptable professional) to the Town of Redcliff;
13. On all non-residential development applications where a change to the building(s) foot print or site impervious area, regardless of whether or not grades have been previously established, the developer shall be required to submit a site drainage plan prepared by a professional engineer with their development application. The site drainage plan is to be approved by the Director of Planning and Engineering, or designate.