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Introduction

My mandate directs me simply to make recommendations to the attorney general. As I have explained, the economy with which my mandate is described in Order in Council 1097/2012 creating the Commission requires that I adopt a purposive approach to its mission. To that end, I propose to advance recommendations on how best to improve current laws, regulations, policies, practices, processes, and procedures that exist to protect the citizens of this province and promote their well-being when they frequent or work in buildings that are generally similar to the Algo Mall in Elliot Lake – buildings used for mercantile occupancy. As I have also previously explained, I hope the government will seriously consider applying my recommendations to all publicly accessible buildings and workplaces in the province.

This Commission's role, as I acknowledged earlier, is not to castigate or chastise; its only purpose in finding fault, if it must, is to seek to prevent recurrence. Criticism of prevailing practices serves only to suggest their improvement or, if necessary, elimination. Any commission's report is, by its very nature, a forward-looking document. Its dissection and analysis of past events, its quest for expert opinion, and its examination of best practices have only one purpose: to put forward an opinion on how best to improve the current situation.

Ontarians can be justifiably proud of their existing system of rules and regulations meant to ensure public safety in the construction of buildings. Any observer of current events is familiar with the frequent news of tragedies around the world in locations where mediocre public controls, poverty, and greed have fostered conditions where dangerous public and private structures are allowed to exist. No system is perfect, however. We learn from past mistakes, and we must build incrementally on the shoulders and the experience of others with earnest purpose and determination.

In making the recommendations that follow, I favour a conservative and pragmatic approach:

- Solutions must be cost effective.
- Solutions must be practical.
- Implementation must be reasonably achievable.
- Implementation must be likely to attract consensus, support, and approbation from as broad a cross-section of society as possible.

As the proceedings of this Commission unfolded, I sought advice and suggestions through Commission counsel from all Participants and many witnesses, both in the witness box during the hearings or in final oral and written submissions. After the conclusion of the evidence, I held four roundtables where experts and responsible representatives of government, industry, and professional organizations offered their opinions and guidance. Each of these roundtables focused on particular themes, and Commission counsel invited written submissions and circulated a series of questions in advance to guide the discussion. The resulting advice has been invaluable. I am also deeply indebted to my legal and administrative support team, whose energy, experience, organizational strength, and dedication made that process flow smoothly.

In the preceding chapters of this Report, I explained the congruence of cumulative failings and failures that occurred during the existence of the Algo Mall and that led to its catastrophic demise and consequent loss of life on June 23, 2012. I now offer recommendations, supported by a careful examination of the evidence and the opinion of others, to minimize the possibility of recurrence and to make Ontario safer.

Overview

I make a number of recommendations which can, in the main, be summarized as follows:

- There should be a mandatory province-wide requirement that buildings covered by my recommendations be maintained to a minimum standard to ensure public safety.
- All such buildings should be inspected by properly qualified structural engineers. These inspections should occur when a building is sold and, at a minimum, at a frequency that is commensurate with the risk of harm from a failure to meet the standard.
- Information about whether these buildings meet these minimum public safety standards should be available in an easily accessible and understood form to owners, the public, and prospective purchasers.
- The standards should be enforceable by a simple and practical process which requires that the responsible public authorities are accountable for the decisions they make and the actions they take.
- Those charged with determining whether buildings meet these standards as well as enforcing them, including professional engineers and municipal building officials, should be appropriately trained and certified, and owners and the public should have easy access to relevant information about their training, certification, and any discipline against them.
- Ministry of Labour employees conducting inspections in response to complaints of unsafe working conditions under the *Occupational Health and Safety Act*¹ should receive adequate training and direction to ensure proper inspections. In addition, there should be better communication among the Ministry of Labour, municipal building officials, and employers about issues relating to the minimum public safety standards.

In this chapter of the Report, I will explain the present statutory and regulatory framework that is intended to ensure public safety in buildings in this province; summarize why those safeguards were ineffective for the citizens of Elliot Lake who used the Mall; and then set out a series of specific recommendations intended to achieve the general goals set out above. For each specific recommendation, I will explain why it is needed and specifically how it can be achieved.

Existing statutory and regulatory protections in Ontario

Detailed mandatory and minimum standards and inspection at the time of construction; very limited mandatory standards or inspections after construction

Ontario's current system of mandatory minimum standards for design and construction is intended to ensure that buildings in this province are constructed to be safe at the time of their occupancy. All buildings must meet these mandatory minimum standards. They are enforced by professional oversight during the design and construction phase and by inspection at other important stages before occupancy.

However, after the occupancy certificate is issued, the situation is quite different. There are no mandatory minimum standards (except in workplaces), no required inspections, and no professional oversight. There are no mandatory minimum standards for building maintenance to ensure that buildings continue to be as structurally stable as they were when they were built. The provincial government has, by statute, the ability to enact such standards, but has chosen not to do so. Municipalities have the ability to enact such standards, but are not required to do so. If they choose to enact such standards, they are not required to enforce them, by inspections or otherwise. Nor are owners obliged to inspect their buildings. There is no requirement that professionals inspect any building (including workplaces) after initial occupancy unless repairs or changes are made that require a building permit. It may be trite to observe that, over time, systems deteriorate and materials weaken and fail because of a constellation of factors – such as ordinary wear and tear, maintenance practices, climate, and the inherent physical properties of matter.

Before occupancy: building standards

Mandatory minimum standards for the construction of all buildings

The *Building Code Act* prohibits the construction of any building 10 square metres or larger unless a building permit has been issued.² A building permit may only be issued if the proposed building is in compliance with the *Building Code*³ – a detailed set of minimum standards and specifications which are intended to minimize the risk of unsafe buildings. One objective of the *Building Code* is

to limit the probability that, as a result of the design or construction of a building, a person in or adjacent to the building will be exposed to an unacceptable risk of injury due to structural failure.⁴

The *Building Code* sets out elaborately detailed standards that must be met by all buildings in the province. It is 5 inches thick. Division B, Part 4, dealing with structural design, has 44 pages. It contains very particularized requirements dealing with issues, by way of example, as various and detailed as

- the minimum loads that particular types of buildings and structures (as diverse as “bleachers” and “billiard rooms”) must be capable of supporting;⁵
- the loads due to snow and rain expressed in a formula that takes into account the expected accumulation, the wind exposure, the slope of the structure, and its shape;⁶
- the dynamic effects of wind on the building structure;⁷
- the effect on the building structure of forces from potential earthquakes;⁸ and
- the preservatives that must be applied to wood used in foundations.

Mandatory professional design and review before and during construction

The *Building Code* provides that buildings of over 600 square metres in size or more than three storeys high must be designed by both an architect and a professional engineer.⁹ Both of them are required to provide the appropriate design services within their area of expertise. They are also required to undertake a general review of the construction of the building in accordance with the Performance Standards of the Ontario Association of Architects and the Association of Professional Engineers of Ontario to determine whether the construction is in general accordance and conformity with the plans and specifications that were the basis of the building permit being issued.¹⁰

Mandatory enforcement by municipalities during construction

The *Building Code Act* is enforced by municipalities.¹¹ Each municipality is required to appoint a “chief building official” and a sufficient number of inspectors to enforce the Act in the area.¹² All building permits are issued by the chief building official for the municipality in which the proposed building is located.¹³ That official must receive a copy of the reports from all the architects and engineers arising out of their general review of the construction.¹⁴

The *Building Code* and the *Building Code Act* impose a positive obligation on a municipality’s chief building official to do a number of things. This official must, for example, either issue a building permit within a specified time or provide written reasons for refusing to do so.¹⁵

Mandatory inspection during construction

The chief building official is required to conduct an inspection at each of up to 20 stages during the construction of a building.¹⁶ Buildings may not be occupied until the chief building official or designate has carried out an inspection and issued a permit,¹⁷ or until 10 days have elapsed after the chief building official has been given notice of completion of the building and the owner has complied with any order issued by an inspector under the *Building Code Act*.¹⁸

After occupancy: maintenance standards

The province is entitled to enact mandatory general maintenance standards but has not done so

The *Building Code Act, 1992*, provides that the province may make regulations to establish standards that existing buildings must meet, including regulations establishing standards for maintenance and repair.¹⁹ In 2006, amendments were enacted by the Legislative Assembly to allow the province to make regulations establishing and governing a program to enforce such standards²⁰ and, in addition, to allow an inspector to conduct an inspection to determine whether any such standards have been complied with.²¹ No such regulations have been enacted. As a result, there are no province-wide minimum standards for the maintenance and repair of buildings; nor is there any way for an official to ensure that buildings are safe except in municipalities that have enacted a property standards by-law or where a building is found to have deteriorated to such an extent as to have become unsafe or to pose an immediate danger.

The province has authorized limited discretionary enforcement by municipal inspectors where they find unsafe buildings, but they cannot order preventive maintenance

The *Building Code Act* authorizes orders by inspectors appointed by a municipality to enforce the *Building Code Act* or the *Building Code* in two situations: where an inspector determines the building to be “unsafe”²² and where the inspector determines that the building “poses an immediate danger to the health or safety of any person.”²³ Furthermore, there is no requirement that buildings ever be inspected in order to determine whether they are unsafe.

A building is “unsafe” for the purpose of such orders if it is

- structurally inadequate or faulty for the purpose for which it is used; or
- in a condition that could be hazardous to the health or safety of persons in the normal use of the building, persons outside the building, or persons whose access to the building has not been reasonably prevented.²⁴

If an inspector determines a building is unsafe, he or she may require the owner to take the necessary steps to make it safe. If the order is not complied with, the chief building official may prohibit the occupancy of the building or the municipality may repair the building to remove the unsafe condition. The cost of municipal repairs may be added to the tax bill by the municipality.²⁵

If an inspector is satisfied that a building is an immediate danger to the health or safety of any person, the chief building official may make an order requiring that the owner carry out repairs immediately to terminate the danger. If the owner does not comply, the chief building official may take any measures necessary to terminate the danger. The cost of doing so may be recovered by the municipality in the same manner as a tax bill.²⁶

The *Building Code Act* does not appear to authorize a building official to require that a professional engineer prepare a report on the safety of a building. A property standards officer (sometimes a different person from the chief building official) may be accompanied by a “person who has special or expert knowledge concerning a matter related to a property or part thereof” when conducting an inspection to determine whether a property standards by-law has been complied with.²⁷ If no property standards by-law has been passed by the municipality, or the by-law that had been passed did not require that a building of concern be structurally sound or watertight, no expert inspection would appear to be available to assist a property standards officer in determining whether a building is unsafe. Furthermore, a building official or inspector conducting an inspection to determine whether a building is unsafe may not be a property standards officer, and thus unable to require an expert report even where a property standards by-law has been passed.

The existing legislation does not allow a building official to require the building owner to take any steps necessary to prevent deterioration of the building even if it is clear that, without those steps, the building will become unsafe.

The province has enacted mandatory minimum maintenance standards for workplaces, with potential Ministry of Labour inspections and professional input

The *Occupational Health and Safety Act* requires that every building that is a place of work to which the Act applies be capable of supporting any loads that may be applied to it, as determined by the design requirements under the *Building Code* provisions in force at the time of construction, such other requirements as the government may prescribe, or “in accordance with good engineering practice” in other situations.²⁸ Workplaces

that fall under the Act's definition of "industrial establishment" (including offices, factories, and retail operations such as the Algo Mall) are governed by Regulation 851 – "Industrial Establishments."

Section 120 of Regulation 851 states that the *Building Code* applies to industrial establishments with respect to certain enumerated items, including structural adequacy.²⁹ Section 72 states that, where there is structural damage to the extent that a collapse of the structure or any part of the structure is likely to occur and cause injury to a worker, the building must be braced and shored (and done in a manner that will safeguard the worker performing this task) or, alternatively, that access to the area must be prevented.³⁰

The Ministry of Labour carries out proactive inspections and reactive inspections. Proactive inspections are initiated by the ministry and are usually announced, whereas reactive inspections are made in response to complaints.³¹ The ministry determines the priority of workplaces that will receive proactive inspections by identifying the risks and hazards at workplaces in particular sectors.³²

There is no requirement for professional oversight or for mandatory inspections by Ministry of Labour inspectors to ensure that these provisions are complied with. An inspector under the *Occupational Health and Safety Act* may enter and inspect a workplace and may require that an owner or an employer provide, at the owner's or the employer's expense, a report from a professional engineer stating the load limits of a building and an assurance that the building is capable of supporting the loads likely to be applied to it.³³ If no such order is made, no inspection by an engineer is legally required.

The *Occupational Health and Safety Act* does require that a "health and safety representative" selected by the workers at a workplace conduct a physical inspection of the workplace at least once a month, to identify situations that may be a source of danger or hazard to workers and to report findings and any recommendations to the employer.³⁴ If a monthly inspection is impractical, the entire building must be inspected at least once a year, with part of the workplace inspected each month. There is no requirement that such findings or recommendations be reported to the Ministry of Labour, although an employer is required to respond to the employee's health and safety representative in writing and to give reasons if any recommendation is not accepted.³⁵ It is unlikely that all such representatives would have the expertise to determine whether the building in which they work is structurally sound. Nor would the employer necessarily have such expertise.

The province has enacted mandatory minimum standards or inspections for schools, retirement homes, bridges, condominiums, private hospitals, and residential tenancy units

Some specific types of buildings in Ontario must meet minimum standards of continuing maintenance, and a few of these categories must be inspected periodically. There is no apparent rationale for determining which structures must be inspected, who must conduct the inspections, whether any particular standards must be met, what will be done with any report of inspection, or the remedies for any deficiencies determined to exist.

Schools: "regular inspections" but no standards

Schools for the blind and deaf must undergo "regular inspection," with any required repairs being reported to the Ministry of Infrastructure.³⁶ Principals of all other schools in the province must inspect the premises at least weekly and report any repairs that are required "in the opinion of the principal" and "any lack of attention on the part of the building maintenance staff of the school" to the local Board of Education.³⁷ No particular standards are required to be met by either type of school.

Retirement homes: “maintenance program” required with regular inspections but no standards

Although no standards are particularized, every licensee of a retirement home in Ontario must ensure that a maintenance program is in place to keep the building in good repair.³⁸ Inspectors appointed by the province are required to conduct an inspection at least once every three years.³⁹ An inspector is entitled to inspect all relevant records and to call on experts for assistance; a professional consultant may be, but is not required to be, involved in the inspection. If a contravention of the regulation is found as a result of an inspection, the registrar of the Retirement Homes Regulatory Authority may make an order requiring that the licensee take such steps as are necessary to ensure that the regulation is complied with.⁴⁰

Bridges: bi-annual inspection by engineer to determine “structural integrity, safety and condition”

Bridges in Ontario are required to be kept “safe and in good repair.” They must be inspected at least once every other year, under the direction of a professional engineer, to determine their “structural integrity, safety and condition.” The inspection must be in accordance with the “Ontario Structure Inspection Manual,” a document published by the Ministry of Transportation.⁴¹

Condominium buildings: tri-annual visual site inspection but no standards

Ontario requires that condominium corporations undertake “reserve fund” studies within one year of registration of the declaration (the legal instrument that creates a condominium corporation), and every three years thereafter, to ensure that sufficient funds are available to cover the cost of expected ongoing repairs and maintenance.⁴² Studies include a “component inventory” that must set out the remaining life expectancy of each item listed there.

The study must be based on a “visual site inspection of the property” and of every item in the component inventory “where practicable.” Studies may be conducted by accredited appraisers, architects, certified engineering technologists, persons holding the designation of certified reserve planners from the Real Estate Institute of Canada, professional engineers, graduates of Ryerson University with a bachelor of technology (architectural science) – building option or architectural option, professional quantity surveyors, and architectural technologists or building technologists.⁴³ No particular standards are required to be met, and no particular type of inspection or report is prescribed.

Residential tenancy unit: must be weathertight and structurally sound but the only enforcement is a regulatory offence charge

Ontario has enacted maintenance standards for rental units and residential complexes. They require:

- that “the structural elements in a residential complex shall be maintained in a sound condition so as to be capable of safely sustaining their own weight and any load or force that may normally be imposed”;
- that “every floor of a basement, cellar or crawl space, and every slab at ground level, foundation wall, wall and roof shall be structurally sound, weathertight and damp-proofed and shall be maintained so as to reasonably protect against deterioration”; and
- that “every roof shall be watertight.”⁴⁴

These standards apply only where there is no municipal property standards by-law.⁴⁵ As I explain below, a municipality may enact a property standards by-law that does not contain such minimum standards. Furthermore, the only available enforcement of a provincial inspector's order to make the necessary repairs appears to be the ability to charge the owner with failure to comply.⁴⁶

Other buildings: no provincial standards, inspection, or enforcement

The Commission was unable to identify any requirement in provincial law for buildings with public access to comply with any standards regarding maintenance or structural soundness, or even with inspection for their safety. It is unclear on what basis the province has determined which types of buildings are required to be structurally sound and watertight.

Municipalities are entitled to enact maintenance standards

The *Building Code Act* allows municipalities to enact by-laws prescribing standards for the maintenance and occupancy of property.⁴⁷

A majority of municipalities have done so

Of the 414 municipalities in Ontario, 265, or 64 percent, have complete property standards by-laws (covering all parts of all buildings in the municipality); 99, or 24 percent, have no such by-law; and 50, or 12 percent, have a by-law that covers only some of the buildings or some areas of the municipality. The municipalities with no property standards by-law are generally the smaller municipalities; the largest in this group are two municipalities with populations slightly larger than 18,000 persons.⁴⁸

Most property standards by-laws require that buildings be structurally sound but not necessarily watertight

The municipal property standards by-laws frequently include requirements that buildings be structurally sound. For example, Thunder Bay, Sudbury, Sault Ste. Marie, and Pembroke require that every building be watertight and structurally sound – “capable of sustaining its own weight and any loads to which it may normally be subjected.” Toronto and London require that buildings be structurally sound (with a similar definition to that used by the first group), but “weathertight” rather than “watertight.” Sarnia and North Bay require that all their buildings be structurally sound, but only residential properties must have roofs that are “weathertight.” Kitchener requires all its buildings to be structurally sound, but there is no requirement that they be watertight or weathertight.⁴⁹

Municipalities have powers to enforce the by-law, but enforcement is optional

Property standards officers are given powers by the *Building Code Act* to enforce property standards by-laws. They may

- inspect a property without a warrant to determine if it meets the standards of the by-law;⁵⁰
- require production of any document or thing relevant to that issue;⁵¹
- be accompanied by a person with special expertise who may make examinations or take tests, samples, or photographs;⁵²
- order that the owner take and supply tests and samples;⁵³ and
- order that repairs be done to bring the property up to the required standards or issue an order requiring demolition of the building.⁵⁴

If the owner does not carry out repairs as ordered, and does not successfully appeal the order to the municipality's property standards committee or the Superior Court of Justice, the municipality may hire workers to repair the building or demolish the property.⁵⁵ The municipality has a lien on the land for the amount spent on the repair or demolition, and the lien has priority status over other interests in the land.⁵⁶ It allows the expenses to be collected in the same manner as taxes on the property.

Municipal enforcement of property standards is not required, even for those municipalities that choose to enact such by-laws.

Enforcement of property standards by municipalities varies greatly

Many municipalities follow a "complaint-driven" enforcement policy. That means different things in different municipalities. Some municipalities require that a written complaint, containing the name and address of the complainant, be submitted to the property standards officer at city hall before an inspection can take place; they prohibit their officers from investigating potentially unsafe buildings in the absence of a complaint. Other municipalities allow anonymous complaints to be the basis of an inspection. Still others conduct inspections only if an appropriate complaint is received, but they allow property standards officers to conduct an inspection if they suspect that a property is in breach of the by-law.⁵⁷

Some municipalities have a combination of complaint-driven and proactive enforcement policies. In this system, some types of properties are targeted for inspections in the absence of complaints.⁵⁸

London has a by-law with provisions that are unique among the municipalities considered by the Commission's research. Its by-law relating to business licences requires that the building in which the business premises are located must meet the standards set out in the *Building Code Act* (interpreted to mean the provisions of the *Building Code* in effect when the building was constructed), the *Fire Protection and Prevention Act, 1997*, and the City's property standards by-law. When a new licence is issued and, in some circumstances, when an existing licence is transferred, an inspection is required by the City's property standards officers. A business licence will generally be refused until any deficiencies are corrected.⁵⁹

Other provinces have enacted minimum maintenance standards

Alberta permits public officials to inspect buildings to which the public has access and to make an order to fix or prevent dangerous conditions

Alberta has enacted minimum maintenance standards for a number of types of buildings, such as housing and child-care facilities. The province has broad authority to detect and remedy a "nuisance," defined as "a condition that is or might become injurious or dangerous to the public health." A public official may inspect any building in the province "in which the public has an interest arising out of the need to safeguard the public health," such as accommodation facilities (including all rental accommodation), places of assembly, and "any other building, structure or place visited by or accessible to the public." The purpose of the inspection is to determine whether a nuisance is present or whether any of the regulations under the *Public Health Act* (including the housing premises regulations referred to in the following paragraph) have been complied with. The inspector is authorized to enter the building, require the production of any document relevant to the inspection, and perform tests as required.⁶⁰

After an inspection, an order may be made requiring repairs as specified in the order, and all such orders must be posted in a conspicuous public place near the building and be made available for inspection at the regional health authority.⁶¹

Housing premises must be structurally sound, in a safe condition, in good repair, and maintained in a waterproof, windproof, and weatherproof condition. This regulation applies to structures used wholly or partly for accommodation purposes (other than owner-occupied buildings), including apartment buildings, dormitories, dwellings, hotels, lodging houses, and mobile homes.⁶² These regulations also require that housing premises be maintained pursuant to the *Minimum Housing and Health Standards* approved by the minister of health. That document requires, among other things, that building materials which have been damaged or show evidence of rot or other deterioration be repaired or replaced, and that a professional structural engineer may be required to design and/or supervise the repairs or modifications required.⁶³

Every daycare facility must be “in such a state of repair that it does not create a hazard to the safe and sanitary operation of the institution.”⁶⁴ A responsible official may require that the premises be inspected and evidence be provided to show that the operator is in compliance with this regulation before issuing or renewing a licence.⁶⁵

Manitoba requires all buildings to have watertight roofs

Manitoba has enacted a regulation requiring all buildings in the province to have roofs that are watertight and kept in good repair.⁶⁶

Quebec has recently enacted province-wide minimum maintenance standards for all public buildings, multi-storey garages, and building façades

Quebec enacted regulations in March 2013 which generally require that all buildings or facilities intended for public use be “maintained in a safe and proper working condition.”⁶⁷ In addition, multi-storey garages must be maintained “so as to ensure safety and prevent the development of a dangerous condition.”⁶⁸ Furthermore, façades (defined as the exterior walls of buildings, together with all accessories and objects connected to them) of buildings five storeys or higher “must be maintained so as to ensure safety and prevent the development of a dangerous condition.”⁶⁹ Owners of such buildings are required to follow a preventive maintenance program, hire professionals to carry out inspections every five years, perform the required repairs, and maintain and preserve a log for inspectors’ references.⁷⁰ The legislation authorizing these regulations was enacted following injuries suffered as a result of failures of buildings and parts of buildings in the province.⁷¹

The existing regulatory scheme: professional engineers

The regulatory authority: Association of Professional Engineers of Ontario

The Association of Professional Engineers of Ontario (PEO) regulates the licensing of both persons performing professional engineering and companies engaged in offering professional engineering services to the public in Ontario. The *Professional Engineers Act* provides that the principal object of the association is

to regulate the practice of professional engineering and to govern its members, holders of certificates of authorization, holders of temporary licences, holders of provisional licences and holders of limited licences in accordance with this Act, the regulations and the by-laws in order that the public interest may be served and protected.⁷²

The PEO has a number of other objects as set out in the legislation, including the establishment, maintenance, and development of standards of knowledge, skill, qualification, and practice for its members.⁷³

Standards and guidelines established for professional engineers

As discussed above, the *Building Code* requires that the construction, alteration, or enlargement of certain buildings, such as the Algo Mall, be reviewed by an engineer.⁷⁴ The Code further requires that this review be conducted in accordance with the Performance Standards of the Professional Engineers of Ontario.⁷⁵

The PEO has several committees, including the Professional Standards Committee. This committee is responsible for developing Performance Standards, Practice Guidelines, and Practice Bulletins. All three serve different purposes and have different powers. Performance Standards currently* have the force of law because they are established by Regulation 260/08 under the *Professional Engineers Act*. Practice Guidelines and Practice Bulletins, in contrast, do not have force of law but are intended to describe best practices. In addition, Practice Bulletins are used by the PEO to address urgent issues involving the practice of engineering.

Performance Standards: Professional engineers are legally required to follow them, but none apply to review of existing buildings

Pursuant to s. 7(1) of the *Professional Engineers Act*, the PEO council may, on the approval of the lieutenant governor in council, make regulations respecting and governing standards of practice and performance for the profession.⁷⁶

Section 78 of Regulation 941/90 (which was replaced by Regulation 260/08 on July 25, 2008) sets out Performance Standards for a general review of the “construction, enlargement or alteration of a building by a professional engineer as provided for in the building code.” These standards applied only in situations where the *Building Code* required a “general review” by an engineer when a building was being constructed, enlarged, or altered.

In cases to which these Performance Standards applied, they required:

- periodic visits to confirm that work was being done in general conformity with the plans and specifications;

• • • • •

* Performance Standards that predate the passage of Regulation 421/86, which became section 78 of Regulation 941, do not have the force of law, and as such function as guidelines.

- recording of any deficiencies found, and written reports to the owner describing the deficiencies and the action required to rectify the deficiencies;
- reviewing of reports of others in relation to the work for which the engineer was providing the general review;
- interpretation of plans and specifications as requested; and
- reviewing of shop drawings and samples submitted by the contractor for consistency with the intent of the plans and specification.⁷⁷

Currently, under Regulation 260/08, there are two Performance Standards:

- Construction of a building, which relates to a general review by a professional engineer of the construction of a building, as provided for in the Ontario *Building Code*; and
- Demolition, which relates to a general review by a professional engineer of the demolition of a building, as provided for in the *Building Code*, and to the preparation of demolition plans.⁷⁸

The Performance Standard for “construction of a building” relates to “construction,” as defined in the *Building Code Act, 1992*.⁷⁹ The *Building Code Act, 1992*, currently defines “construct” as meaning “to do anything in the erection, installation, extension or material alteration or repair of a building and includes the installation of a building unit fabricated or moved from elsewhere and ‘construction’ has a corresponding meaning.”⁸⁰

The Performance Standard set out in Regulation 260/08 in respect of “construction of a building” is essentially identical in its requirements to the Performance Standard set out in Regulation 941/90, summarized above.

No Performance Standard governs the examination or review by professional engineers of an existing building (which is not undergoing construction).

Practice Guidelines do not have the force of law, and none deal specifically with existing buildings

The PEO issues Practice Guidelines for the purpose of educating both licensees and the public about best practices. The association also produces Practice Guidelines to meet the following objectives:

- to aid engineers in performing their engineering role in accordance with the legislation and regulations;
- to describe processes required by regulatory, administrative, or ethical considerations associated with specific professional services provided by engineers;
- to provide criteria for acceptable practice by describing the expected outcome of the process, identifying the engineer’s duty to the public in the particular area of practice, and describing the relationships and interactions among the various stakeholders (government, architects, other engineers, clients);
- to add value to the professional engineer licence for licensed engineers and for the public by outlining criteria for professional standards of competence; and
- to help the public understand what can be expected from engineers in relation to a particular task within the practice of professional engineering. By demonstrating that the task requires specialized knowledge, higher standards of care, and responsibility for life and property, guidelines help to reinforce the public perception of engineers as professionals.⁸¹

The current Practice Guidelines dealing with structural engineering services in buildings relate only to services being provided at the design and construction phases of a building project. They do not apply to structural examination, inspection, or review of an existing building, such as the Algo Mall.*

Two other Practice Guidelines do affect all the work being done by professional engineers:

- Use of the Professional Engineer's Seal (in force in November 2008): the guideline provides direction for the use of seals in paper documents and in electronic documents.
- Professional Engineering Practice (most recent version came into effect in January 2012): the guideline covers a wide variety of topics generally applicable to the practice of professional engineering, including licensing, professional responsibility, the engineer's duty to report, and whistle-blowing.

Practice Bulletins: One issued following the collapse of the Algo Mall set out "best practices" for structural engineering assessments of existing buildings

Practice Bulletins serve the same purpose as Practice Guidelines but are used for urgent or short-lived issues. Where appropriate, Practice Bulletins may be developed into new Practice Guidelines or incorporated into existing Practice Guidelines.⁸²

In November 2012, following the collapse of the Algo Mall, the PEO issued a Practice Bulletin entitled "Structural Engineering Assessments of Existing Buildings."⁸³ This bulletin described a series of best practices, including a requirement to work with written agreements and to conduct the work set out therein; to review original design and construction documents, as well as any previous building assessments; to conduct on-site inspections; and to report on observed structural deterioration or defects and to analyze their potential impact on the structure.

The bulletin specifically stated:

Agreements

Engineers conducting structural engineering assessments of existing buildings should work with written agreements with their clients that specify, but are not limited to:

1. access to all documents and drawings they say they require to conduct the assessments, such as original design and construction documents and drawings. Alternatively, if these documents and drawings are not available, engineers may determine that they require additional field work, such as obtaining measurements of the structural elements, to obtain the needed information to conduct their assessments;
2. access to copies of prior building assessments, as well as maintenance and repair records of buildings being assessed;
3. access to buildings being assessed and all the critical areas engineers identify; and
4. additional investigations engineers determine to be required after reviewing preliminary data.

...

.....

* Two current PEO guidelines relating to the design and construction of buildings are the Professional Engineers Providing Structural Engineering Services in Buildings, 1995 (revised November 1998); and the Professional Engineers Providing General Review of Construction as Required by the Ontario Building Code, April 2008 (revised November 2008).

Inspection

...

Engineers conducting structural engineering assessments of existing buildings are expected to visit the buildings and carry out, with due diligence, visual inspections of:

- the condition of building structures – to identify types of structural defects, signs of structural distress and deformation, and signs of material deterioration;
- the loading on building structures – to identify deviations from their intended uses, and/or misuse and abuse, which can result in overloading;
- additions or alteration works affecting building structures – to identify additions or alteration works that can result in overloading or adverse effects on structures; and
- non-structural components that might affect structural systems.

If signs of structural deterioration or defects are present, engineers should provide opinions on the severity of the deteriorations or defects and recommend appropriate actions to be taken. Such actions might involve repair works or full structural investigation to parts or the whole of buildings.

Conducting visual inspections can be difficult, as main structural elements in buildings may have been covered up by finishes. It is, therefore, important that engineers exercise professional judgement to determine which covered areas should be exposed for inspection. Reference to structural layout plans to determine the presence of critical structural elements is crucial under such circumstances.

Inspections will, on occasion, yield information that indicates a structural problem might exist, requiring testing that was not included in the original scope of the inspection. Engineers should not hesitate to recommend to clients additional tests to uncover potential structural problems.

...

Analysis

...

Engineers need to quantify observed structural deterioration or defects and analyze their potential impact on structures, as well as provide engineering opinions on the potential impacts of the deterioration or defects. For example, a structural steel element under corrosion should be measured for section loss and the engineer should provide an engineering opinion on the potential impact of the measured loss.

...

Report

Engineers should present their findings in reports addressed to their clients. The level of appropriate report detail depends on the original reasons for assessments and will, by necessity, match the degree of complexity of the inspections and analyses. Reports should include but not be limited to:

- reasons for conducting structural engineering assessments;
- names of clients;
- addresses of buildings assessed;
- descriptions of buildings' main usages;
- clear descriptions of the actions performed, including when they were performed, and by whom;
- descriptions of areas not covered by visual inspections, why they were not covered, and engineering opinions about whether such areas are critical to the overall structural integrity of buildings; ...

- records of observations of signs of structural defects, damage, distress, deformation or deterioration; ...
- engineering opinions on the extent, possible causes and seriousness of identified problems;
- engineering opinions about whether identified problems are:
 - defects of no structural significance,
 - defects requiring remedial action and/or monitoring, or
 - suspected defects of structural significance requiring full structural investigation and immediate action;
- recommendations on remedial actions and/or monitoring to be undertaken by clients to ensure buildings' structural integrity, for example, restricting usage, relocating heavy machineries, removing additions, further investigation on structural adequacy, or phasing buildings out of service. Such recommendations should include timeframes within which repairs are recommended;

...

All opinions expressed in reports should be supported by relevant analyses or discussions. For example, if the opinion on a particular problem is that it is of no structural significance, the report should provide sufficient explanation to support that opinion.

The *Professional Engineers Act* requires engineers to affix their seals to final documents containing engineering content provided as part of services to the public. Reports of structural engineering assessments of existing buildings contain statements of professional opinion and therefore must be sealed. For further information on the use of the seal, refer to the guideline *Use of the Professional Engineer's Seal* at www.peo.on.ca/Guidelines/UseOfTheProfEngSeal2010.pdf.⁸⁴

Failure to comply with standards and guidelines is not by itself grounds for findings of misconduct by professional engineers

A breach of the Performance Standards, because it is a “breach of the Act or regulations,” constitutes professional misconduct under Regulation 941.⁸⁵ It could also be considered a “failure to make responsible provision for complying with applicable statutes, regulations, standards, codes, by-laws and rules in connection with work being undertaken by or under the responsibility of the practitioner.”⁸⁶

The effect of a failure to comply with a guideline or a bulletin (which do not have the force of law) is not as clear. According to the PEO, a “persistent or serious breach of a Guideline might be *evidence* of incompetence or negligence, but it may not be, in and of itself, grounds for a finding of professional misconduct” [emphasis in original].⁸⁷ Consequently, the Practice Bulletin entitled “Structural Engineering Assessments of Existing Buildings” issued by the association following the collapse of the Algo Mall has no legal force. In order to have that effect, the bulletin would have to be enacted by a regulation, by the council as a Performance Standard pursuant to s. 7(1)17 of the *Professional Engineers Act*.

No continuing education program required for professional engineers

The *Professional Engineers Act* requires the association to establish, maintain, and develop standards of knowledge and skills among practitioners.⁸⁸ The Act is silent on how the association might maintain and develop these standards. Regulation 941 is clear, however, that engineers may be guilty of professional misconduct if they undertake work they are not “competent to perform by virtue of training and expertise.”⁸⁹ There is no requirement for Ontario professional engineers to take part in a continuing education program to maintain their right to practise, although life-long learning appears to be strongly encouraged.⁹⁰

Over the past 25 years, the PEO council has formed at least three task forces and committees to investigate the need for, and the ways of implementing, competency assurance or continuing professional development. It has also conducted two membership surveys that found strong support for the implementation of a continuing competency program. In response, the council created, but did not implement, a new licensure model that would have required practitioners to acquire a specified number of points relating to their professional development activities over a three-year period and a proposed Certificate of Practice regime for engineering firms. Consultation on the model led to a Professional Excellence Program requiring all members to sign a professional conduct declaration every three years, with those in active practice also signing a competence declaration and providing supporting documentation every three years. In addition, the program included a voluntary professional development evaluation module. It suggested that practice guidelines might be given greater emphasis in the future, along with the development of more guidelines.⁹¹

In 2002 the Professional Excellence Program was redefined as a voluntary professional profile form in which members could report both their professional development activities and their areas of practice and expertise. This program was put in place as a one-year pilot project, which was later stopped. In May 2007, however, the concept was revived when the council approved a voluntary annual reporting program (including scope and practice, professional development activities, and professional affiliations) through an online mechanism.⁹²

Currently, the PEO is the only engineering regulator in Canada that has no form of either mandatory or voluntary continuing professional development.⁹³ The only obligation in Ontario is that contained in the association's Code of Ethics:

1. It is the duty of a practitioner to the public, to the practitioner's employer, to the practitioner's clients, to other members of the practitioner's profession, and to the practitioner to act at all times with ...
 - iv. knowledge of developments in the area of professional engineering relevant to any services that are undertaken, and
 - v. competence in the performance of any professional engineering services that are undertaken.⁹⁴

Transparency in disciplinary matters

Publication of names of practitioners

Sub-section 38(1) of the *Professional Engineers Act* provides that those engaged in the administration of the Act must maintain as confidential all information received in the course of their duties. This requirement of confidentiality is subject to some exceptions, set out in the Act, in relation to complaints and investigations. However, once a matter goes to a discipline hearing that is open to the public, the evidence and documents filed at the hearing are generally considered to be public.⁹⁵

Although discipline hearings are open to the public, the decisions and reasons of the Discipline Committee, with or without the name of the affected practitioner, may or may not be published in *Engineering Dimensions* (the official publication of the PEO) or elsewhere, depending on the nature of the outcome of the hearing and the directions given by the Discipline Committee.⁹⁶ Sub-section 28(5) of the Act requires publication of names if a licence is revoked or suspended. Where a practitioner is acquitted after a disciplinary hearing, that determination must be published, if requested by the practitioner, pursuant to s. 28(6) of the Act.

Public access to licensing and discipline information

The Act also provides for one or more registers to be maintained by the PEO registrar. Section 21 provides that the register(s) must contain the following information:

- the name of every licensee and every holder of a certificate of authorization;
- the terms, conditions, and limitations attached to the licence or certificate of authorization;
- a note of every revocation, suspension, cancellation, or termination of a licence or certificate of authorization; and
- such other information as the Registration Committee or Discipline Committee directs.

Pursuant to s. 21(2) of the Act, any person has a right, during normal business hours, to inspect the register(s).

Until recently, information was not available on the PEO's website concerning current licence suspensions, revocations, cancellations, or terminations. Such information would be provided by staff to persons making telephone or written inquiries. The information is now publicly searchable on the website, by name. However, information concerning licence terms, conditions, or limitations is still not available on the PEO's website. A member of the public who seeks such information would have to contact staff at the PEO to obtain it.⁹⁷

Obligation by engineer to inform clients

There is no statutory obligation on an engineer to inform clients about a licence suspension, revocation, licence terms, conditions, or limitations.

Specialist certification

Pursuant to s. 7(1)(22) of the *Professional Engineers Act*, PEO council may make regulations providing for the designation of licensees as specialists and prescribing the qualifications and requirements for designation as a specialist.⁹⁸

No regulation has been passed pursuant to this power. Accordingly, there are currently no legislative constraints on the areas in which a licensee may practise and no specialty-specific certification procedures.⁹⁹

Recommendations

Buildings to which these recommendations extend – large mercantile buildings

As discussed above, I interpret my mandate to require me to make recommendations with respect to the appropriate regulatory framework for buildings like the Algo Mall throughout the province. The Algo Mall had the characteristics of a building which the Ontario *Building Code* would describe as a “*building*” exceeding 600 square metres or three storeys in height used for “*major occupancy*” classified as “*mercantile occupancy*.” The *Building Code* defines each of those words in italics in the following way:

- (a) “building” means,
 - (i) a structure occupying an area greater than ten square metres consisting of a wall, roof and floor or any of them or a structural system serving the function thereof including all plumbing, works, fixtures and service systems appurtenant thereto ...;¹⁰⁰
- (b) “major occupancy” means the principal *occupancy* for which a *building* or part of a *building* is used or intended to be used, and is deemed to include the subsidiary *occupancies* that are an integral part of the principal *occupancy*;¹⁰¹
- (c) “mercantile occupancy” means the *occupancy* or use of a *building* or part of a *building* for the displaying or selling of retail goods, wares or merchandise;¹⁰²
- (d) “occupancy” means the use or intended use of a *building* or part of a *building* for the shelter or support of persons, animals or property.¹⁰³

The *Building Code* provides that buildings exceeding 600 square metres or three storeys in height used for major occupancy classified as mercantile occupancy must comply with Division B of Part 4 of the Code, which sets out structural design requirements common to a wide variety of large structures in Ontario.

Since the Algo Mall would come within this definition, which is already recognized by the law of Ontario relating to standards designed to ensure safe construction of buildings, it is appropriate that I draft my recommendations to apply to all such buildings. Wherever one of my recommendations uses the word “building” or “buildings,” I mean a building which comes within this definition. I believe, however, that these recommendations ought to apply to all publicly accessible buildings in Ontario, including workplaces and multi-unit residential condominium and tenant-occupied buildings. The personal safety of all who enter such buildings is as affected by the manner in which they have been maintained as is the safety of those who enter large buildings used for mercantile occupancy. Persons using such buildings are as unable to learn of or prevent structural problems which may affect their personal safety as are those who enter shopping malls. They depend on the actions of owners and public authorities to inspect and maintain those buildings so that they are safe. I urge the appropriate public authorities to consider extending the application of my recommendations to all such buildings.

Minimum structural maintenance standards for buildings



Recommendation 1.1

There should be province-wide minimum structural maintenance standards for all buildings in Ontario.

Rationale: Public safety requires province-wide maintenance standards, just as it requires province-wide design and construction standards.

There is universal acceptance that all buildings in the province need to be designed and constructed so that they are safe and do not put persons in or near them at risk of injury or death from their collapse. Long ago, the decision was made that public safety could not be left to be protected in a hodgepodge fashion across the province, with different standards for the design and construction of buildings and different enforcement of those standards, depending on the views of each municipality. Furthermore, as the evidence at this Inquiry has shown, it is unwise to assume that, if a building is built properly, it will be maintained properly or will last forever. If safety requires that buildings be designed and built so that they are safe when construction ends, it also requires that buildings be maintained so that they are safe during the whole of their useful life.

The province has recognized the importance of minimum standards for some types of structures, such as “places of work,” bridges, and residential tenancy units in municipalities that do not have a property standards by-law. It has also recognized the importance of appropriate maintenance by requiring regular inspections of retirement homes, schools, and condominiums, without needing evidence that the building has failed to meet any particular standard. It is difficult to justify why citizens who drive across a bridge have a greater need to be protected from that bridge’s collapse than do citizens who go into a shopping mall. The rationale cannot be that many bridges were built more than a quarter century ago and are subject to significant deterioration. The same could be said of shopping malls, many of which were built in the 1970s and 1980s, as was the Algo Mall.

The *Building Code Act* provides, in s. 15.1, that a municipality *may* enact by-laws in respect of property conditions.¹⁰⁴ In 2013, 99 of 414 municipalities in the province, or 24 percent, had no property standards by-laws; 50, or 12 percent, had only partial property standards by-laws, and 265, or 64 percent, had complete by-law coverage. In my view, the safety of citizens entering buildings ought not to depend on local councils having had the wisdom and foresight to enact property standards by-laws which require that buildings be maintained safely.

The provisions of s. 15.9(2) and s. 15.10(1) of the *Building Code Act* which allow an inspector to order repairs or demolition where a building is “unsafe” or “poses an immediate danger to the health or safety of any person,” go partway toward establishing minimum standards. They do so, however, rather clumsily – by enacting a remedy when a building has become greatly deteriorated, rather than prescribing minimum standards to which a building must be maintained. Positive minimum standards are necessary as the basis for a program designed to ensure that building owners do what is required to *keep* their buildings safe, rather than just repair them to bring them back to a safe level after they have deteriorated.

Most participants at the roundtables agreed that all publicly accessible buildings should be subject to mandatory minimum standards for maintenance and repair.¹⁰⁵ As Stuart Huxley, the representative of the Association of Municipalities of Ontario, put it:

I think the question is ... that with respect to building permits and the building officials process, there is a question of bookends. At the front end, the building officials are involved through a permit process. If you are applying for a permit for construction or demolition, the *Building Code Act* is triggered. And then the building official's role that deals with emergency issues or unsafe buildings at the other end. It is that gap that we are talking about, the tools that would be available and the question that has been posed, what tool is possible?¹⁰⁶

There was also general agreement that these minimum maintenance standards should be enacted by the province rather than by individual municipalities.¹⁰⁷

Property standards by-laws typically cover a number of issues, from cosmetic to structural. Many of these are local in nature and should be left to be determined by municipalities.

The 1988 Report of the Advisory Committee on the Deterioration, Repair and Maintenance of Parking Garages, discussed in Chapter 13, described the serious problem – repair costs estimated at more than \$1 billion – of the deterioration of parking garages caused by the effect of chloride-laden water on concrete, the steel-reinforcing bars embedded in concrete slabs, and steel frame supporting structures. The report emphasized, among other things, the necessity for a “detailed condition survey of parking structures, using specialized inspection and testing techniques” to determine the extent of deterioration, the effect of the deterioration on the present and future serviceability of the structure, the optimum strategy for maintenance and rehabilitation of parking garages, and the various technical and financial issues related to rehabilitation.¹⁰⁸ It concluded that periodic inspections were necessary to ensure the integrity of the load-carrying capacity of these structures, the need for their periodic repair, and, potentially, the major remedial action required to redress and halt the deterioration process before structural failure occurs. It set 1992 as the projected target date for arriving at a “comprehensive repair and restoration document which is affordable, effective and enforceable.”¹⁰⁹

The three technical chapters were published and distributed,¹¹⁰ as the province acknowledged in its submissions, “to building sector stakeholders including building owners, engineers, municipalities and the public through a ministry newsletter and through workshops with various members of the building sector”¹¹¹ “to assist owners and engineers in inspecting and maintaining existing parking structures.”¹¹²

Three chapters of the Advisory Committee's report were not made public. They consisted of an overview, consideration of possible enforcement procedures to ensure minimum maintenance standards for structural safety in parking garages, and recommendations with respect to “development of a communications strategy.” The uncirculated overview chapter noted that

[e]xisting legislation is not effective to ensure a province wide, uniformly applied retrofit standard for existing structures.

No provincial legislation exists which would require retrofit of existing structures on a mandatory basis across the province to ensure structural safety.¹¹³ [Emphasis in original]

The uncirculated chapter dealing with enforcement methods did not make specific recommendations. It suggested two options to consider – mandatory retrofit; and issuing of permits for structures, which would have to be renewed on a periodic basis. Both of these approaches would have required new legislation and/or regulations. The report stated that the implications of such a change were “far-reaching.” It recommended that a

steering committee be formed, consisting of various interest groups, including the insurance industry, engineers and architects, developers and contractors, owners' groups, parking authorities, and the real estate industry in general, in order to conduct an "impact study."¹¹⁴

The last uncirculated chapter recommended a communication program to "effectively educate the public at large" about "the severity of the issue and the importance of remedial measures to that sector of the public which is likely to be affected directly, either financially or through disruption of daily life."¹¹⁵ The province has advised that a number of steps were taken to make the report and its recommendations public. To quote from the Attorney General's submissions:

Progress reports on the status of the Advisory Committee's review and the receipt of the Report were sent by the former MOH [Ministry of Housing] to industry, municipalities, designers, building owners and other purchasers of MOH's Building Code publication through MOH's Building Action Newsletters.

The Report was published by the former MOH in both English and French. A large number of copies were printed and distributed to individual Building Code users as well as university and public libraries.

In addition, the Advisory Committee findings were publicized through workshops with building owners and others. A draft of the Advisory Committee's findings were presented at technical seminars conducted by the Nova Scotia Institute of Technology in 1987 and workshops on the maintenance of parking structures conducted by the Canadian Institute of Public Real Estate Companies ("CIPREC") for its members in Toronto and Montreal in March, 1989. Portions of the Advisory Committee's Report were presented as "guideline procedures for maintenance and monitoring of parking garages."¹¹⁶

It appears that, following the publication and distribution of the three technical chapters of the report, the recommended impact study was initiated to establish the best method of dealing with the problem. It was to include consultation with interest groups such as non-profit housing agencies, municipalities, building owners, rent review, condominium managers, property managers, the Minimum Residential Property Standards board, the Canada Mortgage and Housing Corporation, and the Building Owners Management Association.¹¹⁷ The report resulting from this study has not been located.

What is clear, from the limited information available about the 1988 report and its effects, is that the provincial government and a number of stakeholders recognized the serious nature and potentially devastating results of the deterioration of parking structures by the very process that led to the Mall collapse. The government was advised to consider bringing in mandatory minimum standards for maintenance and repair of such structures. Consultation appears to have been limited to a group consisting of those having a financial interest in the issue. No one representing the public interest in being protected from injury and death caused by unsafe structures appears to have been included. Nothing was done other than to publicize the problem and make suggestions about how to prevent, detect, and repair it. No mandatory inspections or mandatory minimum standards were put in place. Public safety was left to cling to the hope that building science professionals would provide appropriate advice and building owners would behave responsibly.

Those hopes appear, with the clear vision of hindsight, to have been without foundation. The publicity given to the 1988 report appears to have faded over time, to such an extent that, when the very issue it was intended to deal with became the subject of this public inquiry, the report was not produced or referred to by the Government of Ontario or any of the building owners, building science professionals, the municipality, or the building officials' and property standards officials' organizations who appeared before me. To the extent that it dealt with ongoing maintenance issues, it may as well have never existed.

The evanescent life of this report and the belated revelation of its existence is, to me, clear and convincing evidence that education about the dangers of ignoring potential structural deficiencies, and exhortation to do the right thing, are not sufficient. That approach has been tried and has demonstrably been found wanting.

Public safety requires mandatory periodic inspection, following a prescribed procedure, by professionals qualified to recognize deficiencies and prescribe remedies. It requires that public officials be provided with the tools necessary to enforce those standards. And it requires that the public be informed of the inspections that have been carried out to detect possible threats to their safety, what those inspections have shown, and what orders have been made as a result.

■ **Implementation: Enact a regulation under s. 34(2) of the *Building Code Act, 1992*.**

As I have indicated, s. 34(2) of the *Building Code Act, 1992*, allows the lieutenant governor in council to make regulations “to establish standards that existing buildings must meet ... including regulations ... establishing standards for maintenance, retrofit, operation, occupancy and repair.”¹¹⁸ Although no such regulation has ever been enacted, it provides a clear mechanism to do so by an executive act, without the necessity for legislation.



Recommendation 1.2

The regulation outlined in Recommendation 1.1 should include a requirement that all buildings be watertight, structurally sound, and not unsafe, and be maintained in such a way as to keep them in that condition for a reasonable period (the “Minimum Structural Maintenance Standard”).

In this recommendation:

- (a) “structurally sound” means capable of supporting its own load and any load to which the building may normally be subject; and
- (b) “unsafe” means:
 - (i) structurally inadequate or faulty for the purpose for which it is used; or
 - (ii) in a condition that could be hazardous to the health or safety of persons in the normal use of the building, persons outside the building, or persons whose access to the building has not been reasonably prevented.

This standard will hereafter be called the Minimum Structural Maintenance Standard.

■ **Rationale: These are the minimum standards required to ensure public safety.**

Buildings that are unable to support themselves and any load to which they may become subject might collapse, putting at risk both building occupants and those nearby. Buildings that are not watertight may, over time, lose structural capacity as a result of rust on metal supporting members, freeze-thaw damage on concrete supporting members, and rot on wooden supporting members. It only makes sense that buildings in this province should be maintained in such a way as to ensure that these things do not happen.

A requirement already exists that many buildings in Ontario be both watertight and “structurally sound” as that term is defined in the preceding paragraph. The *Maintenance Standards* regulations enacted under the *Residential Tenancies Act, 2006*,¹¹⁹ require, for residential tenancy units in municipalities without a property standards by-law, that “[t]he structural elements in a residential complex shall be maintained in a sound condition so as

to be capable of safely sustaining their own weight and any load or force that may normally be imposed.”¹²⁰ The same regulations require that “every floor of a basement, cellar or crawl space, and every slab at ground level, foundation wall, wall and roof shall be structurally sound, weathertight and damp-proofed and shall be maintained so as to reasonably protect against deterioration” and that “every roof shall be watertight.”¹²¹ The *Occupational Health and Safety Act* requires that every building that is a place of work to which the Act applies be capable of supporting any loads that may be applied to it.¹²² Most municipal property standards by-laws, where they have been enacted by Ontario municipalities, include a requirement, as did Elliot Lake’s, that a building be watertight and maintained in a structurally sound condition so as to be capable of supporting its own weight and any weight to which it may normally be subjected. Ann Borooah, chief building official for the City of Toronto and the executive director of the Toronto Building Department, agreed that minimum standards should include a requirement that buildings be structurally sound for the purpose for which they were intended.¹²³

The definition of “unsafe” set out above already applies to all buildings in Ontario. It is copied from s. 15.9(2) of the *Building Code Act*.¹²⁴ Sub-section 15.9(4) gives an inspector authority to order a building owner to take the remedial steps necessary to render the building safe. I believe, as a result, that it would not be controversial to use this standard in a province-wide maintenance obligation.

I recommend going further by requiring building owners to ensure not only that their buildings are safe but also that they remain safe throughout their useful life. This requirement, coupled with the recommendations I set out below with respect to inspections, reports, and enforcement of these standards, will significantly increase the safety of those who use buildings in this province.

Implementation: Insert this requirement into the regulation proposed in Recommendation 1.1 to be enacted under s. 34(2) of the *Building Code Act*.

Inspections of buildings to ensure compliance with the Minimum Structural Maintenance Standard



Recommendation 1.3

All owners of buildings should be required to ensure that their buildings are inspected periodically (a “prescribed structural inspection”) by a professional engineer to determine whether they comply with the Minimum Structural Maintenance Standard and what steps, if any, need to be taken to bring them into compliance.

Rationale: A determination of whether a building is structurally sound should be carried out by a person with special training and experience, with professional qualifications, that ensure that he or she has the ability to make that determination.

If buildings are never inspected, it will be impossible to know whether they meet the Minimum Structural Maintenance Standard. As the evidence in the Inquiry showed, it is quite possible for a building to be owned

by the same owner for many years and deteriorate markedly over that period. Inspection at an appropriate frequency is necessary to learn whether a building is still as strong and watertight as the inspections conducted during construction showed it was at the beginning of its life.

The City of Elliot Lake has a Property Standards By-law, which had, in its relevant sections, been unchanged from the time that the Algo Mall was built. It required that

[e]very part of a building shall be maintained in a structurally sound condition and so as to be capable of sustaining safely its own weight and any load to which it may normally be subjected.

And

The roof of a building shall be maintained in a watertight condition so as to prevent leakage of water into the building, and where necessary, shall be maintained by the repair of the roof and flashing or by applying waterproof coatings or coverings.¹²⁵

The City, however, did not require that the chief building official (who was also the property standards officer) to inspect any buildings in the City after the occupancy permit had been issued, unless a building permit had been applied for. The inspection in October 2006 was the first time the Mall had been inspected by the City to determine whether it met the requirements of the Property Standards By-laws. That inspection took place only because Tom Derreck came to Elliot Lake as the new chief administrative officer and demanded that something be done. This situation illustrates that, if an inspection is not required, one may very well not be done.

In my view, an inspection should primarily be the responsibility of the building owner, and not, at first instance, a public authority. As almost all those who attended the roundtables agreed, responsible owners will ensure that their buildings are regularly inspected. They have a sound business reason, as well as a moral reason, to ensure that their buildings are well maintained. Unfortunately, as the evidence I heard showed, not all owners are equally responsible. A legal obligation requiring such inspections to be done will ensure that all building owners, not just responsible owners, will do what is required for public safety.

If periodic inspections were required to be undertaken by municipalities or the province rather than the owner, the effect would be to pass on to taxpayers an expense that is already recognized by responsible owners as one of the costs of owning a building. The owners derive the benefit from owning a building; they should also be responsible for the expense. Furthermore, as Michael Ostfield, counsel to the Toronto Lands Corporation, said at the roundtables, the owner knows a building best.¹²⁶

As the evidence led before this Inquiry has shown, an analysis of the structural capacity of a building as designed involves many technical issues. The *Building Code Act* requires that an engineer be involved in the design of a building and the review of its construction. That evidence has also shown that the question of whether a building has maintained that structural capacity over time involves technical issues. Only Robert Wood, of all the engineers consulted by owners over the 33 years the Algo Mall stood, was asked to determine its structural capacity in its present state. Unfortunately, he did not answer that question adequately or correctly. Nevertheless, it is clear that an engineer's skill and understanding are required to determine this issue. Had such an inspection been done properly at the Mall by an engineer, disaster might well have been averted.

A professional engineer has more than technical skills – he or she has professional obligations determined by the PEO, which, at the risk of professional discipline, must be followed. The PEO has the obligation and ability to determine what steps must be taken, and the professional skills required, to ensure that an inspection delivers sound information which can be relied on by owners and public officials charged with protecting the safety of the public.

There was widespread support at the roundtables for a requirement that buildings be inspected periodically by engineers retained by owners, that those inspections determine whether the building is structurally sound and safe at the time of the inspection and what measures are needed to ensure that it does not become structurally unsound or unsafe in the near future.¹²⁷ Ms. Borooh said that she supports periodic inspections by owners of the buildings “at greatest risk.”¹²⁸ Randal Froebelius, the secretary-general of the Building Owners and Managers Association (BOMA), expressed a similar view, suggesting an annual review of certain types of buildings, with the nature of the review dependent on the type of building, and referring to Quebec’s recent adoption of periodic reviews for parking garages.¹²⁹ Peter Sharpe, the former president and CEO of Cadillac Fairview and past global chairman of the International Council of Shopping Centres, agreed with the concept of periodic inspections by the owner, but was concerned about the practicality of enforcing such a requirement.¹³⁰

Implementation: Enact a regulation under s. 7(1)(b.1) and 34(2.1)(b) of the *Building Code Act*.

Paragraph 7(1)(b.1) of the *Building Code Act* allows the lieutenant governor in council to make regulations “establishing and governing a program to enforce standards prescribed under clause 34(2)(b)” of that Act, which would authorize the enactment of the minimum standards set out above. Furthermore, s. 34(2.1) of that Act allows the lieutenant governor in council to make regulations governing such a program, including regulations “governing the type and manner of inspections that are conducted under a program and the frequency of the inspections.” This wording would appear to give clear authority to the province to require inspections by an engineer and to specify what the engineer would have to inspect.



Recommendation 1.4

For buildings to which these Recommendations apply, the Professional Engineers of Ontario (PEO) should enunciate a Performance Standard for the prescribed structural inspection.

The Practice Bulletin issued by the PEO discussed earlier, provides a good initial framework for the matters to be addressed and outlined in the Performance Standard. The Performance Standard should also address the procedure to be followed when the inspecting engineer believes that finishes should be removed and the client refuses to allow it. It should include the requirement that the engineer refuse to accept the retainer to inspect.

This recommendation coupled with Recommendation 1.15, which requires the owner to obtain and deliver a Structural Adequacy Report in certain identified circumstances, would serve to force the owner to allow a complete inspection in order to get an accurate picture of the actual structural condition of the building in the identified categories.

Many elements were glaringly missing from the building condition assessment reports and structural reports produced during the life of the Mall. The reports produced in accordance with the Performance Standard for the inspection of existing buildings should include, but not be limited to, the following:¹³¹

- (a) the reasons for conducting structural engineering assessments;
- (b) the names of clients;

- (c) the address(s) of building(s) assessed;
- (d) a description of the buildings' main usages;
- (e) a clear description of the actions performed, including when they were performed, and by whom;
- (f) a description of the areas not covered by visual inspections, why they were not covered, and engineering opinions about whether such areas are critical to the overall structural integrity of buildings;
- (g) the records of, and comments on, observations of loading conditions, indicating usages at different parts of buildings and identifying misuse, abuse, or deviations from intended uses; the records of, and comments on, findings of additions and alterations to building structures;
- (h) the records of observations of signs of structural defects, damage, distress, deformation, or deterioration;
- (i) the engineering opinions about whether existing usages and loading conditions are compatible with structures' intended uses;
- (j) the engineering opinions on the extent, possible causes, and seriousness of identified problems;
- (k) the engineering opinions about whether identified problems are:
 - (i) defects of no structural significance,
 - (ii) defects requiring remedial action and/or monitoring, or
 - (iii) suspected defects of structural significance requiring full structural investigation and immediate action;
- (l) recommendations on remedial actions and/or monitoring to be undertaken by clients to ensure buildings' structural integrity; for example, restricting usage, relocating heavy machinery, removing additions, further investigation on structural adequacy, or phasing buildings out of service. Such recommendations should include timeframes within which repairs are recommended;
- (m) relevant sketches, plans, and photographs with titles, explanations, and references to written portions of reports;
- (n) disclaimers that limit the liability of certificate of authorization holders to the specific intent and content of reports;
- (o) limitations and restrictions on engineers' work; and
- (p) additional recommended tests or investigations.¹³²

The Performance Standard should also set out a guideline for evaluating whether the observed conditions are "poor," "fair," or "good." This type of evaluation guideline would be similar to the corrosion classifications identified in the Ontario Structure Inspection Manual as referred to by Dr. Hassan Saffarini during his evidence.¹³³

In addition, the report should avoid generally sweeping statements such as "all beams inspected had little loss of section and we would consider the members still structurally sound." The report needs to identify the location of the structural components that have been inspected, and the engineer should be required to provide a statement that a proper representative sampling of the structural components has been inspected.

The Performance Standard should direct that engineers refrain from using the term “structurally sound,” unless the report specifically addresses whether the building was originally designed according to the relevant codes in existence at the time, or that an analysis has been undertaken to determine that there were no errors in the original design.

Rationale: A Performance Standard relating to structural inspections of existing buildings would have the force of law and provide a consistent and clear procedure for the inspection. A breach of the Performance Standard would also constitute professional misconduct under Ontario Regulation 941 and be subject to disciplinary consequences.

As the evidence led before this Inquiry has shown, and I describe above, there does not currently exist a standard procedure for the completion of condition assessments and structural reviews of existing buildings. All the firms retained by the three owners over the 33 years the Mall was in existence employed their own established inspection criteria. It also became apparent from the evidence before this Inquiry that there is no current standard to evaluate what constitutes a building in “poor,” “fair,” or “good” condition.

One common feature of all the inspections reviewed during the Inquiry was the visual nature of the inspections. I was told by the various engineers and consultants who appeared before me that building condition assessments and structural reviews involved no destructive testing and no removal of finishes. Indeed, some were even reluctant to lift ceiling tiles to examine the structural components.

The photographs taken by NORR Limited (the engineering firm retained by the Ontario Provincial Police to provide expert opinion about the cause of the collapse) demonstrated that, if the finishes had been removed during the inspections carried out at the Mall, inspectors would have been able to observe the conditions behind the walls and the ceilings – and their doing so could have potentially led to the early detection and repair of the problems that ultimately led to the collapse.

All the engineers and consultants who inspected the Mall during its lifetime placed a great deal of reliance on the fact that there were no signs of distress on the finishes (i.e. cracked or stained drywall), thereby failing to discover what lay behind these finishes. In addition, this practice can leave an inspector vulnerable to the actions of an unscrupulous building owner who may take steps before an inspection to hide evidence of problems through cosmetic repairs, masking the true condition of the building.

The PEO recognized the importance of providing guidance to its members when conducting structural inspections of existing buildings. As noted, it issued in November 2012 a Practice Bulletin entitled “Structural Engineering Assessments of Existing Buildings.” Although this bulletin provides best practices for the engineering profession, I consider that it is not sufficient. In order to provide greater certainty to the public, the standard for structural engineering inspections of existing buildings must have force of law. Enacting a Performance Standard for the inspection of existing buildings will assist in attempting to eliminate partial, uninformed, or uninformative inspections and will provide better guidance to engineers and owners on how these inspections should be conducted and what is to be included in the resulting reports.

In its submissions to the Commission and during its participation at the roundtables, the PEO expressed its willingness and desire to transform the Practice Bulletin relating to the structural assessment of existing buildings into a mandatory and legislated Performance Standard.

The following paragraphs refer to the “Structural Adequacy Report.” It is the nature and contents of this report that is to be mandated by the Performance Standard and must include the elements outlined above.

Implementation: The Performance Standard for the inspection should be enacted as a regulation under the authority of s. 7(1)(17) of the *Professional Engineers Act* and as a regulation under ss. 2.7(1)(b.1) and 34(2.1)(b) of the *Building Code*.



Recommendation 1.5

The prescribed structural inspection should be conducted in accordance with the Performance Standard by a structural engineering specialist who has met the Professional Engineers of Ontario (PEO) qualifications and requirements to be so certified.

Rationale: The creation of a structural engineering specialist designation ensures there is a properly qualified structural engineer assessing the structural adequacy of the building.

In the past, members of the PEO had specialities identified on their seals. However, the practice was that the members determined the specialities listed rather than the PEO. I am led to understand that this practice was stopped and specialities no longer appear on the seal of the professional engineer. However, as evidence before this Inquiry has shown, some engineers do currently refer to their specialities and present themselves to members of the public as “structural engineers.” Robert Wood held himself out to the public as a structural engineer. This “self-designation” could lead the public to believe that the engineer in question has had to meet certain official criteria or pass specific exams. That is not currently the case. These self-appointed designations are based on an engineer’s main area of practice and are not granted by the PEO.

British Columbia has a different approach. Following the collapse of the Station Square roof in 1988 (Save-On-Foods in Burnaby), a commission of inquiry was established to determine the cause of the collapse and to make recommendations. One of the recommendations provided that, before structural engineers are registered, their competency should be tested by a special written examination or they should be subjected to additional supervised training, or both.¹³⁴

Since then, the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) established a designation for a structural engineering specialist in that province. The title given to those members who have met the prescribed criteria is designated structural engineer (DSE). In British Columbia, the title “designated structural engineer” is granted to professional engineers who meet the requirements to create and manage the design of a building’s primary structural system. The primary structural system is defined as “the combination of elements which support a building’s self weight and the applicable live load based on occupancy, use and environmental loads such as wind, snow and seismic forces.”¹³⁵ The system which has been established in British Columbia requires that the seal and signature of a DSE appear on all plans and supporting documentation prepared by or under the direct supervision of the DSE and submitted for a building permit application for a Part 3 building (large residential, industrial, commercial, and institutional) as defined by the *BC Building Code*.

In its DSE program, the APEGBC has established that the engineer must meet the following requirements to obtain the title of DSE:

- (a) be a registered engineer in British Columbia;
- (b) demonstrate six years of significant post-graduate structural engineering experience, including two years in responsible charge of significant engineering work by submitting the following information:
 - (i) a chronological list of employers and positions held;
 - (ii) a structural project list specifying the project name, date, and position, as well as identifying the responsibility fulfilled on each project;
 - (iii) detailed information of three projects where the applying engineer acted as the structural engineer of record or has had a significant part of the overall structural engineer's responsibility for the project;
 - (iv) a list of continuing professional development activities.
 - (v) demonstration of a commitment to continuing professional development;
 - (vi) completion of the identified exams listed by the APEGBC; and
 - (vii) successful completion of the BC Codes and Practices examination.¹³⁶

Although continuing professional development (CPD) is not mandatory for engineers in British Columbia, those carrying the designation of DSE are required to complete 150 hours of continuing professional development averaged over each three-year period. This designation may be revoked if the engineer does not meet those targets for three consecutive years.¹³⁷

In order to establish a program for the certification of structural engineering specialists in Ontario, the PEO should determine the qualifications required to obtain the designation as well as establish an application process which would require a professional engineer to demonstrate a level of skills and qualifications showing that all the necessary criteria are met. The application process should also include a set of identified exams which must be completed and passed, similar to the process established by the APEGBC.

The PEO may wish to consult with the APEGBC to obtain assistance and guidance in establishing its own certification program and examination process. This Commission does not possess the means or expertise to expand on corollary issues such as the nature and desirability of transitional measures and grandfathering. Although I am inclined to the view that grandfathering in particular should not be considered, that discussion may be best left to the profession's governance and political realities.

In British Columbia, the role and responsibility to be fulfilled by the DSE applies only to construction and not to structural inspections of existing buildings.¹³⁸ The role and responsibilities to be fulfilled by a certified structural engineering specialist in Ontario should apply to construction projects and to structural inspections of existing buildings, as defined by the Performance Standards to be established in accordance with Recommendation 1.4.

Implementation: This Recommendation should be enacted as a regulation under the authority of s. 7(1)(17) of the *Professional Engineers Act* and a regulation under ss. 2.7(1)(b.1) and 34(2.1)(b) of the *Building Code*. Section 12 of the *Professional Engineers Act* should be amended to ensure that only certified structural engineering specialists, or those acting under their supervision, may carry out structural reviews of existing buildings.

Reports of inspections to ensure compliance with the Minimum Structural Maintenance Standard



Recommendation 1.6

After conducting a structural inspection in accordance with the Professional Engineers of Ontario Performance Standard, the structural engineering specialist should complete a Structural Adequacy Report to determine whether the building meets the Minimum Structural Maintenance Standard and, if it does not, to describe what repairs and maintenance are required in order for the building to meet that standard.

Rationale: At the roundtables, the consensus was that, given the Mall's history and the host of engineering consultants and others who inspected it from time to time for well over 20 years without appreciating or even mentioning the increasing threat to public safety, a fundamental change in approach and documentation was mandated.

During the life of the Mall, the leakage was ignored and never remedied. None of the engineers and consultants who inspected the building appeared to appreciate the effect the observed corrosion could have on its structural integrity and instead appeared to focus mainly on the condition of the concrete. If minimum structural maintenance standards had been in place, the engineers would have had a roadmap to follow which might have ensured that the effect of the corrosion was properly considered during the inspections.

Participants at the roundtables expressed concern over conditions which could potentially exist in a building that has been badly maintained, is underfinanced, and where important repairs have been deferred. In those circumstances, an owner retaining an engineer to perform an inspection as required in Recommendation 1.3 could attempt to find an engineer willing to conclude that the building is in good condition and provide the owner with the positive report sought.¹³⁹ The Structural Adequacy Report (SAR) should be required to determine whether the Minimum Structural Maintenance Standards have been met; if not, the SAR should identify the repairs and maintenance required to meet the standard.

Common to most reports entered into evidence during this Inquiry on the condition of the Mall was the failure to warn the owners that, if repairs were not carried out, further deterioration could lead to a public safety concern or alternatively to the failure of a structural component.

I believe that the presumption made by all the engineers and consultants who inspected the Mall was that no prudent and reasonable owner would allow its building to continue to deteriorate to the point of risking financial loss through the loss of tenants. Unfortunately, as was seen in the evidence presented, not all owners of commercial and publicly accessible buildings will act like the "prudent and reasonable owner." It cannot be assumed that all owners will take the necessary steps to ensure their building is in a proper state of repair.

The SAR must be drafted with the imprudent and unreasonable owner in mind and contain clear and specific warnings of what will occur if the building is not maintained to the Minimum Structural Maintenance Standard. The SAR also needs to provide clear and unambiguous recommendations on how to repair the building in order to bring it into compliance with the minimum standards.

In addition, if during the inspection the structural engineer uncovers something that is or could become unsafe, there should first be a duty to report it to the owner and provide clear and unambiguous directions on how to repair it. If the owner refuses to take timely action and the engineer has identified the condition as something that could endanger public safety, then the structural engineer should have a duty to report the unsafe condition to a higher level – such as the chief building official of the municipality in which the building is located.

Currently, professional engineers in Ontario have a duty to report unsafe conditions or a condition that could be a public safety concern. The failure to report constitutes professional misconduct which could result in disciplinary actions against the engineer.¹⁴⁰ This duty is also noted in the Professional Engineering Practice Guideline. As previously noted, this guideline does not have the force of law.

Implementation: This recommendation should be enacted as a regulation under the authority of s. 7(1)(17) of the *Professional Engineers Act* and as a regulation under ss. 2.7(1)(b.1) and 34(2.1)(b) of the *Building Code*.



Recommendation 1.7

The Structural Adequacy Report should be provided to the owner of the building and simultaneously filed on a publicly accessible registry called the Structural Condition Registry.

I recommend that the province create a publicly accessible registry on which Structural Adequacy Reports may be registered. Such reports could be viewed by members of the public searching online by building address. All members of the public would then be able to learn about the structural adequacy and watertightness of a building and what maintenance and repairs are required to ensure that the building either becomes or continues to be structurally sound.

A publicly accessible registry, the Environmental Site Registry, has already been created by the province to allow registration of environmental reports, called Records of Site Conditions. Such reports, prepared by qualified persons who must possess specified credentials, certify that the concentration of contaminants at the site meet certain standards. They can be viewed by anyone. The registry works in conjunction with statutory and regulatory provisions designed, among other purposes, to provide access to information about land to possible buyers, to regulators, and to the public.¹⁴¹ The registry I recommend being created would share some of the purposes as the Environmental Site Registry and could be created in much the same way.

The registry should be created by the province rather than a municipality because it is more efficient to create one structure than the 414 that would be required if each municipality created its own. Those who use the registry, whether to register or access information, would have to learn only one system. The province has greater resources than do many municipalities. Furthermore, the province has experience with such registries, having created and operated the Environmental Site Registry.

Rationale: The Structural Adequacy Report describes whether the public is safe in the building to which they have access; there is no reason for this information to be secret.

As the evidence I have heard in this Inquiry makes clear, public safety can be a casualty of secrecy.

Owners have a vested interest in not advising potential purchasers about issues with their buildings, because a fully informed and advised purchaser may choose either not to buy or to offer a lower price. This situation led to the owners of the Algo Mall taking active steps to keep secret information about the physical condition of the building and to “sell the problem” to unwitting buyers.

Many of the safeguards in place to prevent such things, including purchasers exercising due diligence before making an irrevocable commitment to buying property, and lenders having inspections done before committing funds to purchasers, are regulated only by the financial interests of those involved. As happened here, that financial interest is sometimes thought to be better served by having a cheaper, and less intrusive, inspection than is required, or by buying property “as is” for a lower price. When this situation occurs, the public can be put at risk.

Public safety is too important to leave to the good intentions of those who own buildings to which the public has access or the public officials who have discretionary authority to ensure that such buildings are safe. As US Supreme Court Justice Louis D. Brandeis famously wrote, “Sunlight is said to be the best of disinfectants.”¹⁴²

Public registration of all these documents would also allow engineers conducting inspections to have access to all relevant earlier reports. This access would, as the evidence has established, help ensure that such reports are supported by all the relevant information. An owner would not be able to sell a building without disclosing what it knew of the building’s structural condition. It would not be able to deal with a problem by selling it on to the next owner without that owner’s knowledge.

There was not agreement among those at the roundtables that the periodic inspection reports, even those which showed no problems, should be posted on a publicly accessible register. Many cited concerns about cost.¹⁴³ The representative of the Association of Municipalities of Ontario said that there should be access to the reports by a prospective purchaser, a professional conducting a subsequent inspection, and the chief building official of the municipality, suggesting that, because the chief building official acted in the interests of the public, public access was not necessary.¹⁴⁴ Brenda Lewis, speaking on behalf of the Ministry of Municipal Affairs and Housing, wondered whether the public would understand the reports even if they were publicly available.¹⁴⁵

Mr. Froebelius said, however, that, if the reports only had to be posted for every building in the province to which the public has access, it was a good idea.¹⁴⁶ Alan Shaw, on behalf of the Ontario Building Officials Association, agreed and said that there was merit to consider making public reports on other sensitive uses and buildings, such as high-rise buildings and condominiums.¹⁴⁷ J. Lorne Braithwaite, the president and chief executive officer of BUILD Toronto and former chair of Ivanhoe Cambridge, owner of 40 shopping malls, agreed that high-rise buildings ought to be included in periodic reviews, with the reports being put on a register.¹⁴⁸ Mr. Sharpe supported making public a report that said that, if repairs were not carried out within a reasonably short timeframe, public safety would be at risk.¹⁴⁹ All acknowledged that any report filed with the government, whether municipal or provincial, would already be accessible under the relevant access to information legislation, subject to narrow exemptions.

I can conceive of no acceptable reason why this information should not be available to the public. There should be no contest between a private right to maximize an owner’s profit by keeping this information secret and the public interest in keeping people safe.

Implementation: By enacting a regulation under s. 7(1)(b.1) of the *Building Code Act* to create a Structural Condition Registry and requiring all Structural Adequacy Reports be filed on it.

Clause 7(1)(b.1) of the *Building Code Act* authorizes the lieutenant governor in council to make regulations “establishing and governing a program to enforce standards prescribed under clause 34(2)(b)” of that Act. I have recommended that the Minimum Structural Maintenance Standard be prescribed under that clause. Creation of a publicly accessible database, and requiring that Structural Adequacy Reports be filed on it, is part of the program I recommend to enforce that standard.



Recommendation 1.8

If the structural engineer concludes that the condition of the building does not meet the Minimum Structural Maintenance Standard, he or she should be required to provide a copy of the Structural Adequacy Report, which must set out the repairs or maintenance required to rectify the situation, to the municipality’s chief building official.

Rationale: The chief building official needs to know which buildings are at risk in his or her municipality.

There is no point in the chief building official having the authority to order repairs or maintenance to make a building comply with the Minimum Structural Maintenance Standard if he or she is not informed of where the problems are.

There was general agreement at the roundtables, however, that it would be counterproductive to require every Structural Adequacy Report to be provided to a chief building official. As Mr. Froebelius said, a building department may not have the resources to go through every report from an annual inspection.¹⁵⁰ Dean Findlay, the immediate past president of the Ontario Building Officials Association and president of the Alliance of Canadian Building Officials, agreed that it would be beneficial for chief building officials to be provided not with all reports, but with reports that show any concerns or potentially unsafe conditions.¹⁵¹

The evidence I heard showed that there were a number of reports from engineers outlining structural concerns which were not provided, or not provided in a timely manner, to the chief building official of the City of Elliot Lake. If they had been, perhaps steps would have been taken more quickly to ensure public safety. I have no doubt that responsible chief building officials would deal with such information appropriately.

Implementation: This requirement should be included in a regulation enacted under s. 7(1)(b.1) of the *Building Code Act*.

Enforcing the Minimum Structural Maintenance Standard



Recommendation 1.9

The chief building official of each municipality should have the authority to issue an order requiring repairs to a building that does not meet the Minimum Structural Maintenance Standard.

Sub-section 15.9(4) of the *Building Code Act* now authorizes an inspector who finds that a building is unsafe to make an order requiring that the owner take the “remedial steps necessary to render the building safe.” The definition of “unsafe” has been described earlier: it is structurally inadequate or faulty for the purpose for which it is used, or in a condition that it could be hazardous to the health or safety of persons. Section 15.10 also authorizes a chief building official to make an order requiring remedial repairs to be carried out “immediately” where an inspector is satisfied that the building poses an “immediate danger to the health or safety of any person.” The Minimum Structural Maintenance Standard that I have recommended goes further – it requires that buildings be maintained in such a way that they will continue to be watertight, structurally sound, and not unsafe for a reasonable period.

Rationale: Preventive maintenance is necessary for public safety.

The evidence led before me showed that engineers provided a number of reports to owners of the Mall that recommended that the roof deck be repaired and maintained in a particular way. Those reports at a minimum implied that, if the work was not done, the structural stability of the building would be affected. Although Elliot Lake’s Property Standards By-law, together with s. 15.2(2) of the *Building Code Act*, did authorize the property standards officer to order that the building be maintained in such a way as to ensure that it was structurally sound and watertight, no such authority exists for buildings located in municipalities without a property standards by-law that includes such a requirement.

The Minimum Structural Maintenance Standard must be enforceable to have validity. I recommend that the enforcement be by the same public officer who now enforces the minimum safety standards set out in ss. 15.9 and 15.10 of the *Building Code Act* – the chief building official of the municipality in which the building in issue is situated.

Ms. Borooah agreed at the policy roundtables that the chief building official should have the power to order repairs where there was no present structural or safety problem but where one would develop if repairs were not done.¹⁵²

Implementation: A regulation should be enacted under s. 7.1(b.1) of the *Building Code Act* authorizing a municipality’s chief building official to make such an order as part of a program to enforce the Minimum Structural Maintenance Standard established by a regulation enacted under s. 34(2)(b) of that Act.



Recommendation 1.10

After receiving a Structural Adequacy Report that describes breaches of the Minimum Structural Maintenance Standard, the chief building official should be required, as soon as practicable but no later than 10 business days after receipt, to determine whether to

- (a) issue an order requiring repair of the building so as to remedy the unsafe condition and the period within which the repairs must be conducted;**
- (b) order that the building be closed; or**
- (c) make no order.**

Rationale: The chief building official must be obliged to make a timely decision about what to do; if there is no such obligation, a decision can get delayed to the detriment of public safety.

The authority of the chief building official to order an owner to undertake repairs to a building must be discretionary. It would be wrong to put in place a system which requires that all repairs recommended by an engineer be made the subject of an Order to Comply by a chief building official. Not all situations may require such an order; in some cases, the owner will voluntarily and rapidly fix the problem. The engineer's report may be mistaken.

The chief building official, however, must not have the discretion to delay deciding what to do. Delaying a decision can, as occurred in Elliot Lake, quickly become equivalent to making no decision. With discretion comes responsibility. The position of chief building official is an important public office. The office holder is an important part of the system that keeps buildings in this province safe, both by ensuring that they are constructed in accordance with the *Building Code* and by ensuring that buildings are not allowed to deteriorate to an unsafe condition. He or she must be responsible for ensuring that decisions which are required are made in a timely manner.

Implementation: This requirement should be included in a regulation enacted under s. 7(1)(b.1) of the *Building Code Act*.



Recommendation 1.11

If the chief building official decides to issue an order requiring repair of a building, in the situation described in Recommendation 1.10, that order, together with written reasons therefor, should be served on the owner of the building and filed on the Structural Condition Registry. If the official decides not to issue an order requiring repair of the building, he or she must issue a written document explaining why no such order is required, and that document should be served on the owner and filed on the Structural Condition Registry.

Rationale: Building owners and the public are entitled to know what decision was made and why it was made.

With responsibility comes accountability. Those who have a discretion as to how they exercise their important statutory responsibility should be required to explain to those affected why a decision was made, and whether that decision was to take action or not. Building owners are entitled to know why they are being forced to undertake what could be expensive repairs. Members of the public, whose safety may be affected by the decision, are entitled to know what is being done and why. This need to know is particularly necessary when the Structural Adequacy Report has been filed on the public register. Members of the public will know what the problem is; they are also entitled to know what is being done about it.

Public release of the decision will also encourage the chief building official to follow up and ensure that any repairs ordered are, in fact, carried out. In Elliot Lake, the public was not told about the 2006 Notice of Violation or the 2009 Order to Remedy, and neither was adequately pursued by City officials.

Implementation: This requirement should be included in a regulation enacted under section 7(1)(b.1) of the *Building Code Act*.



Recommendation 1.12

If the chief building official issues an order requiring repair of the building to bring it into compliance with the Minimum Structural Maintenance Standard, that order should provide a date by which the repair must be completed. If the repair is not completed within that period, the chief building official should have the authority, and should have to decide, whether to

- (a) prohibit the use or occupancy of the building;**
- (b) cause the building to be renovated or repaired or demolished to bring it into compliance with the Minimum Structural Maintenance Standard or take such other action as he or she considers necessary for the protection of the public; or**
- (c) take no further action.**

Municipalities should be required to create and maintain a system which ensures that necessary information about these orders is recorded, maintained, and brought forward at the appropriate time to the relevant officers to ensure that time-sensitive operations are properly performed.

Rationale: Once made, an order to repair cannot be allowed to be ignored.

As the evidence I heard shows, orders are not always enforced. In Elliot Lake, the Notice of Violation issued in October 2006 and the Order to Remedy issued in September 2009 were both effectively ignored in their key provisions. No or inadequate follow-up allowed the leaks to go unfixed and the extent of structural degradation to remain unknown. I heard the explanation that the people in responsible positions had left the employ of the City without adequately briefing their successor in office and the matter “fell through the cracks.”

The *Building Code Act* already allows a municipality to carry out work required under an order issued to an owner who has failed to comply with the provisions of a property standards by-law, or an Order to Remedy an unsafe or emergency situation at the building. The provision I am recommending would extend that power to allow a municipality to undertake, at its own expense (recoverable from the owner), repairs required to bring a building into compliance with the Minimum Structural Maintenance Standard where the owner has failed to do so.

The appropriate thing to do in such circumstances may be to do nothing – in effect, to withdraw the order. But the chief building official should be seen to be explicit and deliberate in making that decision.

This issue was discussed at the roundtables. Mr. Ostfield said that, if an order was issued by a building official and not followed, he or she should have to either close the building down or have the necessary repairs carried out by the municipality; as he put it, the official should not be able to “just close the file and say ‘well, we are not going to do any of them.’”¹⁵³ Mr. Sharpe suggested that, in such a situation, at a minimum there should be a follow-up with a written explanation as to what resulted or why further steps were not taken.¹⁵⁴

Implementation: This requirement and authority should be included in a regulation enacted under s. 7(1)(b.1) of the *Building Code Act*.



Recommendation 1.13

The decision of the chief building official under Recommendation 1.12 should be in writing, served on the owner, and filed on the Structural Condition Registry.

Rationale: Building owners and the public are entitled to know what decision was made and why it was made.

This decision and written reasons therefor should have to be recorded and filed on the Structural Condition Registry for the same reasons as for the chief building official's original order – to ensure knowledge of, and accountability for, the decision that has been made.

Implementation: This requirement should be included in a regulation enacted under s. 7(1)(b.1) of the *Building Code Act*.



Recommendation 1.14

Where the municipality undertakes work under an order as outlined in Recommendation 1.12, the municipality should have a lien on the land for the amount spent on the renovation or repair.

Rationale: This provision would ensure that the building owner and not the taxpayer is ultimately responsible for repairs to private property necessary for public safety and that the costs are borne, to the extent possible, by the owner.

This provision would be consistent with others in the *Building Code Act* which provide that, where a regulatory authority is required to make necessary repairs when the building owner has failed to do so, the owner cannot avoid being ultimately responsible for the cost. The owner has an obligation to keep the building maintained properly. If those who ignored that obligation were allowed to avoid the necessary cost, there would be a disincentive to comply with the law.

Implementation: This requirement should be included in a regulation enacted under s. 7(1)(b.1) of the *Building Code Act*.

Frequency of inspection to determine compliance with the Minimum Structural Maintenance Standard



Recommendation 1.15

A prescribed structural inspection should be required, and the resulting Structural Adequacy Report registered on the Structural Condition Registry, at the following times:

- (a) when a building is sold;**
- (b) when the chief building official of the municipality in which the building is located requires it by an order in writing;**
- (c) when repairs required by an order of the chief building official to bring it into compliance with the Minimum Structural Maintenance Standard are completed; and**
- (d) in any event no later than at a period of time after the last prescribed structural inspection (a time to be established after a report from the advisory panel (see Recommendation 1.16)).**

If a prescribed structural inspection is not carried out and registered on the Structural Condition Registry within an appropriate time, the chief building official of the municipality in which the building is located should be required to have the inspection carried out, and the cost of the inspection should be added to the property tax bill of the building owner.

Rationale: To ensure that information about the structural safety of a building is both up to date and provided at key times so that appropriate action is taken.

As the evidence I heard shows, building owners may choose to withhold information about the structural safety of a building from prospective purchasers. Requiring that a Structural Adequacy Report be provided when a building is sold would ensure that new owners know what problems, if any, exist in the building they have bought so that they may take the necessary steps to ensure public safety. Without such a requirement, new owners may have no reason to doubt the structural sufficiency of the building. When the last owner, Eastwood Mall Inc., bought the Algo Mall, it did so “as is.” It did not have an engineer inspect the building and it was not given the reports that Retirement Living possessed. Bob Nazarian chose to run a business risk by not obtaining his own inspection report – it was his to run. I suggest that putting in peril the safety of the public, exposed to a structurally unsound building, was not a danger he should have been at liberty to circumvent.

The present statutory language allows a property standards official to require “information” from an owner, and order that the owner “take and supply” such tests as are specified in the order, but only for the purpose of an inspection under a property standards by-law or the *Building Code Act*.¹⁵⁵ I recommend that a chief building official be authorized to order, at any time, an inspection by a structural engineer and provision of a Structural Adequacy Report. At the roundtables, Ms. Borooah suggested that building officials should have the power to request a review or report, should they choose to do so.¹⁵⁶

The frequency of Structural Adequacy Reports is addressed by Recommendation 1.16 in this Report. As will be seen, I am of the opinion that buildings should be inspected and reported on only as often as is necessary to protect the public. That will probably vary depending on the nature of the risk, the type of building at issue, and, sometimes, between buildings of the same type.

A report should also be required when any repairs ordered by the chief building official have been completed. This requirement provides the chief building official and the public with the necessary assurance that the problem has been fixed. It also allows members of the public to determine, simply by reviewing the Structural Condition Registry, whether the regulator's order has been complied with. This ability to review the registry would help to prevent a situation similar to the one that occurred in Elliot Lake, where ordered repairs and inspections were not carried out.

There has to be some remedy to deal with situations where a required inspection does not take place. What is required is that an inspection occur, paid for by taxpayers, but with the cost recoverable from the property owner, who has the primary responsibility for obtaining the report.

Implementation: This requirement and authority should be included in a regulation enacted under ss. 7(1)(b.1) and 34(2.1)(b) of the *Building Code Act*.

Clause 34(2.1)(b) of the *Building Code Act* allows the lieutenant governor in council to make regulations "governing the type and manner of inspections that are conducted under a program [established by regulations enacted under s. 7(1)(b.1)] and the frequency of the inspections."



Recommendation 1.16

An advisory panel should be established as soon as possible to determine the appropriate classes of buildings, grouped by risk and the consequences of failure, and to make recommendations no later than 12 months from the release of this Report, on the following:

- (a) which classes of buildings should be given priority for the initial periodic inspection;**
- (b) the time within which each class of buildings should have had an initial periodic inspection; and**
- (c) the appropriate period within which each class of building should be inspected on a periodic basis.**

Rationale: It will take time to inspect all buildings to which these recommendations apply; buildings that put most people at the most risk should be inspected first.

In the ideal world, all buildings should be inspected with sufficient frequency that any risk to public safety would be diminished. In the real world, there exists a large ill-defined inventory of existing buildings. It will take some time to inspect all of them. I have neither the skills, nor the evidence, to determine which types of buildings are most at risk. Clearly, high-risk buildings should be inspected before buildings that pose less potential for endangerment. Not all buildings will have to be inspected with the same frequency following the initial inspections. Some types of buildings, in some types of situations, will be more hazard-prone than others. I propose that a panel of experts, including structural engineers, be created to advise the Government of Ontario, at the earliest opportunity, on an appropriate approach to categorization, so that the necessary regulation can be enacted.

Let me be clear. I am proposing that technical experts be asked to consider these technical questions, develop solutions, and make recommendations. I am not proposing that this panel be composed of “stakeholders” in the normal sense taken from those who will be affected by the proposed inspection program, such as owners. The questions to be answered are technical:

- Which buildings are most at risk? and
- How often do different classes of buildings need to be inspected to ensure that they are safe?

I am not proposing that an advisory group be convened to determine whether such inspections are wise or necessary. In my view, that was the purpose of this Inquiry.

The Algo Mall stood, and leaked, for 33 years. In all that time, despite the basic facts being known to the owners, several professionals retained to inspect the building, and municipal officials and politicians, no inspection of the type I am recommending (the effect of rusting on structural integrity) was undertaken. Mr. Wood was given that task but did not attend to it. I can only conclude, by virtue of their inaction over that 33-year period, that, if those owners, officials, and politicians had been consulted about whether any such inspection ought to have been conducted (and how often), they may well have demurred.

There was broad support at the roundtables for determining the period when a building should be regularly inspected on the basis of expertise on the type of buildings most at risk. Although the representatives of the province did not make many suggestions as to what appropriate recommendations I might make, they did indicate that, if a recommendation was to be made to have periodic inspections, it would be helpful to have an expert determination of the scope of those inspections and their periodicity within a building’s life cycle.¹⁵⁷

Implementation: By seeking technical advice, and ultimately enacting regulations under ss. 7(1)(b.1) and 34(2.1) of the *Building Code Act*.

The amendments to the *Building Code Act* that came into force in 2006 appear to have been designed to allow for just such a program. Paragraph 7(1)(b.1) allows the province to enact regulations “establishing and governing a program to enforce standards prescribed under clause 34(2)(b),” which I have recommended be used to create the maintenance standards I propose. Paragraphs 34(2.1)(a) and (b) allow the province to create regulations governing the “classes of buildings . . . affected by a program” and “the frequency of the inspections.”

Standards for building officials in Ontario municipalities



Recommendation 1.17

The existing standards for training and certification of building officials and inspectors under the *Building Code Act* should be amended to require mandatory continuing education.

Rationale: Chief building officials make important decisions affecting public safety. Licensing simply on the basis of passing examinations appears to be insufficient to ensure that the requisite skills and knowledge are retained, maintained, updated, and applied.

The *Building Code Act* has, since 2002, required that building officials pass examinations in order to be eligible for their positions.¹⁵⁸ At present there is no requirement for work experience, skills-based training, or knowledge maintenance.

The Ontario Building Officials Association proposed at the roundtables that, in addition to the examinations, minimum standards for education, training, and experience be required. The association currently requires that applicants seeking to be certified meet such standards and maintain their certification by meeting minimum maintenance criteria. (Certification is voluntary – it is not required for chief building officials in Ontario.)

The evidence showed that two of Elliot Lake's chief building officials, Syl Allard (2002–2008) and Bruce Ewald (2008–present), had passed the requisite examinations to be appointed as building officials. Nevertheless, they failed to recognize or adequately deal with the potential problem of the incessant leaks at the Mall.

I recommend that the current standards be amended to require mandatory continuing education, at a minimum, for persons occupying those positions. The cost of delivering continuing education programs to remote areas of the province has been significantly reduced with the availability of web-based training. These officials play a crucial role in protecting public safety. They should be given every opportunity to learn and retain the necessary skills and knowledge to be effective in that role.

Implementation: Amend the qualification requirements for chief building officials in the *Building Code* to include mandatory continuing education.



Recommendation 1.18

The *Building Code Act* should be amended to provide that building officials and inspectors are public office holders who are independent of the municipal council, but that it is entirely appropriate for the council or the chief administrative officer of the municipality to direct a concern to the attention of the building official to be dealt with as he or she sees fit.

Rationale: The implementation of this recommendation would ensure that chief building officials are not influenced to treat certain building owners more leniently as a result of perceived or actual pressure from council.

I have concluded that Syl Allard and Bruce Ewald, Elliot Lake's chief building officials between 2002 and the time of the collapse, failed to adequately enforce the Property Standards By-law because of a perception that the mayor and council wanted to avoid taking any action that had the potential to close down the Mall. This situation is entirely inappropriate. Chief building officials should be free to exercise the responsibility with which they are charged in the way that they believe is appropriate, subject only to the obligation to actually make the decisions they are required to make, explain why they have decided in that way, and follow through on what they have decided.

At the same time, however, it is completely appropriate for a municipal council or the chief administrative officer to ask a chief building official to consider a situation and determine what steps, if any, should be taken as a result.

Mr. Ewald was not entirely clear about his view of the propriety of such an action. He testified that he considered it "very unusual" that council had involved itself to the extent it did in 2006 at the time of the Notice of Violation and that he thought it was inappropriate for council to direct a property standards officer to issue an order requiring that a building be brought into compliance with a property standards by-law.¹⁵⁹

There is judicial authority for the proposition that the chief building official is independent of the municipality and bound in law to perform his or her duties entirely independent of any direction or recommendation the municipality may seek to give.¹⁶⁰ However, it is not inappropriate for the chief building official to consult with other officials in the municipality, so long as he or she does not take direction or instruction from them. The problem arises when, as the Court of Appeal has said, those consultations become "interference rather than advice."¹⁶¹

Despite this judicial authority, it may be of assistance to both the public and to chief building officials if the statute is clear, unequivocal, and explicit.

Implementation: By statutory amendment to the *Building Code Act*.

The sharing of reports concerning structural capacity, watertightness, and public safety of buildings



Recommendation 1.19

Owners of a building should be required to keep copies, located electronically or physically in a place other than that of the building itself, of all reports that have been prepared by a professional (professional engineer or architect) about the structural capacity, watertightness, or safety of the building or about any repairs, maintenance, or other remedial action required or performed that relate to the structural capacity, watertightness, or safety of the building (required reports) and provide them to

- (a) any purchaser or other person acquiring an ownership interest in the building, at or before the time of the transfer of title (contracting out of this obligation should not be permitted);**
- (b) any person, on request, conducting any inspection, assessment, repair, or renovation of the building pursuant to statutory authority or with the permission of the owner; and**
- (c) the municipality at the time of application for a building permit in respect of a portion of the building to which the required reports relate.**

Rationale: Public safety is protected if building owners, professionals retained to conduct subsequent inspections, and building officials determining whether to issue a building permit all have as much information as possible about the structural condition of the building.

In the 20 years that Algocen owned the Mall, the building was inspected by Trow Consulting Engineers three times, resulting in three reports:

- (a) Trow's first report, in 1991, stated that the design of the parking deck was inappropriate for achieving a watertight condition and recommended either applying a waterproof membrane or removing the concrete and replacing it with a waterproof asphalt-based overlay. If neither procedure was done, the leakage would continue and the deterioration would increase over time. Trow recommended that repairs be carried out as soon as possible to maintain the structural integrity of the slab.¹⁶² Despite being asked, Trow did not provide its opinion on the long-term effects of water on the structural integrity of the building, and Algocen did not follow up.¹⁶³

- (b) In preparing the second report (1994), on the building's future structural integrity, Trow advised Algocen that there was no structural problem "yet" but that the corrosion seen would accelerate exponentially if the leakage was not treated.¹⁶⁴ Algocen did not change its approach.¹⁶⁵ The second report noted rusted steel beams and recommended structural analysis to determine the capacity of the roof slab and discuss various options for waterproofing the deck. It noted that water and salt penetration through joints would cause deterioration of the concrete and steel beams and a likely gradual increase in the amount of concrete debonding on the roof, thus becoming a structural concern.¹⁶⁶ Despite this concern, the actual load capacity following the years of water infiltration was never the subject of an engineering report.¹⁶⁷
- (c) The third report, in 1995, recommended the installation of a thin membrane waterproofing system.¹⁶⁸ This system was never installed.¹⁶⁹

In 1996, Trow recommended spot-checking structural steel connections and carrying out welding inspections. Algocen did not do so, nor did it ask any other engineer to provide an opinion on the effect of the water or the likely life of the leaking deck.¹⁷⁰

Algocen never told the City about its concerns regarding the long-term structural integrity of the parking deck and did not provide any of the Trow reports.¹⁷¹ Fred Bauthus, the City's chief administrative officer for a number of years, testified that such reports would have been beneficial to the City in order to exercise its regulatory authority.¹⁷²

When Retirement Living was considering whether to buy the building in 1998 and 1999, it retained the architectural firm Nicholls Yallowega Bélanger and the engineering firm Halsall Associates to inspect the building and provide a general assessment of building elements, including the rooftop parking structure. None of the Trow reports was given to these consultants, who all testified they would have helped their work.¹⁷³

The reports the two firms provided to Retirement Living in November 1998 noted there was significant potential for structural damage to have been caused by the many years of ingress of salty water. They recommended further analysis to determine the extent of damage to the building's structure.¹⁷⁴ None of these reports were provided to the City until 2007. I have concluded that the reports were not provided to the directors of Retirement Living when they were considering whether to purchase the Mall. Instead, they were advised by management that the building was "structurally sound."

Before Retirement Living made its final decision to close the purchase from Algocen in the spring of 1999, it received a second report from Halsall, which noted that the corrosion of the steel support beams was minor. It provided this report to the City only in 2007, and the owners continued to treat the leaks with the same maintenance program that had been used since the Mall was opened in 1979.

Paul Officer, Syl Allard, and Bruce Ewald, Elliot Lake's successive chief building officials from 2000 to the time of the collapse, testified that they did not know of the long history of leaks at the Mall before July or October 2006. Mr. Allard and Roger Pigeau, the chief building official from 1980 to 1999, testified that, if they had seen the Trow reports when they were prepared, they would have taken some action.¹⁷⁵

When Retirement Living sold the Mall to Eastwood in 2005, it did not provide Eastwood with any consultant report. Eastwood did not retain an architect or an engineer to inspect the Mall to report on its physical state before closing the purchase.

The engineering firm Construction Control Inc. was retained by the Royal Bank of Canada, Eastwood's lender, to conduct a condition survey, prepare a condition report, and make recommendations regarding the repair work required. The firm was not provided with any prior consultant reports. The technologist who conducted the inspection along with a professional engineer (not a structural engineer) testified that the firm had been retained to conduct only a visual inspection, with no destructive testing. He said he was told by the Retirement Living employee accompanying him on the inspection that the deck was watertight. The report noted no sign of leaks, such as water-damaged ceiling finishes; had he seen evidence of water damage, he would have recommended additional investigation work. He also testified that if he had seen the Trow or Halsall reports, he would have known there had been a significant leaking problem for the previous 25 years.

If all prior engineering reports dealing with the structural condition of the building had to be shared in the manner I have recommended, then Retirement Living and Eastwood would have known about the serious potential structural issues the building was facing. The engineers they retained would have had the same information and, from the evidence I heard, this knowledge could well have affected the tests they performed and the advice they gave. The chief building official of Elliot Lake would have been provided with those reports when Eastwood applied for a building permit in June 2008. The evidence of at least two former building officials at the City is that, if such information had been available to them, it would have made a difference to the actions they took.

The Professional Engineers of Ontario, in its Practice Bulletin issued after the collapse of the Mall, recommended that engineers conducting a review of an existing building obtain access to copies of prior building assessments as well as maintenance and repair records of buildings being assessed.

The Commission's policy roundtables included discussion about whether prior engineering reports should be widely shared. Ms. Borooah said that the City of Toronto thinks it is useful for purchasers to have information about municipal orders and outstanding matters with the municipality. She noted, however, that this service is a "diminishing business" because purchasers are increasingly relying on title insurance and not requesting information about outstanding municipal issues such as work orders. She agreed that, in principle, the City would benefit from having as much information as possible about the structural condition of the building required to be passed on to purchasers from vendors.¹⁷⁶ Mr. Braithwaite was of the view that requiring this information to be provided to subsequent purchasers would "improve the operation of the marketplace" and also benefit the public because otherwise that information is not going to be available.¹⁷⁷ Mr. Froebelius agreed that this information should be passed on, as long as it was limited to reports dealing with structural and public safety issues (as is my recommendation).¹⁷⁸

Implementation: Implementation of this recommendation would require a statutory amendment. This requirement would not appear to come within the language in the *Building Code Act*, which authorizes the lieutenant governor in council to establish standards for the maintenance and repair of buildings; to establish and govern a program to enforce such standards; or to govern the classes of buildings and the frequency, type, and manner of inspections conducted under such a program.



Recommendation 1.20

Any person transferring an ownership interest in a building to which the public or employees have access should be required to provide to the purchaser an affidavit in which an authorized person deposes that:

- (a) the owner has disclosed all required professional reports that have been prepared and provided while the building has been owned by the present owner and that were provided to the owner at or before the time title was taken;**
- (b) the owner has made best efforts to obtain all such reports in respect of the property; and**
- (c) the owner is not aware of any professional reports with respect to the building that relate to structural condition, watertightness, or public safety that have not been disclosed to the purchaser.**

Rationale: Public safety will be better protected if disclosure to subsequent owners about the building's condition is as complete as possible.

This practice is another way of ensuring that, to as great an extent as possible, subsequent purchasers of buildings are provided with as much technical information as possible by the previous owner. This requirement would prevent the practice of an owner keeping secret a building's structural defects and selling the problem on to an unwitting purchaser, who is then handicapped in his or her ability to protect public safety.

Implementation: Implementing this recommendation would require a statutory enactment.



Recommendation 1.21

Professional engineers and architects should be required, on request, to make available any records in their possession or control related to the structural integrity of a building to

- (a) any professional engineer or architect conducting an inspection or assessment on behalf of the owner or with the owner's permission;**
- (b) a prospective purchaser of the building or a professional engineer or architect conducting an inspection or assessment of the building on the prospective purchaser's behalf;**
- (c) a chief building official or an inspector under the *Building Code Act*; and**
- (d) an inspector under the *Occupational Health and Safety Act* in respect of a building that is a place of work to which the Act applies.**

Rationale: The engineers who testified before me acknowledged, as I have indicated above, that their work would have been facilitated with knowledge of prior reports and investigations.

Implementation: By enactment of a Performance Standard by the Professional Engineers of Ontario under s. 7(1) of the *Professional Engineers Act* requiring that such reports be retained and provided by professional engineers to the specified persons in the circumstances described.

Municipal record-keeping about complaints of structural issues related to buildings



Recommendation 1.22

Municipalities should be required to keep a record, listed by municipal address, of every complaint received by a municipal official of a breach of a property standards by-law, the regulations of the *Building Code Act*, or the *Building Code* that relates to the structural capacity, watertightness, or safety of a building, whether that complaint was received in writing or not. This record should be of the action taken by the municipality and the remedial action taken by the owner and should be in electronic form and easily accessed by any member of the public.

Rationale: Accessibility of records ensures accountability of those entrusted with public safety; accountability enhances responsible decisions.

The City of Elliot Lake has a property standards by-law that had, in its relevant sections, been consistent from the time that the Algo Mall was built. It required that

[e]very part of a building shall be maintained in a structurally sound condition and so as to be capable of sustaining safely its own weight and any load to which it may normally be subjected.

and that

[t]he roof of a building shall be maintained in a watertight condition so as to prevent leakage of water into the building, and where necessary, shall be maintained by the repair of the roof and flashing or by applying waterproof coatings or coverings.¹⁷⁹

As discussed earlier, the City of Elliot Lake did not require that the chief building official (who was also the property standards officer) conduct any inspections of buildings in the city after the occupancy permit had been issued, unless a building permit had been applied for. The City formally adopted a complaint-driven policy by City Council resolution in 1995. Even when complaints were made, however, they did not result in an inspection.

Where a municipality has decided that it will generally enforce such a by-law only when a complaint is made, it should be required to put into place a system that requires all such complaints, or at least those complaints that relate to structural capacity, watertightness, and public safety, to be directed to the property standards officer so that he or she can decide what to do about the complaint. The officer should be required to decide what, if anything, to do – whether to investigate; whether, following investigation, to take further steps, including making an order; and whether to take any follow-up actions as a result of those further steps. The fact of the complaint, and the decision(s) of the property standards officer about the complaint, should be recorded on a publicly accessible database. This record should be made whether or not a complaint is in writing, and whether or not it is made to the “right” office. Members of the public should not be required to understand the structure of the bureaucracy or the necessity to put their complaints about public safety of buildings in writing.

Requiring such decisions to be put in writing on a database easily accessible to the public will accomplish two things. It will ensure that the official actually exercises discretion by a conscious decision, and it will allow the public to keep their civic officials accountable for their action (or inaction). Public safety is indisputably the public’s business; there is no justification for not letting members of the public know what decisions are being made (or not made) that will affect their safety.

Perhaps the best example I heard, to explain the necessity for such a public database, came from the evidence about the piece of concrete that fell from Hungry Jack’s restaurant in the Mall. The owner of the restaurant told Councillor Al Collett about it, who in turn told Bruce Ewald, the chief building official. Mr. Ewald did not investigate because it was his practice to ask councillors, in such cases, to have the complainant contact him directly and that did not happen. He testified that he said to Councillor Collett: “What do you want me to do, Al, close down the mall?”¹⁸⁰ I believe that, if he had been required to make a public record of such a complaint and to record what he did (or did not do) and why, it is very likely that he would have investigated and would not have made a decision to do nothing – a decision based on the perceived problems about closing down the Mall.

A similar provision should govern complaints to a municipal official about breaches of the Minimum Structural Maintenance Standard that I have recommended be enacted.

Implementation: By including this requirement in the regulation to be enacted under s. 7(1)(b.1) of the *Building Code Act* for complaints of breaches of the Minimum Structural Maintenance Standard; and by enacting amendments to the *Building Code Act* for complaints of breaches of property standards by-laws in respect of the structural capacity, watertightness, or safety of a building.

The regulation of the engineering and architecture professions



Recommendation 1.23

The Professional Engineers of Ontario should issue a clear direction to its members that the contents of an engineering report, or draft report, including a Structural Adequacy Report, should not be altered simply because the client requests that it be changed. Rather, any alteration of an engineering report, or draft report, should be based on sound engineering principles or changed facts.

Rationale: The evidence at the Inquiry indicated that, before finalizing their reports, engineers often sent drafts to the client for comments. There is both a natural and an economic instinct to please the client, but there must be limits.

An extreme case is that of Robert Wood, an engineer with M.R. Wright and Associates. While his licence was suspended, he conducted an inspection of the Mall on April 12, 2012, under the supervision of his colleague, Gregory Saunders. Mr. Wood sent several drafts of his report, including photographs, to the owner at the time, Bob Nazarian. At the request of Mr. Nazarian and without the knowledge of Mr. Saunders, Mr. Wood deleted certain written content and photographs to make the building look better to the potential lenders than it otherwise would have appeared. The value of an independent consultant's report that is provided by the client to third parties is directly related to the consultant's independence. Lenders, insurers, regulators, and others who are given these reports rely on them because they presumably represent an independent, non-biased review of the situation. If the consultant's report can be changed by the client so that the consultant's opinion is affected, or if the building's condition is presented in a more favourable light than the consultant originally intended, it gives a false impression of the consultant's opinion.

The courts have, in the past few years, expressed concern about expert reports submitted in evidence and have taken steps to ensure that expert witnesses are independent of the party retaining them. This initiative has been taken so that the courts can confidently rely on the independence and integrity of expert witnesses. The same can be said for the purpose and reason of this recommendation. It is necessary to provide transparency and to ensure that engineers remain neutral and independent when carrying out an inspection and preparing a Structural Adequacy Report. An engineer who agrees to change the content of a report at the request of a client vitiates that transparency, neutrality, and independence.

I am unable to comment on whether changing reports at the request of a client is a widespread and accepted practice in the industry, or whether only a limited few are engaging in this practice. Whatever the answer, it is a practice that must stop. I want to be clear that the alterations are not those related to grammatical errors, typographical mistakes, or incorrectly stated verifiable facts, but rather are changes requested by a client that serve to alter the findings or conclusions contained in the report or attempt to soften and weaken the language to make the report more attractive to a third party.

Having a clear direction enacted as a regulation will help clarify any confusion over the altering of reports and it will also give engineers a regulation to point to as having the force of law if an owner continues to insist on changes.

Implementation: This recommendation should be enacted as a Performance Standard under the authority of s. 7(1)(17) of the *Professional Engineers Act*.



Recommendation 1.24

The Professional Engineers of Ontario (PEO) should establish a system of mandatory continuing professional education for its members as soon as possible, and in any event no later than 18 months from the release of this Report.

The goals of the mandatory professional development program to be established by the PEO should include:

- (a) enabling members to maintain their competence;
- (b) enabling members to expand and gain greater expertise and competence in their areas of practice through the provision of courses related to specific disciplines (e.g., concrete and corrosion for structural engineers); and
- (c) providing graduate engineers the opportunity to acquire the additional non-technical skills necessary to become a professional member.

The professional development program should include programs focused on

- (a) the ongoing acquisition of knowledge, skills, and attitudes that increase the effectiveness, competence, and expertise of the engineer;
- (b) mentoring programs to provide the transfer of skills from more experienced members to less experienced ones; and
- (c) ethics and professionalism.

The program should establish a minimum number of hours to be completed, with an obligation for the engineers to report annually on their continuing professional development (CPD) activities to the PEO.

The PEO should consider whether contributions to knowledge will be recognized as fulfilling the CPD requirements. Contributions to knowledge could include:

- (a) drafts of codes and standards for publication;
- (b) publications of papers in peer-reviewed technical journals; or
- (c) publication of a book.

Rationale: Building science engineering is a constantly changing and evolving field. It is a self-regulated profession, and continuing education is therefore essential to ensure that an engineer's knowledge is kept current.

As Professor Jag Humar of Carleton University explained during the policy roundtables:

[U]ndergraduate education in engineering is directed at providing problem solving skills and to cover a wide variety of activities a civil engineer needs. There is just not enough time to deal with many specialized subjects. In that context ... continuing education is all the more important, especially for people who are engaged in inspection of buildings, structural sufficiency review, they should definitely have the opportunity to study corrosion and its implications at least at a basic level and if possible at an advanced level.¹⁸¹

The PEO does not at this time have a mandatory continuing education program. According to the professionals who attended the roundtables, Ontario and British Columbia are the only provinces that do not have mandatory programs; the remaining eight provinces do.¹⁸² In British Columbia, compliance with the continuing education program is recommended. However, it is not mandatory unless the engineer is a “designated structural engineer,” in which case minimum continuing professional development requirements must be met, or else the designation could be revoked.

According to the information provided at the roundtables, the Ontario Architects Association has had a mandatory continuing education program in place for well over a decade.¹⁸³

The professional engineers in Ontario shoulder the heavy burden of protecting the health, safety, and welfare of the public; they are reminded of this burden by the iron ring worn on the little finger of their working hand. Mandatory continuing professional development is common in many professions. In the interest of protecting the health and safety of the public, it is, I believe, essential that professional engineers engage in continuing education.

It was the consensus at the roundtables, whose participants included members of the PEO and the Ontario Society of Professional Engineers (OSPE), that such a program should be adopted. I heard from the OSPE that it currently has a proposal for a mandatory continuing education program before the PEO. According to the OSPE, its proposal is based on the features of other provincial programs that would best suit an Ontario program. The final decision will be made by the PEO because it is the regulator.¹⁸⁴

Based on the evidence I have heard, it is clear that professional engineers would benefit from the adoption of mandatory continuing education programs as soon as possible. The format of the program and the courses offered must accommodate those engineers who work in small centres without ready access to professional development programming. The PEO must ensure that live streaming is offered to ensure fair and equal access to those located outside major centres. Electronic media now make the delivery of many of those programs practical and affordable.

Implementation: The mandatory continuing professional education program for professional engineers should be enacted as a regulation under the authority of s. 7(1)(27) of the *Professional Engineers Act*.



Recommendation 1.25

Members of the Professional Engineers of Ontario (PEO) should directly and promptly advise clients (past and present) of any suspensions or revocations of their licences, and the reasons therefor, that arise out of disciplinary actions resulting from

- (a) errors in design;**
- (b) errors in calculations;**
- (c) failure to properly inspect;**
- (d) failure to report an unsafe condition;**
- (e) failure to comply with the requirements of the Structural Adequacy Report; and**
- (f) any and all matters that had a direct or indirect effect on the structural stability of a building or put the health, safety, and welfare of the public at risk.**

Rationale: Clients would be able to protect their own interests (and, thereby, public safety) if a suspended member is acting or has acted for them. In the case of former clients, they may be concerned that previous work done by the member without incident should be checked if relevant competence was the issue in the later suspension. There is currently no statutory obligation on a member to inform a client of a licence suspension.

In its submissions on the roundtables, the PEO appeared to be of the opinion that the intent of this recommendation would be addressed through the changes being made to its website that will allow the public and potential clients to easily inform themselves of the discipline history of professional engineers in Ontario. The PEO is of the view that these changes will enhance accessibility of information and help the organization achieve a level of transparency.¹⁸⁵

I disagree. The current and proposed changes to the PEO website will be insufficient to address the issues sought to be remedied by this recommendation. The position of the PEO assumes a sophisticated and proactive client, who will seek out information on the status of a licensee. This expectation is unrealistic and puts the burden on the client to confirm that the engineer hired to inspect a building or perform some other type of work is properly licensed to do so.

The burden should be placed squarely on the shoulders of the engineers. The *Professional Engineers Act* allows a suspended engineer to continue to work as a “graduate engineer,” provided that he or she is supervised by a properly licensed and qualified engineer. This rule allowed Mr. Wood to continue to provide engineering services long after he had been suspended. Since a client may not know about this rule, I believe it should, therefore, be the responsibility of the engineer to notify a client of a suspension or revocation. The client should not bear the burden of making these inquiries.

The participants at the roundtables did not agree with this recommendation when it was discussed. I acknowledge that some of their concerns related to suspensions arising out of administrative matters. In recognition of those concerns, I believe that the requirement to advise past clients of suspensions and revocations should apply to those suspensions and revocations which arise out of disciplinary actions due to the errors or failures listed in the recommendation.

This requirement will give clients whose buildings were designed or reviewed by an engineer whose licence has been suspended or revoked the opportunity to have the work reviewed by another engineer to ensure that it is compliant with all necessary codes and meets all required standards.

Implementation: This recommendation should be enacted as regulations under s. 7(1)(17) of the *Professional Engineers Act* and ss. 7(1)(b.1) and 34(2.1)(b) of the *Building Code Act*.



Recommendation 1.26

The Professional Engineers of Ontario (PEO) should provide, for the benefit of the public, the following information on its public website in a format readily and easily searchable by the name of the PEO member:

- (a) the name of every licensee and every holder of a certificate of authorization;
- (b) the terms, conditions, and limitations attached to the licence or certificate of authorization;
- (c) a note of every revocation, suspension, cancellation, or termination of a licence or certificate of authorization;
- (d) information concerning upcoming Discipline Committee hearings, where a Notice of Hearing has been issued;
- (e) information concerning any findings of professional misconduct or incompetence, for a period of 10 years from the date of the finding(s), so long as the Discipline Committee had ordered publication with names; and
- (f) such other information as the Registration Committee or Discipline Committee directs.

Rationale: Public safety requires that the public be aware of the discipline history of engineers because that information could influence hiring decisions.

The PEO confirmed that by the time of its submissions to the roundtable in November 2013, it was possible to determine from its website (through diligent searching) whether a professional engineer's licence was currently suspended or revoked. However, information concerning licence terms, conditions, or limitations was still not posted on the website.¹⁸⁶

Furthermore, the *Professional Engineers Act* allows the Discipline Committee, which determines allegations of unprofessional behaviour, to direct that its decision may be published without including the name of the member involved.¹⁸⁷

The public websites of other self-regulating professional bodies in the province include the disciplinary history of their members. The members of any profession covered by the *Health Professions Act, 1991* (physicians, dentists, nurses, pharmacists, psychologists, optometrists, opticians, physiotherapists, and massage therapists) are included,¹⁸⁸ as are lawyers, teachers, and real estate and business brokers.

The evidence before the Commission was that few people knew of the professional status of Mr. Wood at the time of his final inspection or of the revocation of John Kadlec's engineering licence after the Mall had been constructed.¹⁸⁹ It is in the public interest that information such as the status of PEO members and their disciplinary history be readily available on the PEO website.¹⁹⁰

In its roundtable submissions, the PEO indicated that it had already put in place certain changes to make the disciplinary information of its engineers readily accessible to the public. However, a current review of the website reveals that this information is still difficult to locate and requires members of the public to click on additional links to find the relevant information about the status of an engineer's licence. This information should be immediately available once the name of the engineer in question has been entered into the search engine, without the need to click on additional links.

The PEO continues to allow its members to request that their profile data not be disclosed publicly on its website. This practice results in an engineer still being listed in the directory as a member, with no information on the status of that engineer's licence. This practice must stop. The PEO should no longer allow its members to request that their information be withheld. All members of the PEO should have all their information available for easy access by the public, including disciplinary history, the current status of their licence, their area of practice, their fields of expertise, their education, and their current employment information.

Implementation: The Registration Committee of the Professional Engineers of Ontario (PEO) should direct, under s. 21(1) of the *Professional Engineers Act*, that the information to be contained in the registers of licensees include the following information: disciplinary history, current status of licence, area of practice, field(s) of expertise, education, and current employment information. The PEO should make all that information easily available on its website. Paragraph 28(4)(i) of the PEA should be amended to remove the discretion of the Discipline Committee to direct that its decisions not be published or published without reference to the identity of the engineer involved.



Recommendation 1.27

For the construction of any buildings requiring the services of more than one professional consultant, either a professional engineer or an architect should be designated by the owner or the owner's agent as the prime consultant to perform the roles and responsibilities of that position, as defined by one or the other or both of the Professional Engineers of Ontario (PEO) and the Ontario Association of Architects (OAA).

Rationale: Although the term “prime consultant” appears in both the *Ontario Professional Engineers Act* (s. 12(6)(8)) and the *Ontario Architects Act* (s.11(4)(8)), it has not been defined in either legislation. Nonetheless, it was generally agreed at the roundtable that the role of the prime consultant is one of coordination of all the various professional disciplines involved so as to avoid mistakes and gaps among those disciplines and to achieve a cohesive design. All participants agreed that that role is critical to public safety.

The role and responsibilities of the prime consultant are not defined by statute or regulation; they are, however, typically set out in the contractual documents for the project. This reality creates a power imbalance in favour of the owner in setting the terms of the contracts. It also allows the owner to limit the role and responsibilities of the prime consultant or even to opt out of retaining a prime consultant altogether. As we have seen, limiting – or, worse, forgoing – the coordination role may have serious consequences for the project and for public safety.

The relevance of these recommendations to my mandate arises from evidence that revealed there was no professional engineer or architect retained in the role of prime consultant, responsible for the coordination of the design and construction of the Mall in 1979–80. Following the inspection by Trow engineers of parts of the Mall structure in 1991, the firm reported: “It is our opinion that the design used for the roof slab is inappropriate in achieving a watertight condition over commercial areas.”¹⁹¹ Had there been a prime consultant designated at the time of the design and construction, the inappropriate design would likely have been rejected and years of water leakage leading to the collapse might have been avoided.

Currently some municipalities in Ontario (such as Ottawa, Mississauga, Halton Hills, Barrie, and Toronto) require that owners applying for a building permit to construct a building similar to the Mall complete and provide a Commitment to General Reviews by Architect and Engineers. Although these forms differ slightly from one municipality to the next, they require that the owner warrant that

- (a) an architect and/or professional engineer has been retained to provide general reviews of the construction;
- (b) all general review reports will be provided promptly to the chief building official; and
- (c) in the event the architect or professional engineer ceases to provide general reviews during construction, the chief building official will be notified immediately, and another architect or engineer will be appointed.

In addition to the undertaking given by the owner, the architect and/or professional engineers from each of the disciplines involved in the project are required to certify to the municipality at the building permit application stage that they have been retained to provide general reviews in accordance with the Performance Standards of the Ontario Association of Architects and/or the Professional Engineers of Ontario. The engineering disciplines required to sign the form include structural, mechanical, electrical, and site services. As noted, the Confirmation of Commitment Forms required to be submitted at the building permit application stage are not consistent from one municipality to the next and do not require that one professional (architect or engineer) take responsibility for the coordination and performance of the general reviews prepared by the various professionals. Also missing from the current requirements is the need for a single engineer or architect to be retained to oversee the coordination and completion of the work of all the professionals retained for the completion of the project.

The Confirmation of Commitment Form is prescribed by those municipalities choosing to implement such a requirement and is enforced through their respective building by-laws. These forms and their contents are not mandated by the *Building Code*. The Code does, however, require the completion of general reviews of the construction of certain categories of buildings, such as the Mall.

The PEO and the OAA agreed at the roundtables that a single coordinating professional should be required to oversee the construction in general and the coordination and performance of the general reviews by the various professionals. They also agreed that an engineer or architect should fill the role of coordinating professional. It was generally agreed that a definition of the role and responsibilities of the prime consultant should be enunciated by the PEO or the OAA, or both organizations, and enacted by a regulation under the relevant provisions of their respective Acts. To do so would bind professional engineers and architects as prime consultants to professional Performance Standards that have the force of law, the breach of which is subject to discipline.

It would also be necessary to bind the owner or the client to the requirement of retaining a single coordinating professional for a project. The consensus of the participants at the roundtables was that, to do so, the *Building Code* should be amended to specify that buildings to which this recommendation applies, requiring the services of more than one professional consultant, shall retain a prime consultant who would be either a professional engineer or an architect.

The participants at the roundtables felt that there is no magic in what the coordinating role is called – be it prime consultant, coordinating consultant, or something else – and I agree. However, the term “prime consultant” is already in the *Professional Engineers Act* (section 12 (6)(8)) and the *Ontario Architects Act* (section 11 (4)(8)), and there would appear to be no reason to change the title.

In British Columbia, the *Building Code* prescribes that Letters of Assurance (LoA), that province’s term for Confirmation of Commitment Forms, are required for the construction of certain categories of buildings. In accordance with the provisions of the BC *Building Code*, LoA are required for the construction of a mall.¹⁹²

The LoA system set out in the BC *Building Code* has been jointly endorsed by the Architectural Institute of British Columbia and the Association of Professional Engineers and Geoscientists of British Columbia. The LoA system can be briefly summarized as follows:

Letters of Assurance are legal accountability documents that are required under the BCBC [BC *Building Code*] 2006, intended to clearly identify the responsibilities of key players in a construction project. Uniform, mandatory Letters of Assurance have been included as Schedules in the BC Building Code since December 1992.¹⁹³

The inspiration for the LoA system established in British Columbia was, to a large extent, the collapse of part of the roof structure at the Station Square Mall in Burnaby on April 23, 1988.

Under the LoA system, the prime consultant role is called the coordinating registered professional. The BC *Building Code* requires the submission of the following four specific Letters of Assurance on a project:

- (a) “Confirmation of Commitment by Owner and Coordinating Registered Professional” – This form must be submitted prior to the issuance of the building permit and requires the owner to confirm the identity of the Coordinating Registered Professional retained for the project and that the Coordinating Registered Professional will coordinate the design work and field reviews. The Coordinating Registered Professional is also required to sign the form;
- (b) “Assurance of Professional Design and Commitment for Field Review” – This form must be submitted prior to the commencement of the construction activities and requires that the Coordinating Registered Professional provide assurances that the design of the referenced components (i.e., structural, electrical, geotechnical, etc.) involved in the project substantially comply with the BCBC and other applicable legislation. The form also provides that the Coordinating Registered Professional undertakes to be responsible for field reviews of the referenced components during construction;

- (c) “Assurance of Coordination of Professional Field Review” – This form is to be submitted after the completion of the project but before the occupancy permit is issued and requires that the Coordinating Registered Professional provide assurances that it has fulfilled all of its obligations in accordance with the relevant provisions of the B.C. *Building Code*; and
- (d) “Assurance of Professional Field Review and Compliance” – This form is to be completed and submitted by each of the professionals involved in the project (i.e., architect, structural engineer, mechanical engineer, electrical engineer, etc.) and requires that they each provide assurances that they have fulfilled their respective obligations in accordance with the relevant provisions of the B.C. *Building Code*.

The codification in the Ontario *Building Code* of an LoA system similar to what currently exists in British Columbia would make retaining a prime consultant mandatory in all municipalities and expand on the requirements that have already been implemented in municipalities through their respective building by-laws. An LoA system would require that all the professionals sign Letters of Assurance, setting out what they intend to do, before the construction begins; and sign further Letters of Assurance after the completion of the construction, confirming they did what they said they would do.

During the construction of the Mall, no professional fulfilled the role of prime consultant. A number of the professionals who testified before me stated that there was a lack of coordination in the construction drawings – most notably, that the structural drawings showed insulation between the concrete topping and the hollow core slabs and the architectural drawings showed the insulation under the hollow core slabs. In addition, because no one had taken on the role of prime consultant, no review was performed to determine how the waterproofing system used for the rooftop parking (the Harry S. Peterson waterproofing system) would interact with the hollow core slabs and the steel structure; or if such an application was appropriate, taking into consideration the harsh winter weather in Elliot Lake and the fact that this system had never been used on hollow core slabs before its proposed use in Elliot Lake.

Furthermore, because of the lack of a prime consultant, no one undertook a full review of the shop drawings and compared them to the requirements set out in the architectural and structural drawings. If such a review had been undertaken by a single professional in the role of prime consultant, the fact that the hollow core slabs adjacent to the Hotel did not have the requisite strength to carry the design load of 130 pounds per square foot (psf) would have been noted, and the question of whether the concrete topping was required to achieve the specified load of 120 psf on the rest of the parking deck would have been properly addressed and rectified, if necessary, at the time of construction. Although a certificate of substantial completion was signed by the architect and the structural engineer on the project, the evidence indicated that no professional performed the general review required by the *Building Code* at the time the Mall was constructed. This situation would not have occurred if a prime consultant, with a mandate outlined in the *Building Code*, had been required and retained.

Implementation: The role and responsibilities of the prime consultant should be enacted as a regulation by one or the other or both the Professional Engineers of Ontario and the Ontario Association of Architects under the authority of s. 7(1)(17) of the *Professional Engineers Act* and s. 7(1)(18) of the *Ontario Architects Act*. The Ontario *Building Code* should be amended to (1) define “prime consultant”; (2) require, in sentence 1.2.1., Division C, Part 1, that a prime consultant be retained and be responsible for the design of a building that exceeds 600 square metres in gross area or exceeds three storeys in height for occupancies; (3) require Letters of Assurance for construction of such buildings; and (4) provide that the prime consultant is responsible, as part of the general review required by sentence 1.2.2.1(1), Division C, Part 1, to fulfill the duties and responsibilities as set out in the Letters of Assurance.

Elliot Lake Retirement Living and its business records



Recommendation 1.28

Elliot Lake Retirement Living should be more open and transparent in its business dealings. It should be subject to the *Municipal Freedom of Information and Protection of Privacy Act* and have the same obligation as the City of Elliot Lake to make its records available to the public.

Rationale: Elliot Lake Retirement Living deals with public assets, which it manages for the good of the community. It allowed its penchant for secrecy to inhibit the release to public authorities – City councillors and others – of information that could have been used to require an inspection of and repair to the Mall.

I have concluded that the “culture of secrecy” in which Retirement Living operated, under which it kept to itself information about the state of the roof and the advice it had received about it, imperilled the lives, health, and welfare of the citizens of Elliot Lake.

Retirement Living, which is a not-for-profit corporation created with what were initially public assets (both municipal and provincial) and which acts in what it perceives to be in the best interest of the community, knew of the potential for serious structural harm at the Mall. It knew that, if it spent a significant amount of money, it could solve the leaks and prevent further deterioration. It chose to spend that amount of money, and more, on other things, including enticing a new tenant (Zellers) into the Mall and contributing to the cost of building a new golf course. If the information about the Mall’s condition and the investment decisions of Retirement Living had been available to the public, those decisions might have been different. At a minimum, the public would have had an opportunity to seek to influence Retirement Living’s decisions about how to deal with public assets and whether to invest in fixing the roof.

The imperative to implement this recommendation lies in the City’s admission that it desired to impose confidentiality to *all* deliverables of the agreement, and not only to the retail space database and the retail survey. I can understand that it might have been necessary to impose confidentiality for these two aspects to overcome local business owners’ reticence to participate, but the effect of adding the third deliverable (the physical condition of the Mall) is totally unrelated to that concern. Its inclusion leads to a complete stifling of information essential to carry out the City’s mandate of protecting the public interest.

The *Municipal Freedom of Information and Protection of Privacy Act* (MFIPPA) has the following purpose, as set out in its first section:

- (a) to provide a right of access to information under the control of institutions in accordance with the principles that,
 - (i) information should be available to the public,
 - (ii) necessary exemptions from the right of access should be limited and specific, and
 - (iii) decisions on the disclosure of information should be reviewed independently of the institution controlling the information; and

- (b) to protect the privacy of individuals with respect to personal information about themselves held by institutions and to provide individuals with a right of access to that information.¹⁹⁴

The Act applies to local government institutions, including municipalities, police services boards, school boards, conservation authorities, boards of health, and transit commissions.* It also applies to any body listed in Regulation 372/91. Those bodies include many institutions that carry out activities in the public interest – for example, institutions ranging from the Belmont Improvement Area Board of Management; through every corporation established by a municipality to generate, transmit, or sell electricity; to Hamilton Entertainment and Convention Facilities Inc. and the Toronto Atmospheric Fund.

The MFIPPA provides a right of public access to records held by municipalities, subject only to limited and specific exemptions to disclosure. It does not completely open all the records of the institution to public access. For example, documents that contain information supplied in confidence by a third party, where disclosure could prejudice the third party's interests,¹⁹⁵ and information that could prejudice the financial or other specified interests of the institution¹⁹⁶ do not have to be made public.

The MFIPPA also provides a right to access one's own personal information and to correct it if it is inexact, ambiguous, or incomplete. It requires that institutions to which it applies protect personal information contained in their record holdings by imposing protection of privacy requirements governing the proper collection, retention, use, disclosure, and disposal of personal information. In effect, the Act attempts to strike a balance between access to information and the protection of personal privacy.¹⁹⁷

Implementation: This recommendation should be implemented by having the Ontario government amend O Reg 372/91 to include Elliot Lake Retirement Living as an institution subject to the *Municipal Freedom of Information and Protection of Privacy Act*.

The Ministry of Labour



Recommendation 1.29

An employer should be required to notify the Ministry of Labour of any recommendation or complaint that it receives from a Health and Safety representative or a Health and Safety Committee relating to the structural soundness or watertightness of the building in which the workplace is located.

One of the purposes of the *Occupational Health and Safety Act* is to facilitate what the Ministry of Labour refers to as the internal responsibility system.¹⁹⁸ The premise of this system is that workplace parties have a responsibility on a day-to-day basis to oversee issues relating to health and safety in the workplace. The intention of this regime is to ensure that any health and safety problems in a workplace are reported to the employer

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 * *Municipal Freedom of Information and Protection of Privacy Act*, RSO 1990, c M.56, s 2(1) ("institution"). The *Freedom of Information and Protection of Privacy Act*, RSO 1990, c F.31, in contrast, applies to provincial ministries and most provincial agencies, boards, and commissions, as well as community colleges, universities, local health integration networks (LHINs), and hospitals.

and can thereby be rectified to the extent possible without any intervention by the Ministry of Labour.¹⁹⁹ A key component of the internal responsibility system is the requirement that workplaces of a certain size have either health and safety representatives or a Joint Health and Safety Committee.*

Health and safety representatives and Joint Health and Safety committees have a series of powers under the *Occupational Health and Safety Act*, including the power to make recommendations to the employer for improving health and safety.²⁰⁰

I recommend that employers be required to notify the ministry of any complaint or recommendation received under ss. 8(10), 9(18), or 9(19) of the *Occupational Health and Safety Act* if it relates to the structural soundness or watertightness of the building in which the workplace is located.

Rationale: The Ministry of Labour will be in a better position to assess possible contraventions of the *Occupational Health and Safety Act* in particular workplaces.

The internal responsibility system places an onus on the employer to respond to any recommendations made by a health and safety representative or a Health and Safety Committee.²⁰¹ However, as noted, there is no obligation on the employer under the *Occupational Health and Safety Act* to provide any information to the Ministry of Labour in respect of recommendations that are made by a representative or committee. Rather, the expectation is that the employer will address and rectify the health and safety concerns presented to it.

In contrast, an employer is obligated to notify the Ministry of Labour about other occurrences in the workplace, including where a person is killed or critically injured at a workplace,²⁰² and where a person is disabled or requires medical attention because of an accident, explosion, fire, or incident of workplace violence.²⁰³ In my view, this obligation to notify the Ministry of Labour ought to be expanded to include worker concerns about structural adequacy of the workplace.

When it is notified about such a recommendation or complaint, the Ministry of Labour should be required to determine if an inspection is required. During such an inspection, a Ministry of Labour inspector, in order to carry out his or her duties, should have broad powers to view and require the production of any document. This power should include the production of recommendations of a health and safety representative or committee and the minutes of the committee meetings. If a Ministry of Labour inspector observes that problems are not remedied, he or she should be authorized to order that the employer take further measures to address the issue.

Under the current regime, if the designated health and safety representative notes concerns about possible contraventions relating to structural soundness or watertightness of a building, the Ministry of Labour may become aware of them only if an inspector consults with the representative or reviews his or her records during an inspection, or if a complaint is made directly to the ministry.

The evidence I have heard convinces me that there are clear deficiencies with this regime. More specifically, I heard evidence about numerous occasions when the Zellers Health and Safety Committee noted the impact of water infiltration into the store as a health and safety concern and recommended, in one form or another, that the source of it be fixed.²⁰⁴ I viewed ample documentary evidence that Zellers management was well aware of the workers' concerns about leakage in the Mall.²⁰⁵ Unfortunately, the Ministry of Labour never became aware of

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* Workplaces with six to 19 employees must have a health and safety representative. Workplaces with 20 to 49 employees must have a Joint Health and Safety Committee composed of at least one worker and one manager representative. Workplaces of 50 or more employees must have a Joint Health and Safety Committee composed of at least four members, two from management and two from non-management staff. Certain members must be certified; certification entails basic and specific training in workplace safety.

such concerns through the internal responsibility system. It appears that the employer attempted to work with the current Mall owner (Eastwood) to address the workers' concerns. However, as the evidence has clearly shown, those efforts were entirely in vain. Moreover, Ministry of Labour inspectors did not inspect the Zellers store in the Mall while these numerous recommendations from the Health and Safety Committee sat unaddressed.

I appreciate the rationale and intention of the internal responsibility system. As a general matter, it seems to be an efficient manner of promoting safe and hazard-free workplaces in Ontario. However, the evidence that I heard in the course of the Commission's hearings revealed weaknesses in the internal responsibility system and gaps in the administration and enforcement of the *Occupational Health and Safety Act*. The employer seemingly attempted to discharge its own obligations by attempting to work with the Mall owner to address the problem – to utterly no avail. With the Ministry of Labour in the dark, the workers' clarion call that the roof leaks should be fixed was not answered. This weakness is a critical gap in the legislative framework.

The purpose of this recommendation is to ensure that the Ministry of Labour has knowledge of worker concerns that may reflect materially hazardous conditions related to the structural soundness or watertightness of a building in which a worker's place of employment is located. By requiring an employer to notify the Ministry of Labour of any complaints or recommendations that an employer receives which relate to structural soundness or watertightness of the building, the ministry will then be in a position to follow up with the employer or the workers as necessary to ensure that any problems are remedied. Specifically, I would expect that

- (a) when the Ministry of Labour receives a complaint or recommendation which reflects a possibly urgent or severe situation in a workplace, the ministry will treat it as a complaint that would trigger an inspection by a ministry inspector; and
- (b) when the Ministry of Labour receives multiple or repeated recommendations or complaints relating to structural soundness or watertightness, indicating that the employer has not addressed the problem, it will conduct an inspection of the workplace.

Moreover, this information will allow the Ministry of Labour to broaden the scope of potential "high-priority" workplaces so it can determine the relative urgency of inspections. The ministry will be armed with case-specific information about workplaces located in buildings that demand a high-priority status for inspections. This point will be more fully discussed below.

This recommendation is intended to prevent similar situations from "slipping under the radar" because the ministry's attention is devoted to other types of workplaces, where accidents and injuries are more common. Building collapses are infrequent events – it is unlikely that it would be possible to predict when one will happen simply on the basis of the frequency of individual occurrences in the past. Absent an obligation to notify, it continues to be likely that the Ministry of Labour will not be made aware of at-risk workplaces.

Implementation: Amend the *Occupational Health and Safety Act* to require notification in these circumstances.



Recommendation 1.30

On receipt of a Structural Adequacy Report that describes breaches of the Minimum Structural Maintenance Standard in a building that is a workplace, the chief building official in the municipality where the workplace is located should be required to forward that report to the Ministry of Labour as soon as practical, but in any event no later than 20 days after it is received.

The Ministry of Labour should refer to these Structural Adequacy Reports in determining the priority of workplaces that will receive proactive inspections.

As noted, the Ministry of Labour carries out proactive inspections and reactive inspections. The proactive inspections are unannounced and based on certain criteria. Ontario's approximately 430 inspectors are responsible for more than 200,000 workplaces and five to six million employees in the province.

With so many workplaces and so few inspectors, the Ministry of Labour must prioritize the workplaces to be inspected,²⁰⁶ and I accept that fact. The ministry generally takes a risk-based approach to the allocation of resources in conducting proactive inspections. It considers certain factors, including the kind of work being done, the size of the workplace, previous history with respect to non-compliance, and injury rates.²⁰⁷

Rationale: The Ministry of Labour will receive information about workplaces that may need to be subject to proactive inspections on a high-priority basis.

The Ministry of Labour determines which workplaces it will inspect most frequently through a system intended to ensure that the most problematic places are inspected most frequently. Its prioritization system, however, does not properly account for structural adequacy or maintenance issues about the building in which the workplace is located.

The Ministry of Labour considers retail to be a low-risk sector. The large national retail operations, in particular, are considered very low risk because they typically have detailed occupational health and safety policies and practices and active Joint Health and Safety committees. The retail sector is, therefore, not visited as often as sectors characterized as higher-risk workplace areas.²⁰⁸

By requiring a chief building official to forward a Structural Adequacy Report that describes breaches of the Minimum Structural Maintenance Standard to the Ministry of Labour, the ministry will be armed with direct information about the structural adequacy of buildings in which workplaces are located. With this information, the ministry would have better information, enabling a more effective prioritization of workplaces deserving proactive inspections.

Although the Mall had tenants that included businesses operating on a national scale, among them Zellers, Scotiabank, and Foodland, and had chronic problems of water infiltration for more than 30 years, it was never designated a high-priority workplace by the Ministry of Labour. It is my hope that, with the implementation of this recommendation, similarly compromised buildings that house workplaces which would otherwise not be on the Ministry of Labour's radar will get the attention they require to protect the health and safety of workers in Ontario.

Implementation: By including such an obligation in the regulation enacted under s. 7(1)(b.1) of the *Building Code Act* to enforce the Minimum Structural Maintenance Standard.



Recommendation 1.31

There should be minimum standards for Ministry of Labour inspectors when they are conducting an inspection in response to a complaint regarding the structural soundness, watertightness, or structural safety of a building in which a workplace is located.

Ministry of Labour inspectors have broad investigative powers under the *Occupational Health and Safety Act*. However, neither the *Occupational Health and Safety Act* nor its regulations prescribe minimum Performance Standards for those inspections.

I recommend that minimum standards be imposed on inspectors when they are conducting an inspection in response to a complaint regarding the structural soundness, watertightness, or structural safety of a building in which a workplace is located. Specifically, when conducting a reactive inspection in response to such a complaint, the inspector should be required to do the following:

- (a) Inspect the entire building about which the complaint was made.
- (b) Make inquiries of employees who work in the building for information regarding the complaint, including inquiries about the length of time that the subject of the complaint has persisted.
- (c) Make inquiries of the jurisdiction's chief building official or Building Department official to determine whether the problems complained of have persisted over a period of time.
- (d) Identify whether a Structural Adequacy Report that describes breaches of the Minimum Structural Maintenance Standard has been issued about the building where the workplace is located.
- (e) If the problems complained of have persisted for a significant period, consult with a Ministry of Labour engineer.

Rationale: The imposing of minimum standards will ensure that adequately comprehensive inspections of workplaces are carried out.

I am mindful that there are hundreds of thousands of different workplaces in Ontario for which the Ministry of Labour is responsible to ensure the health and safety of workers. Given that diversity, I do not recommend that there should be a one-size-fits-all approach to the conduct of inspections under the *Occupational Health and Safety Act*. I also note that the Ministry of Labour has guidelines in place which, although not mandatory, are meant to assist inspectors in the conduct of inspections.²⁰⁹ However, I heard sufficient evidence in the course of the Commission's hearings to conclude that, where the Ministry of Labour receives a complaint that relates to the structural soundness, watertightness, or structural safety of a building in which a workplace is located, an inspector ought to be required to fulfill minimum standard requirements in investigating that complaint.

On December 15, 2011, the Ministry of Labour received an anonymous complaint about the health and safety of the workers at the Mall due to “mold, roof leaking and unsafe escalator.”²¹⁰ As I have earlier concluded, the investigation carried out by the ministry’s inspector, Ed Hudson, in response to this complaint was cursory at best. Given the nature of that complaint, I am of the view that Mr. Hudson should have taken the steps described above.

By requiring the inspector to conduct an inspection of the entire building, the inspector will more likely identify any concerns giving rise to the complaint and will not have to draw potentially inaccurate inferences resulting from a more limited inspection.

By requiring the inspector to make inquiries of individuals in the building and the chief building official for information related to the subject matter of the complaint, he or she will be more likely to confirm whether a contravention exists and its severity.

By requiring the inspector to consult a Ministry of Labour engineer if the problem giving rise to the complaint has persisted over a period of time, he or she will better be able to make an informed decision about both the severity of the contravention and the appropriate orders that should be issued.

Without such minimum standards, there is clearly too much discretion left in the hands of the inspector. Minimum standards would provide necessary clarity and direction to Ministry of Labour inspectors conducting investigations of complaints that may reflect a serious threat to the health and safety of Ontario workers.

Implementation: The *Occupational Health and Safety Act* should be amended to authorize a regulation to prescribe standards to be followed by inspectors conducting inspections under the Act, as well as a regulation requiring that inspections be carried out in accordance with the standards described.



Recommendation 1.32

The Ministry of Labour should notify the relevant chief building official of any information that it receives regarding contraventions or possible contraventions of the *Occupational Health and Safety Act* relating to

- (a) the structural soundness of a workplace;**
- (b) the watertightness of a workplace; and**
- (c) whether a building in which a workplace is located is unsafe.**

For the purposes of this recommendation, information includes each of the following:

- (a) complaints that are received by the Ministry of Labour directly;
- (b) information or observations made by a Ministry of Labour inspector or engineer in the course of any visit or inspection of a workplace; and
- (c) any information received from an employer in accordance with the employer’s reporting obligations to the Ministry of Labour.

Rationale: Notification will provide chief building officials with relevant information necessary to the performance of their duties.

As noted earlier in these recommendations, the *Building Code Act* is enforced by municipalities, and each municipality is required to appoint a chief building official and inspectors as are necessary for the enforcement of the *Building Code Act* in the particular municipality. However, certain provisions of the *Occupational Health and Safety Act* and its regulations also address the issue of structural adequacy.²¹¹ Accordingly, there is a role for the Ministry of Labour to play in ensuring the health and safety of workplaces as they relate to the structural soundness, the watertightness, and the safety of the buildings in which Ontarians work.

Currently, a Ministry of Labour inspector may, at his or her discretion, or as directed by the inspector's manager, refer an issue involving a suspected *Building Code* contravention to a municipal building inspector or a regional Ministry of Labour engineer.²¹² However, collaboration between the ministry and a municipality is not required.

With this recommendation, I am not in any way alleviating the obligations and responsibilities of the Ministry of Labour to enforce the *Occupational Health and Safety Act* and its regulations. Rather, to better ensure the safety of Ontario's workers, there should be better communication between municipal building officials and Ministry of Labour officials.

Implementation: The *Occupational Health and Safety Act* should be amended to include such a requirement for notification.**Recommendation 1.33****Ministry of Labour inspectors should receive more comprehensive training on issues related to structural soundness, watertightness, and building safety.****Rationale: Enhanced training will ensure that Ministry of Labour inspectors have sufficient awareness of potential hazards relating to structural soundness, watertightness, and structural safety.**

The training period for industrial inspectors is about six months. The training program includes in-class instruction about the *Occupational Health and Safety Act* and its regulations. Training also includes field work in which a trainee shadows a more experienced inspector to observe and evaluate the performance of the inspector's duties in the field. Industrial inspectors must pass written exams based on their in-class instruction.²¹³

I heard evidence that the training of Ministry of Labour inspectors related to structural adequacy is limited to "hazard identification and to what to do if they see something questionable and how to get assistance to resolve those issues."²¹⁴ I heard evidence that suggests that some Ministry of Labour inspectors were not adequately aware of the potential hazards to structural adequacy that are posed by water infiltration. For example, Ralph Regan, a Ministry of Labour inspector who carried out inspections of workplaces in the Mall, testified that he did not think water infiltration, as evidenced by stained ceiling tiles and complaints of suspected mould growth, could be a contravention of the *Occupational Health and Safety Act* because he did not actually observe any water entering the building.²¹⁵

As the tragedy of the collapse of the Algo Mall demonstrated, structural capacity and soundness are fundamental to a safe workplace. Accordingly, the training that the Ministry of Labour's industrial inspectors receive should be more comprehensive in relation to potential hazards involving the structural soundness, watertightness, and structural safety of a building in which workplaces are located.

Implementation: The Ministry of Labour should institute such training programs.

Summary of Recommendations

Minimum structural maintenance standards for buildings

Recommendation 1.1

There should be province-wide minimum structural maintenance standards for all buildings in Ontario.

Recommendation 1.2

The regulation outlined in Recommendation 1.1 should include a requirement that all buildings be watertight, structurally sound, and not unsafe, and be maintained in such a way as to keep them in that condition for a reasonable period (the “Minimum Structural Maintenance Standard”).



Inspections of buildings to ensure compliance with the Minimum Structural Maintenance Standard

Recommendation 1.3

All owners of buildings should be required to ensure that their buildings are inspected periodically (a “prescribed structural inspection”) by a professional engineer to determine whether they comply with the Minimum Structural Maintenance Standard and what steps, if any, need to be taken to bring them into compliance.

Recommendation 1.4

For buildings to which these Recommendations apply, the Professional Engineers of Ontario (PEO) should enunciate a Performance Standard for the prescribed structural inspection.

Recommendation 1.5

The prescribed structural inspection should be conducted in accordance with the Performance Standard by a structural engineering specialist who has met the Professional Engineers of Ontario (PEO) qualifications and requirements to be so certified.



Reports of inspections to ensure compliance with the Minimum Structural Maintenance Standard

Recommendation 1.6

After conducting a structural inspection in accordance with the Professional Engineers of Ontario Performance Standard, the structural engineering specialist should complete a Structural Adequacy Report to determine whether the building meets the Minimum Structural Maintenance Standard and, if it does not, to describe what repairs and maintenance are required in order for the building to meet that standard.

Recommendation 1.7

The Structural Adequacy Report should be provided to the owner of the building and simultaneously filed on a publicly accessible registry called the Structural Condition Registry.

Recommendation 1.8

If the structural engineer concludes that the condition of the building does not meet the Minimum Structural Maintenance Standard, he or she should be required to provide a copy of the Structural Adequacy Report, which must set out the repairs or maintenance required to rectify the situation, to the municipality’s chief building official.



Enforcing the Minimum Structural Maintenance Standard

Recommendation 1.9

The chief building official of each municipality should have the authority to issue an order requiring repairs to a building that does not meet the Minimum Structural Maintenance Standard.

Recommendation 1.10

After receiving a Structural Adequacy Report that describes breaches of the Minimum Structural Maintenance Standard, the chief building official should be required, as soon as practicable but no later than 10 business days after receipt, to determine whether to

- (a) issue an order requiring repair of the building so as to remedy the unsafe condition and the period within which the repairs must be conducted;
- (b) order that the building be closed; or
- (c) make no order.

Recommendation 1.11

If the chief building official decides to issue an order requiring repair of a building, in the situation described in Recommendation 1.10, that order, together with written reasons therefor, should be served on the owner of the building and filed on the Structural Condition Registry. If the official decides not to issue an order requiring repair of the building, he or she must issue a written document explaining why no such order is required, and that document should be served on the owner and filed on the Structural Condition Registry.

Recommendation 1.12

If the chief building official issues an order requiring repair of the building to bring it into compliance with the Minimum Structural Maintenance Standard, that order should provide a date by which the repair must be completed. If the repair is not completed within that period, the chief building official should have the authority, and should have to decide, whether to

- (a) prohibit the use or occupancy of the building;
- (b) cause the building to be renovated or repaired or demolished to bring it into compliance with the Minimum Structural Maintenance Standard or take such other action as he or she considers necessary for the protection of the public; or
- (c) take no further action.

Municipalities should be required to create and maintain a system which ensures that necessary information about these orders is recorded, maintained, and brought forward at the appropriate time to the relevant officers to ensure that time-sensitive operations are properly performed.

Recommendation 1.13

The decision of the chief building official under Recommendation 1.12 should be in writing, served on the owner, and filed on the Structural Condition Registry.

Recommendation 1.14

Where the municipality undertakes work under an order as outlined in Recommendation 1.12, the municipality should have a lien on the land for the amount spent on the renovation or repair.



Frequency of inspection to determine compliance with the Minimum Structural Maintenance Standard

Recommendation 1.15

A prescribed structural inspection should be required, and the resulting Structural Adequacy Report registered on the Structural Condition Registry, at the following times:

- (a) when a building is sold;
- (b) when the chief building official of the municipality in which the building is located requires it by an order in writing;
- (c) when repairs required by an order of the chief building official to bring it into compliance with the Minimum Structural Maintenance Standard are completed; and
- (d) in any event no later than at a period of time after the last prescribed structural inspection (a time to be established after a report from the advisory panel (see Recommendation 1.16).

If a prescribed structural inspection is not carried out and registered on the Structural Condition Registry within an appropriate time, the chief building official of the municipality in which the building is located should be required to have the inspection carried out, and the cost of the inspection should be added to the property tax bill of the building owner.

Recommendation 1.16

An advisory panel should be established as soon as possible to determine the appropriate classes of buildings, grouped by risk and the consequences of failure, and to make recommendations no later than 12 months from the release of this Report, on the following:

- (a) which classes of buildings should be given priority for the initial periodic inspection;
- (b) the time within which each class of buildings should have had an initial periodic inspection; and
- (c) the appropriate period within which each class of building should be inspected on a periodic basis.



Standards for building officials in Ontario municipalities

Recommendation 1.17

The existing standards for training and certification of building officials and inspectors under the *Building Code Act* should be amended to require mandatory continuing education.

Recommendation 1.18

The *Building Code Act* should be amended to provide that building officials and inspectors are public office holders who are independent of the municipal council, but that it is entirely appropriate for the council or the chief administrative officer of the municipality to direct a concern to the attention of the building official to be dealt with as he or she sees fit.



The sharing of reports concerning structural capacity, watertightness, and public safety of buildings

Recommendation 1.19

Owners of a building should be required to keep copies, located electronically or physically in a place other than that of the building itself, of all reports that have been prepared by a professional (professional engineer or architect) about the structural capacity, watertightness, or safety of the building or about any repairs, maintenance, or other remedial action required or performed that relate to the structural capacity, watertightness, or safety of the building (required reports) and provide them to

- (a) any purchaser or other person acquiring an ownership interest in the building, at or before the time of the transfer of title (contracting out of this obligation should not be permitted);
- (b) any person, on request, conducting any inspection, assessment, repair, or renovation of the building pursuant to statutory authority or with the permission of the owner; and
- (c) the municipality at the time of application for a building permit in respect of a portion of the building to which the required reports relate.

Recommendation 1.20

Any person transferring an ownership interest in a building to which the public or employees have access should be required to provide to the purchaser an affidavit in which an authorized person deposes that:

- (a) the owner has disclosed all required professional reports that have been prepared and provided while the building has been owned by the present owner and that were provided to the owner at or before the time title was taken;
- (b) the owner has made best efforts to obtain all such reports in respect of the property; and
- (c) the owner is not aware of any professional reports with respect to the building that relate to structural condition, watertightness, or public safety that have not been disclosed to the purchaser.

Recommendation 1.21

Professional engineers and architects should be required, on request, to make available any records in their possession or control related to the structural integrity of a building to

- (a) any professional engineer or architect conducting an inspection or assessment on behalf of the owner or with the owner's permission;
- (b) a prospective purchaser of the building or a professional engineer or architect conducting an inspection or assessment of the building on the prospective purchaser's behalf;
- (c) a chief building official or an inspector under the *Building Code Act*; and
- (d) an inspector under the *Occupational Health and Safety Act* in respect of a building that is a place of work to which the Act applies.



Municipal record-keeping about complaints of structural issues related to buildings

Recommendation 1.22

Municipalities should be required to keep a record, listed by municipal address, of every complaint received by a municipal official of a breach of a property standards by-law, the regulations of the *Building Code Act*, or the *Building Code* that relates to the structural capacity, watertightness, or safety of a building, whether that complaint was received in writing or not. This record should be of the action taken by the municipality and the remedial action taken by the owner and should be in electronic form and easily accessed by any member of the public.



The regulation of the engineering and architecture professions

Recommendation 1.23

The Professional Engineers of Ontario should issue a clear direction to its members that the contents of an engineering report, or draft report, including a Structural Adequacy Report, should not be altered simply because the client requests that it be changed. Rather, any alteration of an engineering report, or draft report, should be based on sound engineering principles or changed facts.

Recommendation 1.24

The Professional Engineers of Ontario (PEO) should establish a system of mandatory continuing professional education for its members as soon as possible, and in any event no later than 18 months from the release of this Report.

Recommendation 1.25

Members of the Professional Engineers of Ontario (PEO) should directly and promptly advise clients (past and present) of any suspensions or revocations of their licences, and the reasons therefor, that arise out of disciplinary actions resulting from

- (a) errors in design;
- (b) errors in calculations;
- (c) failure to properly inspect;
- (d) failure to report an unsafe condition;
- (e) failure to comply with the requirements of the Structural Adequacy Report; and
- (f) any and all matters that had a direct or indirect effect on the structural stability of a building or put the health, safety, and welfare of the public at risk.

Recommendation 1.26

The Professional Engineers of Ontario (PEO) should provide, for the benefit of the public, the following information on its public website in a format readily and easily searchable by the name of the PEO member:

- (a) the name of every licensee and every holder of a certificate of authorization;
- (b) the terms, conditions, and limitations attached to the licence or certificate of authorization;
- (c) a note of every revocation, suspension, cancellation, or termination of a licence or certificate of authorization;
- (d) information concerning upcoming Discipline Committee hearings, where a Notice of Hearing has been issued;
- (e) information concerning any findings of professional misconduct or incompetence, for a period of 10 years from the date of the finding(s), so long as the Discipline Committee had ordered publication with names; and
- (f) such other information as the Registration Committee or Discipline Committee directs.

Recommendation 1.27

For the construction of any buildings requiring the services of more than one professional consultant, either a professional engineer or an architect should be designated by the owner or the owner's agent as the prime consultant to perform the roles and responsibilities of that position, as defined by one or the other or both of the Professional Engineers of Ontario (PEO) and the Ontario Association of Architects (OAA).

**Elliot Lake Retirement Living and its business records****Recommendation 1.28**

Elliot Lake Retirement Living should be more open and transparent in its business dealings. It should be subject to the *Municipal Freedom of Information and Protection of Privacy Act* and have the same obligation as the City of Elliot Lake to make its records available to the public.

**The Ministry of Labour****Recommendation 1.29**

An employer should be required to notify the Ministry of Labour of any recommendation or complaint that it receives from a Health and Safety representative or a Health and Safety Committee relating to the structural soundness or watertightness of the building in which the workplace is located.

Recommendation 1.30

On receipt of a Structural Adequacy Report that describes breaches of the Minimum Structural Maintenance Standard in a building that is a workplace, the chief building official in the municipality where the workplace is located should be required to forward that report to the Ministry of Labour as soon as practical, but in any event no later than 20 days after it is received. The Ministry of Labour should refer to these Structural Adequacy Reports in determining the priority of workplaces that will receive proactive inspections.

Recommendation 1.31

There should be minimum standards for Ministry of Labour inspectors when they are conducting an inspection in response to a complaint regarding the structural soundness, watertightness, or structural safety of a building in which a workplace is located.

Recommendation 1.32

The Ministry of Labour should notify the relevant chief building official of any information that it receives regarding contraventions or possible contraventions of the *Occupational Health and Safety Act* relating to

- (a) the structural soundness of a workplace;
- (b) the watertightness of a workplace; and
- (c) whether a building in which a workplace is located is unsafe.

Recommendation 1.33

Ministry of Labour inspectors should receive more comprehensive training on issues related to structural soundness, watertightness, and building safety.

Notes

- ¹ *Occupational Health and Safety Act*, RSO 1990, c O.1.
- ² *Building Code Act, 1992*, SO 1992, c 23, ss 1(1), 8(1).
- ³ *Building Code Act, 1992*, SO 1992, c 23, s 8(2).
- ⁴ *Ontario Building Code*, O Reg 332/12, Division A, Part 2, s. 2.2.1.1(1), table 2.2.1.1, column 2, number OS2.
- ⁵ *Ontario Building Code*, O Reg 332/12, Division B, Part 4, s. 4.1.5.3(1), table 4.1.5.3, and s. 4.1.5.12.
- ⁶ *Ontario Building Code*, O Reg 332/12, Division B, Part 4, s. 4.1.6.
- ⁷ *Ontario Building Code*, O Reg 332/12, Division B, Part 4, s. 4.1.7.2.
- ⁸ *Ontario Building Code*, O Reg 332/12, Division B, Part 4, s. 4.1.8.
- ⁹ *Ontario Building Code*, O Reg 332/12, Division C, Part 1, s. 1.2.2.1(1).
- ¹⁰ *Ontario Building Code*, O Reg 332/12, Division C, Part 1, s. 1.2.2.1(2).
- ¹¹ *Building Code Act, 1992*, SO 1992, c 23, s 3(1).
- ¹² *Building Code Act, 1992*, SO 1992, c 23, s 3(2).
- ¹³ *Building Code Act, 1992*, SO 1992, c 23, s 8(1).
- ¹⁴ *Ontario Building Code*, O Reg 332/12, Division C, Part 1, s. 1.2.2.1(3).
- ¹⁵ *Ontario Building Code*, O Reg 332/12, Division C, Part 1, s. 1.3.1.3(1).
- ¹⁶ *Building Code Act, 1992*, SO 1992, c 23, s 10.2; *Ontario Building Code*, O Reg 332/12, Division C, Part 1, para 1.3.5.1.
- ¹⁷ *Ontario Building Code*, O Reg 332/12, Division C, Part 1, ss. 1.3.3.1, 1.3.5.1(o) and (p).
- ¹⁸ *Building Code Act, 1992*, SO 1992, c 23, ss 11, 12.
- ¹⁹ *Building Code Act, 1992*, SO 1992, c 23, s 34(2).
- ²⁰ SO 2006, c 22, s 112(4), enacting the new s 7(1)(b.1) of the *Building Code Act, 1992*.
- ²¹ SO 2006, c 22, s 112(8), enacting the new s 15.10.1 of the *Building Code Act, 1992*.
- ²² *Building Code Act, 1992*, SO 1992, c 23, as amended, s 15.9.
- ²³ *Building Code Act, 1992*, SO 1992, c 23, as amended, s 15.10.
- ²⁴ *Building Code Act, 1992*, SO 1992, c 23, as amended, s 15.9(2).
- ²⁵ *Building Code Act, 1992*, SO 1992, c 23, as amended, ss 15.9(6), (7), (8), (9), (10).
- ²⁶ *Building Code Act, 1992*, SO 1992, c 23, as amended, s 15.10.
- ²⁷ *Building Code Act, 1992*, SO 1992, c 23, as amended, s 15.8(1)(d).
- ²⁸ *Occupational Health and Safety Act*, RSO 1990, c O.1, s 25(1)(e).
- ²⁹ *Occupational Health and Safety Act*, RRO, Reg 851, s 120.
- ³⁰ *Occupational Health and Safety Act*, RRO, Reg 851, s 72.
- ³¹ Exhibit 4125, pp. 006–007.
- ³² Dennis testimony, April 30, 2013, pp. 7492–4.
- ³³ *Occupational Health and Safety Act*, RSO 1990, c O.1, s 54(1)(m).
- ³⁴ *Occupational Health and Safety Act*, RSO 1990, c O.1, ss 8(6), (7), (10).
- ³⁵ *Occupational Health and Safety Act*, RSO 1990, c O.1, ss 8(12), (13).
- ³⁶ *Ontario Schools for the Blind and the Deaf*, RRO 1990, Reg 296, s 18(k).
- ³⁷ *Operation of Schools – General*, RRO 1990, Reg 298, s 11(3)(l).
- ³⁸ *General Regulation*, O Reg 166/11, s 19(1).
- ³⁹ *General Regulation*, O Reg 166/11, s 58.1.
- ⁴⁰ *Retirement Homes Act, 2010*, SO 2010, c 11, s 90.
- ⁴¹ *Standards for Bridges*, O Reg 104/97, as amended, ss 1, 2(3), 2(4), 3.
- ⁴² *Condominium Act, 1998*, SO 1998, c 19, ss 94(1), 94(4); *General Regulation under the Condominium Act, 1998*, O Reg 48/01, s 31(3).
- ⁴³ *General Regulation under the Condominium Act, 1998*, O Reg 48/01, s 29(1), 30(2), 32.
- ⁴⁴ O Reg 517/06, *Maintenance Standards*, ss 5, 6, 7.
- ⁴⁵ *Residential Tenancies Act, 2006*, SO 2006, c 17, s 224(1).
- ⁴⁶ *Residential Tenancies Act, 2006*, SO 2006, c 17, ss 225, 234(t).
- ⁴⁷ *Building Code Act, 1992*, SO 1992, c 23, s 15.1(3).
- ⁴⁸ Chart prepared by Ministry of Municipal Affairs and Housing, Appendix to Research paper, “Property Maintenance and Repair: Policies, Regulations, Legislation and By-Laws”; available on the Commission’s website at http://elliottlakeinquiry.ca/roundtables/pdf/Property_Maintenance_and_Repair_with_Appendix.pdf.
- ⁴⁹ Research paper, “Property Maintenance and Repair: Policies, Regulations, Legislation and By-Laws” on Commission’s website: http://elliottlakeinquiry.ca/roundtables/pdf/Property_Maintenance_and_Repair_with_Appendix.pdf.
- ⁵⁰ *Building Code Act, 1992*, SO 1992, c 23, s 15.2(1)(a).
- ⁵¹ *Building Code Act, 1992*, SO 1992, c 23, s 15.8(1)(a).
- ⁵² *Building Code Act, 1992*, SO 1992, c 23, s 15.8(1)(d), (e).
- ⁵³ *Building Code Act, 1992*, SO 1992, c 23, s 15.8(1)(f).
- ⁵⁴ *Building Code Act, 1992*, SO 1992, c 23, s 15.2(2).
- ⁵⁵ *Building Code Act, 1992*, SO 1992, c 23, s 15.4(1).
- ⁵⁶ *Building Code Act, 1992*, SO 1992, c 23, s 15.4; *Municipal Act, 2001*, SO 2001, c 25, s 1(3).
- ⁵⁷ Research paper, “Property Maintenance and Repair: Policies, Regulations, Legislation and By-Laws”: http://elliottlakeinquiry.ca/roundtables/pdf/Property_Maintenance_and_Repair_with_Appendix.pdf.
- ⁵⁸ Research paper, “Property Maintenance and Repair: Policies, Regulations, Legislation and By-Laws”: http://elliottlakeinquiry.ca/roundtables/pdf/Property_Maintenance_and_Repair_with_Appendix.pdf.
- ⁵⁹ Research paper, “Property Maintenance and Repair: Policies, Regulations, Legislation and By-Laws”: http://elliottlakeinquiry.ca/roundtables/pdf/Property_Maintenance_and_Repair_with_Appendix.pdf; City of London, Revised By-Law L-6, *Business Licensing By-Law* (19 September 2011), s 2.23.
- ⁶⁰ *Public Health Act*, RSA 2000, c P-37, ss 1(ee)(ii), 59.
- ⁶¹ *Public Health Act*, RSA 2000, c P-37, s 62.
- ⁶² *Housing Regulation*, Alta Reg 173/99, ss 1, 3.
- ⁶³ *Housing Regulation*, Alta Reg 173/99, ss 1, 4; *Minimum Housing and Health Standards*, <http://www.health.alberta.ca/documents/Standards-Housing-Minimum.pdf>, s 1, p. 5.
- ⁶⁴ *Institutions Regulation*, Alta Reg 143/1981, s 6.
- ⁶⁵ *Child Care Licencing Regulation*, Alta Reg 143/2008, s 5.
- ⁶⁶ *Dwellings and Buildings Regulation*, Man R 322/88R, s 9(1).
- ⁶⁷ *Safety Code*, RRQ, c B-1, r 3, s 345.
- ⁶⁸ *Safety Code*, RRQ, c B-1, r 3, s 386.
- ⁶⁹ *Safety Code*, RRQ, c B-1, r 3, ss 371, 372.

- ⁷⁰ *Safety Code*, RRQ, c B-1, r 3, ss 373, 374.
- ⁷¹ Quebec, National Assembly, *Journal des débats de l'Assemblée nationale*, 39th Parl, 1st Sess, vol. 41, no. 158 (23 Nov 2010) (Lise Thériault).
- ⁷² *Professional Engineers Act*, RSO 1990, c P.28, s 2(3).
- ⁷³ *Professional Engineers Act*, RSO 1990, c P.28, s 2(4).
- ⁷⁴ *Ontario Building Code*, O Reg 332/12, Division C, Part I, s. 1.2.2.1.
- ⁷⁵ *Ontario Building Code*, O Reg 332/12, Division C, Part I, s. 1.2.2.
- ⁷⁶ *Professional Engineers Act*, RSO 1990, c P.28, s 7(1)17.
- ⁷⁷ Regulation 941/90, s 78.
- ⁷⁸ Regulation 260/08, ss 2, 3.
- ⁷⁹ Regulation 260/08, s 2(1).
- ⁸⁰ *Building Code Act, 1992*, SO 1992, c 23, s 1(1).
- ⁸¹ Exhibit 5331, para 34.
- ⁸² Exhibit 5331, para 45.
- ⁸³ Exhibit 5160.
- ⁸⁴ Bulletin, Exhibit 5160.
- ⁸⁵ Regulation 941, s 72(2)(g).
- ⁸⁶ Regulation 941, s 72(2)(d).
- ⁸⁷ Exhibit 5331, para 86.
- ⁸⁸ *Professional Engineers Act*, RSO 1990, c P.28, s 2(4).
- ⁸⁹ Regulation 941, RRO 1990, s 72(2)(h).
- ⁹⁰ Exhibit 5331, para 99.
- ⁹¹ Professional Engineers of Ontario, Draft Terms of Reference Continuing Professional Development, Competency, and Quality Assurance Task Force, March 21, 2014, http://www.peo.on.ca/index.php/ci_id/27779/la_id/1.htm; M. Mastromatteo, "Decision time for PEO on continuing professional development," *Engineering Dimensions* 31, 2 (March / April 2010): 28.
- ⁹² M. Mastromatteo, "Decision time for PEO on continuing professional development," *Engineering Dimensions* 31, 2 (March / April 2010): 28.
- ⁹³ Professional Engineers of Ontario, Draft Terms of Reference Continuing Professional Development, Competency, and Quality Assurance Task Force March 21, 2014, http://www.peo.on.ca/index.php/ci_id/27779/la_id/1.htm.
- ⁹⁴ Regulation 941, RRO 1990, s 77.
- ⁹⁵ Exhibit 5331, para 74.
- ⁹⁶ *Professional Engineers Act*, RSO 1990, c P.28, s 28.
- ⁹⁷ Part 1, Written submissions of the PEO, para 37.
- ⁹⁸ *Professional Engineers Act*, RSO 1990, c P.28, s 7(1)(22).
- ⁹⁹ Part 1, Written submissions of the PEO, para 53.
- ¹⁰⁰ *Building Code Act, 1992*, SO 1992, c 23, s 1; *Ontario Building Code*, O Reg 332/12, Division A, Part 1, s 1.4.1.2(1)(a),.
- ¹⁰¹ *Ontario Building Code*, O Reg 332/12, Division A, Part 1, s 1.4.1.2(1) (c).
- ¹⁰² *Ontario Building Code*, O Reg 332/12, Division A, Part 1, s 1.4.1.2(1)(c).
- ¹⁰³ *Ontario Building Code*, O Reg 332/12, Division A, Part 1, s 1.4.1.2(1)(c).
- ¹⁰⁴ *Building Code Act, 1992*, SO 1992, c 23, s 15.1(3), as amended by SO 1997, c 24, s 224(8).
- ¹⁰⁵ Dean Findlay transcript, November 18, 2013, p. 21; Warwick Perrin, Ontario Association of Property Standards Officers, transcript, November 18, 2013, p. 23; Stuart Huxley transcript, November 18, 2013, p. 40; Michael Ostfield transcript, November 18, 2013, p. 46; J. Lorne Braithwaite transcript, November 19, 2013, pp. 81–2.
- ¹⁰⁶ Stuart Huxley, transcript, November 18, 2013, p. 37.
- ¹⁰⁷ Dean Findlay, transcript, November 18, 2013, p. 21; Warwick Perrin, transcript, November 18, 2013, p. 23; Stuart Huxley, transcript, November 18, 2013, p. 40; Randal Froebelius, transcript, November 18, 2013, p. 49.
- ¹⁰⁸ Ontario, Advisory Committee on the Deterioration, Repair and Maintenance of Parking Garages, Report, *Deterioration of parking structures* (Toronto: Ministry of Housing, 1988), 13; attached as app. B to the Commission's Procedural Order No. 9.
- ¹⁰⁹ App. B to Province of Ontario, Supplemental submissions in response to Procedural Order No. 9, p. 6. In its Supplemental submissions in response to my Procedural Order No. 9, dealing with issues surrounding the late discovery of this report – by way of an anonymous letter after the hearings had concluded – the Ontario government attached, among other things, the complete report of the Advisory Committee on the Deterioration, Repair and Maintenance of Parking Garages. Appendix B to those submissions is the "Executive Summary" of the report, appendix C is chapter 1, "Overview"; appendix D is chapter 2, "The Deterioration Problem and Inspection Techniques"; appendix E is chapter 3 "Repair Methods"; appendix F is chapter 4, "Maintenance and Monitoring Procedures"; appendix G is chapter 5, "Enforcement Procedures"; and appendix H is chapter 6, "Development of a Communication Strategy".
- ¹¹⁰ Ontario, Advisory Committee on the Deterioration, Repair and Maintenance of Parking Garages, Report, *Deterioration of parking structures* (Toronto: Ministry of Housing, 1988).
- ¹¹¹ Province of Ontario, Submissions in response to Procedural Order No. 9, p. 1
- ¹¹² Province of Ontario, Supplemental submissions in response to Procedural Order No. 9, p. 2.
- ¹¹³ Province of Ontario, Supplemental submissions in response to Procedural Order No. 9, app. C, chap 1, p.6.
- ¹¹⁴ Province of Ontario, Supplemental submissions in response to Procedural Order No. 9, app. C, chap. 5, p. 12.
- ¹¹⁵ Province of Ontario, Supplemental submissions in response to Procedural Order No. 9, app. H, chap 6, p.3..
- ¹¹⁶ Province of Ontario, Supplemental submissions in response to Procedural Order No. 9, app. H, chap 6, pp. 5–.
- ¹¹⁷ Memo, July 28, 1988, to David Hodgson, Director, Buildings Branch, from Ali Arlani, Technical Policy Advisor, attached as app. A to Province of Ontario, Supplemental submissions in response to Procedural Order No. 9, p. 3; *Building Action Newsletter*, July 1988, attached as app. G to Province of Ontario, Submissions in response to Procedural Order No. 9, p. 35.
- ¹¹⁸ *Building Code Act, 1992*, SO 1992, c 23, s 34(2)(b), as amended by SO 2006, c 22, s 112(10).
- ¹¹⁹ SO 2006, c 17.
- ¹²⁰ O Reg 517/06, *Maintenance Standards*, s 5.
- ¹²¹ O Reg 517/06, *Maintenance Standards*, ss 6, 7.
- ¹²² *Occupational Health and Safety Act*, RSO 1990, c O.1, s 25(1)(e).
- ¹²³ Ann Borooh, transcript, November 18, 2013, p. 31.
- ¹²⁴ SO 1992, c 23, as amended by SO 2002, c 9, s 26.
- ¹²⁵ Exhibit 6-6, ss 5.1, 5.4(a); Exhibit 6-7, ss 4(1)(a), 5(1)(a).
- ¹²⁶ Michael Ostfield, transcript, November 18, 2013, p. 86.

- ¹²⁷ Stuart Huxley, transcript, November 18, 2013, pp. 60–4.
- ¹²⁸ Ann Borooh, transcript, November 18, 2013, pp. 27–9.
- ¹²⁹ Randal Froebelius, transcript, November 18, 2013, p. 73.
- ¹³⁰ Peter Sharpe, transcript, November 18, 2013, pp. 71–2.
- ¹³¹ PEO, *Structural engineering assessments of existing buildings*, Professional Practice Bulletin, Regulatory No. 2, November 2012, pp. 1–2.
- ¹³² PEO Roundtable responses, pp. 11–12.
- ¹³³ NORR Panel testimony (Saffarini), May 29, 2013, pp. 12261–6.
- ¹³⁴ Exhibit 5347, p. 6.
- ¹³⁵ Association of Professional Engineers and Geoscientists of British Columbia (APEGBC), Designated Structural Engineer Application Guide, Version 15 (May 2011), p. 3.
- ¹³⁶ APEGBC, Designated Structural Engineer Application Guide, Version 15 (May 2011), pp. 4–5.
- ¹³⁷ APEGBC, Designated Structural Engineer Application Guide, Version 15 (May 2011), pp. 13–14.
- ¹³⁸ APEGBC, Designated Structural Engineer Application Guide, Version 15 (May 2011), p. 3.
- ¹³⁹ Roundtable transcript, November 20, 2013, p. 90.
- ¹⁴⁰ General, RRO 1990, Reg 941, s 72(2)(c).
- ¹⁴¹ <http://www.ontario.ca/environment-and-energy/brownfields-redevelopment>.
- ¹⁴² Louis D. Brandeis, “What Publicity Can Do,” *Harper’s Weekly*, December 20, 1913; <http://www.law.louisville.edu/library/collections/brandeis/node/196>.
- ¹⁴³ Ann Borooh, transcript, November 19, 2013, p. 55.
- ¹⁴⁴ Stuart Huxley, transcript, November 19, 2013, pp. 69–71.
- ¹⁴⁵ Brenda Lewis, transcript, November 19, 2013, p. 57.
- ¹⁴⁶ Randal Froebelius, transcript, November 19, 2013, pp. 79–80.
- ¹⁴⁷ Alan Shaw, transcript, November 19, 2013, pp. 80–1.
- ¹⁴⁸ J. Lorne Braithwaite, transcript, November 19, 2013, pp. 82–3.
- ¹⁴⁹ Peter Sharpe, transcript, November 18, 2013, p. 131.
- ¹⁵⁰ Peter Froebelius, transcript, November 18, 2013, p. 73.
- ¹⁵¹ Dean Findlay, transcript, November 18, 2013, p. 102.
- ¹⁵² Ann Borooh, transcript, November 18, 2013, p. 120.
- ¹⁵³ Michael Ostfield, transcript, November 18, 2013, p. 167.
- ¹⁵⁴ Peter Sharpe, transcript, November 18, 2013, p. 168.
- ¹⁵⁵ *Building Code Act, 1992*, SO 1992, ss 15.8(1), as amended by SO 1997, c 24, s 224(8), 18(1); SO 2002, c 23, as amended by SO 1997, c 30, Schedule B, s 11.
- ¹⁵⁶ Ann Borooh, transcript, November 18, 2013, p. 98.
- ¹⁵⁷ Brenda Lewis, transcript, November 18, 2013, pp. 105–16.
- ¹⁵⁸ *Building Code Act, 1992*, s 15.11(1), SO 1992, c 23, as amended by SO 2002, c 9, s 27.
- ¹⁵⁹ Ewald testimony, May 24, 2012, pp. 11544–50.
- ¹⁶⁰ *Peter Kiewit Sons Co. v Tillsonburg (Town)*, [2002] OJ No 1497 at para 82 (SCJ).
- ¹⁶¹ *Pedwell v The Corp. of the Town of Pelham*, 2003 CanLII 7488 at para 56 (OCA).
- ¹⁶² Exhibit 35, pp. 13–17.
- ¹⁶³ Rod Caughill testimony, March 13, 2013, p. 1544.
- ¹⁶⁴ Exhibit 611.
- ¹⁶⁵ Rod Caughill testimony, March 13, 2013, pp 1611–13.
- ¹⁶⁶ Exhibit 44, pp. A, 15.
- ¹⁶⁷ Rod Caughill testimony, March 14, 2013, pp. 1678–9.
- ¹⁶⁸ Exhibit 50, pp. 697–9.
- ¹⁶⁹ Rod Caughill testimony, March 14, 2013, pp. 1681–5; Leistner testimony, March 27, 2013, pp. 3385–7.
- ¹⁷⁰ Leistner testimony, March 27, 2013, pp. 3381–2.
- ¹⁷¹ Leistner testimony, March 27, 2013, p. 3431.
- ¹⁷² Bauthus testimony, March 26, 2013, p. 3060.
- ¹⁷³ Celli testimony, April 5, 2013, p. 4254; Buckley testimony, April 8, 2013, p. 4389; Truman testimony, April 9, 2013, p. 4530; Luciw testimony, April 10, 2013, pp. 4747–8.
- ¹⁷⁴ Exhibit 67, pp. 012–13.
- ¹⁷⁵ Allard testimony, April 29, 2013, p. 7040; Pigeau testimony, March 22, 2013, pp. 2599–2601.
- ¹⁷⁶ Ann Borooh, transcript, November 19, 2013, pp. 97–9.
- ¹⁷⁷ J. Lorne Braithwaite, transcript, November 19, 2013, p. 101.
- ¹⁷⁸ Randal Froebelius, transcript, November 19, 2013, pp. 101–2.
- ¹⁷⁹ Exhibit 6-6, s 5.1, 5.4(a); Exhibit 6-7, ss 4(1)(a), 5(1)(a).
- ¹⁸⁰ Ewald testimony, May 27, 2013, p. 11772.
- ¹⁸¹ Jag Humar, transcript, November 20, 2013, p. 174.
- ¹⁸² Roundtable transcript, November 20, 2013, p. 165.
- ¹⁸³ Roundtable transcript, November 20, 2013, p. 168.
- ¹⁸⁴ Roundtable transcript, November 20, 2013, pp. 160–6.
- ¹⁸⁵ Roundtable transcript, November 20, 2013, pp. 115–18.
- ¹⁸⁶ PEO roundtable responses, pp. 19–20.
- ¹⁸⁷ *Professional Engineers Act*, RSO 1990, c P.28, s 28(4)(i).
- ¹⁸⁸ *Regulated Health Professions Act, 1991*, SO 1991, c 18, Schedule 2 (*Procedural Code*) ss 23(2) 7, 8, 9, 10; 23(5).
- ¹⁸⁹ Officer testimony, April 23, 2013, pp. 6292, 6297.
- ¹⁹⁰ PEO roundtable responses, p. 20.
- ¹⁹¹ Exhibit 35, p. 13.
- ¹⁹² *British Columbia Building Code*, BC Reg 264/2012, s 2.2.7 in Part 2 of Division C.
- ¹⁹³ British Columbia, *Guide to the Letters of Assurance in the B.C. Building Code 2006* (Victoria: Ministry of Public Safety and Solicitor General, Building and Safety Standards Branch, December 2010), p. 3.
- ¹⁹⁴ *Municipal Freedom of Information and Protection of Privacy Act*, RSO 1990, c M.56, s 1.
- ¹⁹⁵ *Municipal Freedom of Information and Protection of Privacy Act*, RSO 1990, c M.56, s 10.
- ¹⁹⁶ *Municipal Freedom of Information and Protection of Privacy Act*, RSO 1990, c M.56, s 11.
- ¹⁹⁷ *Municipal Freedom of Information and Protection of Privacy Act*, RSO 1990, c M.56, s 1; Information and Privacy Commissioner, Ontario, *Working with the Municipal Freedom of Information and Protection of Privacy Act, A Councillor’s Guide* (Ottawa: November 2001).
- ¹⁹⁸ Exhibit 4125.
- ¹⁹⁹ Hudson testimony, July 8, 2013, pp. 14735–6, 14741–2.
- ²⁰⁰ *Occupational Health and Safety Act*, RSO 1990, c O.1, ss 8(10), 9(18), 9(19).
- ²⁰¹ *Occupational Health and Safety Act*, RSO 1990, c O.1, ss 8(12), 9(20).
- ²⁰² *Occupational Health and Safety Act*, RSO 1990, c O.1, s 51(1).
- ²⁰³ *Occupational Health and Safety Act*, RSO 1990, c O.1, s 52(1).

²⁰⁴ See Exhibits 12-16, 12-9, 12-10, 12-46, 12-12.

²⁰⁵ See Exhibits 12-23, 12-26.

²⁰⁶ Exhibit 4123.

²⁰⁷ Dennis testimony, April 30, 2013, pp. 7493-4.

²⁰⁸ Exhibit 4125, p.009.

²⁰⁹ See Exhibit 4122.

²¹⁰ Exhibit 749.

²¹¹ *Occupational Health and Safety Act*, RSO 1990, c O.1, s 25(1)(e).

²¹² Exhibit 4125, p. 012.

²¹³ Exhibit 4125, p. 012.

²¹⁴ Dennis testimony, April 30, 2013, pp. 7487-8.

²¹⁵ Regan testimony, June 6, 2013, pp. 13007-8.