

Lot Grading Issues

Information Guide

City of Edmonton



Edmonton



Introduction

Drainage Bylaw 18093 came into effect on January 1, 2018, replacing Drainage Bylaw 16200. This bylaw regulates lot grading, surface runoff, and site servicing for roof and foundation drainage and is enforceable for any property within the City of Edmonton.

Lot Grading is the shaping and sloping of the land to direct surface runoff away from buildings and towards a City right-of-way (lane or street). Proper lot grading minimizes the risk of property damage due to rainfall, runoff, or snow melt.

The City encourages all builders and homeowners to take preventative measures to avoid flooding and has set out standards for lot grading under Drainage Bylaw 18093 and the City's Lot Grading Guidelines. All property owners are responsible for their own lot grading, which must protect buildings on their lot and not impact adjacent properties.

Why lot grading standards?

Lot grading standards were developed in response to problems in older neighbourhoods. While the original bylaw came into effect in 1997, the standards are enforced retroactively for all properties developed after 1989.

Many older neighbourhoods do not have approved Lot Grading Plans or have plans that were developed prior to the implementation of the lot grading approval program. When complaints originate in areas of the City that are not covered by approved lot grading plans, lot grading inspectors will investigate the concerns to observe drainage bylaw violations.

Also, please note that the flow of surface water from one property to another is not always an automatic bylaw infraction. If no nuisance, damage, or hazard is caused, circumstances may exist where such cross-lot drainage can be reasonable and functional (i.e. neighbourhood streets that have significant slope). See the Residential Lot Grading Guidelines for more information.

Drainage Bylaw 18093 and Zoning Bylaw 12800 require that property owners ensure that a lot grading plan is approved by the City prior to property owners:

- ✦ applying for a development and building permit;
- ✦ constructing any buildings or additions to buildings;
- ✦ or altering the flow of surface runoff.

Common Issues

Property owners may find surface drainage issues that developed over a period of years, such as settlement next to foundation walls, which can become evident after rainstorms or during snow melt. Regrading or redevelopment of your property or adjacent properties can also highlight lot grading issues.

Please note, the City of Edmonton Lot Grading Inspectors are not consultants and do not provide solutions. They also do not have a mandate to resolve disputes and do not respond to urgent surface runoff or drainage issues. The City of Edmonton does not respond to urgent requests or active storm events. Homeowners must contact private professional companies.



Low areas in the yard can result in pooling and flooding during heavy rain or snow melt

What to do if there is a dispute with your neighbour

Many issues can be resolved with open communication. All property owners have an equal interest in effective drainage of surface water. Remember that maintaining the grading area around your house and your property is your responsibility as a property owner. Be ready and prepare your house for the potential of flooding, even if it has never happened before.

- ✦ Contact a restoration company, professional landscapers, grading companies/contractors, private home inspectors, or foundation drainage/repair contractors expert.
- ✦ During snow melt, shovel snow away from the window wells, downspouts, and your house foundation within your private property to provide a path for surface water to follow the natural grade towards a City right-of-way.
- ✦ Before a heavy rainstorm, ensure eavestroughs are clear of debris and downspouts are extended past the foundation wall.
- ✦ Check your own grading and surface runoff
- ✦ Talk to your neighbours to work out solutions because they may not realize there is a problem.

If you need help to initiate a conversation and collaborative solution with your neighbour, you can contact the Mediation and Restorative Justice Centre at **780-423-0896** or services@mrjc.ca.

Requesting an Investigation

If attempts to find solutions with your neighbours have not resulted in satisfactory drainage arrangements and you wish to have the City investigate, contact 311 to register your complaint. Development Approvals and Inspections will send you information about Lot Grading along with a Witness Statement Form for Drainage Bylaw violations.

Upon receipt of your **Witness Statement Form**, a Lot Grading Inspector will examine the surface drainage conditions on **both** properties. If any violations of Drainage Bylaw 18093 are discovered, notices of non-compliance will be sent to the respective property owners. Property owners must then take steps to bring their property up to standard.

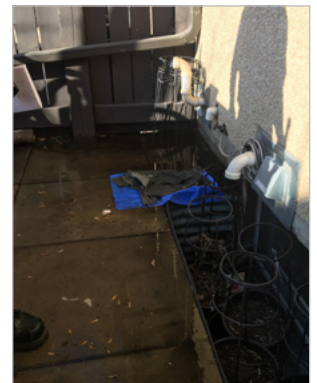
You may live in an area that has an older Lot Grading Plan (approved prior to the implementation of the Lot Grading Inspection and Approval program in 1989). If this is the case, submission of a recent Lot Grading Certificate for the premises will be required to confirm the conformance with the Approved Lot Grading Plan and to identify possible violations of the Drainage Bylaw.



Locations with poor lot grading generate a risk of basement flooding during rain events



Poor lot grading between two apartments creates a low area for ponding during snow melt



During active drainage issues or flooding, property owners must take interim measures to control surface runoff.

FREQUENTLY ASKED QUESTIONS/CONCERNS

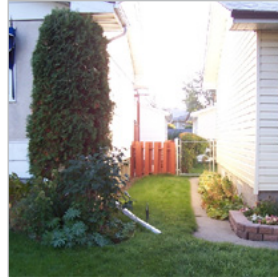
I have issues with my neighbour's downspout and/or sump pump discharging onto my property, causing flooding in my yard and/or basement.

Examine your own grading and be prepared to make changes to ensure that it directs surface runoff away from your house. Evaluate the existing drainage pattern and discharge locations with your neighbour to determine the best point of discharge for downspouts or sump discharge hoses. Discharge points must be 15 cm or greater away from the property line. Settlements result in slope towards the foundation wall, creating a risk of basement flooding.

All property owners are responsible to grade their lots to direct surface runoff away from buildings and towards a City right-of-way.



With a slope towards the foundation on the left, stormwater will flow towards the left house.



This downspout directs stormwater towards a neighbour's lot, which has a slope towards the foundation wall.



The sump pump discharge on the left drains towards the right property, which has a slope towards the foundation wall.

My neighbours had their downspout (roof drain) connected to a service inside the house, but now it is disconnected and it drains onto my property.

Many houses in older areas have the downspouts connected to the storm sewer service to a stand pipe or through the house. Basement flooding may occur during heavy rainstorms when the storm sewer system is flowing at peak capacity, causing the sewer to back up.

Most houses built between 1960–1988 have service connected to Separate Storm Sewer Main and Separate Sanitary Sewer Main. Prior to 1960, typical service connection was to a Combined Sewer Main. To confirm Servicing requirements for your property, contact EPCOR Water Services Inc., Infill Water and Sewer Servicing at 780-496-5444 or email wass.drainage@epcor.com.

Disconnecting the downspouts from the storm system allows the roof drainage to flow onto the ground before reaching the catch basin in the street. The City can support this disconnection if surface runoff does not impact adjacent properties or environmentally sensitive locations (*some conditions apply*).

In most cases, property owners must improve their surface grading after they disconnect their downspouts to ensure they are complying with [Drainage Bylaw 18093](#).



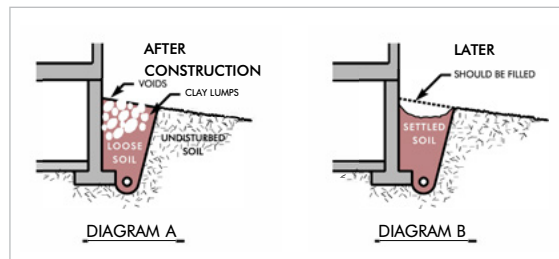
Downspout disconnected from storm service

FREQUENTLY ASKED QUESTIONS/CONCERNS (CONT.)

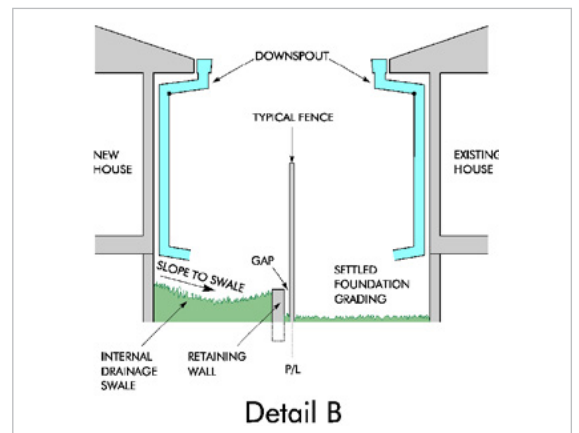
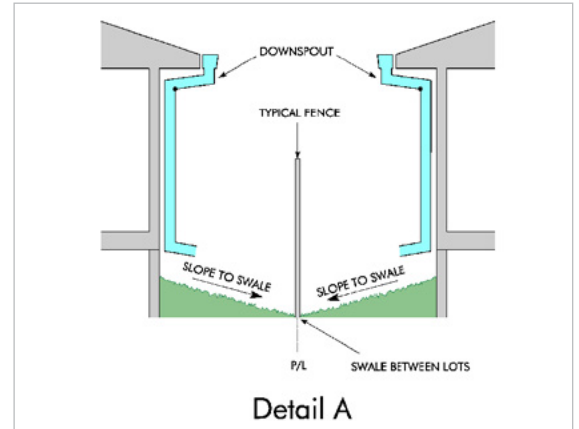
Examine your own grading and make any changes needed to ensure that it directs surface runoff away from your buildings. Evaluate the existing drainage pattern and discharge locations with your neighbour to determine the best place for water to flow out of downspouts or sump discharge hoses. This location must be 15 centimetres or greater from the property line.

I have some flooding issues and I want to do re-landscaping on my lot. Is there anything I should be aware of before I proceed?

The City of Edmonton recommends maintaining a positive slope from your foundation walls and paying close attention to how your stormwater is managed and directed. The soil around your home is not compacted during basement excavation (See Diagram A). Settlement next to the foundation over time can create negative grading (See Diagram B). As settlement occurs, it becomes necessary to redo proper foundation grading by adding additional soil to re-establish positive slope away from the building.



You may need to create or improve the swale (a shallow, and often wet, tract of land that is sloped to direct surface runoff towards a City right-of-way) between the properties. A shared swale on the common property line (Detail A) is ideal; however, a separate, internal swale within the lot (Detail B) is sometimes required to solve a drainage problem. The owner is responsible to establish and maintain lot grading under provisions of the [Drainage Bylaw](#).



An internal drainage swale being built using a string-line as a visual guide for the slope of the swale

FREQUENTLY ASKED QUESTIONS/CONCERNS (CONT.)

What can I do if I am concerned that my neighbour's new house (infill) is higher than mine and might cause flooding of my property?

There are no detailed Lot Grading Plan designs for properties developed prior to 1989. However, the Lot Grading Guidelines, Alberta Building Code and the Drainage Bylaw provide requirements for all houses to have a 10% slope away from the foundation walls.

Since October 2015, the applicant/owner must submit an infill Lot Grading Plan to the City of Edmonton for review and approval prior to the Development and Building Permit being issued as per Drainage Bylaw 18093 and Zoning Bylaw 12800.

To avoid surface runoff issues:

- ✦ Review and repair your foundation grading to reestablish the slope away from your house.
- ✦ Ensure that you have downspout extensions or splash pads to convey roof and foundation water at least two metres away from your house.
- ✦ Consult with the adjacent property owner to create a lot grading design that works for both properties.
- ✦ Check lot grading between the houses to ensure a positive and consistent slope away from the building and along the property line drainage swale has been maintained.

Infill development creates the opportunity for neighbouring owners to consider the existing state of their grading and take steps to improve the surface drainage on their own property. In many cases, grading improvements that result in the creation of a common property swale can be made in conjunction with the grading for the infill development.

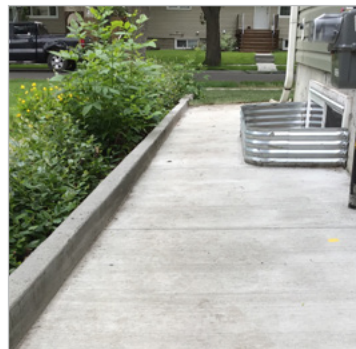
For more information on City of Edmonton Infill please refer to the following:

- ✦ [City of Edmonton Residential Infill](#)
- ✦ [Residential Infill Guidelines](#)

After construction and lot grading is completed the owner must submit a Lot Grading Certificate to the City of Edmonton which initiates a lot grading inspection to ensure compliance under provisions of the [Drainage Bylaw](#) and the [Lot Grading Guidelines](#).



Example of internal swale and retaining wall at rough grade with dimpled waterproof membrane



Example of a sidewalk with a curb/retaining wall to create an internal swale



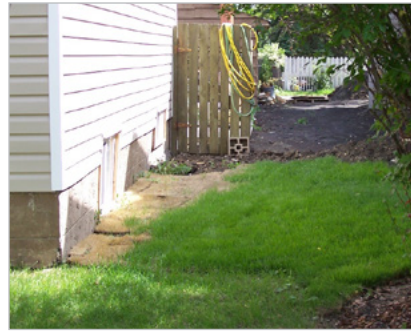
Example of an internal swale without a retaining wall

FREQUENTLY ASKED QUESTIONS/CONCERNS (CONT.)

My neighbours regraded their lot higher than mine and now my basement will get flooded.

If your neighbours have regraded their lot, they may also have to create an internal drainage swale to ensure that surface runoff is directed towards a City right-of-way.

If you have improper grading on your property, surface water will flow towards your foundation wall and increase the risk of basement flooding. Reestablish your foundation grading to protect your home and evaluate the existing drainage patterns with your neighbour to overcome common drainage issues.



A lot that is regraded without creating a common or internal drainage swale will direct stormwater to an abutting property with negative grade.



Low areas within the property with evidence of pooling during spring melt



Property on right with negative grade and evidence of surface runoff at foundation wall

FREQUENTLY ASKED QUESTIONS/CONCERNS (CONT.)

My neighbours' new sidewalk (in their side-yard) is too high and now the water runs into my yard.

Effective side-yard drainage requires the cooperation of both property owners. New walkways must allow for unobstructed surface runoff pathways towards a City right-of-way. Check your own foundation grading and lot drainage.

All property owners are responsible to have their lot graded to direct surface water away from buildings and towards the City right-of-way. Consult with your neighbour over common drainage issues.



This new sidewalk does not have 15 cm drainage space within the property.



The new sidewalk on the left has the minimum 15 cm drainage space requirement within the property that drains surface runoff towards the street.



These new sidewalks with raised edges create internal swales that prevent surface water from draining towards the abutting lots.



Concrete retaining wall and internal swale



Concrete internal swale adjacent to concrete sidewalk

FREQUENTLY ASKED QUESTIONS/CONCERNS (CONT.)

My neighbour's new sidewalk (in the side-yard) is too high and now the water runs into my yard.



Even when a large amount of water flows out of sump pumps, these situations are not a violation of the Bylaw when the water travels directly to the City right-of-way from your neighbour's property. This situation arises most often when properties are not connected to an underground service to dispose their foundation drainage systems. The City responds to these situations by sending lot grading inspectors to perform a site inspection. To resolve the icing problem, the City can offer your neighbour a seasonal connection permit (indoor) for temporary relief during the winter months. **(Conditions Apply).**

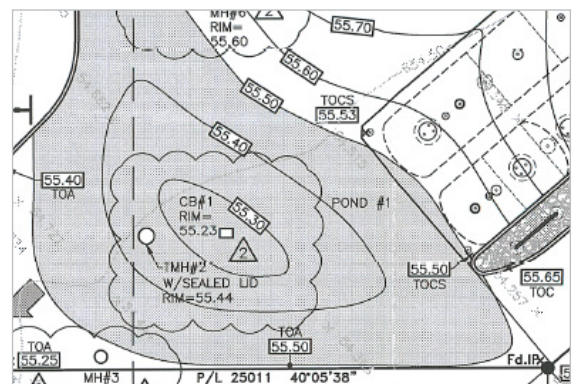
Residents are encouraged to visit edmonton.ca for information and resources for maintaining sidewalks in the winter.

During heavy rainstorms, the parking lot of my commercial business floods around the catch basin.

Many commercial and multi-family properties have on-site stormwater management. The parking lot is designed to store rainwater on the surface and slowly drain it into the sewer system through a flow restrictor in the catch basin. This method is intended to prevent surcharging the sewer mains. All commercial and multi-family properties must contain surface runoff within the property.



Stormwater is stored and drains slowly into a catch basin during and after storm events.



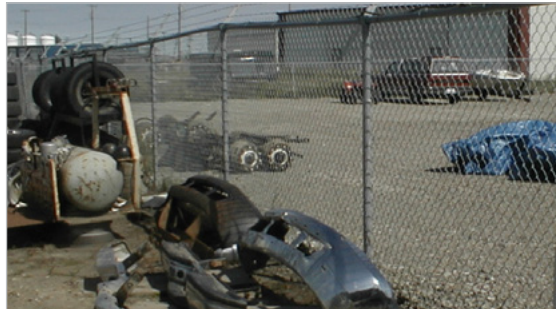
Typical designs for on-site stormwater management on commercial and multi-family properties

FREQUENTLY ASKED QUESTIONS/CONCERNS (CONT.)

I own a building in an older industrial area. My neighbour built a new business site that is higher in elevation compared to mine and other neighbours. Is this going to cause drainage problems, and if so, what should I do?

After construction and lot grading is completed the owner must submit a [lot grading certificate](#) (as-built plan) to the City of Edmonton followed by a lot grading inspection to ensure compliance under provisions of the [Drainage Bylaw](#) and the [lot grading guidelines](#).

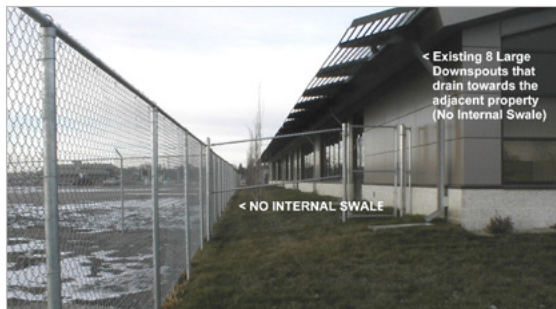
All new commercial and multi-family properties must have stormwater management on-site. A [lot grading plan](#) must display the proposed on-site drainage. In this case, the builders of the new commercial site must control their own grading and cooperate with the owners of the other properties to ensure that the surface runoff does not flow on to adjacent lands. Retaining walls may be required to achieve this result.



The new industrial development on the right slopes towards the existing industrial property.



The new industrial development has no on-site stormwater management. The gravel is graded high and slopes towards the existing industrial site behind the fence.



This new commercial development with surface drainage flowing towards the adjacent property is in violation of the Bylaw.



This new apartment site is in violation of the bylaw because it has the surface runoff flowing towards the abutting lot.

FREQUENTLY ASKED QUESTIONS/CONCERNS (CONT.)

You should also look at your own site grading. You may need to make adjustments to provide a better level of protection from rainfall and melting snow. To avoid surface runoff issues, you should:

- + Review and repair your own grading to re-establish the required slope away from your building:
 - + 10% for first 2 m Minimum 20 cm drop for final grade on soft landscaping
 - + 5% for first 2 m (slab-on-grade) with a minimum 10 cm drop for final grade on soft landscaping
 - + 0.75% for concrete, asphalt, or other impervious surface treatment
- + Ensure that you have downspout extensions or splash pads to convey surface water at least 2 metres away from the building and at least 15 centimetres away from adjacent property
- + Consult with the adjacent property owner to create a drainage plan that works for both properties
- + Check lot grading between the properties to make sure a positive and consistent slope along within your property swale has been maintained and functional to private storm service (catch basins) if available.



Example of downspout with a concrete splash pad at an industrial building



New commercial development with slope from an adjacent property into an internal swale



Grading of a Commercial property with slope and swale towards a catch basin within private property



Typical minimum slope on concrete away from a commercial building

FREQUENTLY ASKED QUESTIONS/CONCERNS (CONT.)

What can I do about flooding (surface runoff) in my condominium unit?

Maintaining the site grading is the responsibility of the condominium association. If the project was built after 1993, there should have been an approved [lot grading plan](#). This plan can serve as the basis for solving surface runoff issues.

Problems in projects constructed before 1993 can be solved by providing a positive slope away from the buildings. Contact your Condo Board or Management company to address concerns on your property.



Poor lot grading results in flooding between two condominium units



Sidewalk settlement between two condominium units results in pooling of water



Settlement beside this condominium unit causes water pooling and potential basement flooding



Poor grading in this drainage swale causes water pooling

FOR MORE INFORMATION

Bylaws

[Drainage Bylaw 18093](#)

[EPCOR Drainage Services and Wastewater Treatment Bylaw 19627](#)

Pamphlet Series

- + "[Lot Grading Inspections](#)"
Final Grade Stage
- + "[Lot Grading Maintenance](#)"
After Final Grade Stage

CONTACT INFORMATION

Urban Planning and Economy, Development Approvals and Inspections, Lot Grading

Lot Grading 311, General Inquiries
7:00 am–7:00 pm
Monday–Sunday
(Closed Statutory Holidays)

Mailing Address

City of Edmonton
Urban Planning and Economy,
Development Approvals and Inspections, Lot Grading

Edmonton Service Centre
2nd Floor, Edmonton Tower
10111 104 Avenue NW
Edmonton, Alberta T5J 0J4

Internet Addresses

Commercial & Multi-Family Residential
https://www.edmonton.ca/business_economy/lot-grading-commercial.aspx

Residential Lot Grading
www.edmonton.ca/lotgrading

Email Address

lot.grading@edmonton.ca

EPCOR

**EPCOR Water Services Inc.,
Infill Water and Sewer Servicing**
8:00am – 4:30pm Monday to Friday
780-496-5444
wass.drainage@epcor.com
[Service for New Developments](#)

EPCOR Drainage Flood Prevention Home Check-up Program
780-944-7777
floodprevention@epcor.com
[Flood Prevention Home Check-up](#)

EPCOR Drainage and Customer Service
780-412-4500
[EPCOR Drainage Services](#)
epcordrainage@epcor.com