Bulletin: Installation of Window Wells Requirements

Verification for BC Building Code Compliance

Purpose

Window wells are necessary for most windows located below ground level. Window wells serve multiple purposes and if installed correctly will provide light to your basement, proper drainage, and allow for safe egress from below grade bedrooms. All window wells must be installed to meet all the regulations outlined by the BC Building Code. The following information is provided as a guide to explain how to install a below grade window well and the regulations for egress and proper drainage installation.

References:

- **BC Building Code 2018**
- **BC Housing – Research Centre: Builder Guide to Site and Foundation Drainage**

Disclaimer – BC Housing: Builder Guide to Site and Foundation Drainage

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Definitions

Window well is a semi-circular or rectangular excavation that surrounds a basement **window**. It is typically constructed from a solid barrier made from corrugated galvanized metal, masonry, plastic or pressure-treated wood. Window wells are installed for windows that are below the surrounding grade.

Egress is a way to exit a building in the case of a fire or other emergency situations. A typical Egress for a dwelling is doors and windows.

Drainage is the system or process by which water or other liquids are drained from a place.

Please note: *Building Bulletins are prepared to provide convenient information for clients and should not be considered a replacement for reviewing the bylaw or associated legal documents. If there is any contradiction between this guide and relevant municipal bylaws and/or applicable codes, please refer to the bylaws and/or codes for legal authority.*

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Implementation

The Window Well is to be inspected to ensure full BC Building Code compliance has being achieved, backfilling or installing the window well before a full review has been completed may result in the removal of window well at the Building Inspectors discretion.

The Window Well installation will be inspected over two inspections. The first inspection will be during the Dampproofing/Drain tile inspection. The Building Official should be able to see a 4" drain pipe connected to either the perimeter or roof drainage system in all locations of the window wells as per "best practice". Note: a drain rock drainage layer from perimeter drain height to bottom of widow well can be installed in lieu of a 4" drain pipe 9.14.6.3.(1) 2018 BCBC. For more information visit BC Housing website and download the Builder Guide to Site and Foundation Drainage Section 6.9 refers to window well drainage.

The second inspection will take pace once the window well is installed (preferably framing, as late as Occupancy). This inspection is to determine completion of the drainage, how deep the window well is, clearance in front of an egress window to the window well, and clearance from grade to bottom of window rough opening in the foundation.

Ground Clearance requirements

Maintain minimum 150mm (6") from finished grade to rough openings in window wells.

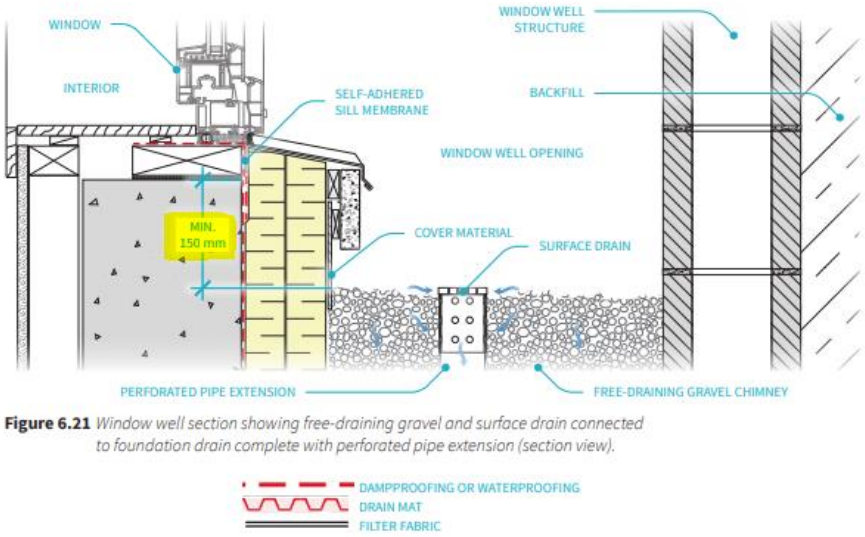

Figure 6.21 *Window well section showing free-draining gravel and surface drain connected to foundation drain complete with perforated pipe extension (section view).*

Diagram: *From BC Housing – Builder Guide to Site and Foundation Drainage*

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Egress

Window wells 1.2m and deeper are recommended to have a secured ladder affixed to the side of the well for the occupants to escape out of the well. Note that you will need to maintain a minimum of 760 mm (30") clearance from the opening to the front edge of the stairs.

Where window wells are 600mm and deeper and located adjacent to a walkway, the window well must have a grate installed over the opening to prevent a fall. Grates to be lightweight, easily removable, and not lockable.



Permit Requirements

Submitted building permit drawings must show window well locations and their measurements on the floor plan, and elevation plans. Failure to show window well locations and measurements on submitted drawings may cause missed important notes from the Building Official and improperly constructed Window wells constructed onsite. The drawings should also show a drainage detail or notes applicable to how the wells will drain.

Common Window Well Installation Mistakes

Installing window wells often requires digging installing proper drainage to allow for the passage of water, and safe passage of occupants out of a dwelling. Improper window well installation can cause sever flooding, foundation damage, and unsafe conditions to the occupants. The consequences of a bad installation may not be immediately obvious but can become quickly apparent in events of heavy rain, melting snow or fire. Below are some mistakes you should avoid when installing a window well.

- Assuming that the hardware store corrugated steel window well meets egress requirements. Ensure minimum 760mm (30") clearance is met in front of all egress windows with window wells. We are seeing most corrugated steel window wells too short and require furring strips to achieve required clearances.
- Improperly installing or not installing required drainage at the bottom of all wells. As per the BC Building Code "Every window well shall be drained to the footing level or other suitable location.
- Little to no clearance from bottom of well to rough window opening. Maintain minimum 150mm (6") from finished grade to rough opening.
- Constructing a deep egress window well and not providing a way out. Window wells deeper than 1.2m (4') are recommended to have a secured ladder affixed to the side of the well. Ensure the ladder does not block the required egress clearances.

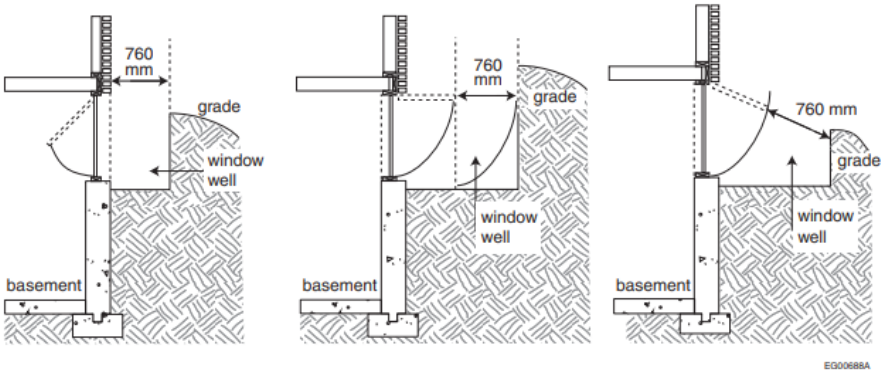
- Installing a window well that can't support the backfill. Prior to buying a premade window well, refer to the manufacture specifications and do research.

Windows opening into a Window Well

When a Window required in Article 9.9.10.1.(3) (Egress Windows or Doors for Bedrooms) opens into a Window Well, a clearance of not less than 760 mm (30") shall be provided in front of the window. Where the sash of a window opens towards the window well, the operation of the sash shall not reduce the clearance in a manner that would restrict escape in an emergency situation. Windows with outward-opening awnings, additional clearance is needed to provide the required 760 mm beyond the outer edge of the sash.

Depending on the likelihood of snow accumulation in the window well, it could be difficult – if not impossible – to escape in an emergency. The window well should be designed to provide sufficient clear space for a person to get out the window and then out the well, taking into account potential snow accumulation.

Hopper windows (bottom-hinged operators) should not be used as escape windows in cases where the occupants would be required to climb over the glass.



BCBC 2018: Figure A-9.9.10.1.(3) *Windows providing a means of escape that open into a window well.*

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