

Lot Grading Guidelines





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Acknowledgments

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Introduction

It is the responsibility of the homeowner to maintain the given grade elevations of the property at all times.

These guidelines are intended to provide information for homebuilders and homeowners to help ensure proper lot drainage. Lot drainage is any aspect of grading, constructed elements, or landscaping that direct storm water runoff on a lot (resulting from rain, hail, or snow) to flow overland from the property. Good lot drainage directs stormwater runoff away from and off permanent structures (homes and garages) to public roadways, landscaped areas, or drainage swales where runoff can ultimately find its way into the public drainage system. Proper lot drainage is essential to avoid flooding and property damage.

Lot Grading Plans

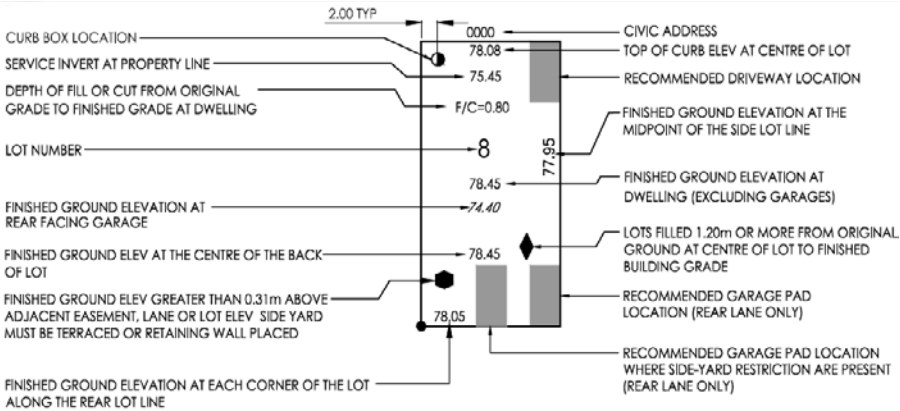
Lot grade plans provide engineered elevations formally established for lot corners, midpoints and any other notable point that aids in establishing good lot drainage on the property. They are intended to provide effective surface runoff away from the property to the City systems.



Photo: Proper Lot grading protects your home from basement flooding and other drainage issues.

Since 1974, the City has consistently required lot grading certificates prepared by a Legal Land Surveyor. This certificate verifies that, upon completion of rough grade, the rear lot grades are correct to design at the property lines. Homes that were developed prior to 1974 may not have lot grading plans. If your home has a lot grading plan, you can request the plan from the City through [Service Regina](#).

Figure 1: Typical Lot Grading Plan



Lot Grading Styles

There are two common lot drainage styles utilized in Regina that serve to convey water to the public drainage system. Each of these styles use lot grading and drainage swales to direct storm water runoff away from the property.

Split Drainage to Back Lane

Example of Split Drainage to back lane

The highest elevation is set near the approximate midpoint on the property. Surface drainage on property is drained to the street and to the back lane to a collection point such as a storm drain.

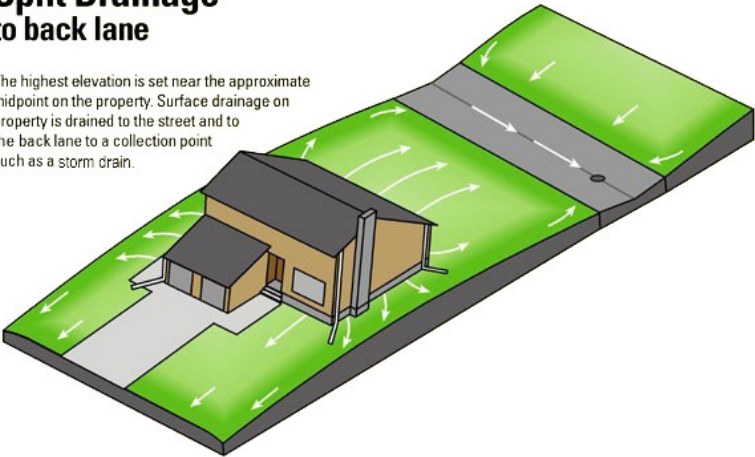


Image Courtesy of the City of Winnipeg

Split Drainage to Rear Swale

Example of Split Drainage to rear yard swale

The highest elevation is set near the approximate midpoint on the property. Surface drainage on property is drained to the street and back to the rear lot line to a collection point such as a storm drain.

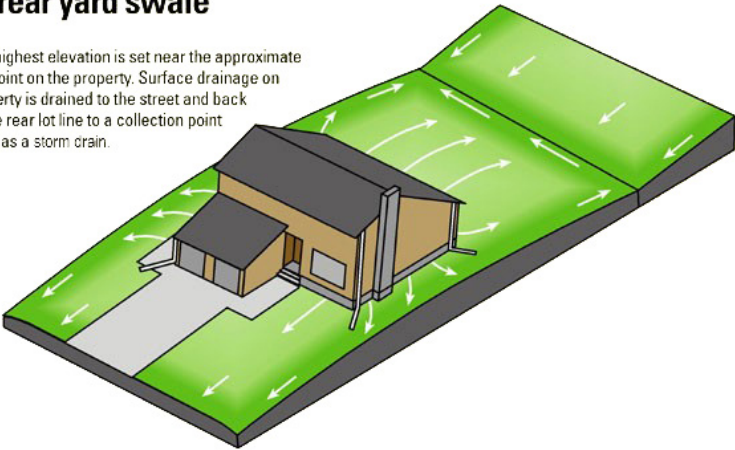


Image Courtesy of the City of Winnipeg

Compliance with Encumbrances

A property owner is responsible for checking on these encumbrances prior to conducting any work such as new structures, landscaping, planting, or temporary structures near these locations. These may take the form of a restrictive covenant, easement agreement, utility right-of-way or any other document that is registered on the certificate of title for their property. A property owner can find information about these encumbrances by using the tools provided by [Information Services Corporation \(ISC\)](#).



Photo: Some utility easements are obvious, but many are at the back of your property. Make sure you check your property title to ensure you are aware of easements.

Lot Grading

In Regina, individual lots are created through the subdivision process that is governed by *The Planning and Development Act, 2007 (P&D Act)*. Residential lots are designed in blocks. The lot grading for these blocks is designed for each individual lot.



Photo: Entire blocks of houses are designed to operate together to ensure rainwater and snow melt drain properly.

The residential block drainage is considered in the design of the entire public drainage system. During the subdivision process, the City requires that the developer submit lot grading plans as part of their design for the entire new neighbourhood.

Lot grading for a new area in Regina is accomplished in three stages: area grading, rough grading and final grading.

Area Grading

Area grading is the responsibility of the land developer, and it involves designing an overall area grading plan including lots, streets, and infrastructure. Area grading includes the removal of the topsoil, which is piled on site and saved to be placed on new lots during the final grading stage. The soil underneath is then shaped and sloped to the design of the neighbourhood.

The City inspects the grading after the Developer has completed the new neighbourhood to make sure that it works according to the design. These adjusted lot grading plans are the final result of the area grading stage and become the approved lots grades for your yard.



Photo: Area grading shapes the future residential blocks, parks, and roads.



Photo: A Wheel Tractor-Scraper uses a large blade for earth moving.

Rough Grading

Once the area grading is complete, land developers sell the newly subdivided lots for new home construction. The rough grade stage occurs after a building is constructed and consists of shaping the lot, with clay or other equivalent material native to the site, to conform to the approved lot grading plan. A properly rough graded lot provides a solid base and template to place the final grade material. Completion of this stage is the responsibility of the property owner; however, it is often completed by the home builder.

During the building permit process, rough lot grade elevations are checked at the property lines to ensure that the grade will align well between properties and convey water towards its intended final location. During these final permit steps, the City does not inspect the internal lot grade elevations, it is only checked at the property lines. It is the property owners responsibility to ensure that positive grading is achieved from the house to the property lines.



Photo: The homebuilder is responsible for ensuring that the lot grading meets the intended design during a new home build.

Final Grade

This stage includes the placement of topsoil on top of the rough graded lot to conform to the approved lot grading plan. This provides the final layer prior to landscaping materials being placed. Landscaping materials such as sod, rocks, woodchips etc. are not considered grade. They cannot replace the final grade (topsoil) stage. It is imperative to not lay landscaping material on top of rough grade as this will cause future drainage issues. Completion of the final grading stage is the responsibility of the property owner. Often this work is completed by professional landscapers.

A lot elevation certificate is required to achieve final occupancy of the unit through the building permit process. This certificate is submitted to the City by the homebuilder. The homebuilder is responsible for obtaining a certificate from a legal land surveyor which demonstrates that the property follows the approved lot grades at the property lines. Temporary occupancy may be issued if the survey cannot be performed due to snow cover. This accommodation requires a letter of commitment for compliance by June 30th of the following year.

Lot Grading Requirements

The land developer designs the lot grades based on the requirements of the City of Regina [Storm Water Design Standards](#). The design standards provide guidance on design grades for lot grading for residential lots. For all lots, a sloped surface is required to effectively drain water away from the foundation walls, including areas under the steps and decks. A 1:12 rear lot slope ratio is recommended for the first 1.5 metres near the foundation walls.

For new home builds, the homebuilder is required to provide the city with a grade elevation certificate at the rough grading stage. The certificate is produced by a [Saskatchewan legal land surveyor](#) and must display the following information:

- The name of the legal land surveyor.
- The date of the survey.
- The legal land location that the survey was conducted.
- The design elevation for the lot grades.
- The actual elevation for the lot grades.
- The calculated difference between the design elevation and the actual elevation, either presented as high or low.
- The stated allowable tolerance as per the Wastewater and Storm Water Bylaw.

The lot grades described above should include the following with reference to right and left being taken as if viewing the lot from the street:

- Left rear corner of the lot.
- Right rear corner of the lot.
- The centre of the lot along the rear property line.
- The centre of the lot along the right side-yard property line.
- The centre of the lot along the left side-yard property line.
- The right front corner of the lot.
- The lowest opening point on the exterior of the house.

Drainage Swales

Drainage swales are shallow sloped, linear depressions that convey surface water runoff towards a city street, lane, or park. They are constructed along the rear and side yard property lines.



Photo: Drainage swales are shared along property fence lines.

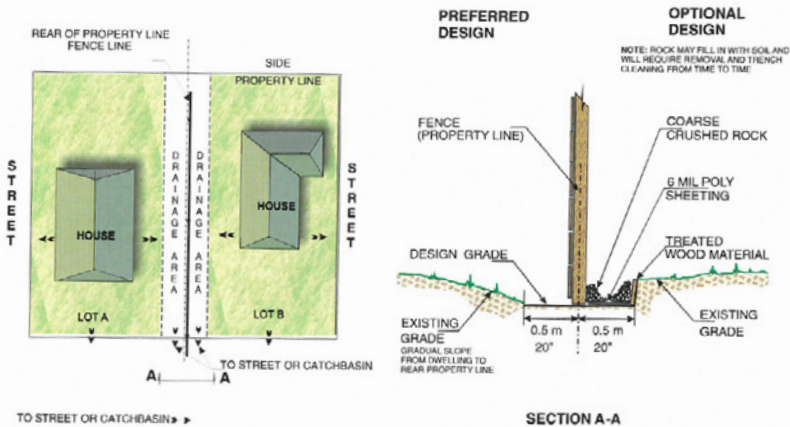
Drainage swales should adhere to the following properties:

- All drainage swales on a residential property shall have a minimum slope of 0.6 percent and a maximum slope of 6.0 percent.
- Rainwater runoff in a drainage swale may take up to 24 hours to drain.
- Shared drainage swales are located between adjacent properties along the shared property line.
- The minimum width of a swale should be 1.0 metre along the shared property line, with the width being shared equally at approximately 0.5 metres for each property.
- There shall be no obstructions to restrict the flow of water within the 0.5 metres of the shared property line.
- Property swales must be sloped to match the approved lot grades.

Drainage Swales located on the rear or side yard property lines should make sure that water can flow from the high point to the low point on the property and ensure that the overall drainage works within the block. It's important for homeowners to check if they meet the designed lot grades along these swales.

Homeowners are encouraged to use large crushed rock when creating their drainage swales. Using material like crushed rock allows the swale to accommodate the flow of water and require relatively little maintenance. Over time, drainage swales fill with sediment, homeowners should keep maintenance in mind when selecting the material and design of their swale.

Figure 2: Drainage Swales



Detached Garage Grading

Design grades for all detached garages should be set to ensure that water is directed away from the building and neighbouring properties and toward the street, property swale or rear lane. The garage pad top elevation should be a minimum of 150 millimetres above the back lane elevation to ensure positive drainage away from the building. The front side of the garage is required to have a positive slope away from it to ensure that drainage from the house does not drain into the garage.

Regrading in Mature Neighbourhoods

Consulting with all adjacent neighbours is a critical step when considering any lot grade changes or other drainage changes that may impact your neighbours. The City encourages neighbours to work together to resolve drainage problems. If grading changes are undertaken, creating, or maintaining drainage swales adjacent to side and rear property lines should be considered, as well as matching the neighbouring grades.

If the neighbour's grading adjacent to their foundation is not sloped properly to provide positive drainage away from their foundation, it is recommended that the neighbour consider regrading their side yard at the same time. If a shared drainage swale along the property line is not possible then an internal swale is recommended to ensure proper drainage.

Infill Development

Infill development refers to the process of developing vacant sites within established neighbourhoods. Infill development often presents unique challenges that require specific attention.



Photo: Infill development should ensure that the existing drainage patterns are improved or maintained.

Infill homebuilders and homeowners should consult with all adjacent neighbours as consideration must be given to their lot grades. It is recommended that the proposed infill grading matches the established grades along the shared property lines to ensure proper surface drainage management between lots.

Infill development creates an opportunity for abutting property owners to consider the existing state of their lot drainage and take steps to improve it. In many cases, improvements can be made with the grading for the infill development.

For properties with no approved Lot Grading Plan, the City of Regina requires the homeowners to ensure that the lot grading is maintained in such a manner to allow the water to flow unobstructed from the highest grading elevation to the lowest. If the existing drainage pattern is not evident, the City will provide assistance in assignment of grades.



Please note that these Guidelines have been prepared for informational purposes only. Homebuilders and homeowners are encouraged to seek the assistance of a professional engineer, surveyor landscape architect or contractor as required.

**For any questions on content related to these guidelines,
please contact the City of Regina.**

Phone: 306.777.7000

