



VARIANCE

October 1, 2017 (revised, April 2022)

Subject: Zero Lot Line Variance (SPV-001)

Note on revision three:

The scope of the original Standing Posted Variance (SPV2017-001) was intended for zero lot line construction up to and including houses consisting of two storeys in building height. The two storey test assembly was the model used for the development of the ZLL Concept Variance document issued by the City of Calgary in March of 2012. The intent of revision two was to expand scope of the SPV to include a three storey zero lot line house, therefore; there has been no change to the requirements for one to two storey homes from revision two of the Variance.

Due to architectural design changes on new home models, a further revision (3) to the SPV is now required, namely: the addition of an open front or rear facing balcony. This revision will enable our industry partners to continue using this variance while continuing to maintain a high level of fire safety within the Zero Lot Line construction method. The requirements of a one to two storey house are all applicable to a three storey house except where specifically identified as follows:

Background:

A variance is written permission to build, install, process or otherwise act in a manner not consistent with the provisions of an applicable code but which provides, in the opinion of the Authority Having Jurisdiction (AHJ) or Safety Codes Officer, an equivalent or greater level of safety to persons or property.

Reason for the Variance:

Home builders within the City of Calgary are currently constructing houses adjacent to each other with only 1.5 meters between the exposing building faces. One house is constructed at a limiting distance of 1.5m from the property line. The adjacent house is constructed at a limiting distance of zero from the property line. The roof soffit and overhang on this house projects beyond the property line, Sentence 9.10.15.5.(8). Of Division B of the National Building Code – Alberta Edition, requires that a roof soffit project to not less than 0.45m from the property line, therefore, a caveat is registered on the adjacent parcel. A proposal for a front or rear facing covered balcony on the second or third storey has been submitted, as such, a further revision to this variance is hereby required.

Applicable regulatory requirements:

National Building Code – Alberta Edition, Division B, Sentence 9.10.15.5.(8).
Construction of Exposing Building Faces of Houses.

Accepted method of Variance:

The following construction methods are to apply to the exposing building faces on both side walls of both houses adjacent to each other, this may be achieved by:

- a) The outermost face of all storeys (1 – 3) of the exterior wall finish of the wall at zero limiting distance shall be in line with the property line or within the property of the building to which the finish is attached. All other configurations will require a separate variance request.
- b) All front or rear facing balconies on or adjacent to the exposing building face at zero limiting distance shall have:
 - i No glazed openings or unprotected mechanical openings.
 - ii A minimum 15.9mm (5/8") Type X gypsum sheathing or the equivalent on the entire ceiling or soffit⁽¹⁾ of the open balcony, c/w non vented metal soffit material.
 - iii A fire resistance rating of not less than 45 minutes on all exposed beams and support columns. The fire resistance rating may be achieved by utilizing mass timber material as per Article 9.10.6.2. and Table 3.1.4.7. Or an approved noncombustible cladding.
- c) Exterior Cladding shall be:
 - i Non-combustible fiber cement board, installed over an accepted oriented strand board (OSB) or a minimum 15.9mm (5/8") Type X gypsum sheathing or the equivalent. The area above the soffit to the underside of the roof sheathing is to be protected by a minimum 15.9 mm (5/8") Type X gypsum sheathing or equivalent with all edges to be fully supported ⁽¹⁾. OR
 - ii Cementitious stucco conforming to Subsection 9.28 of Division B of the National Building Code – Alberta Edition, over an accepted oriented strand board (OSB) or equivalent. The area above the soffit to the underside of the roof sheathing is to be protected by a minimum 15.9 mm (5/8") Type X gypsum sheathing or equivalent with all edges to be fully supported ⁽¹⁾. OR
 - iii Vinyl siding conforming to CAN/CGSB-41.24, shall be installed on over a minimum 15.9 mm (5/8") Type X gypsum sheathing or the equivalent on both side walls of both houses. Sheathing panels are to extend to the underside of the roof sheathing with all joints to be on the studs, top and bottom plates or otherwise fully supported⁽¹⁾. Joints are not required to be taped.
- d) Interior gypsum board is to be a minimum 12.7 mm (1/2") Type X gypsum board on both side walls of both houses with all joints fully supported* taped and finished.
- e) Gypsum board on the ceiling of the uppermost floor of both houses shall be a minimum 12.7 mm (1/2") type X.
- f) **Three Storey House** - No glazed or unprotected mechanical openings are permitted on the exposing building face on either side wall of the 3rd storey and no glazed openings or unprotected mechanical openings are permitted on the exposing building face at zero limiting distance. At 1.5m limiting distance, a maximum glazed opening area of 7% of the exposing building face measured from grade to the underside of 2nd floor ceiling is permitted. No individual opening is to exceed 3.5% of the exposing building face, measured from grade to the underside of 2nd floor ceiling only. The wall area of the 3rd storey is not to be included in the calculation.

(1) *National Building Code - Alberta Edition Division B, D-2.3.8. Edge Support for Wallboard –Gypsum board installed over framing or furring in a wall assembly shall be installed so that all edges are supported, except that 15.9 mm Type X gypsum board may be installed horizontally with the horizontal joints unsupported when framing members are at 400 mm on centre maximum.*

- g) **One - Two Storey House** - No glazed openings or unprotected mechanical openings are permitted on the exposing building face at zero limiting distance. At 1.5m limiting distance, a maximum glazed opening area of 7% of the exposing building face measured from grade to the underside of the uppermost ceiling is permitted. No individual opening is to exceed 3.5% of the exposing building face.
- h) Protection of electrical penetrations within the exterior wall at zero limiting distance. Outlet boxes are to be tested and listed for such installation or are to be protected with a listed fire stop system. Electrical penetrations for outlet boxes in the wall at 1.5m limiting distance are not required to be protected.
- i) No combustible services are allowed within the wall at zero limiting distance.
- j) Decorative combustible architectural returns, if any, on both side walls of both houses shall not exceed a total combined area of 2 per cent of the entire exposing building face, or they shall not extend more than 0.6 m onto any of the side walls from a corner. Architectural returns of combustible cladding shall be installed over a minimum 15.9 mm (5/8") type X gypsum sheathing or equivalent. Combustible architectural returns shall be treated with a fire-retardant coating acceptable to the AHJ.

Attributing Objective and Functional Statements:

OP3 - Protection of Adjacent Buildings or Facilities from Fire.

An objective of this code is to limit the probability that as a result of the design or construction of the building or facility, adjacent buildings or facilities will be exposed to an unacceptable risk of damage due to fire. The risks of damage to adjacent buildings or facilities due to fire addressed in this code are those caused by:

- OP3.1 – fire or explosion impacting areas beyond the building of origin.
- F03 – to retard the effects of fire on areas beyond its point of origin.

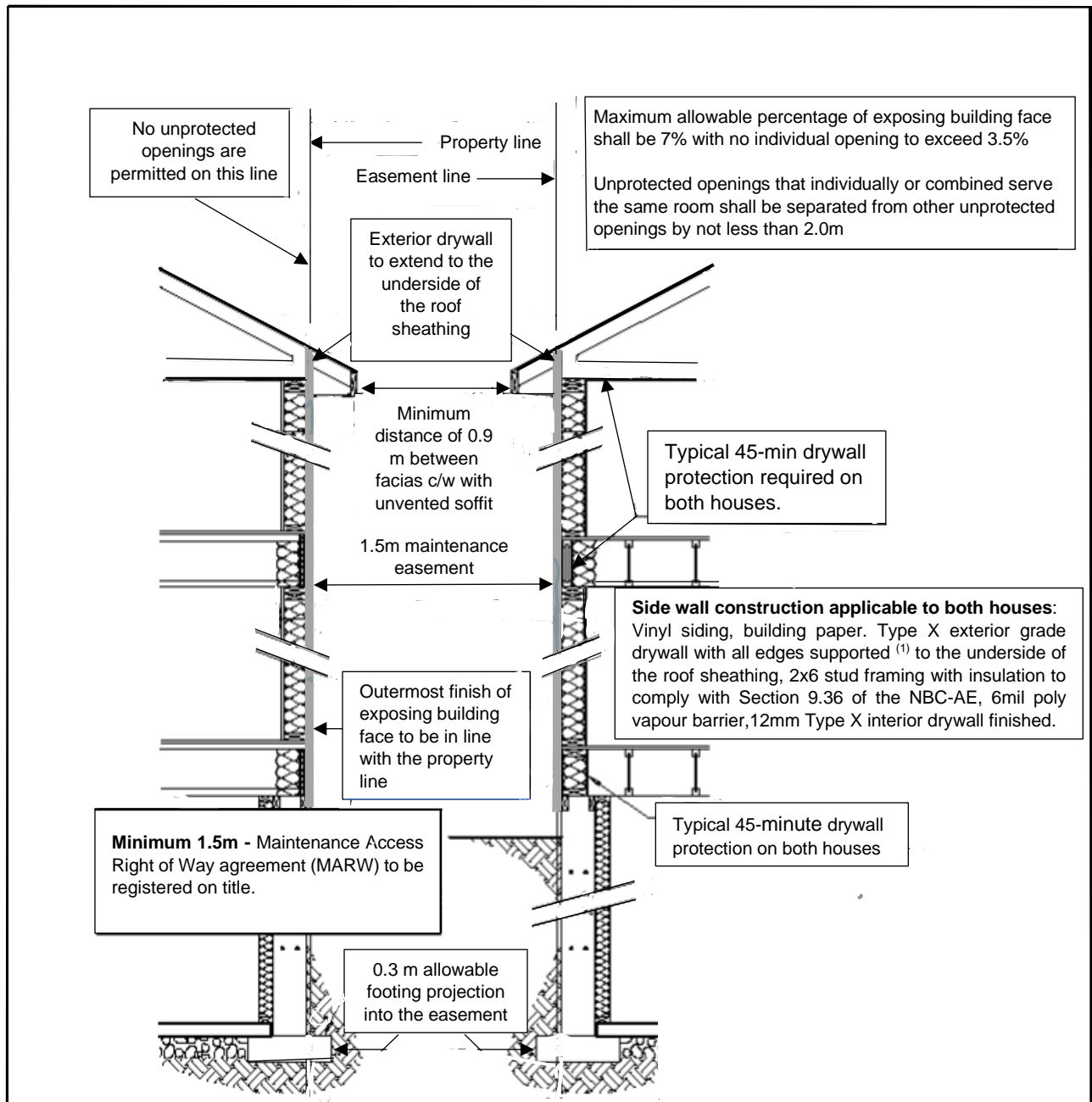
This Variance is based on:

- Reference to this variance in the documents submitted by the applicant for the building permit.
- Reference to this variance within the permit conditions of the building permit.
- Full-Scale Study of Spatial Separation; NRC Research Report: IRC-RR-195; May 19, 2005.
- NIST Fact Sheet – NIST Lab Experiments Simulate House-to-House Fire Spread.
- Document entitled - 0 Lot Line Concept Variances, Under the Alberta Building Code 2006 in The City of Calgary - March 2012.

Address:

Where referenced as (SPV-001) within the building permit conditions, this variance shall be applicable to the address of the building permit.

(1) National Building Code - Alberta Edition Division B, D-2.3.8. Edge Support for Wallboard –Gypsum board installed over framing or furring in a wall assembly shall be installed so that all edges are supported, except that 15.9 mm Type X gypsum board may be installed horizontally with the horizontal joints unsupported when framing members are at 400 mm on centre maximum.



Sample Cross Section Detail of Adjacent Zero Lot Line Houses



Sample Detail; The applicant is to provide a detail of both adjacent Zero Lot Line houses, as above, as well as a title block which shall include the company letterhead.

Authority and conditions:

Under the authority of Section 38 of the Safety Codes Act, Chapter S-1 of the Statutes of Alberta 2000, this Variance is granted based on:

- The owner/contractor acknowledging the authority under which the variance is issued by virtue of referencing this Variance number (SPV-001) in the Building Permit documentation.
- The owner, and contractor ensuring that the project is carried out as outlined in this Variance.
- A Maintenance Access Right of Way (MARW) agreement in a form satisfactory to the Authority Having Jurisdiction (City of Calgary) must be registered on the title of this parcel and the adjacent parcel over a 1.5m width parallel to the property line. The agreement can allow for 0.3 m eave projection and a 0.6m footing projection across the property line. At no time may any portion of the buildings including the eaves on either parcel be closer together than 0.9 m.

**Non-compliance with the requirements of this Variance
is an offence under the Safety Codes Act.**

Chief Building Official
Development Approvals & Building Safety
Calgary Building Services – April 2022

SPV-001 First Edition October 2017
SPV-001 Revision 1 November 2018
SPV-001 Revision 2 May 2020
SPV-001 Revision 3 April 2022