# Greater Sudbury Memos

Building

### **Table of Contents**

When Do You Need a Firewall in Low-Rise Multi-Residential Buildings?	3
Non-Combustible Exterior Wall Memo	. 6
Grading and Drainage for Infill Built Under Section 6.4 of the Zoning By-Law	8 12
Neighbourhood Parking Solutions 1	
Form-Based Zoning for Animated and Socially Dynamic Facades	16

#### **BUILDING CODE MEMO**

### When Do You Need a Firewall in Low-Rise Multi-Residential Buildings?

When it comes to low-rise multi-unit developments, it can get tricky to figure out when you need firewalls between units. This memo provides clarity around interpreting building code requirements for firewalls.

To determine whether you need a firewall, there are two determining factors:

- Whether the party wall is on a property line, and
- Number and configuration of dwelling units.

#### Is your party wall on a property or parcel line?

Are you constructing dwelling units above dwelling units? Units above units and requirements for constructing party walls as firewalls

A line between two parcels becomes a 'property line' only once a severance application is finalized and/or the line is registered on title.

If parcels are not legally severed, the line between them is not considered a property line for building code purposes. In this situation, the party wall does not need to be a firewall, unless the building on either side exceeds 600 sq. m in gross floor area of the building footprint. See image below.

**Note:** The presence of separate services (e.g., utilities) on each side of the wall cannot, by itself, necessitate a firewall, according to building code.



#### Firewall requirements when building units are above units

Even when a party wall is on a property line, it may not need to be a firewall, depending on the number and configuration of dwelling units.

#### Firewall requirements when building units are above units

When triplexes are paired together in semi-detached or row house configurations, the party wall must be a fire wall.



#### Configurations when firewalls are not required:

Even when a party wall is on a property line, it may not need to be a firewall if there are no more than two dwelling units stacked vertically, on either side of the party wall. In these cases, the party wall needs to meet fire separation standards with a 1-hour fire resistance rating.



#### **Building Code References**

#### Section 9.10.11. Firewalls

9.10.11.1. Required Firewalls, Ontario Building Code (1) Except as provided in Article 9.10.11.2, a party wall on a property line shall be constructed as a firewall. (See Note A-3.2.3.4(1))

#### 9.10.11.1. Required Firewalls, Ontario Building Code

9.10.11.2. Firewalls Not Required

(1) A party wall on a property line of a building of residential occupancy need not be constructed as a firewall, provided it is constructed as a fire separation having not less than a 1 h fire-resistance rating, where the party wall separates

(a) two dwelling units where there is no dwelling unit above another dwelling unit,(b) a dwelling unit and a house with a secondary suite, including their common

spaces, or

(c) two houses with a secondary suite, including their common spaces.

#### 2-hr Firewall Drawing - Party Wall on a Property Line



**BUILDING CODE MEMO** 

### Non-Combustible Exterior Wall Memo

Any wood frame builder can tell you — avoid non-combustible walls and save yourselves a world of frustration, slowdowns, and added costs. This memo clarifies how to interpret non-combustible exterior wall requirements for multi-unit buildings.

#### When are non-combustible walls required?

The building code triggers this requirement specifically when you have three dwelling units stacked vertically (one above the other). The requirement applies to exterior walls that are close to property lines, typically when the side yard setback is less than approximately 5'5" (though the exact calculation depends on the size of your units).

On infill properties, side yards are generally smaller than that, so for triplexes and small apartments, a non-combustible side wall is unavoidable.

#### Problematic approaches to avoid

Several common approaches to meeting the non-combustible wall requirement introduce significant complications. Therefore, the following solutions are generally avoided:

- Steel post and beams with steel stud infill substantially increases construction costs. Additionally, it causes differential movement between steel and wood components.
- The wall-on-wall method meets code requirements, but doesn't meet the intent of the building code. A traditional wood platform frame is built first, then a multi-storey steel wall is constructed on the ground nearby, tipped up and attaching to the wood building. This configuration doesn't deliver the fire protection intended by the building code.

#### The solution

The most effective approach is building a non-combustible load bearing steel stud wall and bearing a wood rim board, wood joists, wood sills and top plates on the steel. It provides the best fire protection as well as dimensional stability; and to top it off, it's actually constructible on infill sites.

#### Non-Combustible Wall Framing and Wood Floor Intersection Drawing



#### PLANNING MEMO

### Grading and Drainage for Infill Built Under Section 6.4 of the Zoning By-Law

The City of Sudbury is encouraging low-rise multi-unit infill developments in older neighbourhoods close to nodes and corridors, by adding a new Section 6.4 to the Zoning By-law. These developments will not have the usual off-street parking. Instead they will be permitted front parking pads, and residents will have access to street parking permits. In addition, neighbourhood parking lots will be permitted in these areas on empty lots, but only for use by residents of these new buildings.

Many of these areas have pre-existing drainage concerns, and redevelopment must be undertaken with care. It is essential that new developments do not worsen existing overland flow issues. New projects are sometimes incorrectly held responsible for longstanding problems.

These developments are anticipated to increase the total amount of hard surface (paving and roofs) in neighbourhoods by very small amounts (about 0.12% each year).

#### Neighbourhood Parking Lots under Section 6.4 of the Zoning Bylaw

Neighbourhood parking lots are permitted to have up to 14 parking spaces on lots with at least 30% soft landscaping. They are subject to Site Plan Approval at the discression of city staff. Overland flow from paved areas will need to be filtered in ditches and directed into the city storm systems. No overland flow will be permitted from paved areas onto neighbouring properties.

#### Multi-Unit Buildings under Section 6.4 of the Zoning By-law

Multi-unit low-rise residential developments constructed under Section 6.4 of the Zoning Bylaw without any variances are not required Site Plan Approval, and need not filter, retain or detain stormwater during storm events, unless there is a significant pre-existing overland flow that prevents the orderly development of the site.

All developments must maintain high standards of overland flow control so that there is no impact on neighbouring properties.

To ensure responsible growth and maintain neighbourhood integrity, it is important that infill projects built under Section 6.4 of the Bylaw adhere to the following requirements:

- Match pre to post overland flow to side and rear neighbouring properties. An increase in overland flow onto neighbouring properties is not permitted.
- Direct stormwater to the municipal storm system (storm sewers or ditches),
- Include a Topographical Survey and Lot Grading Plan with permit applications (as required for all applications),
- Provide existing and Proposed Site Drainage Diagrams with permit applications showing hard surface areas and their flow directions pre- and post-development, as well as any significant overland flows, as described below.

Lot Grading Plan: site plan prepared by an engineer or surveyor showing existing neighbouring grades (these must remain unchanged) and proposing new grades on the development property, including grades at the edge of the proposed building on all sides.

**Building Elevations:** drawings of all proposed building facades showing a ground line that matches the Lot Grading Plan, and shows downspouts that match the Proposed Site Drainage Diagram.

**Existing and Proposed Site Drainage Diagrams:** (can be on the same sheet as the Lot Grading Plan) Identify overland flow off the site for EXISTING and PROPOSED conditions. Hatch all hard surfaces. Label all flow destinations including streets, municipal swales or ditches. Show any significant overlay flows crossing the site, located on or off a registered easement, retaining predevelopment flow paths. For each flow destination, show the related hard surfaces. Example following.

**NOTE 1:** The professional who prepares the Lot Grading Plan must confirm that the Existing and Proposed Site Drainage Diagrams correctly depict grading and flow.

**NOTE 2:** The building code requirements for multi-unit buildings of this kind are complex. Exiting and fire safety requirements of the building code must be accurately coordinated with the proposed site grading.



Existing Hard Surfaces and Overland Flow



Proposed Hard Surfaces and Overland Flow

Example 2



#### Existing Hard Surfaces and Overland Flow



#### **Proposed Hard Surfaces and Overland Flow**

**Sudbury Memos** 



**ZONING MEMO** 

### **Neighbourhood Parking Solutions**

This memo details proactive neighbourhood parking strategies to stimulate infill development, while balancing landscaping and stormwater management priorities.

#### Intensification and parking are complicated companions

There are lots of older neighbourhoods that would benefit from BuildingIN with lowrise multi-unit infill that provides housing for a diversity of households. However, most of these neighbourhoods are currently car-dependent, without nearby amenities and public transit. As a result, developers depend on parking to make these projects viable, but there is just not enough space for infill housing and parked cars on our small neighbourhood properties. A 'Catch-22'!

The tax uplift that comes with infill could change that, funding investments in transit and infrastructure for biking and walking, allowing neighbourhoods to transition into walkable and complete communities where some households would be happy to live without a car. Unfortunately, until the infill is constructed, these investments aren't affordable and just don't make sense. But, in the mean time, we need neighbourhood parking to support this transition.

As we plan for neighbourhood parking it's important to be smart, find solutions that are context appropriate, and keep hard surfaces to a minimum. This leaves space for trees, landscaping and stormwater management.



The diagram and table illustrate the advantages of using the total combined area approach to evaluate open-concept spaces, as it more accurately captures actual usage and offers greater flexibility for compliance, in contrast to the limitations of the individual room area approach.

#### **Option 1: Street Permit Parking**

In many neighbourhoods, street permit parking is the best solution to meet the parking needs of infill housing without adding more pavement.

Many neighbourhood streets are well suited to street parking on one side, allowing space for pedestrians on the other. In areas with lot widths of 40 feet or wider, there is typically enough street parking to support infill developments for 20 years of growth (see diagram below).

It's important that existing residents use the on-site parking they already have, so a permit system is needed to ensure existing paving is fully used.



To manage winter conditions, municipalities can consider several options: alternating parking sides, designating municipal lots for overnight parking and snow removal, and/or notifying residents about plowing schedules.





#### **Option 2: Neighbourhood Parking Lots**

Small parking lots are present in neighbourhoods across Canada, often as longstanding legal non-conforming uses. New neighbourhood parking lots are generally prohibited.



Permitting new parking lots creates opportunities for developers who own multiple properties within a neighbourhood. Some properties would be developed as multi-unit homes, close to a property used by residents for parking. Over time, these parking lots would be redeveloped into additional housing, transitioning away from a parking use as the need for parking declined.

It's important that neighbourhood parking lots are well-integrated into the community, so zoning regulations should require wood board fencing at side lot lines and tree planting at the front and back. Additionally, parking areas should be surfaced with gravel or permeable paving.

Transitional neighbourhood parking lots are a good choice in neighbourhoods where properties and/or streets are too narrow for street permit parking.

#### **Option 3: Parkades**

Mainstreet parkades provide neighbourhood parking in a location that naturally populates small shops and can bring vitality to struggling commercial streets. With

retail space on the ground floor and parking on the upper levels, these buildings enrich the street and provide parking to support nearby housing. Regulations allowing parkades open up these opportunities for developers.



#### **Option 4: Car-Sharing**

Many municipalities have car-sharing businesses already active in their older neighbourhoods. These businesses are an advantage because they reduce the number of parking spaces required for private vehicles. Municipalities can support the expansion of car-sharing by providing free permit parking for car-sharing in dedicated curb side locations close to higher density low-rise housing.

#### **Option 5: Self Driving Cars**

Technological advancements in self driving cars open up new options for parking at greater distances from people's homes. Under-used parking areas in light industrial areas could be used for residential parking, and cars can be called to the home when needed. In practice, this manages parking demand and enhances the functionality of both residential and industrial areas.



**ZONING MEMO** 

# Form-Based Zoning for Animated and Socially Dynamic Facades

As neighbourhoods intensify, they must become more inviting to pedestrians so that people enjoy walking and tend to leave their cars at home more for local destinations, including small shops. Intensification brings with it a variety of parking alternatives that will result in some new residents walking short distances to neighbourhood parking. Walking is more enjoyable when there are interesting buildings to walk past.

Many municipalities have documents like infill housing guidelines, that provide recommendations for the design of infill housing so that new buildings are more interesting from the perspective of someone walking past. These documents are not rules, just guidelines, so most designers are not particularly working to follow them. Enforcement is almost impossible, and these documents cause a lot of confusion and frustration amongst residents, who assume that the guidelines will influence development outcomes.

BuildingIN proposes a simpler solution using form-based zoning. This approach is rulebased, clear, effective and enforceable.

The BuildingIN form-based overlay zoning regulates street-facing facades, applying simple zoning language so that new infill buildings are:

- interesting to look at,
- animated with architectural features, and
- places that invite social interaction between building residents and pedestrians.

For more details, be sure to read the text on the BuildingIN form-based zoning for street-exposed facades.

- includes all walls facing a street, including front and corner side walls
- includes portions of side walls (on interior lots) that stick out past their neighbours more than 1.2m

#### STREET EXPOSED FAÇADE

BuildingIN's form-based zoning defines a street exposed façade in this way:

• includes all walls facing a street, including front and corner side walls

- includes portions of side walls (on interior lots) that stick out past their neighbours more than 1.2m
- street exposed façades are measured from the proposed grade, not including window wells or sunken areas, up to the top of parapets or undersides of eaves. In the case of a gable end, the street exposed façade is measured to the underside of the ceiling behind the gable end.

#### **GLAZING, WINDOWS AND DOORS**

BuildingIN's form-based zoning requires street-exposed facades to have:

- 15% glazing in windows or doors (high windows are not included in this calculation)
- at least one door

#### SOCIALLY DYNAMIC AND OTHER ADDITIONAL FEATURES

BuildingIN's form-based zoning requires 15% of street-exposed facades to have socially dynamic features including porches, balconies and bay windows. An additional 20% of street-exposed facades must have more socially dynamic features or permitted projects or indentations that add visual interest.

The following examples show this zoning in practice on various multi-unit low-rise buildings.

#### Example 1: 4-plex

#### ✓ This design meets zoning requirements for *street-exposed facades*



#### Example 2: 8-plex

X This design does <u>not</u> meet zoning requirements for *street-exposed facades* 



#### Example 3: 8-plex with front balaconies

✓ This design meets zoning requirements for *street-exposed facades* 



#### Example 4: 4-plex

X This design does <u>not</u> meet zoning requirements for *street-exposed facades* 



#### Example 5: 4-plex with additional façade features

✓ This design meets zoning requirements for *street-exposed facades* 



#### Example 6: Walkway Towns

✓ This design meets zoning requirements for *street-exposed facades* 



#### Example 7: Semi

X This design does <u>not</u> meet zoning requirements for *street-exposed facades* 



#### Example 8: Federal Housing Catalogue, Stacked Townhouses, Ontario

X This design does <u>not</u> meet zoning requirements for *street-exposed facades* 



<sup>1</sup> In Ontario, the Planning Act specifies the features of a development that can be regulated by zoning as follows:

Section 34(1) Zoning by-laws may be passed by the councils of local municipalities: (...)

Sudbury Memos

#### 4. Construction of buildings or structures:

For regulating the type of construction and the height, bulk, location, size, floor area, spacing, character and use of buildings or structures to be erected or located within the municipality or within any defined area or areas or upon land abutting on any defined highway or part of a highway, and the minimum frontage and depth of the parcel of land and the proportion of the area thereof that any building or structure may occupy.

Zoning of *Street Exposed Features* is permitted under the Ontario Planning Act as they are the regulation of "use" and "bulk":

- 1. Socially Animated Features provide space for semi private activities, like sitting, chatting or eating, and are therefore a "use".
- 2. Additional Façade Features include architectural massing or physical features that project from the building, and are therefore "bulk".