



STAFF REPORT ACTION REQUIRED

PG16:12 Supplementary Report: Glass Panels in Balcony Guards – Status Update

Date:	June 29, 2012
To:	City Council
From:	Chief Building Official and Executive Director, Toronto Building
Wards:	All
Reference Number:	P:\2012\Cluster B\BLD\Chief Building Official Head Office\CC12002

SUMMARY

At its meeting of June 18, 2012, the Planning and Growth Management Committee considered the report "Glass Panels in Balcony Guards – Status Update" and adopted the staff recommendations. That report provided an overview of the issues considered by the Province's Expert Advisory Panel on Glass Panels in Balcony Guards and requested that the Province expeditiously adopt building Ontario Building Code amendments in keeping with the Panel's recommendations.

On June 21, 2012 the Province released amendments to the building code intended to reduce the probability of balcony glass on newly constructed buildings breaking and to increase public safety. The amendments were in keeping with the recommendations of the Expert Advisory Panel on Glass Panels in Balcony Guards. The effective date of the amendments is July 1, 2012.

The purpose of this supplementary report is to provide City Council with an overview of the Ontario Building Code amendments when it considers item PG16.12 (Glass Panels in Balcony Guards – Status Update) at its meeting of July 11, 2012. This report contains an additional recommendation that City Council direct the Chief Building Official to request an amendment to the National Building Code to provide clarity around wind load design and ask the Province to support such an amendment.

RECOMMENDATIONS

The Chief Building Official and Executive Director, Toronto Building, recommends that City Council:

1. Direct the Chief Building Official to submit a proposal to the Canadian Commission on Building and Fire Codes to amend the model National Building Code to clarify that the load combination on exterior balcony guards require that live load be considered in combination with wind load and load combination factors and that load combination factors to be used be consistent with Ontario Building Code Div B – Table 4.1.3.2., and
 - a. Request that the Province support this proposed amendment in order to provide clarity on wind load calculation methodology.

Financial Impact

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

DECISION HISTORY

Item PG 12.16, (May 31, 2012) report from the Chief Building Official and Executive Director, Toronto Building, "Glass Panels in Balcony Guards – Status Update".
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.PG16.12>

ISSUE BACKGROUND

The May 31, 2012 report from the Chief Building Official provided the Planning and Growth Management Committee with a status update on the matter of glass balcony guard safety, potential Ontario Building Code (building code) amendments and the City's present ability to take action with respect to existing glass balcony guards where no failure has occurred.

Prior to the City Council meeting of July 11, 2012 the Province released amendments to the building code based on the recommendations of the Expert Advisory Panel on Glass Panels in Balcony Guards.

COMMENTS

Building Code Amendments

On June 21, 2012 the Province announced that it had passed a new regulation amending the building code to address the matter of glass panel balcony safety. Ontario Regulation 159/12 amended the building code to reference a new Supplementary Standard SB-13

that provides prescriptive requirements for the design of glass used in interior and exterior guards in buildings.

The new requirements are based on a series of recommendations provided to the Ministry of Municipal Affairs and Housing by the Expert Advisory Panel on Glass Panels in Balcony Guards. City of Toronto staff participated on the Panel and supported its recommendations. The Panel's full report (released on June 21, 2012) is attached to this report.

The new building code requirements are intended to reduce the probability of breakage of glass panels and injury to people as a result of falling broken glass. To minimize glass breakage, the amendments require a particular type of glass, depending on its location in relation to the edge of a balcony. The following table summarizes the new requirements:

Location of Glass in Guard	Type of Glass Required
Glass located beyond the edge if a floor or within 50mm of the edge of a floor	Heat strengthened laminated glass
Glass located more than 50 mm inward from the edge of a floor	Heat strengthened laminated glass, or
	Heat soaked tempered glass
Glass located more than 150 mm inward from the edge of a floor	Heat strengthened laminated glass,
	Heat soaked tempered glass, or
	Tempered glass not more than 6 mm thick
Glass located in the interior of dwelling unit	Tempered or laminated safety glass

The May 31, 2012 report provided a discussion on the matter of wind loading that arose as a parallel matter during the City's analysis of the glass panel balcony failures. The new amendment will clarify that the load combination acting on exterior balcony guards will include both live load and wind load. Load combination factors are to be used in accordance with Div B – Table 4.1.3.2.. Staff recommend that the Chief Building Official submit a code proposal to the Canadian Commission on Building and Fire Codes for the model National Building Code to be amended to provide clarity on this matter. It is further recommended that Council direct the Chief Building Official to request that the Province support this change to the model National Building Code.

In addition to providing prescriptive requirements on the type of glass that may be used on glass balconies, the amendments require that laminated glass be designed, fabricated, and installed so that, in the event of failure of the glass, the glass does not dislodge from the support framing.

To minimize the risk of glass breakage from glass-to-metal (or other hard surface) contact the building code now prescribes that glass in a guard shall not be in direct contact with any metal or similar hard elements forming part of the guard or supporting structure and that sufficient clearance be provided to permit deflection and movement under load, and expansion and contraction due to temperature changes.

Building permit applicants will generally submit building permit applications in accordance with the new prescriptive requirements of the building code. The building

code is an objective-based code and this means that applicants may choose alternative compliance options to the prescriptive balcony glass requirements of Supplementary Standard SB-13, such as an approved alternative solution.

Implementation of Building Code Amendments

In anticipation of the July 1, 2012 effective date of the new code requirements, Toronto Building is amending its current practices for the review and inspection of building permits affecting the design and construction of glass panel guards.

The new provisions took effect shortly after they were announced. As such, Toronto Building wants to provide clarity to the public and the development industry on how the provisions will be applied to new permits. The Toronto Building website and communication to the Building Industry and Land Development Association (BILD) details that buildings where an approved building permit that include balcony guards issued before July 1, 2012 are exempt from compliance with the requirements of Supplementary Standard SB-13. The issuance of a partial permit for a building, including foundations and/or an above grade structural frame, prior to July 1, 2012 does not exempt the building from compliance with the new regulations for glass balcony guards contained in Supplementary Standard SB-13.

Existing Buildings

The building code amendments introduced by the Province pertain only to new construction. The May 31, 2012 report detailed options considered by staff in the review of regulatory approaches to address public safety concerns with glass balcony guards on existing buildings. The amendments do not provide the city with regulatory authority to establish a pro-active building envelope inspection and maintenance program. As detailed in the report to standing committee, the Building Code Act only authorizes the City to inspect and subsequently issue orders where an unsafe condition exists.

The Planning and Growth Management Committee endorsed the staff recommendation that City Council request the Building Official and Executive Director, Toronto Building to undertake a communications strategy with existing building owners on possible glass balcony guard failures, by identifying all buildings constructed within the last five years sharing characteristics similar to those with failed glass balcony guards, and encouraging the owners of those buildings to engage a professional designer to assess the risks associated with the glass balcony guards with the objective of determining whether further testing or replacement of the glass is appropriate. Toronto Building is now proceeding with this initiative.

Next Steps

The Province has now released an interim building code amendment to address glass balcony panel safety. As part of its own implementation process, Toronto Building has communicated the transition provisions for the new requirements to the general public

and the building industry in advance of the effective date. Toronto Building will assess applications based on the new building code requirements.

In announcing the new building code provisions, the Province noted that the amendments are an "interim measure" pending the development of a technical standard for glass panels in balcony guards. The Canadian Standards Association (CSA) is proceeding with the technical standard (expected to be released within a three-year timeframe) and Toronto Building staff are participating in its development.

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SIGNATURE

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ATTACHMENTS

- Attachment 1. Report of the Expert Panel on Glass Panels in Balcony Guards
- Attachment 2. Ontario Regulation 159/12 (copy)
- Attachment 3. Supplementary Standard SB-13, Glass In Guards (June 12, 2012)