

# UNDERSTANDING YOUR LOT GRADING.

## **Lot Grading & Positive Lot Drainage (FAQ'S)**

Lot grading ensures all new residential buildings have a properly graded lot with water surface drainage directed away from your home. See Surface Water Management document/link provided.

<https://anhwp.com/home-builders/resources/surface-water-management>

## **Why is Lot Grading Important?**

A properly graded lot ensures that surface drainage flows away from your home, avoiding potential flooding problems and subsequent property damage. Improper lot grading can result in ponding, basement dampness, and flooding on private property.

## **Who is Responsible?**

Homeowners are responsible for all grading on their lot, including establishing and maintaining positive lot drainage. During the construction phase of new homes, the builder does play a role, under the direction of the developer and city to establish positive lot drainage in accordance with the plot plan.

## **What is Positive Lot Drainage?**

Positive lot drainage involves contouring the land to direct the flow of surface water away from your home's foundation and toward the street, lane, or swale without adversely affecting adjacent properties or public infrastructure.



## How is Positive Lot Drainage Achieved?

- There are many routine maintenance activities that homeowners should undertake to ensure positive lot drainage. There are also guiding principles and rules that should be followed during the installation of any new landscape or hardscape projects (decks, patios, and sidewalks). Homeowner's owners should ensure that they seek advice and services from skilled professionals for lot grading activities outside of their knowledge and skill ability.
- To support homeowners, builders, and landscape, professionals in developing and maintaining positive lot drainage, the City of Lethbridge has developed The Guide to Lot Drainage, which outlines roles and responsibilities, as well as tools available to maintain positive lot drainage for low density residential developments.

<https://www.lethbridge.ca/living-here/water-wastewater/Pages/Lot-Grading.aspx>

## How is Lot Grading Regulated by the City?

- The City of Lethbridge establishes processes, guidance and ensures compliance with applicable bylaws and regulations to protect people, the environment, public infrastructure. Through the development and construction process of new homes, the city monitors compliance with applicable Bylaws.
- Following the completion of the new construction/development process, the city has a limited role in lot grading, unless it relates to a specific bylaw infraction.
- The City of Lethbridge does not mediate neighbor to neighbor disputes between property owners or monitor lot grading or landscape modifications once the development process is complete.

## What Role does the Builder Play?

The builder is responsible for the design and construction of individual lot grades and drainage, in compliance with applicable bylaws, including the Lot Grading Bylaw. Builder obligations with respect to the Lot Grading Bylaw are outlined below.

## Lot Grading Bylaw

The Lot Grading Bylaw ensures, that at the time of construction completion, all new residential buildings have a properly graded lot with surface water drainage directed away from buildings. The builder is responsible for fulfilling the requirements of this bylaw.



## **What does the Bylaw mean for Builders and Contractors?**

Builders must supply an As Constructed Grade Certificate at the end of construction, confirming the surface elevation and grades of the land are within the lot grading tolerance guidelines as outlined in the Lot Grading Bylaw. Certificates must be signed by a professional land surveyor, engineer, or architect.

## **How do I get an As Constructed Grade Certificate?**

An As-Constructed Grade Certificate is provided to you from Avonlea Homes.

To view the Alberta Government Construction Guide, click on below, note page 41 which outlines the acceptable performance condition.

Construction performance guide for new home warranty in Alberta (September 2015)

## **Positive Lot Drainage**

To prevent property damage to residential lots, Stormwater within the lot needs to be properly managed as part of the design, construction and maintenance of a functional drainage pattern that supports Positive Lot Drainage.

Positive Lot Drainage involves contouring the land to direct the flow of surface water away from building foundations and toward the street, lane, or Swale without adversely affecting adjacent properties or public infrastructure.

**Homeowners are responsible for always maintaining Positive Lot Drainage, for the duration of their ownership of that property.**

## **The Property Owner's Role**

The homeowner is responsible for all activities on the lot, i.e.: landscapers. Homeowners are responsible for surface water management on their lot and maintaining the drainage patterns established by the builder. The homeowner is responsible to ensure that Positive Lot Drainage is maintained by directing water away from the home and neighboring properties.



## Homeowners are Responsible for:

- Working with neighbors to resolve drainage issues between private properties.
- Ensuring that discharges from downspouts:
  - Are directed away from neighboring properties, structures, driveways, and sidewalks.
  - Are directed towards absorbent (resilient) landscape features.
  - Are a minimum of 2 m (6.56 ft) away from any public infrastructure (i.e., sidewalks, streets, lanes) to avoid ice building up in winter.
- Routinely inspecting and maintaining eavestroughs and downspouts to ensure they are clear of debris to collect and direct water away from structures.
- Keeping any Swales and Overland Drainage Right-of-Ways (ORDWs) clear of debris, soil, garbage, ice, snow, or other material that could impede flow or limit capacity during a storm event.
- Inspecting their lots and grading around structures on a regular basis. Fill any depressions or settlement around the perimeter of structures with compacted materials to maintain Positive Lot Drainage.
- Maintaining the intent of the original drainage patterns while providing Positive Lot Drainage.

## Lot Grading Permit

Lot Grading is the contouring of earth to allow surface water runoff to flow away from building foundations and to follow a pre-determined drainage path.

City Council passed City of Lethbridge Bylaw 5917 to provide the Lot Grading regulation, and Lot Grading Permits for new residential construction, effective January 1, 2013.

Lot Grading is a necessary component of home construction to direct surface drainage away from building foundations and to aid in preventing basement flooding. It provides a means to control where surface drainage dischargers from a property, the rate of flow entering onto public roads and minimizes the infiltration of surface water entering the sanitary sewer system.

- **Lot Grading Permit:** When the decision is made to construct a new single-family home, duplex, a Lot Grading application must be submitted to Building Inspections with the Building Permit Application. The application must include a plot plan, which has been prepared by the designer/architect.



- **Plot Plan:** The plot shows several things including the location of the house on the property, and various elevations (or heights) of the foundation and the soil at the property lines. The plot plan demonstrates that the designer and builder are aware of the drainage pattern pre-determined for the neighborhood prior to beginning construction.
- **Final Grade Certificate:** To ensure that the individual lots, as well as the entire subdivision are draining water properly and adequately, property grades must be verified by an Alberta Land Surveyor or Engineer, who is responsible for submission of the Final Grade Certificate to the City of Lethbridge. The Final Grade Certificate is assurance that the grades are constructed as shown on the plot plan and are approved by the City of Lethbridge.

## The Stages of Grading

**Rough Grading:** Rough grading is the responsibility of the homebuilder. It includes backfilling the basement excavation with clay soil from excavation and ensuring a positive slope away from the foundation walls. It also includes shaping and sloping the lot to conform to the lot grading style and rear property line design elevations indicated on the lot grading plan. When rough grading is complete, the lot could be up to (four inches) lower than the final design elevations.

**Final Grading:** Final grading is the responsibility of the homeowner, and it includes shaping and sloping up to (four inches) 100 mm of topsoil on top of the rough grade to conform to the lot grading style, and the final design elevations indicated on the lot grading plan to prepare the lot for landscaping. More than 100 mm (four inches) of topsoil to facilitate better lawn and plant growth may be used at the discretion of the homeowner.

**Landscaping:** Landscaping is the responsibility of the homeowner, and it includes enhancing the appearance of the lot by seeding or sodding the lawn, planting trees or shrubs, constructing patios and placing crushed rock, wood chips or other porous decorative material. The lot slope grade and elevations must be maintained during landscaping to ensure proper drainage. The grade must be established to final grade before placing the decorative material as surface water can flow through these materials. Adding these features along rear and side property lines is not recommended as they may impede drainage along the lot's drainage paths. It is recommended that all sheds and landscaping features be a minimum slope of 2 ft, 2% or greater.

### **Soft Surface (including pervious gravel, clay, topsoil, sod, crushed rock, or woodchips)**

- Area 3 m (10 ft) or greater around foundation – minimum five percent or 15 cm (six inch) drop slope.



## **Hard Surface (including impervious concrete, asphalt, or brick pavers)**

- Area 3 m (10 ft) or greater around foundation – minimum 0.75 percent or 2.5 cm (one inch) drop slope
- For side yard less than 3 m (10 ft) wide – minimum 2.5 cm (one inch) drop slope

## **Window Wells**

Window wells are required when basement windows are below finished grade at the basement foundation. A layer of crushed rock, minimum (2 inches) in depth, should cover the base of the well to accommodate drainage into a vertical weeping tile, which connects the base of the well to the foundation drainage system.

## **Downspouts**

Roof drainage is an important part of the lot drainage. House or garage roofs are required to drain into eavestroughs located along the edge of the roof. The eavestrough drain into downspouts which discharge rainwater and snowmelt from the roof to the ground. A functional roof drainage system protects the building's roof, siding, and foundation from water damage and helps prevent flooding of the homes basement. It is the homeowner's responsibility to ensure proper eavestrough and downspouts are in position to ensure that roof drainage does not adversely impact their property or their neighbor's property.

