



PLANNING, PROPERTY
& DEVELOPMENT
DEPARTMENT

Construction requirements for
LOWER LEVEL
DEVELOPMENT
in residential dwellings



October 2019

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Every effort has been made to ensure the accuracy of information contained in this publication. However, in the event of a discrepancy between this publication and the City of Winnipeg Building By-law, the By-law will take precedence.

Building Permit Requirements

A building permit is required:

- If structural changes such as altering or moving beams/ columns or modifications to foundation walls or floor structure is planned;
- If creation of a bedroom is part of the development;
- You are developing previously unfinished areas.

When a building permit is required, the following must be provided at the time of application:

- A scaled floor plan indicating the use of rooms.
- Signed and sealed engineered drawings for the alteration or moving of beams, columns or floor joist structure or the enlargement or creation of a bedroom window in a foundation wall.
- A section drawing showing the headroom clearance at the stairs.
- If a window is being added or enlarged in the sidewall of the home, a site plan and elevation drawing showing side yard clearances and dimensions of all openings. This may be required for front and rear as well in certain situations.
- If a bedroom window is being installed below grade, a section drawing through the window well.

A separate electrical permit will always be required for development of a lower level. If any plumbing additions or alterations are planned then a separate plumbing permit will also be required. Electrical and plumbing information regarding permits, and installation details can be found on pages 10 to 12 in this booklet.

The installation of a wood burning appliance will also require a building permit. If you are applying for a building permit to develop your lower level at the same time as your wood burning appliance is being installed then both will be included on the same permit.

Building Code Requirements

Ceiling height:

The minimum room heights, measured from the finished floor to the ceiling surface, are shown in **TABLE 1**.

TABLE 1 - Room Heights

Room or Space	Minimum Heights	Minimum Area Over Which Minimum Height Must Be Provided (1)(2)
Bedroom or sleeping area	2.1 m (6'-11")	Lesser of the area of the space or 3.5 sq.m. (38 sq. ft.)
Unfinished basement including laundry area therein	2 m (6'-7")	Area under beams in laundry areas and in any location that would normally be used for passage to laundry and storage areas.
Bathroom, water-closet room	2.1 m (6'-11")	Lesser of the area of the space or 2.2 sq. m. (24 sq. ft.)
Passage, hall (3) and finished rooms not specifically mentioned above	2.1 m (6'-11")	Area of the space

Note to TABLE 1:

- 1) Areas in rooms or spaces over which ceiling height is not less than the minimum specified in Table 1 must be contiguous with the entry or entries to those rooms or spaces.
- 2) Area of the space must be measured at floor level.
- 3) Hallways must have a width of at least 860 mm (2'-10")

Doors

The only required door in a lower level development is at the entrance to any room containing a toilet. Although other doors are not required by code, they must be of a minimum size when they are installed.

Swinging, sliding and folding doors must be a minimum of 1980 mm (6'-6") in height and 810 mm (2'-8") in width except for doors used in walk-in closets and rooms containing a toilet. These doors need to be a minimum of 610 mm (2'-0") in width. Bedroom doors are a minimum 760 mm (2'-6").

Bedroom Windows

Windows must be designed and installed to provide an exit from the bedroom in the event of an emergency where normal exiting is not possible. Having a door in the bedroom that leads directly to the outside negates the requirement for this window.

This window must be openable from the inside without the use of tools or special knowledge.

The window must provide an unobstructed opening (clear opening to allow for a means of escape) with a minimum area of 0.35 sq. m. (3.77 sq. ft.) with no dimension less than 380 mm (1'-3"). See FIGURE 1.

Where a required bedroom window opens into a window-well, a clearance of at least 760 mm (2'-6") must be provided in front of the window. Where the window sash swings toward the window-well, the operation of the sash must not reduce the clearance in a manner that would restrict escape in an emergency.

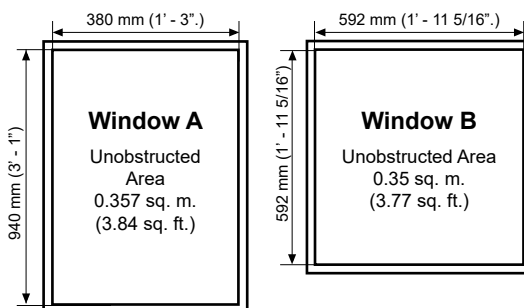
If your existing lower level windows do not meet the required size, they will need to be replaced or the bedroom will not be permitted.

FIGURE 1 - BEDROOM WINDOW SIZING

Dimensions to be inside frame to inside frame.

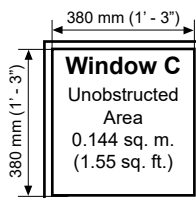
APPROVED

Windows A and B **CONFORM** to height, width and area requirements.



NOT APPROVED

Window C conforms with height and width requirements; **DOES NOT CONFORM** to area requirements.



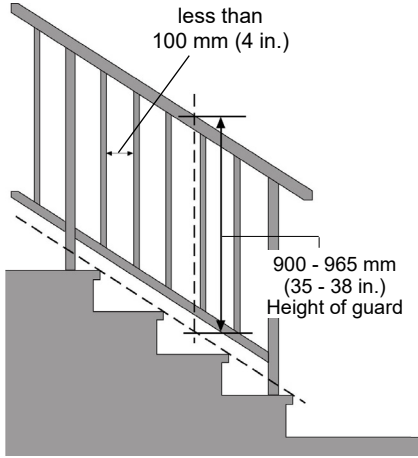
Stair Guards

When an interior stair has more than 2 risers, the sides of the stair and the landing or floor level around the stairwell must be enclosed by walls or be protected by guards.

Guards for stairs within dwellings must be not less than 900 mm (2'-11") in height (measured vertically above a line drawn through the outside edges of stair nosings) and above landings.

Openings through ballusters in guards and handrails must be equal to or less than 100 mm (4") unless it can be shown that the location and size of openings that exceed this limit do not represent a hazard. See FIGURE 2.

FIGURE 2 - GUARD/HANDRAIL



Handrails

When a stair has more than 2 risers, a handrail must be provided on at least one side of the stair if it is less than 1100 mm (3'-7") in width.

Handrails must be not less than 865 mm (2'-10") and not more than 965 mm (3'-2") in height, measured vertically from a line drawn through the outside edges of the stair nosing.

Note: In those cases where a stair requires both a guard and a handrail, a reasonable solution is to provide a guard which also acts as a handrail. See **FIGURE 2**.

A clearance of not less than 50 mm (2") must be provided between each handrail and the wall to which it is fastened.

Handrails must not project more than 100 mm (4") into the required width of a stairway.

Handrails must be constructed to be continually graspable along their entire length with no obstruction on or above them to break a handhold, except when the handrail is interrupted by newel posts at changes in direction.

Handrails must be attached to wood studs, solid blocking, steel studs or masonry at points spaced not more than 1200 mm (4'-0") apart by means of not less than 2 wood screws at each point, penetrating not less than 32 mm (1½") into backing material.

Smoke alarms

Smoke alarms conforming to CAN/ULC-S531, "Smoke Alarms" must be installed in each dwelling. They must be installed on or near (per manufacturer's installation instructions) the ceiling.

There must be at least one smoke alarm on each floor level, including lower levels and one in each bedroom.

Smoke alarms shall be supplied from a lighting circuit or a circuit with a mix of lighting and receptacles and shall not be installed on a circuit that is protected by a GFCI or an AFCI.

Smoke alarms must be interconnected – wired so that the activation of one alarm will cause all alarms within the dwelling to sound.

Carbon monoxide alarms

Carbon monoxide alarms conforming to CAN/CSA-6.19 “Residential Carbon Monoxide Alarming Devices” must be installed in every dwelling that also contains any fuel burning appliance or has an attached garage.

Carbon monoxide alarms must be installed within 5 m (16') of every bedroom door measured following corridors and doorways and in each room that contains a solid fuel-burning appliance.

Carbon monoxide alarms must be hardwired and interconnected with all smoke alarms .

Carbon monoxide alarms shall be supplied from a lighting circuit or a circuit with a mix of lighting and receptacles and shall not be installed on a circuit that is protected by a GFCI or an AFCI.

Partition walls

It is a recommended practice that all non-loadbearing partition walls in the lower level be constructed as “floating” partitions. In this type of construction it is recommended that a small space of about 25 mm (1 in.) or more be left at the top or the bottom of each partition wall. The reason for constructing partitions as “floating” is that concrete basement floors can move upward when there is an increase in the moisture content of the soil. The small spaces at the top or bottom of the partition walls will help to absorb any upward movements of the concrete floor. This could prevent any walls constructed above the concrete floor from being pushed up against the floor joists of the main floor.

The minimum size and spacing of studs for a non-load-bearing partition wall are 38 x 38 mm (2 x 2) at 400 mm (16”) spacing. The maximum height permitted for this size of stud is 2.4 m (7'-10”) It is strongly recommended that a larger stud size be used in order to allow the installation of insulation and/or electrical wiring in the wall.

Insulation and vapour barrier

Foundation walls enclosing a heated space must have their insulation placed from the underside of the sub-floor to a minimum of 2.4 m (7 ft. 10 in.) below the exterior ground level or to the floor of the space, whichever is less.

The minimum thermal resistance of insulation for lower level foundation walls is RSI-2.8 (R-15.9) if you have a heat recovery ventilator (HRV) or RSI-3.46 (R-19.6) if you do not.

Vapour barriers must be installed on the warm side of the insulation.

6 mil polyethylene sheet vapour barriers are the most common and must conform to CAN/CGSB-51.34-M "Vapour Barrier, Polyethylene Sheet for Use in Building Construction" and be labeled as such.

Where foamed plastic is applied on interior walls it must be covered by any of the approved interior finishes listed in the Building Code - drywall, plaster, plywood, hardboard, particle board, waferboard, strandboard, or wall tile (plastic or ceramic).

Ventilation

Ventilation in bathrooms or any rooms containing a toilet must be provided with a fan with a minimum capacity of 25 L/s (50 cfm) mechanically exhausted directly to the outdoors or through a HRV.

Note: Natural ventilation (i.e. an openable window) is considered to be suitable only for summer use and tends not to be used in winter, therefore it does not mitigate the need for mechanical ventilation.

As well, a return air duct tied into the forced air furnace system must be supplied in every bedroom and one centrally located in the living area.

Electrical Permit and Code Requirements

An electrical permit must be obtained from the City of Winnipeg Planning, Property and Development Department, Unit 31 - 30 Fort Street, prior to the construction, alteration, repair, or extension of any electrical installation.

Electrical permits can be issued only to:

- a) a person who holds a valid electrical contractor's license from the City of Winnipeg authorizing that person to carry out business or trade in the City of Winnipeg, or
- b) a person who owns and resides at the single family dwelling where the work is being done. The owner must personally do the work. The permit would be issued to the owner provided the Manager of Development & Inspections is confident the work will be done competently.

An electrical permit is not transferable.

The Electrical Code requires that where walls are being finished with drywall, wood paneling or like material to within 450 mm (18 in.) of the floor, receptacles must be installed in these walls. In addition the Building Code requires that a lighting outlet be provided in each room. You will also require a light at the base of the stair that is controlled with a 3-way switch at the top and bottom of the stair.

All electrical wiring must be inspected prior to covering with insulation or wallboard.

All receptacles in lower level (except the bathroom GFCI) must be Arc-Fault protected.

Additional information is available in the booklet titled ***Electrical Installations*** that has been written to provide homeowners with an outline of some of the electrical regulations applying to finished rooms and additions. The booklet also provides information on the extent to which the electrical work must be completed prior to requesting an inspection. It is recommended that the applicable sections of the booklet be reviewed prior to commencing the project. This publication is available on-line at www.winnipeg.ca/ppd/Documents/Brochures/Electrical-Installations.pdf or in the permits office.

Plumbing Permit and Code Requirements

A plumbing permit must be obtained whenever a plumbing system is constructed, extended, altered, renewed or repaired, and/or when water supply lines within a building are replaced.

A plumbing permit can be issued only to:

- a) a person who holds a Plumbing Contractor's License from the City of Winnipeg authorizing that person to carry out business or trade in the City of Winnipeg, or
- b) the owner of the detached single family dwelling who is also the occupant. The owner must personally complete the work. The permit would be issued to the owner provided the Manager of Development and Inspections is confident the work will be performed competently.

A plumbing permit is not transferable.

Be aware that an approved back-water valve must be installed to protect all new plumbing branches installed below grade. It is strongly recommended that a sump pit and pump be installed in conjunction with the back-water valve.

Additional information is available in the booklet titled **Plumbing Installations** that has been written to provide homeowners with an outline of some of the plumbing regulations applying to finished rooms and additions. The booklet also provides information on the extent to which the plumbing work must be completed prior to requesting an inspection. It is recommended that the applicable sections of the booklet be reviewed prior to commencing the project. This publication is available on-line at www.winnipeg.ca/ppd/Documents/Brochures/Plumbing-Installations.pdf or in the permits office.

Inspection

The Housing Inspections Branch of the City of Winnipeg Planning, Property and Development Department is assigned the responsibility of monitoring construction for compliance with the various Building Codes and By-laws. This monitoring is carried out by means of the permit approval process and periodic site inspections.

The ultimate responsibility for compliance rests with the owner and/or contractor.

Mandatory inspections for this type of project include:

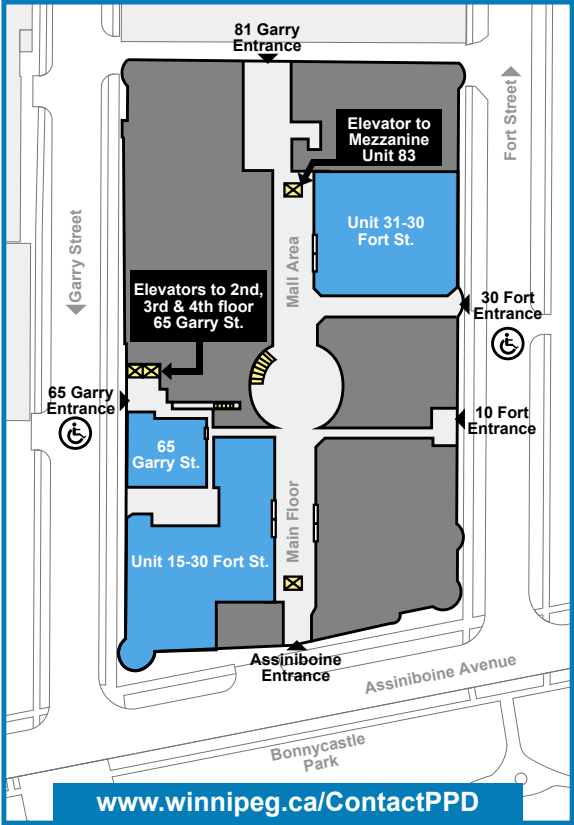
1. All trades rough-in
2. Pre-board (vapour barrier inspection)
3. Final (project is complete)

Prior to covering any new work, you must schedule an inspection by completing and submitting the housing inspection request form found at winnipeg.ca/housinginspection or by calling 204-986-5300, Monday to Friday, between 8:30 am and 4:00 pm. Be aware that wait times vary for phone-in requests.

notes

In-Person Customer Service Hours:

Tuesday to Friday: 8:30 am to 4:30 pm
All zoning, permits and plan examination services are available at Unit 31 - 30 Fort Street.





For more information contact:

204-986-5140

or

311

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Unit 31 - 30 Fort Street
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