**RESIDENTIAL PROPERTIES**

Drainage Bylaw 18093 came into effect on January 1, 2018, replacing Drainage Bylaw 16200. This Bylaw requires that all single family, semi-detached, and row-house residential properties are graded in accordance with an approved Lot Grading Plan or Infill Lot Grading Plan.

**Definition**

Residential Lot Grading is shaping and grading the land to direct surface runoff away from buildings and towards a City right-of-way (lane or street).

**Purpose**

The purpose of lot grading is to provide proper drainage away from buildings for the benefit of property owners. The purpose of Drainage Bylaw 18093 is to regulate drainage on private and public land.

**Lot Grading Plans**

Lot Grading Plans have been part of the development approval process for residential properties since 1989. They are required for all new developments and are approved by the City of Edmonton. Lot Grading Plans specify design elevations, surface gradients, lot types, swale locations, and other drainage related information required for lot grading. A Lot Grading Plan establishes the grading relationship between abutting properties and its approval is an effective basis for the control of surface runoff.

*Due to the topography of most neighbourhoods, approved lot-to-lot drainage will often occur.*
Compliance with Encumbrances

Property owners must comply with the terms and conditions of any restrictive covenant, easement agreement, utility right-of-way, or any other document that is registered on the certificate of title for their property. With regard to lot grading, these encumbrances are intended to protect ravines, natural areas, structures, ditches, swales, overflow areas, or other drainage features like Stormwater Management Lakes. Such encumbrances are usually in the form of Right-of-Ways, Easements, and Restrictive Covenants and can be obtained from a licensed registry agent. Any and all such encumbrances should be checked prior to planting, grading, or building in these locations.

**NOTE:** No person shall install, or permit to be installed, any water retention structure or irrigation system on any slope unless the installation has been approved under Bylaw 18093.

Lot Grading Inspection Fees

The lot grading inspection fee that is paid at the time the building permit is issued, covers the cost of all rough and final grade inspections for single detached and semi-detached (duplex) housing. Current inspection fees are found on the Lot Grading website and outlined in Drainage Bylaw 18093.

Documentation

- Drainage Bylaw 18093
- City of Edmonton Design and Construction Standards
- Alberta Building Code
Lot Grading Inspectors will inspect properties for two stages of Lot Grading Approval: Rough Grade and Final Grade. Please note that lot development, including buildings, concrete driveways, and walkways, must be completed before applying for grading approval.

Split and rear-to-front drainage

Rough Grade Stage

The property owner is responsible for ensuring that Rough Grade is approved. Your home builder may have completed this process for you. This stage includes backfilling the foundation walls with material native to the site (or equivalent) and shaping of the lot to conform to an approved Lot Grading Plan within acceptable tolerances. The Rough Grade should be approved within 18 months of the issuance of a building permit for a lot.

These grade stakes indicate the design elevations for final grade.
LOT GRADING GUIDELINES Residential Properties

LOT GRADING APPROVAL PROCEDURE (CONT.)

ROUGH GRADE APPROVAL PROCEDURE

1. The applicant has a Lot Grading Certificate prepared by an Alberta Land Surveyor.

2. The Lot Grading Certificate is then submitted to the City of Edmonton for approval. The applicant must provide information for their preferred method of contact (fax, email, or mail) to receive a Lot Grading Inspection Report.

3. A Lot Grading Inspector will conduct a site inspection to verify that the lot is graded in accordance with the approved Lot Grading Plan and Drainage Bylaw 18093. The inspection is usually done within 5 working days from receipt of the certificate, depending on workload and weather conditions.

4. The applicant will receive an Inspection Report indicating whether the Rough Grade has Passed (approved) or Failed (deficiencies exist).

5. The builder must correct any deficiencies within 60 days and call 311 to arrange for a reinspection. If resubmission of a Lot Grading Certificate is indicated, reinspection cannot occur until a new Lot Grading Certificate is received.

6. If the Inspection Report indicates a failure, it will identify the deficiencies and their locations. Please note, deficiency items are labeled “left,” “right,” “front,” and “back.” The “front” of a lot is typically determined when facing the property from the City street. In the case of a corner lot, the front property line is the shortest of the two that abut the City street.

7. The applicant and property owner will both be notified when the Rough Grade is approved. This approval is based on the site conditions observed at the time of the lot grading inspection.

Regardless of who applies for grade approval, the Drainage Bylaw 18093 states that the Property Owner is ultimately responsible for all activities and approvals related to his or her property.

Rough grade has been completed in the backyards of these two lots.
LOT GRADING APPROVAL PROCEDURE (CONT.)

Final Grade Stage

The property owner is responsible for Final Grade. This stage must be completed within:

+ **12 months** of the Rough Grade Approval;
+ **60 days** of the final grading being completed; or
+ **30 months** of the building permit being issued for the premises.

Acceptable Rough Grade elevations are typically 7 to 20 cm below the final grade elevations identified on the Lot Grading Plan in order to accommodate the placement of topsoil and landscaping. The topsoil should be smoothly spread out, compacted, and ready for sod, liners, rocks, etc.

If rocks, wood chips, or other porous decorative material is planned for use in the final landscaping, the underlying clay base (rough grade) must be raised to final grade elevations before laying this material. Rocks or wood chips cannot make up for the 7 to 20 cm of final grade because surface water can flow through those materials.

We advise landscape contractors to avoid placing these materials at the design and typical as-built locations to enable the surveyors to obtain accurate information. As-built elevations provided on bark or rock may be subject to recertification to validate drainage functionality and conformance with design tolerance. See page 26: Recertification.
Final Grade Approval Procedure

1. The owner arranges for a Lot Grading Certificate to be prepared by a qualified professional (i.e. an Alberta Land Surveyor).

2. The Lot Grading Certificate is then submitted to the City of Edmonton for approval. The property owner must provide information for their preferred method of contact (fax, email, or mail) to receive a Lot Grading Inspection Report.

3. A Lot Grading Inspector will conduct a site inspection to verify that the lot is graded in accordance with the approved Lot Grading Plan and Drainage Bylaw 18093. The inspection is usually done within **5 working days** from receipt of the certificate, depending on workload and weather conditions.

4. The property owner will receive an Inspection Report indicating whether the Final Grade has **Passed** (approved) or **Failed** (deficiencies exist) the inspection.

5. The property owner must correct any deficiencies within **60 days** and call 311 to arrange for a reinspection. If resubmission of a Lot Grading Certificate is required (as indicated on the inspection report), reinspection cannot occur until a new Lot Grading Certificate is received.

6. If the Inspection Report indicates a failure, it will identify the deficiencies and their locations. Please note, deficiency items are labeled “left,” “right,” “front,” and “back.” The “front” of a lot is typically determined when facing the property from the City street. In the case of a corner lot, the front property line is the shortest of the two that abut the City street.

7. The property owner will receive an approval report and the Lot Grading Certificate when Final Grade is approved. This approval is based on the site conditions observed at the time of the lot grading inspection.
LOT GRADING REQUIREMENTS
FOR ROUGH AND FINAL GRADE APPROVAL

Site Servicing

Each property must dispose of water from the roof and the foundation drainage systems in the manner specified by the EPCOR site servicing requirements:

- **Foundation Service:** weeping tile systems must be discharged to a foundation sewer service

- **Storm Service:** downspouts and the weeping tile system must be discharged to a storm sewer service

**NOTE:** On split-grade lots, service riser pipes must extend to the finished floor elevation to ensure that surcharged storm or foundation drainage systems don't overflow and drain onto abutting properties.

For more information about site servicing requirements, contact EPCOR Water and Sewer Servicing at 780-496-5444 or email wass.drainage@epcor.com.
LOT GRADING GUIDELINES Residential Properties

LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Design Grades

Approved Lot Grading Plans identify design grades at specific, discrete locations for each property and the Lot Grading Certificate identifies as-built elevations taken at the same specific locations as well as additional locations (see certificate requirements on pages 25–26). Grading for common property drainage swales and internal swales must be consistent from design point to design point without obstructions or low areas.

Acceptable as-built tolerances (from design grades):

ROUGH GRADE:

- Between 7 cm and 20 cm below final grade for clay
  Example: Design Grade 682.25 m; Existing Grade 682.10 m = 15 cm below design grade.

FINAL GRADE:

- Between 0 cm to 10 cm below final grade for topsoil - NOTE: (“0 cm” is approved design)
  Example: Design Grade 682.25 m; Existing Grade 682.20 m = 5 cm below design grade.

- Between 10 cm below to 10 cm above final grade for finished landscaping (sod, concrete)
  Example: Design Grade 682.25 m; Existing Grade 682.30 m = 5 cm above design grade.

At Final Grade, the surface elevation below the decorative rock, washed rock, or wood chips must be within the acceptable tolerance.

- The Lot Grading Inspector has the discretion to accept elevations that are not within tolerance when:
  - a lot is graded to match the existing walkway, lake, park, curb, sidewalk, road, or lane maintaining a positive surface runoff.
  - a lot is graded to match an abutting property and has proper on-site surface runoff (sloping away from the property) that also works with the abutting property.
LOT GRADING GUIDELINES Residential Properties

LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Minimum Grade from Foundation Walls and Concrete Slab-on-Grade Buildings

A sloped surface is required to effectively drain water away from the foundation walls, including areas under steps and decks.

Refer to the Lot Grading Detail Drawings for more information:
www.edmonton.ca > residential & neighbourhoods > lot grading > drawings

+ Minimum grade requirements:
  + 10% for 2 meters – Minimum 20 cm drop for soft surface / landscaping (i.e. clay, topsoil, or sod).
  + 5% for the first 2 m (slab-on-grade) – Minimum 15 cm drop for final grade on soft landscaping.
  + Minimum 15 cm drop for a side yard less than 1.5 meters for both soft and hard surface grading/landscaping.
  + 0.75% for hard surface or other impervious surface treatment (i.e. concrete or asphalt), provided a minimum 15 cm drop occurs between the building and a drainage swale.
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Drainage Swales

Swale: a shallow, sloped linear depression (a shallow ditch) for conveyance of surface runoff towards a City right-of-way (lane or street).

Swales are often wet.

Minimum slopes for drainage swales

+ 1.5% for a grass drainage swale
+ 0.75% for a concrete drainage swale

Internal and common property drainage swales must provide a minimum unobstructed width of 15 cm within each property and a minimum depth of 10 cm and a minimum 1.5% slope to direct surface runoff towards a City right-of-way.

Shared drainage swales are located between abutting properties. The grading of the common property drainage swale must allow for a 10% slope from the foundation walls of adjacent houses and must provide drainage functionality for both properties.

Internal side-yard swales (detail B) are built in locations where a common property drainage swale cannot be constructed due to inadequate foundation grading on an abutting property such as for Infill Development (see page 32).
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Internal rear-yard swales are located in the backyards of lots in order to drain the rear portion of the yard. A rear internal swale is created where the forward slope of the lot meets the rearward slope of the foundation grading or where the slope away from a detached garage meets the slope away from the main building. A rear internal swale* conveys surface runoff to the side-yard swales where the water will drain towards a City right-of-way.

Grade contractors are encouraged to indicate rear internal high points in order to guide the surveyors and enable them to locate and provide meaningful as-built elevations for the rear internal swale.

*see Typical ‘rear-to-front’ surface drainage design drawing on page 6 to view an example of a rear internal swale.
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Stormwater conveyance is evident after a light rainfall. Stormwater created a prominent track in this common property drainage swale.

Driveway built 15 cm within the property allows for creation of a common property drainage swale. A sidewalk location must provide 15 cm within the property for a common property drainage swale.
Placing decorative gravel directly on the Rough Grade Level creates a place for unacceptable ponding on the common property drainage swale.

Placing soil to match the Finish Grade Level prior to placing the decorative gravel minimizes or eliminates unacceptable ponding on the common property drainage swale.
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

This rough grade base has been raised to match the final grade before placing decorative rock. Ponding will be minimized or eliminated.

String-line guides used to create consistent minimum 1.5% slope on grass swales

A concrete common property drainage swale between buildings
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Right-of-ways and Easements for Drainage Swales

Major drainage swales are often constructed on private properties in an easement or a right-of-way.

Registered easements and right-of-ways allow for concrete or grass drainage swales on private property.

Concrete swale in drainage easement or right-of-way

Concrete swale with a catch basin and temporary sediment control
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Backfill at Back of Concrete Walks or Paved Lanes

To reduce water infiltration into the granular base of concrete walks and paved lanes, non-granular material must be laid on top of the concrete walk or asphalt. This material will enhance the long term performance of the walk or lane by minimizing water infiltration into the granular base of the structure.

Clay cap is created at Rough Grade Stage to meet the requirement for interim pooling behind the public sidewalk/curb.

Compacted road-crush gravel is set to final grade to direct water over the sidewalk and to the street.
LOT GRADING GUIDELINES Residential Properties

LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Downspouts

The downspout must have an elbow with an extension or a concrete splash pad to convey surface runoff past the foundation excavation zone. The elbow and extension should be directed away from the building and towards a drainage swale.

Sump Pump Discharge

The sump pump is part of the building’s foundation drainage system and has been a requirement since 1988.

Since 2006, all new developments involving single detached, semi-detached, or duplex houses must provide “Foundation Drain Discharge Collection Systems.” These properties must connect the foundation drainage system to a foundation service.

The sump pump discharges subsurface water collected from the weeping tile directly to a Storm or Foundation Sewer service. For properties developed prior to 2006, if the sump pump discharges to the surface it is important to provide a splash pad at the discharge point. The splash pad minimizes soil erosion and prevents recirculation of subsurface water down the foundation wall and back into the weeping tile system. The splash pad should be directed to drain towards a drainage swale. If a sump pump discharge hose is used, it should be disconnected in the winter to prevent freezing in the hose.
LOT GRADING REQUIREMENTS
FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

1988 – 2005 sump pump discharges to the surface

After 2006, sump pumps discharge to a downpipe (foundation service riser).

The sump pump discharge pipe connects to the downpipe (foundation service riser).
Splash Pads

Splash pads convey roof water and subsurface water past the foundation excavation zone and away from the foundation walls. They minimize soil erosion and water recycling through the foundation drainage system. The recommended standard concrete splash pad size is 30 cm x 107 cm.

If a direct connection to a Storm or a Foundation Service is not available, splash pads should be placed:

+ beneath all downspouts draining onto soft landscaping (sod, topsoil, or mulch) or
+ beneath the sump pump discharge outlet where it is draining onto soft landscaping (sod, topsoil, or mulch).

![Splash pad installation detail](image)

A splash pad conveys water from the sump pump discharge pipe past the foundation excavation zone.
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

*Downspout and Foundation Drainage Surface Discharge Requirements*

Discharge points must be located within the property a minimum distance of:

+ 15 cm from an abutting private property
+ 30 cm from an abutting City property

*Downspout extensions discharge stormwater towards a common property drainage swale.*
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Grading for Detached Garages / Buildings

The concrete pad for a detached garage or other building is elevated to provide positive slope away from the building. Finished grade elevations for pads are a design requirement and are presented on the Plot Plan that is submitted in application for a building permit. Provide a minimum 5% slope away from the Garage wall for a distance of 2 metres or provide a 15 cm drop to the common property swale if there is insufficient space to provide a 2 metre gradient. Surface runoff is directed towards the internal swale between the house and the detached garage, the side-yard swales and towards a City right-of-way. The design and the as-built elevations are shown on the lot grading certificate to support the grading inspection and approval process.

The garage pad elevation provides slope away from the building.

An internal swale is configured between the detached garage and the house.

Pods have been built with retaining walls for future garages.
LOT GRADING GUIDELINES

LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Lot Grading Certificates

Grade designs for a residential property are impacted by the location of the house within the lot. In addition to the elevations from the approved Lot Grading Plan, a Plot Plan design specifies final grade elevations for front and rear of house, elevations for garage slabs, location of retaining walls, and elevation of lowest opening (if applicable).

Including these site specific elements on the lot grading certificate facilitates accurate and timely grade inspections.

Lot Grading Certificates must display the following:

+ Certification by an Alberta Land Surveyor
+ Title identifying the purpose of document (i.e. Final Grade Certificate, Rough Grade Certificate, etc.)
+ “Revised” added to certificate titles for revised certificate submissions
+ Revision Table added to certificate to track revision history of as-built information
+ Presentation on 8 ½” x 14” (legal size) format in portrait orientation with the rear of the lot at the top of the page and the front of the lot labelled (this format supports the location references in the grading reports)
+ Name of the individual or company that produced the Certificate
+ Date the as-built elevations were obtained
+ Legal Description and Municipal Address of the property
+ Surface Condition of the lot (clay, topsoil, sod, landscaped, etc.)
+ A note indicating that the grading is subject to approval by the Local Authority
+ North Arrow
+ Legend, including scale of drawing
+ House and garage/parking pad layout, including garage pad design elevation when it exists or N/A when a design elevation has not been predetermined
+ Design elevations from the approved Lot Grading Plan or the approved Infill Lot Grading Plan

+ As-built swale elevations, including locations opposite the building corners
+ at design locations
+ across from building corners, and
+ at any breakpoint (i.e. swale high-point relocated from the approved design)
+ An asterisk (*) designating as-built elevations that exceed tolerance
+ Rough Grade -7 cm to -20 cm from design
+ Final Grade +/-10 cm from design (including sod)
+ As-built elevations of retaining walls, sidewalks, driveways, and garage pads
+ retaining walls (top of wall and internal swale or foundation grade
+ sidewalks (adjacent to front step)
+ driveways (adjacent to garage door)
+ garage pads
+ fence bottom (if exposed), particularly adjacent to Public Utility Lot and Municipal Reserve Properties
+ As-built rear internal swale high point elevation (see internal rear-yard swale page 14)
+ As-built house corner elevations and an as-built elevation 2 metres from the back of the house
+ As-built elevations for drainage swales within Right-of-Ways and Drainage Easements
+ As-built elevations are to be shown in metres, referenced to the datum used to derive the as-built elevations, being one or more Alberta Survey Control Markers or other benchmark approved by the City
+ Lake lot certificates present detailed as-built locations and elevations for structures constructed within a “maintenance and overflow area”
+ Applicant name and mailing address, fax number, or email address for sending inspection reports/approvals

Please note, Lot Grading Certificates for four–plex developments, where each unit is fee simple, must display the design and the as–built elevations for the all the units. Due to cross lot drainage, approval of any single unit is contingent on approval for all units.
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Recertification

The Lot Grading Inspector may require a new or revised Lot Grading Certificate when any of the following occurs:

- Errors (incomplete or unclear information on the Lot Grading Certificate)
- Verification of as-built elevations if the as-built elevations on the Lot Grading Certificate are not within tolerances
- Verification of as-built elevations, if requested by the inspector, due to substantial regrading
- Discrepancies or errors in design and/or as-built elevations that require confirmation
- As-built elevations have been provided on bark mulch or rock mulch
- Red-line revisions to the Lot Grading Plan that are not reflected on the Lot Grading Certificate
- Application for partial approval on final grade (i.e. An approval for front landscaping when the backyard is still in rough grade)
Restrictive Covenants and Stormwater Management Lakes

Restrictive covenants are registered on the title of the lot. These instruments restrict the types of development that are allowed on properties located on top-of-bank and stormwater management lakes or on easements. Obtain these documents from a licensed registry agent and review them prior to creating landscape design features that may be non-compliant.

**NOTE:** The owner of a premises shall not install, or permit to be installed, any water retention structure or irrigation system on any slope unless the installation has been approved by the City Manager.
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Lot Grading Certificates for properties located adjacent to Stormwater Management Lakes display the location and elevation of all features constructed within the maintenance and overflow area (Registered on Title as a Restrictive Covenant). Features to note include, but are not limited to: decks, fire pits, ponds, paths, bridges, retaining walls, buildings, raised gardens, or grade alterations. Inclusion of these details enables the Lot Grading Team to evaluate the impact these features have on surface runoff and stormwater storage requirements.

Lot grading certificates for lake lots include all features developed within the restrictive covenant area.
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Stormwater management facility (lake) typical cross section

A stormwater management lake at normal water level. Sign shows the location of the designed high water level. After a rainstorm, the level of the stormwater management lake rises inside the registered right-of-way on these private properties.
LOT GRADING REQUIREMENTS FOR ROUGH AND FINAL GRADE APPROVAL (CONT.)

Retaining Walls

Retaining walls are required to support substantial differences in elevation between abutting properties. Elevation differences occur, by design, on walk-out properties in new developments. Elevation differences are common for infill development due to the requirement to direct surface runoff towards a City right-of-way without impacting existing developments. Retaining walls are also utilized to facilitate surface grading solutions related to unintended circumstances, such as low buildings.

Common property fences may not be used to retain soil in raised beds or other landscape features. Fences are not retaining walls.

This grade differential will require a supporting wall.

A retaining wall attached to a walk-out basement.

A retaining wall supports a substantial grade differential at this “walk-out” development.

This retaining wall supports the common property grading between these “walk-out” developments.
Retaining Walls (cont.)

Retaining wall locations and elevations must be indicated on lot grading certificates.

A retaining wall at this low driveway supports construction of a common property drainage swale and controls cross-lot drainage.
RESIDENTIAL INFILL DEVELOPMENT

Infill development often presents unique challenges that require specific attention. An application for an infill development permit must be accompanied by a proposed Lot Grading plan for any property where an approved Lot Grading plan does not exist. See section 14.10 of Zoning Bylaw 12800. Lot Grading Plans must be approved by the Lot Grading Team prior to the construction of any buildings, additions to buildings, or alterations of surface drainage on the premises. See section 4(1) of Drainage Bylaw 18093.

What should you do?

+ Contact EPCOR, Water and Sewer Servicing at 780-496-5444 or email wass.drainage@epcor.com for information about Storm Sewer servicing for collection and disposal of water from the roof and foundation drainage systems. For lots where no Storm Sewer service exists, obtain information for disposal of the subsurface water from the foundation drainage system.

+ Create a Lot Grading Plan that defines how the property will be graded to convey surface runoff. Include: a cross section detail for any retaining systems, swale elevations at sources of concentrated flow, foundation elevations, and concrete slab elevations. The design is best presented on the Plot Plan.

+ Plan the demolition and reconstruction processes to ensure interim control of surface runoff during redevelopment. Directing surface runoff onto abutting private property may be a bylaw violation.

+ Submit the proposed Lot Grading Plan with your application for a Development Permit.

Surface Drainage Design Requirements

Grading for Infill developments must be configured to convey surface runoff to the public sidewalk, curb, or paved lane in a City right-of-way without affecting abutting properties. This result can be achieved with an internal drainage swale (located entirely on your own property) or a shared swale (in cooperation with the abutting property owner). Swales must be designed to provide a minimum slope of 1.5% for surface runoff. Swale design must begin with the elevation of the final drain point at the sidewalk, curb, or paved lane when locating critical high points and calculating slopes. Swale design requirements include a minimum depth of 10 cm and a minimum width of 15 cm. Also, the design must provide an elevation difference of 15 cm between the lowest opening (entrance door or window well) and the bottom of the drainage swale.

Common property swales (Detail A) are possible where abutting properties are suitably graded (i.e. an existing approved infill development) or where abutting property owners collaborate to create common property swales by undertaking grading improvements on both properties.

Internal swales (Detail B) are required for locations where a common property swale cannot be constructed due to unapproved grading on an abutting property.
Minimum Plan Requirements:

Lot grading plans are to include the following items:

- **Presentation on 8.5” x 14” (legal size) format** in portrait orientation with the “REAR” of the lot at the top of the page and the “FRONT” of the lot labelled (this format supports the location references in the subsequent Lot Grading Inspection Reports)

- **Legal description and Municipal Address**

- **Proposed finished elevations** at the front and the rear of the buildings

- **Proposed elevation** at the driveway, parking pad, or detached garage

- **Internal or common property drainage swales** including design high points; intermediate grade points; and the location, height, and extent of retaining structures

- **Surface slopes of drainage swales** with flow direction arrows

- **Elevation of City right-of-way** at the discharge ends of the swales

- **Property boundary elevations** include proposed and existing elevations and existing elevations at lot corners

- **Lot drainage pattern** indicating whether split drainage or through drainage

- **Rear internal swale** (if required)

- **Roof drainage provisions** – roof drain connection or surface discharge of downspouts

- **Foundation drainage** – connection or surface discharge details

- **Easements, Right-of-ways, and/or restrictive covenants** related to drainage provisions and development restrictions

- **Geodetic elevations**

- **Scale of drawing**

- **Building and Garage/parking pad layout**

- **North Arrow**

- **Legend**

- **Applicant’s name**

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Sample infill lot grading plan
Establishment of Grade Elevations at Buildings:

Finished grade elevations at buildings are generally established by following the Alberta Building Codes, Part 9 – Housing and Small Buildings. The Alberta Land Surveyor, Engineer, Architect, or other applicant for a building permit will set the elevation. The relative surface elevations must allow for the slope of the ground adjacent to the building to be at a minimum of 10% for a distance of 2 m or to the property line on all sides of the house with the slope directing surface runoff away from the building. Provide reasonable slopes of 1.5% to 2% from all points within the property to the property boundary at which the surface runoff may escape.

Swale Details:

When the use of swales has been included in the design, the lot grading plan must show locations, slopes, and cross section details for the swales.

Examples of internal swales supported by retaining walls with moisture barriers on Infill properties
RESIDENTIAL INFILL DEVELOPMENT (CONT.)

Properties Abutting Infill Development

For properties with no approved Lot Grading Plan, including properties abutting infill developments, the City of Edmonton Drainage Bylaw 18093 provides a requirement, in Part II – Section 6, for all property owners to establish and maintain surface grades and elevations adjacent to buildings in such a way that water drains (a) away from the buildings and (b) towards a City right-of-way.

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

The City of Edmonton has developed an Infill Roadmap to facilitate conversations between owners of adjacent properties and the infill developer.

Lot Grading Maintenance

Final Grade Approval is based on the site conditions observed during the lot grading inspection and property owners are responsible to maintain approved surface grading in perpetuity.

The City of Edmonton may require a property owner to repair surface grading if alterations or settlements result in surface drainage issues for others.

Examples of internal swales supported by retaining walls with moisture barriers on Infill properties
Residential Infill Development (CONT.)

Regrading and Landscaping in Mature Neighbourhoods

Regrading to alter the flow of surface runoff on any premises must be supported by an approved Lot Grading Plan. Therefore, consulting with abutting property owners is a critical step when considering any grade changes or downspout location changes that affect surface runoff management between neighbouring lots. Changes to a downspout or sump pump discharge location that directs surface runoff onto an abutting private property may be a bylaw violation.

Common property swales (see Detail A) are ideal to convey surface runoff for adjoining properties.

An internal drainage swale (see Detail B) is required when undertaking grading improvements independent of adjoining properties.

Enforcement

If a Lot Grading Inspector discovers or identifies a situation that is noncompliant with Drainage Bylaw 18093, the inspector will serve a notice to the property owner. Correction of the noncompliant issue must be completed before the deadline specified in the notice. Bylaw penalties will be imposed for properties when grading does not comply within the deadline specified.

In consideration of enforcing the bylaw, the City takes into account any damaging impact on abutting properties.
FOR MORE INFORMATION

Pamphlet Series

+ "Lot Grading Inspections" Residential Properties

+ "Lot Grading Inspections" Final Grade Stage

+ "Lot Grading Maintenance" After Final Grade Stage

CONTACT INFORMATION

Telephone Numbers

Urban Form and Corporate Strategic Development,
Development and Zoning Services, Lot Grading

780-496-5576 - Lot Grading - 8:00am - 4:30pm,
Monday to Friday

780-496-2865 - Lot Grading Fax

311 - General Inquiries - 24 Hours
- Reinspection Requests
- Drainage and Sewer Trouble
  (EPCOR will respond)

Address

City of Edmonton
Urban Form and Corporate Strategic Development
Development and Zoning Services
Lot Grading

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

Internet Resources

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

Low-Density Residential:
www.edmonton.ca/lotgrading

Email Address

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EPCOR

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Water and Sewer Servicing Information