



STAFF REPORT ACTION REQUIRED

Update: Construction Fire Safety for Mid-Rise Wood Buildings

Date:	August 28, 2015
To:	Planning and Growth Management Committee
From:	Chief Building Official and Executive Director, Toronto Building Fire Chief and General Manager, Toronto Fire Services
Wards:	All
Reference Number:	PG15011

SUMMARY

The purpose of this report is to respond to the Planning and Growth Management Committee's request that the Chief Building Official and the Fire Chief and General Manager, Toronto Fire Services report on the development of an approach to address fire safety during the construction of mid-rise wood buildings. The Ontario Building Code defines mid-rise buildings as buildings not more than six storeys in building height.

In early-2015, the Province of Ontario amended the Ontario Building Code to expand the use of wood construction to buildings up to six storeys from four storeys. Ontario followed other jurisdictions, such as British Columbia, where mid-rise wood buildings have been permitted since 2009. These changes identified the need for an approach to regulate fire safety while buildings are under construction.

British Columbia has legislative framework in place to regulate fire safety during construction through their Provincial Fire Code, which typically assigns this responsibility to municipal fire services. The City of Vancouver has further requirements that require larger construction sites to have Construction Safety Officers on site who are responsible for construction site safety. The Ontario Building and Fire Codes currently do not address construction site safety. While the *Occupational Health and Safety Act* regulations indirectly address some of the issues, there are no specific regulatory requirements specific to this issue in the Province.

This report provides an overview of Toronto Building's recent activities to address this regulatory gap and reduce the risk of fires at mid-rise wood construction sites in the City of Toronto. The Division was actively involved in provincial consultations for the

development of provincial guidelines for fire safety at construction sites. Due to staff concerns about the implementation of these draft guidelines, Toronto Building and Toronto Fire Services collaborated with BILD, the Ontario Home Builders Association and the Canadian Wood Council to discuss possible approaches for fire safety at construction sites through a joint industry-City of Toronto forum.

At this time, it does not appear that the Province of Ontario is committed to filling the regulatory gap for fire safety during construction, though they may in the future. Therefore, this report recommends that the Chief Building Official and Fire Chief jointly request that the Province of Ontario amend the Ontario Fire Code to provide regulatory clarity by adopting requirements similar to that of the National Fire Code of Canada to address fire safety during the construction of mid-rise wood buildings.

This report has been prepared in consultation with the City Solicitor.

RECOMMENDATIONS

The Chief Building Official and Executive Director, Toronto Building and the Fire Chief and General Manager, Toronto Fire Services recommend that:

1. The Planning and Growth Management Committee request that the Chief Building Official and Executive Director, Toronto Building and the Fire Chief and General Manager, Toronto Fire Services request that the Province of Ontario amend the Ontario Fire Code by adopting requirements similar to the National Fire Code of Canada in order to regulate fire safety during the construction of mid-rise wood buildings, and such requirements include cost recovery mechanisms.

Financial Impact

The recommendations contained in this report will have no financial impact beyond what has already been approved in the current year's budget.

DECISION HISTORY

At its meeting of February 24, 2015, the Planning and Growth Management Committee considered a report from the Chief Building Official on wood building construction site fire safety practices and:

1. Requested the Chief Building Official and Executive Director, Toronto Building and the Fire Chief, Toronto Fire Services to meet with representatives of the building industry, including the Building Industry and Land Development Association and the Canadian Wood Council, and other stakeholders, to:
 - a. Review best practices, including those from British Columbia, regarding fire safety on construction sites with combustible buildings, and National Building Code proposals;

- b. Collaboratively develop an approach for construction site fire safety practices; and
 - c. Examine possible implementation mechanisms for the guideline document, including the potential development of a City of Toronto by-law, in consultation with the City Solicitor.
2. Requested the Chief Building Official and Executive Director, Toronto Building in consultation with the Fire Chief, Toronto Fire Services, to report to the September 3, 2015 Planning and Growth Management Committee meeting on the development of an approach for construction site fire safety practices.

Report from the Chief Building Official and Executive Director, Toronto Building on Wood-Frame Construction Fire Safety Practices
(<http://www.toronto.ca/legdocs/mmis/2015/pg/bgrd/backgroundfile-76132.pdf>)

ISSUE BACKGROUND

2015 Ontario Building Code Amendments to Permit Mid-Rise Wood Buildings

Ontario Building Code amendments came into force on January 1, 2015 to permit five and six storey (mid-rise) buildings of largely wood construction. The new building code provisions contain a number of compensating fire protection measures to address fire safety in these buildings. British Columbia has allowed residential wood construction up to six storeys since 2009 and Alberta amended its building code earlier this year to expand the use of wood construction to six storeys.

Toronto Building, Toronto Fire, and City Planning actively contributed to consultations leading to the development of the provincial code changes allowing mid-rise wood buildings. While research has shown that wood buildings are just as safe as those built from non-combustible construction when fire systems are in place, they are more vulnerable during construction, when fire safety systems are not installed.

During the Province's consultation process leading to the building code changes, the City of Toronto and other stakeholders identified the need for the Province to develop a framework to support fire safety during the construction of combustible buildings. In Ontario, the building and fire codes do not address requirements for fire safety and prevention during the construction as in other parts of Canada. However, some elements are prescribed in the *Occupational Health and Safety Act*.

Other Canadian Model Building and Fire Codes

National Building and Fire Codes

The National Building Code of Canada (NBCC) and the National Fire Code of Canada (NFCC) are the country's model codes. These codes have no legal authority unless they

are adopted either in whole or in part by the provinces and territories. Together, these two codes address safety at construction sites. While there is some overlap with respect to construction safety requirements between these two codes, the Building Code primarily addresses the protection of the public in and around construction sites and the Fire Code addresses fire safety during construction.

In April of this year, the NBCC adopted provisions that expanded the use of wood construction for buildings up to six storeys in height. As noted above, the NBCC contains provisions that regulate safety at construction and demolition sites. These requirements include provisions related to fencing, barricades, falling hazards and traffic management to achieve this objective. In addition to the NBCC requirements related to safety at construction sites, the NFCC contains specific requirements aimed at fire safety while buildings are under construction. The overall objective of the NFCC requirements is to provide fire protection for the building under construction as well as adjacent properties through fire safety plans and a broad range of fire protection measures to mitigate and control ignition sources. (See Appendix A for an overview of the NFCC fire safety requirements for buildings under construction.)

British Columbia Building and Fire Codes

The Province of British Columbia has permitted mid-rise residential wood buildings since 2009. Like the NBCC and the NFCC, the British Columbia building and fire codes regulate construction site safety. These codes contain clear legislative roles and responsibilities for builders and municipalities as well as a requirement for a fire safety plan prior to construction. Some municipalities in British Columbia, such as the City of Surrey Fire Services, have developed further policies and guidelines to assist builders and designers in developing Fire Safety Plans for buildings under construction.

City of Vancouver Building and Fire Codes

The City of Vancouver Building and Fire Codes contain very similar construction safety requirements to that of the British Columbia and National Building and Fire Codes. Fire safety during construction is established in the City's Fire Code. The City's Fire Services is responsible for the administration and enforcement of the fire safety requirements during construction, which include a fire safety plan. However, depending on the size of the construction project, the Vancouver Building Code also requires a Construction Safety Officer at construction sites. The Construction Safety Officer shares a role in the day-to-day administration of the construction safety requirements.

Ontario's Regulatory Patchwork

In Ontario, there is no regulatory framework established to minimize the fire hazards or risks to buildings under construction and adjacent properties. Instead, there is a patchwork of provincial regulations which address different building and worker safety issues:

Ontario Building Code and Ontario Fire Code

The Ontario Building Code contains provisions for fire safety systems which must be part of new construction, renovation and change of use. The Ontario Building Code does not address fire safety or prevention during construction and would not provide authority for a municipal council to pass a by-law regulating fire prevention on construction sites.

The Ontario Fire Code, which addresses existing buildings following occupancy, has limited applicability to unoccupied buildings under construction. Section 12 of the *Fire Protection and Prevention Act, 1997* provides that the Ontario Fire Code does not apply to the unoccupied parts of a building under construction (as defined by *Building Code Act, 1992*) save for two narrow exceptions. The two exceptions where the Ontario Fire Code may apply to the unoccupied parts of a building that is under construction are: a) where there has been no substantial work related to the construction of the building for at least six months; or b) where the building is partially occupied, the conditions in the unoccupied portions threaten the safety of the occupied portions of the building. Both the Ontario Building Code and Ontario Fire Code are administered by the Province and enforced by municipalities.

Occupational Health and Safety Act

The *Occupational Health and Safety Act* (OHSA) is both administered and enforced by the Province. While the regulations under the OHSA address various issues on construction sites, including fire safety, its primary purpose is to protect the workers. It is not intended as an exhaustive framework for fire safety and prevention. Health and safety regulations contribute to reinforcing a culture of safety on a broad range of building types under construction.

COMMENTS

Provincial Draft Guidelines: Fire Safety During Construction

In the absence of a regulatory framework, the Ministry of Municipal Affairs and Housing (MMAH) (in consultation with the Ministry of Labour and the Office of the Fire Marshal and Emergency Management) is developing a guideline setting out "best practices" for fire safety during construction of mid-rise wood buildings. The guideline provides best practices on issues such as fire safety planning, site security, protocols for using certain construction practices ("hot works") and on-site waste management. These best practices are an amalgamation of various regulations and guidelines from across Canada intended to reduce the risk of fire on a mid-rise construction site and mitigate the potential impact on adjacent properties.

Toronto Building staff have participated in a provincial stakeholder workshop and provided comments directly to the Ministry staff on the work in progress. Staff commented that the guideline is problematic as it outlines roles and responsibilities for workers on construction sites which are not currently recognized in the patchwork of provincial legislation. In order for the document to be adopted for its intended use by the

building industry, staff suggested that the guideline needs to be streamlined, made more succinct and filtered of language which is regulatory in nature. Similar documents produced in British Columbia are part of the framework in which roles for builders, construction workers, the fire service and building officials are clarified through regulation. Consequently, staff question whether the document in its current format can be effectively implemented by builders undertaking mid-rise wood projects.

Staff have repeatedly advised the Ministry of Municipal Affairs and Housing that fire prevention during construction is an important part of the initiative to expand the permitted use of wood construction.

Joint City of Toronto-BILD/OHBA Forum

On June 25th 2015, Toronto Building jointly held a forum with Building Industry and Land Development Association (BILD) and the Ontario Home Builders Association (OHBA) to discuss fire safety during construction of mid-rise wood buildings. The forum was attended by more than 20 people representing builders, Toronto Fire Services, RESCON, MMAH, Ontario Wood WORKS!, Canada Wood Council, and Tarion Warranty Corporation. Consistent with the direction of the Planning and Growth Management Committee, the objective of the forum was to discuss collaboration among the participants on an approach to increase construction site fire safety for mid-rise wood-frame buildings.

Presentations in the forum provided an overview of the British Columbia experience with regulating construction site fire safety and the approach found in the NBCC. MMAH staff provided the regulatory context to the draft guideline. The forum provided a chance for the range of participants to discuss how to overcome the regulatory gap in order to address the issue in Toronto.

The group did not find a consensus on how to best approach the issue. Forum participants noted that the MMAH draft guideline was problematic and that it may be difficult to implement. Regarding implementation, a primary issue is that the draft guideline is not a binding regulatory solution.

The Chief Building Official and the Fire Chief are in favour of a binding regulatory solution that is consistent across Ontario. More specifically, they are in favour of an amendment to the Ontario Fire Code that adopts fire safety requirements similar to that of the National Fire Code of Canada, including the requirement that builders submit a fire safety plan to address fire safety during construction. The latter is a component of the draft guideline but it is preferable that it is required by regulation.

A Toronto specific municipal by-law solution was discussed at the forum but there was no clear support for it. Further, the Chief Building Official and the Fire Chief do not see a Toronto specific municipal by-law as a first best solution. As noted above, they favour an amendment to the Ontario Fire Code. While the current provincial response to addressing fire safety during the construction of mid-rise wood buildings is not adequate,

there is some possibility that the Province could bring forward regulations for construction site fire safety. If there is no provincial regulation and the City determines that it wishes to pursue a municipal by-law, it would be necessary to perform further consultation with the industry. The implementation of the City of Toronto by-law would need to consider resource commitments for the City of Toronto. The by-law should therefore include cost recovery mechanisms.

Conclusion

In the absence of a provincial commitment at this time to pursuing a regulatory approach, it is recommended that the Planning and Growth Management Committee direct the Chief Building Official and Fire Chief to jointly request that the Province amend the Ontario Fire Code by adopting fire safety requirements similar to that of the National Fire Code of Canada. Like the Province of British Columbia and City of Vancouver Fire Code, the National Fire Code of Canada requires builders to submit a fire safety plan to address fire safety during construction. In the meantime, as development interest in mid-rise wood buildings moves towards the construction phase, Toronto Building and Toronto Fire Services will work to identify best practices for fire safety on mid-rise wood construction sites.

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ATTACHMENT:

Appendix A: Summary of Section 5.6 National Fire Code of Canada 2010