

# SURFACE DRAINAGE PROBLEMS

## INFORMATION GUIDE

### Introduction

The [Drainage Bylaw 16200](#) came into effect on June 1, 2013 replacing previous versions of the Surface Drainage Bylaw 11501. This bylaw regulates lot grading and surface drainage on public and private lands and is enforceable for any property within the City of Edmonton.

All property owners are responsible to maintain surface grading on their property in a manner that protects their buildings from surface drainage and does not impact adjacent properties.

Many older neighbourhoods in the City of Edmonton do not have approved Lot Grading Plans and some that have approved plans were developed prior to the implementation of the lot grading approval program.

Surface drainage problems that developed slowly over a period of years, such as settlement at the foundation walls, can become evident after rainstorms or during snow melt. Also, re-grading or re-development (infill housing) can create drainage problems or highlight existing problems resulting in basement flooding, property damage or disputes between neighbours. However, property owners are required by the Drainage Bylaw 16200 to ensure that a lot grading plan for the premises is approved by the City Manager prior to construction of any buildings, additions to buildings or alterations of surface drainage on the premises.

The [Drainage Bylaw 16200](#) and the [Lot Grading Guidelines](#) were developed as a response to problems that were observed over the years in the older neighbourhoods. When complaints originate in areas of the City that are not covered by approved [Lot Grading Plans](#), the Lot Grading Inspectors must observe the presence of enforceable violations of the Drainage Bylaw 16200.

The City of Edmonton does not provide funding to rectify private surface drainage problems.



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



## **Definitions**

**Lot Grading:** is shaping and sloping the land to direct surface drainage away from buildings and towards a City right of way

**Swale:** is a shallow, and often wet, tract of land; sloped to convey surface drainage towards a City right-of-way.

## **Purpose**

The purpose of lot grading is to provide good drainage away from buildings for the benefit of property owners.

The purpose of the [Drainage Bylaw 16200](#) is to regulate surface drainage on public and private land.

## **WHAT SHOULD YOU DO WHEN PROBLEMS ARISE?**

Most problems can be resolved with open communication. Adjacent property owners have an equal interest in effective drainage of surface water.

- Check your own grading and surface drainage pattern
- Contact a Professional Engineer, a reputable landscaper or a foundation drainage expert
- Talk to your neighbours to work out solutions. They may not realize there is a problem.

If you need help in reflecting on what that conversation might look like, to encourage a collaborative solution, you can contact the Mediation and Restorative Justice Centre –

Phone: **780-423-0896** Website: [www.mrjc.ca](http://www.mrjc.ca)

If attempts to find solutions with your neighbours have not resulted in satisfactory drainage arrangements and you wish to have the City investigate; complete the enclosed **Witness Statement Form** for Drainage Bylaw violations. On receipt of your witness statement form, a Lot Grading Inspector will examine surface drainage conditions on both properties to identify bylaw violations. Non-compliance notices will be sent for infractions of the Drainage Bylaw 16200. Property owners must then take steps to bring their property into compliance with the bylaw.

**You may live in an area that has a Lot Grading Plan that was approved prior to the implementation of the Lot Grading Inspection and Approval program. If this is determined to be the case, then submission of a recent Lot Grading Certificate for the premises will be required to assist in the evaluation of potential Drainage Bylaw violations as well as grading conformance with the Approved Lot Grading Plan.**

The Lot Grading section of Drainage Planning and Engineering does not have a mandate to resolve disputes; we offer information and an inspection service to identify violations of the Drainage Bylaw 16200.





Area with poor lot grading generates a risk of basement flooding during a rain storm



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

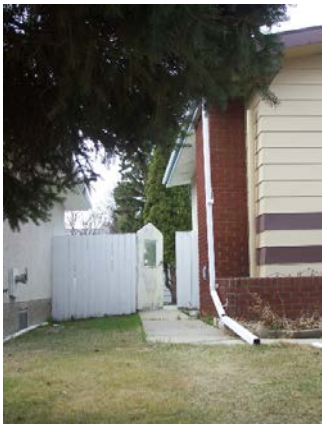
## **FREQUENTLY ASKED QUESTIONS**

**Question:** I have a problem with my neighbour's downspout and/or sump pump discharging on my property causing flooding on my yard and/or my basement.

**Answer:** Examine your own grading and be prepared to make changes to ensure that your foundation grading will direct surface drainage 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 pump discharge hoses. Discharge points must not be less than 15 cm from the property line.

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

**WHAT SHOULD YOU DO? See page 2 or page 10**



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



Sump pump discharge on the left drains towards the right property which has a slope towards the foundation wall

Settlements result in slope towards the foundation wall generating a risk of basement flooding.



**Question:** My neighbour had his downspout (roof drain) connected to a service inside the house, but now it is disconnected and it drains onto my property.

**Answer:** Many houses in older areas have the downspouts connected to the storm sewer system inside the house. Basement flooding may occur during heavy rainstorms when the storm sewer system is flowing at peak capacity, causing the sewer back-up.

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 drainage does not impact adjacent property or environmentally sensitive locations. In most cases, improvement of the existing surface grading is required to ensure compliance with the [Drainage Bylaw 16200](#).



Downspout disconnected from storm service



Downspout disconnected from storm service which drains into a pipe that runs between the floor joists



Downspout disconnected from the storm service and directed towards the neighbour's property is a violation of the Bylaw

Examine your own grading and be prepared to make changes to ensure that your foundation grading will direct surface drainage away from your house. Evaluate the existing drainage pattern and discharge locations with your neighbour to determine the best point of discharge for the downspouts. Discharge points must not be less than 15 cm from a common property line.

Create or improve the [swale](#) between the houses to convey surface drainage towards the City right of way. A shared swale on the common property line is the ideal case; however, a separate, internal swale within the lot is sometimes required to solve a drainage problem.

All property owners are responsible to grade their lots properly to promote surface drainage away from buildings and towards a City right of way.

**[WHAT YOU SHOULD DO? See page 2 or page 10](#)**





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

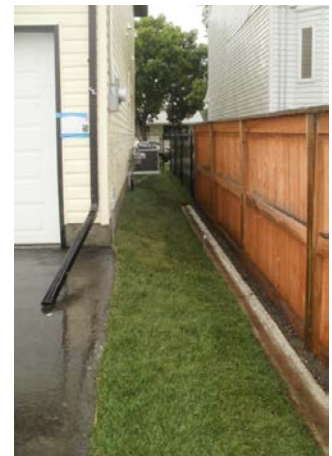
**Question:** I live in an older neighbourhood and my neighbour has built a new house. It is higher in elevation compared to my house, and other neighbours' houses.

**Answer:** The [Alberta Building Code](#) and the Drainage Bylaw 16200 provide requirements for all houses to have a 10% slope away from the foundation walls. In the case of infill housing, the owner must submit a Lot Grading design plan and an as-built plan for approval to ensure conformance with the Drainage Bylaw 16200 and the lot grading guidelines.

To avoid surface drainage problems:

- Review and repair your foundation grading to re-establish the slope away from your house.
- Ensure that you have downspout extensions or splash pads to convey roof and foundation water at least two meters away from your house.
- Consult with the adjacent property owner to create a drainage plan that works for both properties.
- Check lot grading between the houses to make sure a positive and consistent slope along the drainage [swale](#) has been maintained.

**WHAT SHOULD YOU DO? See page 2 or page 10**



Internal swales for an infill house adjacent to properties with existing grade sloping towards the foundation walls.



**Question:** My neighbour re-graded his lot higher than mine and now my basement will get flooded.

**Answer:** If your neighbour has re-graded his lot to alter surface drainage, he may also have to create an internal drainage swale to ensure that surface drainage is directed to drain towards a City right of way. If you have poor or negative grade, surface water will flow towards your foundation wall and increase the risk of basement flooding. Re-establish your foundation grading to protect your home and evaluate the existing drainage patterns with your neighbour to overcome common drainage issues.

**WHAT SHOULD YOU DO? See page 2 or page 10**



Lot re-graded without creating a common or internal drainage swale will direct stormwater to adjacent property which has negative grade.

**Question:** My neighbour built a sidewalk that it is at a higher elevation and the water runs into my yard.

**Answer:** Effective side-lot drainage requires the co-operation of both property owners. New walkways must allow for un-obstructed surface drainage 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 a public right-of-way. Consult with your neighbour over common drainage issues.

**WHAT SHOULD YOU DO? See page 2 or page 10**



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



New sidewalk on the left has the minimum 15 cm drainage space requirement within the property which provides for surface water drainage towards the street





These new sidewalks, with raised edges, create internal swales which prevents surface water drainage towards the adjacent lots

**Question:** I am calling to check the status of a property and I want to know if Rough or Final Grade Approval was issued.

**Answer:** If you are a lawyer or a realtor working on behalf of a vendor or purchaser, we can provide that information under the [Freedom of Information Policy](#) (FOIP). Provide a written request, including property address and legal description, to Drainage Services and we will generally respond within two working days.

Address:

City of Edmonton, Sustainable Development  
 Drainage Planning and Engineering, Lot Grading  
 5<sup>th</sup> Floor Century Place  
 9803 – 102 A Avenue NW  
 Edmonton, Alberta, Canada T5J 3A3  
 Email: [lot.grading@edmonton.ca](mailto:lot.grading@edmonton.ca)  
 Phone: 780-496-5576  
 Fax: 780-496-2865

**Question:** The City sidewalk in front of my property is always wet in the summer and icy in the winter because of water from my neighbours' sump pump. Is there anything that can be done?



**Answer:** These situations are not a violation of the Drainage Bylaw 16200 when the discharge point is



within your neighbours property. The City recognizes that these flows can be excessive. It is important to ensure you have sufficient slope down and away from your buildings and toward the City right-of-way. The Lot Grading section always responds to these situations with a site inspection. Upon inspection, the City may offer your neighbour a seasonal connection permit for temporary relief during the winter months, however, there is no obligation on your neighbour to accept the offer.

Also, you can expect a reasonable amount of cross-lot drainage as water flows toward the City property line from private property, especially where neighbourhood roads have slope. See page 1 of the [Residential Lot Grading Guidelines](#) for more information.

**WHAT SHOULD YOU DO? See page 2 or visit the City of Edmonton website for information relative to maintaining sidewalks in winter:**

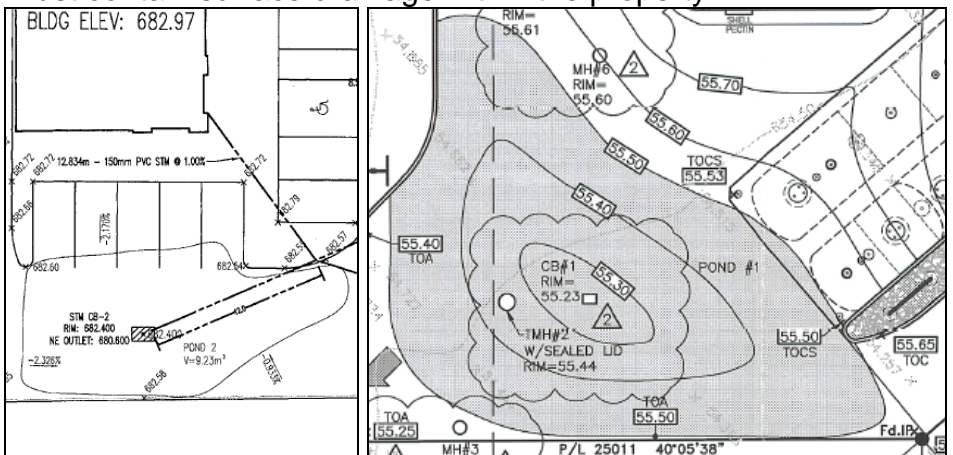
[http://www.edmonton.ca/bylaws\\_licences/bylaws/sidewalk-snow-removal.aspx](http://www.edmonton.ca/bylaws_licences/bylaws/sidewalk-snow-removal.aspx)

**Question:** I have a commercial business and during heavy rainstorms my parking lot floods around the catch basin.

**Answer:** Many commercial and multi-family properties have on-site storm water management. The parking lot is designed to store rain water on the surface which will slowly drain into the sewer system through a flow restrictor in the catch basin. This is intended to prevent surcharging the sewer mains. All commercial and multi-family properties must contain surface drainage within the property.



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



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

**Question:** I own a building in an older industrial area. A new business site has been built beside my property and it is higher in elevation compared with the adjacent sites.

**Answer:** Industrial developments may be required to have on-site stormwater management. A lot grading plan indicating the proposed on-site drainage must be approved by the City. The builder of the new development must control the site grading and manage stormwater on-site. Retaining walls may be needed to achieve this.

Adjustments to your site grading may be required to provide a better level of protection for existing buildings.

**WHAT SHOULD YOU DO? See page 2**

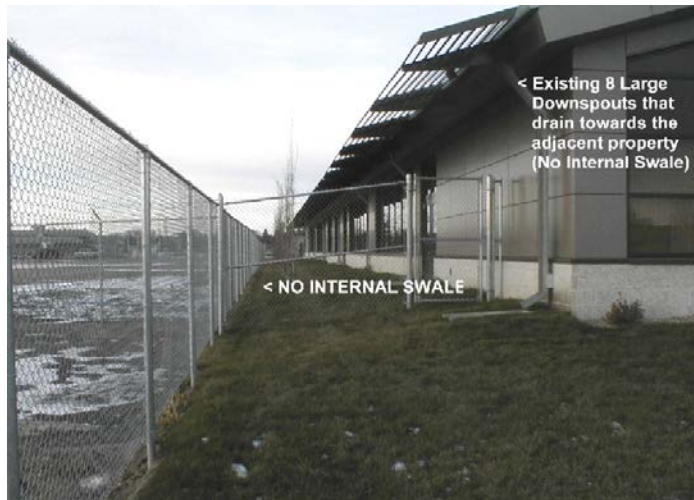




A new industrial development on the right slopes towards the existing industrial property



This 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 has the surface drainage flowing towards the adjacent lot in violation of the Bylaw

**Question:** I live in a condominium and several units including mine have been flooded.

**Answer:** Maintaining the site grading is the responsibility of the Condominium Association (Condo Board or Management Company). If the project was built after 1993, there may be a lot grading plan. This plan can serve as the basis for solving surface drainage issues. Contact the Lot Grading section of Drainage Services to obtain a copy of the plan.

Problems in projects constructed prior to 1993 must be solved using common sense, good grading principles and the provisions of the Drainage Bylaw with the Lot Grading Guidelines.

### **WHAT SHOULD YOU DO?**

Contact your **Condo Board or Management Company** or [see page 10](#)





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

**Question:** How can I participate in the **Flood Prevention Home Check-up** program?

**Answer:** Maintaining good drainage on your residential property is a component of flood prevention. A flooded yard or basement can cause serious damage to your property and cost time, money and inconvenience. Our home flood prevention check-up service brings a drainage specialist to your home or condominium for a complimentary one-on-one interior and exterior drainage assessment. The service is available from May-October to any residential homeowner in Edmonton (certain conditions apply).

Call **780-944-7777** to schedule a complimentary appointment. All bookings are based on a first come, first served basis. For more information, check our [Flood Prevention Home Check-up](#) webpage.



## **FOR MORE INFORMATION**

### **Bylaws**

- [Drainage Bylaw 16200](#)

### **Pamphlet Series**

- ❑ [Lot Grading Inspections](#)  
Final Grade Stage
- ❑ [Lot Grading Maintenance](#)  
After Final Grade Approval
- ❑ [Home Check-Up Flood Prevention Guide](#)  
The Homeowner's Guide to Flood Prevention

## **CONTACT INFORMATION**

### **Telephone Numbers**

- ❑ Sustainable Development Department, Drainage Planning and Engineering  
**780-496-5576** – Lot Grading - 8:00am - 4:30pm Monday to Friday  
**780-496-2865** – Lot Grading Fax  
**780-496-5444** – [Water and Sewer Servicing Information](#) - 8:00am - 4:30pm Monday to Friday  
**780-944-7777** – [Flood Prevention Home Check-up](#)  
**311** – Drainage and Sewer Trouble, Re-Inspection Request, General Inquires - 24 Hours

### **Mailing Address**

City of Edmonton, Sustainable Development  
Drainage Planning and Engineering, Lot Grading  
5th Floor, Century Place  
9803 – 102A Avenue NW  
Edmonton, Alberta, Canada  
T5J 3A3

### **Internet Addresses**

- [www.edmonton.ca/lotgrading](http://www.edmonton.ca/lotgrading)
- [www.edmonton.ca/business/commercial-lot-grading](http://www.edmonton.ca/business/commercial-lot-grading)
- [www.edmonton.ca/floodprevention](http://www.edmonton.ca/floodprevention)

### **Email Address**

- [lot.grading@edmonton.ca](mailto:lot.grading@edmonton.ca)
- [wass.drainage@edmonton.ca](mailto:wass.drainage@edmonton.ca)
- [backwatervalue@edmonton.ca](mailto:backwatervalue@edmonton.ca)

