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RADON

ACTION IN MUNICIPAL LAW

Understanding the legal powers
of cities and towns in Canada



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Summary



Radon is a naturally occurring radioactive gas, emanating from the ground, entering and accumulating in buildings. Radon gas is found in every building in Canada at some level. Radon exposure is the leading cause of lung cancer after smoking, and accounts for an estimated 16 percent of lung cancer deaths in Canada. Provincial, Territorial and Municipal governments can become leaders in advancing radon action through education and awareness, supporting community testing, databases and mapping, enforcing Building Codes and other actions. To help support such action Health Canada has prepared Radon Action Guides for provinces and territories, and municipalities. A document on the justifications and policy reasons governments might use to take action on radon has also been prepared. Some municipalities may be concerned about taking action in the absence of provincial strategies or without clear provincial direction, given that municipalities are creatures of statute and possess only the powers delegated to them by provincial and territorial legislatures. In this document we look into municipal law principles to show how municipalities have legal powers to take action.

Municipalities can take action on radon on their own even when higher orders of government have not yet done so. Indeed, they may already have legal duties to so. Municipalities control their own buildings, and at times social housing, and have responsibilities as landlords and as employers to ensure spaces are safe. Municipalities conduct inspections and enforce Building Codes (which at times include radon provisions) and can face liability where this is negligently done. Beyond this, there are many important actions municipalities can take. Municipalities handle business licensing (and so can shape the indoor environments of spaces to which the public has access) and can have rules covering rental accommodation. Municipalities can pass new bylaws, or amend existing bylaws, to include requirements to test and mitigate or radon as part of general powers to protect public health and the environment. As well the “natural person powers” will support many types of efforts for education, awareness, training, and community testing and mapping of radon. As part of this analysis, we also discuss how radon can be worked into broader municipal planning frameworks.

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1. Understanding Jurisdiction and the Role of Municipalities

This document surveys the legal powers of municipalities to address radon. It is designed to be read along with other documents that detail policy rationales for why provinces and municipalities should address radon, and provincial/territorial and municipal radon action guides which provide guidance to governments on ways to address radon.

As will be shown, municipalities generally do have wide scope to address radon, even in the absence of action by higher orders of government. That said, municipalities are creatures of statute and possess only the powers delegated to them by provincial and territorial legislatures. This means that they must act within the legislative constraints the province or territory has imposed on them (and which the province has powers to confer). If they do not, affected persons can go to court to ask judges to set aside decisions or bylaws.¹ As such, assessing municipal powers involves understanding what subject areas Canada's Constitution delegates to provinces and territories, and how provinces and territories enable municipalities to make their own law and policy. Each province and territory in Canada has developed their own system of municipal and local government law. Through this document effort has been made to generalize across the Canadian system but also be sensitive to local variation. Specific municipalities should consider supplementing this Guide with specific analysis of their own provincial system.

In Canada's federal system, the *Constitution Act* allocates responsibilities between the federal government and the provinces. Municipalities, in turn, are allocated powers by provincial governments. Radon, like many areas of "health" or "environment" are in theory matters of shared responsibility. For its part, the federal government, through the National Radon Program (under the umbrella of Health Canada) has done considerable work in promoting awareness, outreach, testing and mapping, and providing non-binding guidance documents: The Canadian National Radon Proficiency Program (C-NRPP) also oversees certification of radon professionals. However, hard law has been left to provinces and municipalities. Radon primarily affects the indoor built environment which is often covered by specific provincial law and regulations that relate to areas such as building codes, real estate transactions, residential tenancies, schools, care facilities, and workplaces.

For much of the twentieth century, municipalities were confined to acting only where enabling statutes (generally municipal law legislation) explicitly gave permission. However, since the 1990s, Canadian courts have shown an increasing willingness to afford municipalities greater freedom to interpret their legal powers, recognizing they are elected representatives.² Provincial and territorial statutes that allocate powers to municipalities have also been rewritten to provide broad subject areas for bylaws. Most provinces and territories municipal legislation mentions protecting health and safety as part of the general purposes of a municipality, or allows for bylaws concerning health.³ Many provinces also provide that municipalities have the purpose of fostering environmental well-being, or can make bylaws to protect the environment.⁴ The broad mandates to make bylaws around health and environment mean municipalities can take many steps to address radon: Municipalities can, among many measures, directly regulate indoor air spaces (as they currently do concerning smoking), tie radon abatement to permits for construction, or ensure low radon in rental and social housing.



Municipalities can also draw a broad mandate to address radon through providing services to the public. Reforms in the late 1990s and early 2000s gave most municipalities in Canada considerable leeway to function autonomously. Along with broad purposes (as discussed above), provincial legislation also generally gives municipalities the power of a “natural person”.⁵ This means that a municipality can do anything a natural person is legally entitled to do in the manner that a natural person can. For instance, mandating action as part of a bylaw or imposing levies is a special power accorded to municipalities by legislation (and with prescribed processes) but entering into a contract or an agreement with another entity is something a natural person can do.⁶ The doctrine enables municipal governments to perform governance, management, and administrative activities that fall within the general scope of their jurisdictional authority without the need for expressed or explicit legislative authority regarding either precisely what to do or precisely how to do it.⁷ In many cases legislation also allows a municipality to provide any services the council considered necessary or desirable for the municipality.⁸ Municipalities can help advance radon education, awareness and voluntary testing and mitigation in numerous ways outside of bylaw-making or planning powers. This can include providing education on websites, publishing informational guides, hosting information sessions and talks, selling test kits, conducting testing and mapping initiatives or offering subsidies.



2. Planning for Radon

There is a long history in Canada of municipal governments engaging in long-term pro-active planning, as found in long-term land use plans, Sustainability Plans, Healthy Community Strategies or housing initiatives. Municipalities not only have the power to include radon in these plans, but doing so follows from existing mandates to plan for housing and protection of the environment.

Generally, municipal law calls for the creation of longer-term plans—at times called “Municipal Plans,” “Official Community Plans,” “development plans” or “Metropolitan plans”. These are statements of objectives and policies to guide decisions on planning and land use management over decades. Municipal law offers detailed prescriptions concerning contents and procedure for their creation.⁹ Generally these have very broad purposes, such as to “promote human settlement that is socially, economically and environmentally healthy and that makes efficient use of public facilities and services, land and other resources”.¹⁰ At times, there are simple requirements to have a plan and to state a vision, but at times plans will be subject to broad provincial goals or legislation will also specify purposes or goals for such plans. Each province and territory’s legislation should be treated individually to assess what is mandatory and permitted, but taken together we can see topics covered under municipal purposes or specific to planning (and which radon may fall under) such as:

- economic, social and environmental well-being of the municipality¹¹;
- reducing environmental pollution or protection the natural environment¹²;
- planning for energy supply and promoting efficient use, conservation and alternative forms of energy¹³ (as explained in other documents, without proper attention, energy efficiency in buildings can elevate radon levels);
- enhancement of the built environment¹⁴;
- public health and safety¹⁵;
- adequate, affordable and appropriate housing¹⁶;
- healthy built environments¹⁷;
- planning for lands that are subject to hazardous conditions or that are environmentally sensitive to development¹⁸.

A core reasons for longer-term planning is to ensure provision is made for long-term spatial planning of cities, ensuring there is space for roadways, parks, and broad objectives in zoning—e.g. determining where businesses are located and the height and density of buildings. From the 1990s onwards urban planning and municipal law have emphasized that the physical form of cities can have significant impact on the natural environment—and that spatial planning can help stop ‘sprawl’ that threatens farmland (and food security) and contributes to greenhouse gas emissions (such as through promoting automobile use). Planning legislation now specifically directs municipalities to incorporate a far wider range of values into the planning process and which offer point to strategies and actions that go beyond spatial planning. As such, long-term plans will broadly provide “a policy framework for Council by addressing issues such as housing, transportation, infrastructure, parks, economic development, and the natural and social environment”.¹⁹ Cities will now commonly provide a series of overlapping and coordinated strategies covering areas of sustainability, health, and housing as part of the planning process.



For instance, Kelowna, BC's Official Community Plan (OCP) (2011) is based on "a vision for a sustainable city, with a balance between environmental protection, economic growth, social development, and cultural vibrancy".²⁰ The OCP includes in its goals that of addressing the housing needs of all residents. Objectives include "Support the creation of affordable and safe rental, non-market and/or special needs housing".²¹ The OCP includes specific provisions on the natural environment, and also works in concert with other environmental planning initiatives. The OCP includes goals of improving energy efficiency and reducing greenhouse gas emissions (Objective 6.2). The Community Climate Action Plan (2012, updated in 2018) further develops these initiatives. As well, Kelowna also has a Healthy City Strategy (2014) that seeks to provide a framework to change the conditions that impact the health and well-being of residents by taking action across areas of housing, neighbourhood design, inclusivity, natural environments, food systems, and transportation networks. The Healthy Housing Strategy (2016) further develops housing issues, recognizing that "On a local level, the role of a well-functioning housing system is a critical factor in creating healthy, diverse and vibrant neighborhoods. It is known that affordable housing makes a powerful, positive contribution to the economy, to a healthier community, to healthier people, and is pivotal for a sense of belonging".²²

Radon action is an obvious addendum to these strategies and easily fits into their mandate. To return to the Kelowna example, housing needs are a focus from the OCP through to the Healthy Housing Strategy. While the Healthy Housing Strategy primarily focuses on ensuring adequate and affordable supply of housing, the Strategy recognizes that healthy housing must also be of "quality": "Quality housing is both adequate and suitable. 'Adequate' refers to housing that is in good physical condition and that is of an appropriate size. Typical challenges here result from indoor health and safety hazards and overcrowding." The Community Climate Change Plan puts considerable emphasis on building retrofitting, and recommends a series of actions to remove barriers and provide financial supports to drive higher efficiency in buildings. The Plan also recognizes synergies with health: Strategies that address climate change can also improve physical and mental health and reduce demand on the healthcare system... Adding insulation to a home to reduce energy demand can also decrease respiratory and cardiovascular disease."²³ Addressing radon is a natural way to achieve these goals.



3. Collaboration, Consultation, and Partnerships

Public participation is now widely understood as an important component of policy development. It helps build trust and foster relationships, strengthens democracy and allows for the voices to be heard of people who may be affected by decisions. Engaging with different perspectives provides opportunities for learning, testing assumptions, highlighting unforeseen issues and gaining insight from people who may have unexpected understanding of complicated systems. Collaboration, consultation and partnership can also serve to shore up political support for a new initiative. As we will discuss here, there are also some legal requirements for consultation and public hearings.

In many places, municipal law requires public participation before major decisions can be made. Generally, official community, development and metropolitan plans, and/or bylaws require, before they are adopted, a process of public hearings, as well as specific procedures before and during the hearing.²⁴ The courts also apply common-law procedural and due process requirements for public hearings. For example, the public should have clear notice of the hearing, and have access to any relevant reports that the council will consider in making its decision.²⁵ Local governments will also have a duty to consult with First Nations on decisions which affect them.²⁶ As well, in some provinces, such as Alberta, municipalities are directed to having public participation policies.²⁷ Municipal action on radon will need to follow established guidelines for hearings and consultation.

Municipal governments will also have an important persuasive role in relation to other entities which they cannot fully control. For instance, school boards exist at the municipal level but are typically formally separate from city councils. However, school boards have an important role in driving testing and mitigating schools for radon. City governments can collaborate with school boards as part of ensuring radon is addressed in public buildings. As well, local libraries may offer lending programs for radon testing devices. Municipal libraries are typically formally independent from municipal councils, responsible for their own administration and with their own boards. However, municipalities may play a role in appointing boards.²⁸ Collaboration and partnership can allow a municipality to forge a coordinating response across organizations where there are not, strictly, legal mechanisms for imposing a singular vision.

Collaboration and partnership might also be driven by special requirements. In British Columbia, there are special rules on concurrent jurisdiction, which require municipalities to consult with the provincial government before passing bylaws in areas of environment,²⁹ and with both the provincial government and local health authorities when dealing with public health issues.³⁰ The mere fact of overlap with provincial responsibilities is not necessarily a problem,³¹ but if the 'pith and substance' or dominant purpose of the bylaw falls within an area of concurrent jurisdiction courts will strike down bylaws that required but did not obtain provincial approval.³² In practice this has meant that there is considerable coordination between municipal and health planners over Healthy Community/Healthy City strategies and it is likely that courts would expect this in dealing with radon.³³



4. Government Operations and Its Owned Social Housing

Municipalities and other local governments have good reasons to consider radon within their own operations. A government might choose to construct its own buildings to higher standards as a way of meeting legal obligations, acting ethically, leading by example or to help support local environmental industries. Municipal governments will be able to draw on their natural person powers in taking such action.

Municipalities and other local governments have legal powers—and regularly do—hire employees (again, as part of their natural person powers). Once a government does so, it will then have responsibilities as employers, and these extend to cover radon.

Employment law in Canada does not typically mention radon (with the exception of some mining regulations), however, a number of clauses might be relevant. All provinces and territories have workplace safety legislation that, along with very specific provisions for diverse industries, also include “general duty clauses” that in broad terms require employers to create safe workspaces and minimize hazards.³⁴ These broad measures are sufficient to cover radon. More specifically, the federal government has created the Naturally Occurring Radioactive Materials (NORM) Guidelines, which put strict limits for how much radiation exposure a normal worker (e.g. one that in a job specifically designed to handle radiation) might face.³⁵ This implies strict controls on radon. Ontario has set an example and issued guidelines for how NORM Guidelines work together with general duty clauses to require radon reduction in workplaces to below 200 Bq/m³ where possible.³⁶ Provinces and territories also have general requirements that workplace be ventilated to remove dangerous gases.³⁷

Municipalities and other local governments also have powers to own, build, and administer housing, often in conjunction with provincial and federal housing initiatives.³⁸ In Ontario, many municipal governments who play the role of “Service Managers”³⁹ also hold oversight and funding of social housing. Municipalities and regional districts own a significant part of Canada’s public housing infrastructure, with such large-scale suppliers as the Metro Vancouver Housing Corporation and Toronto Community Housing Corporation.

As housing providers, municipalities need to ensure the people who live in their buildings are not exposed to elevated radon. Laws of general application such as landlord-tenant law will apply to municipal housing providers. Provinces and territories have laws that specify that a landlord must provide housing that is safe and in good repair.⁴⁰ In Ontario and Quebec tribunals have found that these clauses give tenants the right to have elevated radon addressed.⁴¹ Tenants will also be protected by Occupiers Liability law, which gives a right to sue for damages where injuries such as lung cancer are caused by unsafe premises.⁴² Many publicly owned housing corporations have taken steps to address radon at both the provincial⁴³ and municipal level.⁴⁴ As well, in some cases, provincial housing authorities incorporate radon protection into their Design Guidelines. For instance, Manitoba Housing’s Design Guidelines for Multi-Unit Affordable and Social Housing (2017) include provisions for radon control.⁴⁵



5. Enforcing Building Codes

Building Code enforcement is a key focus of municipal governments. Most provinces now have some form of radon protection in place for new construction. Most provinces directly apply or adopt the National Building Code which has requirements for a ‘radon rough in’—a hole in the building foundation slab and a short pipe that can, if needed be converted into a full radon mitigation system. Radon professionals consider this a partial solution, and more robust measures might include building in a full pipe that leaves the building (or what is known as a ‘passive sub-slab depressurization system’), or radon testing of a building before occupancy. Municipalities potentially face a range of concerns over enforcing existing radon provisions or working to improve standards in their community.

Provincial (and territorial) building legislation generally gives municipalities the powers to handle inspection. In most provinces, municipalities must take on the inspection role.⁴⁶ In other cases municipalities take this on as a matter of course.⁴⁷ This both gives powers and responsibilities to municipalities.

Municipalities can take a variety of steps to address radon in new construction. This includes having inspectors inform builders, homeowners, and others when buildings do not have correct radon systems. Municipalities can use enforcement powers to ensure new buildings have required radon mitigation systems in place. This can include denying occupancy permits to homes which do not comply with the Code, as the Ontario municipalities of Guelph, Kingston, and Loyalist Township now do.⁴⁸

Municipalities may also face liability for negligent inspection. Once a local government makes the policy decision to inspect building plans and construction, it owes a common law duty of care to person who might be impacted. Courts have thus found cities liable when inspectors failed to find design and construction flaws.⁴⁹ Cities may also be added as parties where the liability of inspectors worked together with wrongdoing by developers.⁵⁰

In some jurisdictions, there are limits on this process and there should be investigation into local rules. For instance, in British Columbia, a municipal inspector’s duty to inspect may be limited to inspecting plans and not actual structures, to ensure that only certified engineers or architects have approved plans.⁵¹ In Alberta there is general legislation exempting cities from liability for inspections done in good faith.⁵² In Ontario, the Building Act creates a system of “registered code authorities” which allows municipalities to avoid liability; however municipalities have not, generally made use of such authorities to avoid liability.⁵³ Some local governments have protections in their Charters⁵⁴ or have taken steps to protect themselves from liability through bylaw provisions.⁵⁵ On the whole, however, and given the risks of liability (and overall concern for well-being), municipalities should take measures to ensure their inspectors are familiar with radon provisions.

For the most part, **municipalities do not have much control over the content of Building Codes.** In many provinces and territories – British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Yukon, Nunavut and Northwest Territories – there are uniform building code provisions, effectively removing municipal control over the contents of the Building Code.⁵⁶ Some cities, such as Castlegar, BC, have tried to change their local building code to reflect concerns about radon, only to find the process replaced by provincial measures—as the government both imposed uniform requirements across the province (that included some radon provisions).⁵⁷



However, in some provinces, such as Quebec, Prince Edward Island and Newfoundland, **there may be scope for distinct provisions to be added to bylaws.**

Here, municipalities can act independently to add radon provisions.

- In Newfoundland, the Building Standards Act does not apply to the City of St. John's and most municipalities.⁵⁸ However, the Municipalities Act specifies that individual municipalities must at least adopt the National Building Code: They can also impose requirements that are more stringent.⁵⁹
- Prince Edward Island's Building Code Act and regulations adopt the National Building Code,⁶⁰ but also allows for more stringent standards at the municipal level.⁶¹
- In Quebec, the current Construction Code has only minimal radon requirements (such as a sub-slab membrane).⁶² However, particular municipalities can adopt higher standards.⁶³ Municipalities that have implemented higher radon standards (e.g. a depressurization system) include Ascension⁶⁴ and Chelsea.⁶⁵

In some cases, such as in British Columbia municipal authorities can make written requests for local variation.⁶⁶

Municipalities may also have powers to “trigger” Building Code provisions that relate to radon. For instance, the Ontario Building Code has a section on “Soil Gas Control” which imposes requirements “where methane or radon gases are known to be a problem.”⁶⁷ This opens the door for local municipalities to establish whether radon is a known problem and then to take steps to enforce radon requirements. As a result, a number of municipalities and local health units have coordinated to first do sample community testing and then to begin enforcing the radon provisions. These include Guelph, Kingston, and the Loyalist Township.⁶⁸ In British Columbia, the Building Code provides a list of municipalities where radon is known to be an issue (and where in radon provisions apply).⁶⁹ On top of that, the Code provides that municipalities can take steps to be added to this list.⁷⁰

Local governments may also still have the option of negotiating voluntary compliance with builders. Generally, requirements for uniformity concerning Building Codes attach to mandatory requirements and “enactments” in bylaws. There is thus still the option of tying compliance to other benefits a city might provide. For instance, a municipality might be able to use density bonus bylaws or land covenants to impose higher standards, or offer subsidies and incentives.⁷¹



6. Low Radon Requirements in Public Spaces

Through the 1990s and 2000s many municipalities and other local governments in Canada came to adopt bylaws prohibiting smoking in public spaces such as restaurants, shopping malls, workplaces, or parks. In some cases these were described as “Clean Air Bylaws”.⁷² In other cases they were part of a more omnibus “Health Bylaw” that covered areas such as bans on pesticides, spitting in public, or boats discharging sewage.⁷³ “Clean Air” or “Health” bylaws could be expanded to include rules requiring testing and necessary mitigation of radon in public indoor spaces. Cities generally can also use business-permitting powers to enforce health bylaws.

Typically, anti-smoking bylaws drew on explicit wording in provincial legislation allowing municipalities to pass smoking regulation. However, municipalities could expand clean air/health bylaws or create new radon bylaws on the basis of the very general powers to pass health related regulations (or, in some cases, general environmental powers). Courts now follow the principle of ‘subsidiarity’ which recognizes municipalities as democratically elected governments often close to, and responsive to the needs of the people they serve. For instance, in *Hudson (2001)*⁷⁴ the town of Hudson banned cosmetic pesticides and relied provisions in Quebec’s *Cities and Towns Act* that gave general powers to regulate for health. The Supreme Court of Canada invoked the subsidiarity principle to give wide scope to the town to interpret its powers.

Requiring public spaces to measure and to mitigate high radon will not prohibit normal business activity, prevent the operations of businesses or prohibit trade. Nor will it conflict with Building Codes: Regulating the health impacts of air is not the same as imposing structural requirements. While Building Codes can provide detailed prescriptions for how building should be built—and which can have the result of lowering radon levels or making it easier to do so, this is different from a requirement concerning the quality of indoor air. There will not be conflict between complying with a low radon requirement and complying with the Building Code (indeed, they will likely work together).



7. Standards of Maintenance/Housing Standards

Many Canadian municipalities have standards of maintenance bylaws that cover the conditions of property. The powers to create such bylaws may issue from general health and safety powers, but many provinces also have specific wording allowing local governments to make standards of maintenance bylaws.⁷⁵ Many municipalities include in these bylaws details on indoor environments, and so supplement provincial residential tenancies protections.⁷⁶ In some provinces there are also provincial laws or regulations mandating specific standards as well.⁷⁷ In some cases, such as British Columbia, the provincial government provides explicit guidance to municipalities that include indoor conditions, such as having plumbing in good working order.⁷⁸

In practice, many municipalities primarily focus on “community standards” that aim to create calm, ordered and quiet outdoor environments through attention to issues such as graffiti, garbage, or noise.⁷⁹ However, others do make explicit that this can serve as renters’ protection: In Waterloo, Ontario, the city uses the business license process to enforce standards of maintenance, denying permits to landlords who do not maintain rental properties and allowing enforcement by medical officers of health, as well as building inspectors, enforcement officers and police officers.⁸⁰ Municipalities can add protection from high radon to such bylaws, creating a powerful tool for protecting renters.



8. New Development Areas

Local governments might consider radon in soil when siting, zoning, and permitting new housing.⁸¹ Municipal legislation generally does allow for specific site planning, and specific restrictions due to hazards or health and safety concerns.⁸² This enables the council of the municipality to ensure the quality of site planning and architectural integration. In some cases, such as in British Columbia's *Local Government Act*, municipalities are given powers to impose special standards asking developers to provide special reports, timing and process of construction, or added safety features as a condition to obtaining permits.

There is good evidence and high correlation between radon in soil and radon in homes.⁸³ Cities and other local governments might give special attention to any housing built on such places as at higher risk of high indoor radon concentrations. Radon mitigation using sub-slab depressurization is usually sufficient to ensure indoor radon levels are below Health Canada Guidelines, even where radon levels are very high pre-mitigation.⁸⁴ It is thus unlikely that municipalities would need to prohibit housing due to high background radon levels. However, some locations known to have high radon in soil could potentially be subject to specific standards such as for radon testing prior to occupancy.



9. Conclusion

Municipalities are creatures of statute and possess only the powers delegated to them by provincial and territorial legislatures. Yet as the level of government often closest to people and highly trusted, municipalities also have significant powers to advance radon action. In the past two decades, courts have become much more willing to allow municipalities a wide berth in interpreting their governing statutes. General provisions giving municipalities powers to pass bylaws in areas of public health and environment will allow for significant action. Municipalities have significant responsibilities over Building Code enforcement, business licensing, standards of maintenance, new development permitting, and in their own operations, all of which can translate into robust radon action. As well, natural person powers will enable municipalities to advance education, awareness, testing, developing of databases, and subsidies and incentives. Municipalities also have significant ability to coordinate with other local level institutions, such as health boards, school boards and libraries which together can take important actions to address radon. Municipalities should consider taking action on radon even when their provincial and territorial governments are slow to move: By showing initiative they can be leaders in an important public health issue and action will save lives.



Endnotes

- 1 Catalyst Paper Corp. v. North Cowichan (District) 2012 SCC 2, at para. 11; Canadian Plastic Bag Association v. Victoria (City), 2019 BCCA 254 at para 40.
- 2 Shell Canada Products Ltd. v. Vancouver (City), [1994] 1 SCR 231, 1994 CanLII 115; 114957 Canada Ltée Spraytech, Société d'arrosage v. Hudson (Town), 2001 SCC 40; United Taxi Drivers' Fellowship of Southern Alberta v. Calgary (City) (2004), 2004 SCC 19 .Croplife Canada v. Toronto (City), 2005 CanLII 44363 (SCC); Catalyst Paper Corp. v. North Cowichan (District), 2012 SCC 2, [2012] 1 S.C.R. 5.
- 3 British Columbia, Community Charter, SBC 2003, c 26, s. 8(3)(i); Alberta, Municipal Government Act, RSA 2000, c M-26 ,s. 3(c) and 7(a); Saskatchewan, Municipalities Act, SS 2005, c M-36.1. 4(2), and s. 8(1)(b); The Cities Act, SS 2002, c C-11.1, 4(2) and (8(1)(b)); The Northern Municipalities Act, 2010, SS 2010, c N-5.2 The Northern Municipalities Act, 2010, SS 2010, c N-5.2 s. 4(2) and 8(1)(b); Manitoba, Municipal Act, CCSM c M225 s/ 232(1) (a); Ontario, Municipal Act, 2001, SO 2001, c 25, (s. 10 (1), s. 10 (2)(6), s. 11(1) and 11(2)(6));' Quebec, Municipal Powers Act, CQLR c C-47.1, s. 4, , 19 to 54 (environment) s. 55 to 48 (sanitation); 6w to 65 safety; New Brunswick, Local Governance Act, SNB 2017, c 18 , s. 10 (1)(a); Prince Edward Island, Municipal Government Act, RSPEI 1988, c M-12.1, s. 180; Nova Scotia, Municipal Government Act, SNS 1998, c 18 s. 172 (1)(a). Northwest Territories, Hamlets Act, SNWT 2003, c 22, Sch C s. 72(1)(a); Cities, Towns and Villages Act, SNWT 2003, c 22, Sch B s. 70(1)(a); Charter Communities Act SNWT 2003, c 22, Sch A s. 74(1)(a); Yukon, Municipal Act, RSY 2002, c 154 s. 265(a); Nunavut, Hamlets Act, RSNWT (Nu) 1988, c H-1 s. 54.2, 102 (a) Cities, Towns and Villages Act, RSNWT (Nu) 1988, c C-8, 1 s. 54.2, 102 (a).
- 4 British Columbia, Community Charter, SBC 2003, c 26, s. 7(d); Alberta, Municipal Government Act, RSA 2000, c M-26 ,s. 3(a.1); Saskatchewan, Municipalities Act, SS 2005, c M-36.1. 4(2)(d); The Cities Act, SS 2002, c C-11.1, 4(2)(d); The Northern Municipalities Act, 2010, SS 2010, c N-5.2 s. 4(2) (d) and 8(1)(b); Ontario, Municipal Act, 2001, SO 2001, c 25, (s. 10 (2)(5); , s. 10 (2)(6), s. 11(2)(5));' Quebec, Municipal Powers Act, CQLR c C-47.1, s. 4 (4), s. 19 New Brunswick, Local Governance Act, SNB 2017, c 18 , s.5 (d); Prince Edward Island, Municipal Government Act, RSPEI 1988, c M-12.1, s. 180 m), Nova Scotia, Municipal Government Act, SNS 1998, c 18 s. 172 (1)(a).
- 5 British Columbia, Community Charter, SBC 2003, c. 26, s. 8(1) Alberta, Municipal Government Act, RSA 2000, c M-26s. 6; Saskatchewan, The Cities Act, SS 2002, c C-11.1, s. 4(3); The Northern Municipalities Act, 2010, SS 2010, c N-5.2, s. 4(3); The Municipalities Act, SS 2005, c M-36.1 s. 4(3); Manitoba The Planning Act, CCSM c P80, s. 18(1); Ontario, Municipal Act, 2001, SO 2001, c 25 s. 9; City of Toronto Act, 2006, SO 2006, c 11, Sch A s. 7(1); New Brunswick Local Governance Act, SNB 2017, c 18; Municipal Government Act, RSPEI 1988, c M-12.1, s. 4(2); 6(1); Yukon. Municipal Act, RSY 2002, c 154223.01(2).
- 6 St Paul (County) No 19 v Belland, 2006 ABCA 55, [Prairie Communities Development Corp. v. Okotoks \(Town\)](#), 2011 ABCA 31.
- 7 Garcea, J. (2004). Modern Municipal Statutory Frameworks in Canada. *Revue Gouvernance*, 1 (1). <https://doi.org/10.7202/1039192ar> accessed June 10, 2020 at p. 6.
- 8 BC: Community Charter , SBC 2003, c. 26 s. 8 (2); Saskatchewan, The Cities Act, SS 2002, c C-11.1 4(2)(b); The Northern Municipalities Act, 2010, SS 2010, c N-5.2, 4(2)(b); The Municipalities Act, SS 2005, c M-36.1 s. 4(2)(b); Ontario Municipal Act, 2001, SO 2001, c 2510 (1), 11(1); City of Toronto Act, 2006, SO 2006, c 11, Sch A s. 8(1); New Brunswick Local Governance Act, SNB 2017, c 18, s. 5(b);Yukon, Municipal Act, RSY 2002, c 154229(1).
- 9 British Columbia, Local Government Act, RSBC 2015, c 1. s. 471 to 478; Alberta: Municipal Government Act, RSA 2000, c M-26s. 153(a.1), s 632, see also Alberta Land Stewardship Act, SA 2009, c A-26.8 Part 1; Saskatchewan: The Planning and Development Act, 2007, SS 2007, c P-13.2, s. 29-43; Manitoba: The Planning Act, CCSM c P80, s 40 to 67; Ontario: Planning Act, RSO 1990, c P.1 16 to 27; Quebec: Act respecting land use planning and development, CQLR c A-19.1; New Brunswick: Community Planning Act, SNB 2017, c 19, s. 21-to 32; PEI: Municipal Government Act, RSPEI 1988, c M-12.1 s. 14(b); Planning Act, RSPEI 1988, c P-8; Nova Scotia: Municipal Government Act, Municipal Government Act. SNS 1998, c 18, Part VIII, Halifax Regional Municipality Charter, SNS 2008, c 39, Part VIII; Newfoundland: Urban and Rural Planning Act, 2000, SNL 2000, c U-8; Nunavut: Planning Act, RSNWT (Nu) 1988, c P-7; Northwest Territories Community Planning and Development Act, SNWT 2011, c 22 s. 3 to 7; Yukon. Municipal Act, RSY 2002, c 154 s. 278-286.
- 10 BC Local Government Act, s. 428.
- 11 BC: Community Charter, 7(d); Saskatchewan, The Cities Act, SS 2002, c C-11.1, s. 4(2)(d); The Municipalities Act, SS 2005, c M-36.1 s. 4(2)(d); Ontario Municipal Act, 2001 S.O. 2001 c. 25 s. 10(2)(5), 11(2)(5); NB Local Governance Act, SNB 2017, c.18 s. 5(b).
- 12 BC: Local Government Act RSBC, c. 1, 471(2) and 428(2)(g); Alberta: Municipal Government Act, RSA 2000, c M-26, 632(3)(b)(iii), Saskatchewan: The Planning and Development Act, 2007, SS 2007, c P-13.2, s.31;Manitoba: The Planning Act, CCSM c P80, s. 4(3)(b)(i), s. 5(3)(vi) (regional strategies); 42(1)(a); Ontario, Planning Act, RSO 1990, c P.1 s. 10(3)16 (1); New Brunswick, Community Planning Act, SNB 2017, c 19 s. 24(5)(a)(iii); Nova Scotia: Municipal Government Act, SNS 1998, c 18, s. 214 (1), Halifax Regional Municipality Charter, SNS 2008, c 39, Part VIII Nova Scotia Minimum Planning Requirements Regulations, NS Reg 140/2019 s. 13 (a);Nunavut: Planning Act, RSNWT (Nu) 1988, c P-7;Northwest Territories Community Planning and Development Act, SNWT 2011, c 22 s. 3(1);Yukon. Municipal Act, RSY 2002, c 154 s. 279(1)(c).
- 13 BC: Local Government Act RSBC, c. 1, 471(2) and 428(2)(m); Ontario Municipal Act, 2001 S.O. 2001 c. 25 s. 2(e); Nova Scotia Minimum Planning Requirements Regulations, NS Reg 140/2019 s. 11(c) Newfoundland, Urban and Rural Planning Act, 2000, SNL 2000, c U-8 s.13(3)(l).
- 14 Ontario Planning Act, RSO 1990, c P.1 s. 2 (r) Quebec. Act respecting land use planning and development, CQLR c A-19.1; s. 2.24(2).
- 15 BC Local Government Act, RSBC, c. 1 471(2) and 428(1); Manitoba, Planning Act, s. (4(1) and Provincial Planning Regulation, Man Reg 81/2011; Ontario Planning Act, s. 2(h) and 2(o).
- 16 BC Local Government Act, 471(2) and 428(2)(h), see also 429(2.1)473(2.1) ;Ontario, Planning Act Act s. 2 (j), 16(1)(a.1) ; New Brunswick: Community Planning Act, SNB 2017, c 19 24(5)(a)(vi)(l); Nova Scotia Minimum Planning Requirements Regulations, NS Reg 140/2019 s. 10 (c); Newfoundland: Urban and Rural Planning Act, 2000, SNL 2000, c U-8 13(3)(o).
- 17 Nova Scotia Minimum Planning Requirements Regulations, NS Reg 140/2019 10(g).



- 18 British Columbia, Local Government Act, RSBC, c. 1 s. 428((2)(k), 471(2), 473(1)(d); Saskatchewan, Planning and Development Act, 2007, SS 2007, c P-13.2 32(2) (d) and (e), Northwest Territories, Community Planning and Development, SNWT 2011, c 22, 4(1)c.
- 19 As described by the City of Kelowna, 2020. Kelowna 2040: Our Kelowna as We Grow at <https://getinvolved.kelowna.ca/ocp> accessed May 4, 2022.
- 20 City of Kelowna, 2018. Facts in Focus: Environment available at https://www.kelowna.ca/sites/files/1/ff-environment_.pdf at p. 2.
- 21 Kelowna 2040 - Official Community Plan, Bylaw No.: 10500, s. 5.9; available at <https://getinvolved.kelowna.ca/ocp>.
- 22 City of Kelowna, 2016. Healthy Housing Strategy, https://www.kelowna.ca/sites/files/1/docs/logos/healthy_housing_strategy_final_reduced_size.pdf at p. 5.
- 23 Our Kelowna as We Take Action: Kelowna's Community Climate Action Plan, 2018. Available at <https://www.kelowna.ca/documents/community-climate-action-plan-2018-2023> accessed March 23, 2020, at p. 16.
- 24 British Columbia Local Government Act, s. 464-8; Alberta: Municipal Government Act, RSA 2000, c M-26s. s. 230, s. 692, see also [Public Participation Policy Regulation](#), Alta Reg 193/2017; Saskatchewan: The Planning and Development Act, 2007, SS 2007, c P-13.2, s. 207-210; Manitoba: The Planning Act, CCSM c P80, s 46; Municipal Act, CCSM c M225 s. 143, 160 Ontario: Municipal Act, 2001, S.O. 2001, c. 25 s. 238 (requirement for procedure bylaws; specific cities incorporate requirements for hearings); Quebec: Act respecting land use planning and development, CQLR c A-19.1, r 0.1; New Brunswick: Community Planning Act, SNB 2017, c 19 s. 111; Nova Scotia: Municipal Government Act, SNS 1998, c 18, s. 205(3), 206; Newfoundland: Urban and Rural Planning Act, 2000, SNL 2000, c U-8 s. 18; Nunavut: Planning Act, RSNWT (Nu) 1988, c P-7, s. 24 and 25; Northwest Territories Cities, Towns and Villages Act, SNWT 2003, c 22, Sch B s. 129; Yukon: Municipal Act, RSY 2002, c 154 s. 281.
- 25 Canadian Pacific Railway Co. v. Vancouver (City), 2006 SCC 5.
- 26 Decembrini, A. and Imai, S. 2019. Supreme Court of Canada Cases Strengthen Argument for Municipal Obligation to Discharge Duty to Consult: Time to Put Neskonlith to Rest, 2019 CanLIDocs 364. Alberta Law Review.
- 27 Municipal Government Act, RSA 2000, c M-26s. 216.1(1).
- 28 British Columbia, Library Act, RSBC 1996, c 264 s.4; Alberta, Libraries Act, RSA 2000, c L-11 s. 7; Saskatchewan, Public Libraries Act, 1996, SS 1996, c P-39.2 s. 13; Manitoba, The Public Libraries Act, CCSM c P220 s. 15(1); Ontario, Public Libraries Act, RSO 1990, c P.44, s 3(3). New Brunswick Public Libraries Act, RSNB 2011, c 194 s. 10; Nova Scotia, Libraries Act, RSNB 1989, c 254, s. 10; Public Libraries Act, RSPEI 1988, c P-31.1 Public Libraries Act, RSPEI 1988, c P-31.1, s. 7(2); Newfoundland, Public Libraries Act, RSNL 1990, c P-40. s. 46; Yukon, Public Libraries Act, RSY 2002, c 178 s. 5.
- 29 Community Charter s. 9 (1)b and 8 (3) (j).
- 30 Community Charter s. 9(1)a and 8(3)(i).
- 31 1193652 B.C. Ltd. v New Westminster (City), 2020 BCSC 163 (CanLII).
- 32 Canadian Plastic Bag Association v. Victoria (City), 2019 BCCA 254 (CanLII).
- 33 City of Vancouver and Vancouver Coastal Health, 2013. A healthy Vancouver for All: A Healthy City Partnership MOU between the City of Vancouver and Vancouver Coastal Health. 8 March 2013. Available at <https://vancouver.ca/files/cov/MOU-Healthy-City-Strategy-March-2013.pdf> accessed June 18, 2020.
- 34 British Columbia, Occupational Health and Safety Regulation, BC Reg 296/97, Part 4 - General Conditions - 296/97 at s. 4.1; Alberta, Occupational Health and Safety Act, RSA 2000, c O-2 at s. 2(1); The Saskatchewan Employment Act, SS 2013, c S-15.1, at s. 3-8; Occupational Health and Safety Regulation, 1996 O-1.1. at section 12; Manitoba, Workplace Health and Safety Act, s. 4(1) C.C.S.M. c. W210; Ontario, Occupational Health and Safety Act, RSO 1990, c O.1 s. 25(2)(h); Quebec, Act respecting the occupational health and safety, CQLR c S-2.1 at s. 51 Nova Scotia, Occupational Health and Safety Act, SNS 1996, c 7 at s. 13 (1); New Brunswick, Occupational Health and Safety Act, SNB 1983, c O-0.2 at s.9; Prince Edward Island, Occupational Health and Safety Act, RSPEI 1988, c O-1.01 s. 12; Newfoundland, Occupational Health and Safety Regulations, 2012 under the Occupational Health and Safety Act(O.C. 2012- 005) at s. 42, Yukon, Occupational Health and Safety Act, RSY 2002, c 159 at s. 3(1); Northwest Territories, Safety Act, RSNWT 1988, c S-1 at s. 4. (1); Nunavut, Safety Act, RSNWT (Nu) 1988, c S-1 at s. 4(1).
- 35 Government of Canada, 2013. Canadian Guidelines for the Management of Naturally Occurring Radioactive Materials (NORM). ISBN: 978-1-100-23019-1, Cat. No.: H129-34/2013E-PDF. 130465 available at <https://www.canada.ca/en/health-canada/services/publications/health-risks-safety/canadian-guidelines-management-naturally-occurring-radioactive-materials.html> .
- 36 Ontario Ministry of Labour, Training and Skills Development, 2016. Radon in the workplace available at https://www.labour.gov.on.ca/english/hs/pubs/gl_radon.php
- 37 Newfoundland, Occupational Health and Safety Regulations, 2012 under the Occupational Health and Safety Act(O.C. 2012- 005) at s. 45, see also s.413 on underground works; Nova Scotia, Occupational Safety General Regulations, NS Reg 44/99 at s. 15; Prince Edward Island, Occupational Health and Safety Act General Regulations, PEI Reg EC180/87 at s. 11.1; Quebec, Regulation respecting occupational health and safety, CQLR c S-2.1, r 13 at s. 101; Manitoba, Workplace Health and Safety Regulation, Man Reg 217/2006 PART 4, General Workplace Requirements s. 4.1, Saskatchewan, The Occupational Health and Safety Regulations, 1996, RRS c O-1.1 Reg 1 at s. 65; Alberta, Occupational Health and Safety Code, 2009, s. 53(1), (enabled under Occupational Health and Safety Act, RSA 2000, c O-2 and Occupational Health and Safety Code 2009 Order, Alta Reg 87/2009; British Columbia, Occupational Health and Safety Regulation, BC Reg 296/97, Part 4 - General Conditions - 296/97 at s. 4.72 (1); Yukon, Occupational Health Regulations, YOIC 1986D/164 s. 7.1 Northwest Territories, Occupational Health and Safety Regulations, NWT Reg O39-2015 s. 69; Nunavut, Occupational Health and Safety Regulations, Nu Reg 003-2016, s. 69 New Brunswick, General Regulation, NB Reg 91-191, (Occupational Health and Safety Act) at s. 2 and s. 20.



- 38 British Columbia, BC Ministry of Lands, Parks and Housing Act, RSBC 1996, c 307, s. 6; [Local Government Act](#), RSBC 2015, c 1 s. 483; The Alberta Housing Act, 1968, SA 1968, c 44, s. 8; Alberta Mortgage and Housing Corporation Act, SA 1984, c A-32.5 s 36; The Saskatchewan Housing Corporation Act, RSS 1978, c S-24, s. 26 and 27; Manitoba The Housing and Renewal Corporation Act, CCSM c H160, s. 15; Ontario Housing Development Act, RSO 1990, c H.18 s. 7(5); Planning Act, s. 28 (1.1); see also Housing Services Act, 2011, SO 2011, c 6, Sch 1; Quebec Act respecting the Société d'habitation du Québec, CQLR c S-8 s. 51 to 58; Nova Scotia Housing Act, RSNS 1989, c 211 s. 6, 17, and 21, see also Municipal Housing Corporations Act, RSNS 1989, c 304; Prince Edward Island, Housing Corporation Act, RSPEI 1988, c H-11.1 s. 7; Newfoundland, Housing Act, RSNL 1990, c H-11, s. 6; New Brunswick, New Brunswick Housing Act, RSNB 1973, c N-6 s. 9 (e), 10 (2) (e), 19(1), 20; Yukon, Housing Development Act, RSY 2002, c 115 s. 2; Northwest Territories Housing Corporation Act, RSNWT 1988, c N-1, s. 24; Nunavut Housing Corporation Act, RSNWT (Nu) 1988, c N-1 s. 24
- 39 For a list of municipal service managers see Ontario Municipal Social Service Association. 2020. OMSSA Members available at <https://omssa.com/members.php> accessed June 18, 2020.
- 40 British Columbia, Residential Tenancy Act S.B.C. 2002, c. 7 s. 32(1) ; Alberta, Residential Tenancies Act, SA 2004, c R-17.1 s. 16 and Housing Regulation 173/1999 s. 3(1); Saskatchewan, Residential Tenancies Act, 2006, SS 2006, c R-22.0001 s. 49 (1); Manitoba, Residential Tenancies Act, CCSM, C. 11 s. 59 (1) ; Ontario, Residential Tenancies Act, 2006, SO 2006, c 1 s. 20, Quebec Civil Code, s. 1854 and s. 1910; Nova Scotia, Residential Tenancies Act, RSNS 1989, c. 401 s. 9; Prince Edward Island, Rental of Residential Property Act, c. R-13. (s. 6(1)); New Brunswick, Residential Tenancies Act, SNB 1975, c R-10.2 s. 3 (1) a, b); Newfoundland, Residential Tenancies Act SNL 2000 c. R-14.1 s. 8(1)(a), Yukon, Residential Landlord and Tenant Act, SY 2012, c. 20 s. 33(1) and Schedule, Minimum Rental Standards.s.1, Northwest Territories Residential Tenancies Act, RSNWT 1988, c R-5 s. 30(1); Nunavut, Residential Tenancies Act, RSNWT (Nu) 1988, c R-5 s. 30(1).
- 41 CET-67599-17 (Re) 2017 CanLII 60362 (ON LTB); Vanderwerf v. Dolan, 2019 QCRDL 37417.
- 42 Newfoundland, through common law, see Stacey v. Anglican Churches of Canada, 1999 CanLII 18933 (NL CA) at para. 13); Smith v. 60144 Newfoundland and Labrador Inc., 2017 CanLII 58724 (NL SC); Nova Scotia, Occupiers' Liability Act. 1996, SNS c. 27; New Brunswick, cases now decided under general rules of negligence (McAllister et al v. Wal-Mart Canada Inc., 1999 CanLII 9427 (NB QB), 1999 Carswell NB 89, upheld in the New Brunswick Court of Appeal, 2000 CanLII 12588 (NB CA), Hickey v. New Brunswick Housing Corporation, 2014 NBCA 36 (CanLII) interpreted in light of other provinces occupier's liability legislation (Baldwin v. Canadian Tire, 2017 NBQB 3; Prince Edward Island, Occupier's Liability Act R.S.P.E.I. 1988, Cap. 0-2 s. 7, 9 ; Quebec Civil Code 1467. Ontario, Occupiers' Liability Act, R.S.O. 1990, c. O.2 s. 8, s. 10; Saskatchewan, Relies on common law (e.g. Fehr v. Karz (O.T.) Kafe Ltd., 1993 CanLII 8960 (SK QB); Kosteroski v. Westfair Properties Ltd. et al., 1997 CanLII 17181 (SK QB); Alberta, Occupiers' Liability Act, RSA 2000, c.0-4, British Columbia, Occupiers Liability Act R.C.B.C 1996, c. 337 Yukon, No legislation, but courts draw on occupier's liability legislation and judicial interpretation elsewhere in Canada— Ontario and BC— as codification of common law (Mineault v. Takhini Hot Springs Ltd., 2002 YKSC 48).
- 43 For Quebec Housing Corporation see la Société d'habitation du Québec, 2017. Détection du radon : l'initiative de la Société d'habitation du Québec saluée partout au pays. Espace Habitat. available at <http://espacehabitat.gouv.qc.ca/societe/detection-radon-linitiative-de-societe-dhabitation-quebec-saluee-partout-pays-2/> accessed June 4, 2020; for Manitoba Housing and Renewal Corporation see Annual Report of the Department of Housing and Community Development for the Province of Manitoba for the year 2014/15. Available at <http://www.gov.mb.ca/housing/pubs/2014-2015-annual-report-web.pdf> accessed June 20, 2020; for Yukon see Yukon Housing Corporation, 2019. Annual Report available at <https://yukon.ca/sites/yukon.ca/files/yhc/yhc-annual-report-2018-2019-web.pdf> accessed June 15, 2020. p. 24.
- 44 KFL&A Public Health, 2020. Radon Testing Initiative in Kingston Social Housing. <https://www.kflaph.ca/en/healthy-living/radon-testing-initiative-in-kingston-social-housing.aspx> accessed June 8, 2020; Assessment of Indoor Environmental Quality in Toronto Community Housing Buildings REB 2014-0040, discussed in Bush, K. and Bijlani, D. 2015. National Radon Program Update, Health Canada. For CARST 2015 Annual Conference. available at <https://carst.ca/CARST-2015-Presentations> Accessed June 4, 2020; see also The Atmospheric Fund, 2019. Improving Indoor Environmental Quality in Multi-Unit Residential Buildings. Available at <https://taf.ca/publications/improving-indoor-environmental-quality-in-multi-unit-residential-buildings/> accessed June 4, 2020; and Falcomer, R. and Bush, K. 2017. Canadian National Radon Program Update Health Canada CARST 2017 Annual Conference. Available at <https://www.carst.ca/CARST2017> accessed June 4 2020.
- 45 Manitoba Housing, 2017. Design Guidelines for Multi-Unit Affordable and Social Housing November 2017 v. 1.3 at 10.4, p. 16.
- 46 See Saskatchewan The Uniform Building and Accessibility Standards Act, SS 1983-84, c U-1.2 s. 4 Manitoba. The Buildings and Mobile Homes Act, CCSM c B93 s.4; Ontario, Building Code Act, 1992, SO 1992, c 23 s. 3; New Brunswick Building Code Act, SNB 2009, c N-3.5, s. 4(1), and 6(1); Building Codes Act, RSPEI 1988, c B-5.1 s. 8(3); Nova Scotia, Building Code Act, RSNS 1989, c 46, s. 5.
- 47 British Columbia, Community Charter 8 (3)(l) and s. 54 Alberta Safety Codes Act, RSA 2000, c S-1, s. 26; Yukon Building Standards Act, RSY 2002, c 19 s. 4 ; Nunavut, Building Code Act, SNU 2012, c 15 s. 21(3).
- 48 City of Guelph, Radon Gas Mitigation Program, available at <https://guelph.ca/city-hall/building-permits-inspections/residential-building-permits/radon/> accessed April 7 2020. City of Kingston. Radon Gas Mitigation. At <https://www.cityofkingston.ca/resident/building-renovating/radon-gas-mitigation> accessed April 7 2020. Loyalist Township, Soil Gas Mitigation Program. <https://www.kflaph.ca/Modules/News/index.aspx?newsId=c418e5da-d5f1-4dfb-9b59-53972d2c0c26> accessed April 7 2020.
- 49 Rothfield v. Manolakos [1989] 2 S.C.R. 1259; Just v. British Columbia, 1989 CanLII 16 (SCC), [1989] 2 SCR 1228; Ingles v. Tutkaluk Construction Ltd., 2000 SCC 12 (CanLII), [2000] 1 S.C.R. 298.
- 50 Ontario New Home Warranty Program v. Stratum Realty Development Corp., 2005 CanLII 1055 (ONSC); Riverside Developments Bobcaygeon Ltd. v. Bobcaygeon (Corp. of the Village), 2004 CanLII 16046 (ONSC), 2005 CanLII 27598 (ONCA).
- 51 Local Government Act, RSBC 2015, c 1 s. 742 and 743.
- 52 Municipal Government Act, R.S.A. 2000, c. M-26 s. 530, together with Safety Codes Act, R.S.A. 2000, c. S-1 s. 12 Condominium Corporation No. 9813678 v. Statesman Corporation, 2009 ABQB 493.



- 53 Building Code Act, 1992, SO 1992, c 23 s. 31 for discussion see Stoddard, D. 2017. Building Liability: Covering All the Bases. Paper presented to The Canadian Institute's 23rd Annual Provincial/Municipal Government Liability, February 7, 2017 available at https://www.canadianinstitute.com/provinciamunicipal-government-liability/wp-content/uploads/sites/1828/2017/02/Stoddard_930AM_day1.pdf accessed June 18, 2020 at p.18.
- 54 e.g. Lloydminster Saskatchewan, The Lloydminster Charter, OC 595/2012, s. 483.
- 55 c.f. The Regional District of Central Kootenay Building Bylaw No. 2200, 2010 at section 3.2 available at <https://rdck.ca/assets/Government/Bylaws/Building/Building-Consol.pdf> accessed January 15 2020.
- 56 British Columbia, see Building Act, S.B.C., c.2, s. 5; see also A Guide to the Building Act, Building Act Guide Series, A2, at <https://www2.gov.bc.ca/gov/content/industry/construction-industry/building-codes-standards/building-act/building-act-guide> at p. 4, B1: What Local Governments Need to Know about the Building Act at https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/guides/baguide_sectionb1_june2016.pdf p. 5; Alberta Safety Codes Act, RSA 2000, c S-1, s. 66; Saskatchewan, Uniform Building and Accessibility Standards Regulations, U1-2R5, Manitoba, The Buildings and Mobile Homes Act, CCSM c B93 s. 3(3), 4; New Brunswick Building Code Act, SNB 2009, c N-3.5, s. 2, Ontario, Building Code Act, 1992, SO 1992, c 23, s. 35 (1) ; Yukon Building Standards Act, RSY 2002, c 19 s. 2(2); Nunavut, Building Code Act, SNU 2012, c 15 s. 2(1); Northwest Territories, Fire Prevention Regulations, RRNWT 1990, c F-12, s. 2 (1), 3.
- 57 Beatty, M. 2013. Red flags raised over radon. Castlegar News; Castlegar, B.C. [Castlegar, B.C.]06 Apr 2013: 1.; Sinclair, J. 2013. Castlegar Radon Bylaw Progressing with Glacial Speed. Castlegar News; Castlegar, B.C. [Castlegar, B.C.]10 Dec 2013: 1. See also Building Act, SBC 2015, c 2 imposing uniform standards.
- 58 Building Standards Act, RSNL 1990, c B-8, s. 2.
- 59 Municipalities Act, 1999, SNL 1999, c M-24 s.414(1)(d), and (3); For examples of meeting the National Building Code see City of St. Johns, Building By-Law, By-Law No. 1438 (as last amended by By-Law no. 1610, May 14, 2018), s. 46; City of Corner Brook Building By-law, s. 2(c).
- 60 Building Codes Regulations, PEI Reg EC177/20, s. 2(1).
- 61 Building Standards Act s. 16(5); s. 26.
- 62 Quebec B-1.1, r. 2 - Construction Code at A-9.13.2.1.(3).
- 63 see Act respecting land use planning and development (RSQ, c. A-19.1) s. 118, also see Municipal Affairs, Quebec, 2010. Planning and Development Powers in Quebec. available at https://www.mamh.gouv.qc.ca/fileadmin/publications/amenagement_territoire/urbanisme/plan_development_powers_angl.pdf Accessed June 18, 2020, at p. 7.
- 64 Municipalité de L' Ascension. Règlement numéro 2000-350 relatif à la construction s. 2.17.2, available at <http://www.municipalite-lascension.qc.ca/wp-content/uploads/2019/07/2000-350-Construction.pdf> accessed June 18, 2020.
- 65 Municipalité de Chelsea. Règlement de construction numéro 638-05 s. 9.5 available at https://www.chelsea.ca/application/files/3315/5251/0754/638-05_con_modifie_par_1017-17_francais.pdf accessed June 18, 2020.
- 66 Building Act S.B.>C. c. 2 at s. 7.
- 67 Ontario Building Code Section 9.13.4.1. and Supplementary Standard SB-9.
- 68 Guelph, 2020. Radon Gas Mitigation Program. Available at <https://guelph.ca/city-hall/building-permits-inspections/residential-building-permits/radon/> accessed April 7 2020; Kingston Soil Gas Mitigation Strategy. at <https://www.cityofkingston.ca/resident/building-renovating/radon-gas-mitigation/> accessed June 18, 2020. Loyalist Township. Soil Gas Mitigation Program. Available at <https://www.kflaph.ca/Modules/News/index.aspx?newsId=c418e5da-d5f1-4dfb-9b59-53972d2c0c26> accessed June 18, 2020.
- 69 BC Building Code, Division B Appendix C Table C-4.
- 70 BC Building Code, Division B, sec. 1.1.3.3 (2).
- 71 Bullhozer, B. 2017 The Building Act: What You Need to Know. Young Anderson Seminar Paper. at https://www.younganderson.ca/assets/seminar_papers/2017/The-Building-Act-What-You-Need-to-Know.pdf at p. 6.
- 72 Capital Regional District, Bylaw No. 3962, Capital Regional District Clean Air Bylaw No 1, 2014; Kelowna Bylaw #: 5980-86; Clean Indoor Air and Smoking Regulation Bylaw; City of Revelstoke Clean Air Bylaw NO. 2186; Brantford Smoking-Clean Air Bylaw, Chapter 570.
- 73 City of Vancouver, Health By-Law No. 9535; Leduc Bylaw No. 581-2004, Health Bylaw.
- 74 114957 Canada Ltée (Spraytech, Société d'arrosage) v. Hudson (Town), 2001 SCC 40, [2001] 2 SCR 241.
- 75 BC Local Government Act, RSBC 2015, c 1 s. 298(1)(n)); Manitoba, Municipal Act, CCSM c M225 232(1)(c) and 233(a); Ontario Building Code Act, S.O. 1992, c.23, 15.1(3); Quebec, [Act respecting land use planning and development](#), CQLR c A-19.1 s. 145.41 New Brunswick, Local Governance Act, SNB 2017, c 18 s. 10(1)(d); Prince Edward Island, Municipal Government Act, RSPEI 1988, c M-12.1 s. 180(i).
- 76 c.f. Winnipeg Neighbourhood Liveability By-law 1/2008, at Part 2; Montreal By-law concerning the sanitation, maintenance and safety of dwelling units (03-096).
- 77 Alberta, Alberta Minimum Housing and Health Standards M.O. 57/2012; Ontario, O. Reg. 517/06: Maintenance Standards, New Brunswick, Residential Properties Maintenance and Occupancy Code Approval Regulation, NB Reg 84-86; Nova Scotia, Municipal Government Act, SNS 1998, c 18 s. 344; Yukon, Residential Tenancies Regulation, YOIC 2015/193; Newfoundland, Occupancy and Maintenance Regulations, CNLR 1021/96.
- 78 See BC Government, 2020. Standards of Maintenance Bylaw available at <https://www2.gov.bc.ca/gov/content/housing-tenancy/local-governments-and-housing/housing-resources/housing-guides?keyword=Standards%20of%20Maintenance> accessed June 18, 2020; and BC Government, 2020. Standards of Maintenance Bylaw: Sample Bylaw. Available at <https://www2.gov.bc.ca/gov/content/housing-tenancy/local-governments-and-housing/housing-resources/housing-guides> accessed June 18, 2020.



- 79 c.f. Regina Community Standards Bylaw Bylaw No: 2016-2.
- 80 City of Waterloo.s Rental Licensing Bylaw 2011-047.
- 81 see BC Centre for Disease Control. 2018. Healthy built environment linkages toolkit: Making the links between design, planning and health, Version 2.0. Vancouver, BC: BC Provincial Health Services Authority available at <http://www.bccdc.ca/health-professionals/professional-resources/healthy-built-environment-linkages-toolkit> accessed June 18, 2020 at p.52 and p. 71.
- 82 British Columbia, Local Government Act s. 488 to 491; Alberta, Municipal Government Act, RSA 2000, c M-26, s. 640 (2)(c)(iv), s. 641 ; Saskatchewan, Municipal Government Act, RSA 2000, c M-26 s. 32(2)(d); Manitoba, Provincial Planning Regulation, Man Reg 81/2011. S, 2, Part 3, 1.1.1, Part 4; Ontario Planning Act, RSO 1990, c P.13, 34(1)(3 and 3.1; Quebec Act respecting land use planning and development, CQLR c A-19.1 s, 145.15 to 145.20).
- 83 Chen, J. and Ford, K.L., 2017. A study on the correlation between soil radon potential and average indoor radon potential in Canadian cities. Journal of environmental radioactivity, 166, pp.152-156).
- 84 Health Canada, 2018. Residential Radon Mitigation Actions Follow-Up Study. available at <https://www.canada.ca/content/dam/hc-sc/documents/services/publications/health-risks-safety/residential-radon-mitigation-actions-follow-up-study/27-1968-Public-Summary-Radon-EN2.pdf> accessed June 12, 2020.

