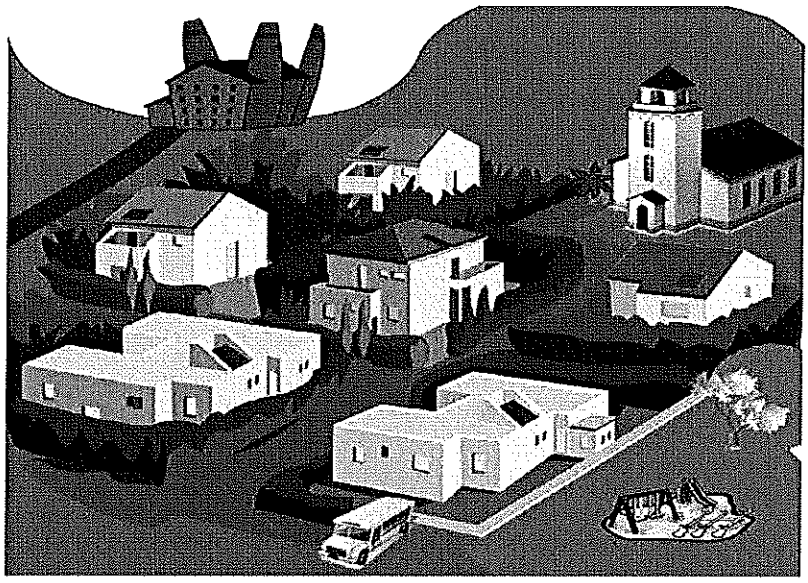
Eastern Interlake Planning District

Serving the RM of Gimli, RM of Bifrost,
Town of Arborg, Village of Riverton and the
Town of Winnipeg Beach

BUILDINGS
Commercial, Industrial, Residential & Public

Guide for the Classification and Design
of New Buildings & Alterations to
Existing Buildings as required by the
Manitoba Building Code



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Contents

This booklet is a guide to requirements for the Eastern Interlake Planning District for the construction of buildings other than single family dwellings and their accessory buildings.

This booklet does not cover code requirements. It is set up to guide you through the process of classifying a new *building* or existing *building* to be modified.

For the application of the Manitoba Building Code (MBC), buildings are classified by:

a) the type of occupancy;
b) the number of storeys; and
c) the building area.

The type of occupancy, the number of storeys and the **building area** are used to determine whether **Part 3** or **Part 9** of the **MBC** are to be used for the design of the new building or modification to an existing buildings.

The MBC is made up of 10 parts. Parts 1, 7, 8 and 10 of Division B apply to all buildings. Parts 3, 4, 5, 6 and 9 are applied as determined by the *building occupancy*, *building height* and *building area.*

Note: The Provincial Codes consist of the Manitoba Building Code, the Manitoba Fire Code, the Manitoba Plumbing Code and the Manitoba Electrical Code. The Provincial Codes apply to the design and construction of all new buildings and structures and any work done on existing structures.

Note: The words and terms in italics have their meanings defined in the *Definition of Words and Phrases* section of this booklet.

The major occupancy of a building is the principal occupancy for which the building is used or intended to be used. The major occupancy classifications for the MBC are as follows:

A1 - *Assembly occupancies* intended for the production and viewing of the performing arts

A2 - *Assembly occupancies* not elsewhere classified In Group A

A3 - *Assembly occupancies* of the arena type

A4 - *Assembly occupancies* in which occupants are gathered in open air

B1 - *Detention occupancies* in which persons are restrained from or are incapable of evacuating to a safe location without the assistance of another person because of security measures not under their control.

B2 - *Treatment occupancies* provide treatment and where overnight accommodation is available to facilitate the treatment.

B3 - *Care occupancies* in which care is provided to residents. ie. daycare, nursing homes etc.

C - *Residential occupancies*

D - *Business and personal services occupancies*

E - *Mercantile occupancies*

F1 - *High-hazard industrial occupancies*

F2 - *Medium hazard industrial occupancies*

F3 - *Low-hazard industrial occupancies*

Part 3 Buildings:

Parts 3, 4, 5, 6, and 10, Division B of the Manitoba Building Code apply to all buildings that are classified as:

a) *Post-disaster buildings.*

b) Used for a *major occupancy* classified as:
   i) Group A, *assembly occupancies*
   ii) Group B, *care, detention, or treatment occupancies*, or
   iii) Group F, Division 1, *high-hazard industrial occupancy*, or

c) Used for major occupancies classified as follows, if a building exceeds 600 m^2 or 3 *storeys* in *building height*:
   i) Group C, *residential occupancies*,
   ii) Group D, *business and personal services occupancies*,
   iii) Group E, *mercantile occupancies*, or
   iv) Group F, Division 2 and 3, *medium and low-hazard industrial occupancies.*

Part 9 Buildings:

Parts 1, 2, 7, 8, 9, and 10, Division B of the Manitoba Building Code apply to all buildings that:

a) Are 3 *storeys* or less in *building height;*

b) Have a *building area* not exceeding 600 m^2; and

c) Are used *for major occupancies* classified as:

   i) Group C, *residential occupancies*;

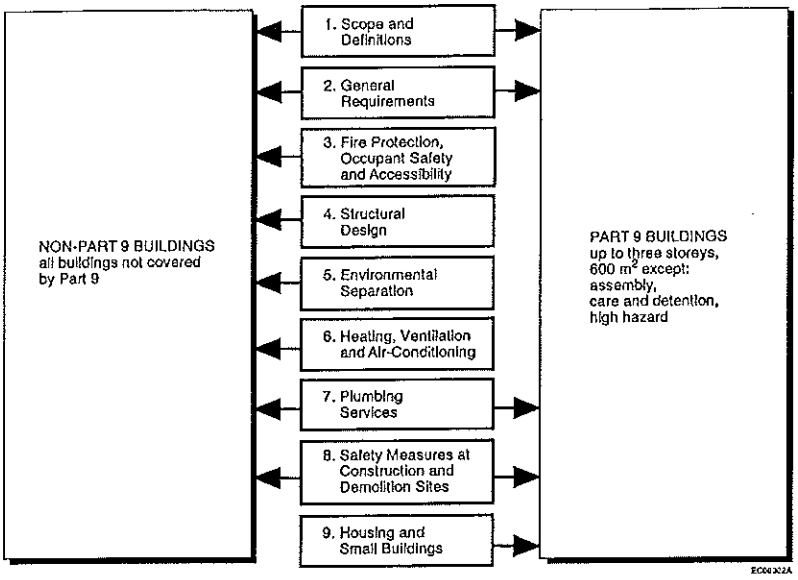
   ii) Group D, *business and personal services occupancies*;

   iii) Group E, *mercantile occupancies*; or

   iv) Group F, Divisions 2 and 3, *medium and low-hazard industrial occupancies.*

Figure 1 below, illustrates the application of Division B of the MBC to Part 3 and Part 9 buildings.

FIGURE 1
Application of Parts



Appendix A, of the MBC lists examples of uses of buildings that fall into the different occupancy groups and divisions. A summary list is provided on the next page to help you classify your building. The occupancy group and / or size and height of the building determine if the building will be designed under Part 3 or Part 9 of the MBC.

TABLE 1 - Summary of Occupancies covered in Part 3

Occupancy	Designation	Description of Use	Examples
Assembly	Group A	Gatherings or meetings of people for particular functions or events, or for dining and drinking	Theatres, Auditoriums, Bowling alleys, Churches (or similar places of worship), Stadiums, Dance Halls, Gymnasiums, Pubs, Restaurants, Schools, Swimming pools
Care and detention	Group B	Housing people for correctional or medical purposes, or special care because of age or mental condition	Jails, Prisons, Hospitals, Nursing homes, Orphanages, Reformatories, Convalescent homes
High hazard Industrial	Group F, Division 1	Making, repairing or storing goods or materials with highly flammable or explosive properties	Feed mills, Flour mills, Distilleries, Spray painting operations, Paint plants, Chemical plants, Grain elevators

TABLE 2 - Summary of Occupancies covered in Part 9

Occupancy	Designation	Description of Use	Examples
Residential	Group C	Sleeping rooms for persons who are not detained involuntarily or who do not need care or treatment	Houses, Hotels, Dormitories, Boarding or lodging houses, Motels, Apartments, Children's custodial homes,(1) Convalescent homes(1)
Business and personal services	Group D	Transaction of business or for personal or professional services	Banks, Barbershops, Dental offices, Medical offices, Offices, Tool rental, Appliance service
Mercantile	Group E	Display of merchandise or sale of retail goods	Stores, Supermarkets, Shops
Medium hazard Industrial	Group F, Division 2	Making, repairing or storing goods or materials (combustible content > 50 kg/m² or 1 200 MJ/m²)	Warehouses, Workshops, Salesrooms, Factories, Planing mills, Repair garages, Laboratories, Service stations
Low hazard Industrial	Group F, Division 3	Same as above but with low fire load (combustible content ≤ 50 kg/m² or 1 200 MJ/m²)	Creameries, Factories, Laboratories, Storage garages, Salesrooms, Warehouses, Storage rooms, Workshops

Notes to Table 2:

(1) Group C classification permitted only if the home is set up as a dwelling unit for not more than 10 people, who must be ambulatory. Otherwise the building is classified as Group B (see Table 1).

Exclusions

The Manitoba Building Code does not apply to:

a) A *farm building;*

b) Public works located on *a public way;*

c) A public utility tower or pole, or a radio or other communications tower or aerial, except for loads resulting from a tower pole or aerial being located on or attached to a *building;*

d) A flood control and hydro-electric dam and structures or mechanical equipment and appliances related to the dam not specifically referred to in the MBC; or

e) A building that is not greater than 10m² in *building area* that in the opinion of the *authority having jurisdiction*, does not create a hazard.

Classification of a Building

The classification of spaces within a building by occupancy, the area of the building and the number of storeys are the starting point for establishing which MBC requirements will apply to a building. Once each space in the building has been classified in terms of its occupancy, the broader concept of major occupancy is considered for each floor area. Major occupancy is defined as the principal occupancy for which a building or part thereof is used or intended to be used, and includes the subsidiary occupancies which are an integral part of the principal occupancy.

For example, in the case of a school, some spaces would be classified as "assembly" (Table 1) use and would include the classrooms, library, cafeteria, and gymnasium. Other spaces would have different occupancy classification and would include staff offices as business and personal services occupancy, and workshops, laboratories and service areas as industrial occupancy. The principle use of the building would be considered as educational and thus would be classified as "assembly" occupancy (Group A, Division 2). Assuming that the building contains a limited number of offices and workshops, these would be considered subsidiary occupancies. If a subsidiary function occupies an extensive portion of a building, it would be considered as a second major occupancy within that portion of the building to cover the specific hazards in that area.

In an industrial building principally used for manufacturing, the combustible content might permit the building to be classified as a low hazard industrial major occupancy (Group F, Div. 3). Within the building, there could be subsidiary occupancies that are an integral part of the operation of the manufacturing plant, including offices and a cafeteria. These occupancies would not normally be considered separate major occupancies, provided they are clearly subsidiary to the principal occupancy, which is manufacturing.

If a multi-storey building has more than one principal function, each storey must be classified for its major occupancy. For example, the entry storey could be used primarily for mercantile operations and upper storeys could contain offices. In this case, the building as a whole would be classified for both types of occupancy and would be considered to have two major occupancies; business and personal services (Group D) and mercantile (Group E). Each of the major occupancies could include subsidiary occupancies.

These examples are relatively clear. In other cases, the dividing line between a major occupancy and a subsidiary occupancy becomes obscure and judgment must be used to arrive at an appropriate classification. A hotel might have a number of stores on the main floor, which might be leased to tenants. Although these stores would serve the clientele of the hotel, as well as other customers, they would not be considered as subsidiary occupancies of the principal use of the building, which would be a residential occupancy providing sleeping accommodations for the hotel guests (Group C). The stores would be considered a second major occupancy classified as a mercantile major occupancy (Group E). If the hotel contained extensive meeting rooms on any floor, these would constitute an assembly major occupancy (Group A, Div.. 2). In some hotels, suites of rooms provided for guest accommodation are large enough to be rented out for meeting functions. These suites would be given two major occupancy classifications (Group C and Group A, Div. 2); requirements for both major occupancies would have to be considered and the more stringent applied.

In most small buildings the classification is straightforward, and only one major occupancy is involved. A store, for example, is a major occupancy classified as "mercantile" (Table 2). It may have an ancillary office area (which would be classified a business and personal service) and a storage area (which would be classified as industrial). These ancillary occupancies do not affect the major occupancy classification of the building.

On the other hand, a small building may be classified as having two or more major occupancies that are unrelated to each other. For example, a building may consist of a portion intended for office rental space (business and personal services) and a portion rented separately as apartment units (residential). Each activity is separate from the other. The building would then be classified for each major occupancy and if under 600 m^2 in area would be regulated by Part 9. If a portion of the building was for a restaurant, the major occupancy classification would be "assembly" (Table 1) and the entire building would be regulated under Part 3 even though it met the size criteria for a Part 9 building.

The Application of Part 3 and Part 9 to New Construction

The analysis of the proposed building based on the type of occupancy(s), the area and the number of storeys have determined the design requirements as illustrated in Figure1 of this booklet.

Part 3 applies to all buildings, regardless of size, that contain assembly occupancies, care or detention occupancies, high hazard industrial occupancies or post disaster buildings. It also applies to buildings over 600 m^2 in building area or three storeys in building height that contain all other occupancies.

Part 9 applies to buildings not over 600 m^2 in building area or more than three storeys in building height that contain residential, business and personal services, mercantile and medium or low hazard industrial occupancies. If a building within the scope of Part 9 contains a room or space used for a Part 3 occupancy, this room or space must conform to the applicable requirements of Part 3. This space would be subsidiary to the principal use of the building and would constitute only a small portion of the total building area, thus permitting the basic building to be designed under Part 9 of the Building Code.

Part 9 is like no other Part of the Building Code and to some extent can be considered a code within a code. Part 9 is much more detailed than other Parts of the building code, partly due to the fact that it originated as Central Mortgage and Housing Corporation's "standards for housing". A great number of specific construction details cover most of the operations that occur in building construction. This provided the basis for the design of small simple buildings with limited need for professional assistance. Where engineering design principles are required in designing a building component or member beyond the scope of Part 9, the appropriate requirements of Part 4 are referenced. Design features and other requirements not commonly used in Part 9 buildings, but are regulated by other parts of the building code are cross-referenced rather than duplicated in Part 9.

Spatial Separation Requirements

The Building Code applies to the specific building under consideration and does not apply to adjacent buildings on neighboring properties. The spatial separation requirements in Part 3 and Part 9 of the MBC use the distance from a building to a property line as a controlling dimension, rather than the distance to a neighboring building located on a different property. In this manner, each building is regulated independently of buildings on neighboring properties, but each of the buildings on these neighboring properties must conform to the MBC requirements when any construction is undertaken on them. If there is more than one building on a given property, a deemed property line between the buildings is established for the purpose of determining spatial separation requirements. This line is established in a location that ensures that all buildings under consideration will comply with the intent of the MBC.

Design Requirements for Part 3 Buildings:

Buildings that are classified as Part 3 buildings are required to have plans, drawings and related documents prepared signed and sealed by an architect, a professional engineer, or both as determined in accordance with Table 2.2.2.3. The required designer(s) must be skilled in the type of work concerned.

Table 2.2.2.3

Building Classification	Designers Required
Group A: *Assembly Occupancies* (except for Group A, Division 3: Arenas with a fixed seating capacity of 1,000 people or less)	Architect and Professional Engineer
Group A, Division 3: Arenas *Building* with a fixed seating capacity of 1,000 people or less	Architect and Professional Engineer
Group B: Care, Detention or Treatment Occupancies	Architect and Professional Engineer
Group C: *Residential Occupancies* *Buildings* exceeding 600 m^2 in building area or exceeding 3 storeys in building height.	Architect and Professional Engineer
Group D: *Business and Personal Services Occupancies* Buildings exceeding 600 m^2 in building area or exceeding 3 storeys in building height.	Architect and Professional Engineer
Group E: *Mercantile Occupancies* Buildings exceeding 600 m^2 in building area or exceeding 3 storeys in building height.	Architect and Professional Engineer
Group F, Division 1: *High Hazard Industrial Occupancies*	Architect and Professional Engineer
Group F, Division 2 and Division 3: *Medium and Low Hazard Industrial Occupancies* Buildings exceeding 600 m^2 in building area or exceeding 3 storeys in building height.	Architect and Professional Engineer

Before proceeding with the construction drawings, a preliminary plan for the proposed building is required to determine if it meets the zoning bylaws and development plans. If these cannot be met, variances are required. Application for a variance is a public process and may impact the proposed project. When zoning bylaws and development plan requirements are met, the local fire department should be consulted. The availability of water and the limitations of the fire department may have an impact on the building design.

When the building occupancy, area and height have been established, and local bylaws and services requirements met, the *designer* will select the **Construction Code Article** for the building. The construction code articles, numbered 3.2.2.20 to 3.2.2.83 consecutively in the MBC, dictate the construction requirements for all Part 3 buildings and may also be used as an alternative for Part 9 buildings. The *designer* will select the construction code article from the group or division that best meets all the requirements. The construction code article selected will provide the base for the design of the building so that it is compliant to the parts of the MBC as illustrated in Figure 1. Some examples of construction code articles are shown below.

Construction Code Article Examples

3.2.2.27. Group A, Division 2, up to 2 Storeys, Sprinklered

1) A *building* classified as Group A, Division 2 is permitted to be of *combustible construction* or *noncombustible construction*, used singly or in combination, provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 2 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 2 400 m² if 1 *storey* in *building height* with no *basement*,

ii) 1 200 m² if 1 *storey* in *building height*, or

iii) 600 m² if 2 *storeys* in *building height*.

3.2.2.41. Group B, Division 2, One Storey, Sprinklered

1) A *building* classified as Group B, Division 2 is permitted to be of *combustible construction* or *noncombustible construction*, used singly or in combination, provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 1 *storey* in *building height*, and

c) it has a *building area* not more than 500 m².

3.2.2.82. Group F, Division 3, One Storey, Any Area, Low Fire Load Occupancy

1) A *building* classified as Group F, Division 3 is permitted to conform to Sentence (2) provided it is

a) not more than 1 *storey* in *building height*,

b) used solely for low *fire load occupancies* such as

i) power generating plants, or

ii) plants for the manufacture or storage of *noncombustible* materials, and

c) not limited in *building area*.

2) The *building* referred to in Sentence (1) shall be of *noncombustible construction*.

3.2.2.47. Group C, up to 3 Storeys

1) A *building* classified as Group C is permitted to conform to Sentence (2) provided

a) it is not more than 3 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.47.

Table 3.2.2.47.
Maximum Building Area, Group C, up to 3 Storeys
Forming Part of Sentence 3.2.2.47.(1)

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	1 800	2 250	2 700
2	900	1 125	1 350
3	600	750	900

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) except as permitted by Sentences (3) and (4), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) In a *building* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 45 min but need not be constructed as *fire separations*.

4) In a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

Design Requirements for Part 9 Buildings

Buildings that are classified as Part 9 buildings will be designed primarily to Part 9 of the building code. As a code within a code, Part 9 encompasses all the requirements for life safety and fire protection issues found in Part 3 of the building code. Unlike Part 3, Part 9 also has the specific construction details for most of the operations that occur in building construction. The designer will apply the requirements of Part 9 to all aspects of the building design except when referenced to other parts of the code or when the design requirements surpass the limits of the span table or the scope of Part 9.

The choice of a designer for Part 9 buildings is not as stringent as for Part 3 buildings, however the owner should appoint an architect or professional engineer who is entitled to practice in the Province of Manitoba and who is skilled in the appropriate section of work concerned. The drawings and related documents are to be signed and sealed by the designer.

Documentation Required when Applying for a Permit:

- Zoning By-laws and any required variances in place;
- Development agreement (if required);
- Drawings (2 sets) certified by *designer(s);*
- Certified Building Location Certificate by a Manitoba Land Surveyor or a well drawn detailed site plan showing location of proposed building and all other structures and buildings on the property;
- Specifications book (1 copy) if issued with drawings;
- Payment for permit; and
- Other items that may be required depending on scope of project.

Prior to issuing the permit, the Authority Having Jurisdiction will review the drawings for code compliance such as:

- Major occupancies, life-safety items, *exits*, travel distances, construction code article and construction requirements, fire safety requirements, *occupant load*, etc.;
- Fire fighting provisions etc.;
- *Limiting distance* and exposure protection, percentage of *unprotected openings*, *exposing building face* and construction requirements, combustible projections to property lines and other buildings on same property etc.;
- Plumbing requirements, *barrier free* design, etc .

Occupancy Permit

A **Building Occupancy Permit** is required for any new building or altered existing building except for a single-family *dwelling unit*, two-family *dwelling units* or multi-family *dwelling units* without shared exit facilities.

The building or structure must comply with MBC requirements and the applicant for the Building Occupancy Permit shall supply all information requested by the *Authority Having Jurisdiction* to show compliance.

Principles for Regulating Alterations to Existing Buildings

Triggering Mechanisms: The application of building regulations to an existing building can be initiated in a number of different ways. An *owner* may decide to refurbish or rehabilitate a building, change its use or increase its size. An application for a building permit to do any of this work, which is required by law, sets in motion a process by which the building and the proposed work are scrutinized by authorities under prevailing building regulations. In such cases, it is the *owner* or his/her agent who decides to initiate changes to the existing building.

In other cases, however, *the owner* may not be the initiator of the change. An enforcement authority may decree that a building must be altered for the public good. This could result from provincial or municipal laws directed at buildings regulated by special acts. Such acts might cover occupancies with high *occupant loads*, such as hospitals, schools, hotels, motels, and licensed drinking establishments. The triggering process for change may also result from a complaint or an inspection that reveals an *unsafe condition* that violates an act or ordinance such as a fire prevention act (i.e. fire code) or housing standards by-law. In these situations, changes are forced upon the ***owner***, who is required by law to take corrective action.

The proposed renovation can trigger various degrees of additional upgrading. This additional upgrading can add further costs to a project because more extensive changes than initially intended may be required. In many cases to make an existing building undergoing renovation to be code compliant can be cost prohibitive. For example, in new construction the cost of a particular provision may be entirely different from that for a building undergoing renovation work. It is far less expensive to dedicate a certain width to a corridor or stair during its initial construction than to change the width after the structure is built. Similarly, it is less expensive to construct walls or ceilings with the required fire or sound resistance than to modify them after they are built. Perceived benefits can therefore be much more expensive to

achieve in existing buildings than in new construction. Since building codes are developed primarily for new construction, they may require modification to reflect cost/benefit equations that apply to existing buildings. Alternative measures to the requirements specified for new construction may be allowed, but the renovation work may not lead to a condition that would cause increased risk to the occupants. The basic principal to be followed in evaluating existing buildings undergoing renovations or extensions is that the level of health and safety should not be reduced in the overall building.

Objectives

The major objective of building codes is the protection of the lives of occupants in the event of fire.

Structural sufficiency is also a major concern in building codes, although loss of life or injury due to structural failure is relatively rare because of the well-developed base of knowledge in the structural design field.

The third major area of concern in building codes is the health of building occupants. Requirements related to occupant health target areas related to ventilation, sanitation and the control of contaminants such as radon.

Property protection, while important, is not a prime objective of building codes, although requirements to this end often affect life safety as well.

Life safety in the event of a fire must be considered to be the main objective in building codes. This can be achieved by designing buildings in such a way that the occupants can be safely protected within the building for the duration of the fire. This is expensive to accomplish and is usually applied to tall buildings. The alternative is to design buildings to ensure the safe evacuation of their occupants. For existing buildings undergoing renovations, if safe evacuations can be achieved by design alternatives not specifically described in the MBC, it can be assumed that the objective of the MBC has been met.

In many cases the relaxation of a requirement does not necessarily mean a reduction in life safety. For example, if the corridor or stairway width is slightly less than that required for new buildings, the effect on safety is not significant, although the day-to-day use of such a facility may be less convenient for the occupants. Of far more importance is to ensure that the egress pathway will be tenable until the building is evacuated.

Early Warning: Early warning is an essential ingredient for safe evacuation. It permits evacuation to start while the fire is relatively small and the escape route is still tenable. Early warning is especially important in buildings in which the occupants may still be sleeping.

The level of early warning in an existing building has a direct impact on life safety. To insure evacuation, enhanced detection and alarm capability may be justified in older buildings to offset other deficiencies that may exist.

Protection of Egress route and Time for Escape: A second factor affecting safe evacuation is a protected egress route. If a fire occurs, the escape path must provide protection for the escaping occupants until the building is empty. In small buildings the time to complete the evacuation will be relatively short, and will depend to some extent to the nature of the occupancy.

In residential occupancies, however, there is likely to be a delay while occupants are roused and prepare for evacuation. Evacuation can be further delayed if the occupants are frail or disabled.

When a building is *sprinklered*, however, the fire would ordinarily be controlled while it is relatively small. In such a case, the magnitude of the fire-resistance rating is less important, and the main function of the enclosing walls of the egress route is to resist the entry of smoke and to guide the occupants to safety.

Travel Distance to an Exit and Alternative Escape Routes: The distance to reach a place of safety is also important. Although the travel distance is relatively unimportant as long as the egress path remains tenable, the shorter the path, the greater the occupant(s) chance of reaching safety if the path becomes contaminated with smoke or fire. To guard against the possibility of an untenable escape route, a general MBC principal has been to provide an alternative escape route whenever practicable. When a person leaves a *suite* and enters a *public corridor*, for example, a choice of direction is given for reaching an *exit*. If the corridor is blocked at one end by smoke or fire or if an exit stairway is untenable, then an alternative *exit* is available for escape.

With adequate early warning, therefore, some latitude may be given in terms of the maximum length of travel to reach an exit. Similarly, if a building is *sprinklered,* the escape route can be safely extended since the general level of fire risk is greatly reduced.

Heritage Buildings: Applying MBC requirements to heritage buildings can give rise to special problems. Removing or changing an essential historical feature represents a loss of value (or cost) that is difficult to access. The concern for authenticity may be so strong that the feature must be preserved regardless of the cost of doing so. This limits the

choice of design alternatives in many cases. Fire risk reduction through the use of sprinklers may be the only design solution. Such risk reduction can justify relaxation in other areas as well, where it may not be possible to meet certain MBC requirements because of their effect on authenticity.

Application of the Manitoba Building Code to Existing Buildings Alterations and Repairs

The MBC applies to the part of an existing *building* that is altered or repaired. If the alteration will affect the degree of safety of a part of the existing *building* not altered or repaired, those parts of the existing *building* shall be improved as required by the *authority having jurisdiction.*

If a *building* is altered or repaired, the level of life-safety and *building* performance shall not be decreased.

Regulating Principles: When the *building envelope* is made air-tight to conserve energy, or new equipment is installed that affects internal air pressures or makes increased demands for combustion air, the effect of such changes on the health and well-being of the occupants must be taken into consideration in applying the MBC requirements, to ensure that a reasonable health standard is maintained.

Hazardous Conditions: When, in the course of renovation work or a change in occupancy, a condition is noted that constitutes a hazard to the public or to the occupant, such a condition must be rectified, regardless of whether or not the condition was created by the renovation or change in occupancy. The condition may be related to fire safety, structural sufficiency or health. This does not imply that all observed non-compliance situations must be corrected, however, only those that may cause an obvious danger to life or property.

Increase in Number of Storeys

The number of *storeys* of an existing building shall not be increased unless the entire *building* conforms to the Manitoba Building Code.

Regulating Principles: If a building is extended in height, the structural adequacy of the supporting structure must be assessed to ensure it is capable of supporting the additional loading. Not only must the extended storeys be constructed to the current MBC, but any service load or occupant load due to the extension must be assessed to ensure that the existing building services will still be adequate. If the increased number of storey causes certain relaxations permitted for the existing portion to no longer apply, such deficiencies must be corrected. Virtually the entire structure must be assessed as if it were a new building. The only portions that could be excused would be those completely unaffected by the extension and not dependent on the number of storeys.

Horizontal Additions

Horizontal additions may be made to a building or structure if:

- The building and the addition conform to the MBC, or
- A *firewall* of the required *fire resistance rating* separates the building from the addition, and acceptable access for the fire department is provided to the addition.

Regulation Principles: Where a building is to be extended horizontally to increase its area, all new construction relating to the extension shall conform to code requirements for new buildings.

If the extension places new demands on an existing building by virtue of the extension's requirements for services, or if it significantly increases the number occupants, this must be considered when evaluating the extent to which the MBC requirements should be applied to the existing portion. If, for example, the occupant load is increased so that a fire alarm is required, where it was not previously, then a new alarm must be provided throughout the entire building, and not only in the extension. If the occupant load is only marginally greater, than the triggering occupant load in the MBC (for example, within 10%) then the need for a new system may be ignored since the additional risk would be relatively small.

If the heating, ventilating, air-conditioning, electrical or plumbing systems impose an additional service load on the existing system, each system must be reviewed to ensure that the system is not overloaded. If, however, the system in the extension is self-sufficient and places no additional demands on the existing portion, then the general upgrading of the service in the existing portion would not be required.

N.B. If the extension increases the area of the entire building so that it exceeds the application limit of Part 9, then the entire building must conform to Part 3 rather than Part 9, unless the extended portion is isolated by a firewall. The extended portion would then be considered as a separate building, provided it is served by its own fire access route.

Change in Occupancy

The Manitoba Building Code applies to a building or parts of a building affected by a change to the major occupancy of the building or part of the building.

Moving a Building

The Manitoba Building Code applies to the whole or any part of an existing building that is moved to a new location.

Regulating Principal: Relocated buildings, that have been used in another location for a number of years, can be considered as existing buildings in part, and the same analytical process can be applied as for existing buildings. It should be noted however, that a change in *occupancy* may affect some requirements (e.g. loads and *fire separations*) and relocation to an area with different wind and snow loads will require the application of current code requirements. Depending on the construction of the building and changes in load, structural modifications may be required. Similarly, parts of a relocated or existing buildings that are reconstructed, such as *foundation* and *basement*, or parts modified are required to be built to current codes.

Demolition

The Manitoba Building Code applies to the work involved in demolishing the whole or any part of a *building* and to the work required to correct a deficiency to any part of the *building* remaining after demolition.

Damaged Building

The Manitoba Building Code and the Manitoba Fire Code apply to the work necessary to reconstruct an existing *building* that is damaged by fire or other cause.

Unsafe Condition

The Manitoba Building Code and the Manitoba Fire Code apply to the work necessary to correct an *unsafe condition* on or near a *building*.

Professional Designers Required

When the alteration to a *building*, classified as a Part 3 Building, will or is likely to significantly affect the integrity of:

- The fire safety systems, including fire alarms, sprinklers, and standpipes;
- The life safety systems, including *exits*, lobbies and *public corridors;*
- The fire compartments, including vertical or horizontal *fire separations;*
- The structural system;
- The environmental separation system including the *building envelope;*
- The heating ventilation and air-conditioning systems;
- The usable floor area through the addition of a *mezzanine*, or in-fill or other similar element; or
- Any one or more of the things mentioned above.

The plan, drawings and related documents must be prepared, signed and sealed by an architect, a professional engineer, skilled to the type of work, or both, as determined by Table 2.2.2.3.

Definitions of Words and Phrases

Alteration means a change or extension to any matter or thing or to any occupancy regulated by the Manitoba Building Code.

Assembly occupancy means the occupancy or the use of a *building*, or part thereof, by a gathering of persons for civic, political, travel, religious, social, educational, recreational, or like purposes, or for the consumption of food or drink.

Authority having jurisdiction means the governmental body responsible for the enforcement of any part of the Manitoba Building Code (The Eastern Interlake Planning District).

Barrier Free means that a building and its facilities can be approached, entered, and used by persons with physical or sensory disabilities.

Basement means a storey or storeys of a building located below the first storey.

Building means any structure used or intended for supporting or sheltering any use or occupancy.

Building area means the greatest horizontal area of a building above grade within the outside surface of exterior walls or within the outside surface of exterior walls and the centerline of firewalls.

Building envelope means the components of a building that separate heated space from unheated space, or that are in contact with the exterior air or ground.

Building height (in *storeys*) means the number of *storeys* contained between the roof and the floor of the first *storey*.

Business and personal services occupancy means the occupancy or use of a building or part thereof for the transaction of business or the rendering or receiving of professional or personal services.

Care or detention occupancy means the occupancy or use of a building or part thereof by persons who require special care or treatment because of cognitive or physical limitations or by persons who are restrained from, or are incapable of self-preservation because of security measures not under their control.

Closure means a device or assembly for closing through a *fire separation* or an exterior wall, such as a door, a shutter, wired glass or glass block, and includes all components such as hardware, closing devices, frames and anchors.

Combustible construction means that type of construction that does not meet the requirements for *noncombustible construction*.

Designer means the person responsible for the design.

Dwelling unit means a suite operated as a housekeeping unit, used or intended to be used as a domicile by one or more persons and usually containing cooking, eating, living, sleeping, sanitary and laundry facilities.

Exit means that part of a *means or egress*, including doorways that lead from the floor area it serves to a separate building, an open public thoroughfare, an exterior open space protected from fire exposure from the building and having access to an open public thoroughfare.

Exposing building face means that part of a exterior wall of a building that faces one direction and is located between ground level and the ceiling of its top storey or, where a building is divided into *fire compartments*, the exterior wall of a fire *compartment* that faces one direction.

Farm building means a building or part thereof that does not contain a *residential occupancy* and that is associated with and located on land devoted to the practice of farming, and used essentially for the housing of equipment or livestock, or the production, storage or processing of agricultural and horticultural produce or feeds.

Fire compartment means an enclosed space in a building that is separated from all other parts of the building by enclosing construction providing a *fire separation* having a required *fire resistance rating.*

Fire resistance rating means the time in minutes or hours that a material or assembly of materials will withstand the passage of flame and the transmission of heat when exposed to fire under specified conditions of test and performance criteria.

Fire separation means a construction assembly that acts as a barrier against the spread of fire.

Firewall means a type of *fire separation* of *noncombustible construction* that subdivides a *building* or separates adjoining buildings to resist the spread of fire and that has a *fire resistance rating* as prescribed in the Code and has structural stability to remain intact under fire conditions for the required fire-rated time.

Foundation means a system or arrangement of *foundation units* through which the loads from a building are transferred to supporting soil or rock.

Foundation unit means one of the structural members of the *foundation* of a building such as a footing, raft or *pile*.

First storey means the uppermost *storey* having its floor level not more than 2 m above *grade*.

Grade (as applying to the determination of *building height*) means the lowest of the average levels of finished ground adjoining each exterior wall of a *building*.

High-hazard industrial occupancy (Group F Division 1) means an industrial occupancy containing sufficient quantities of highly combustible and flammable or explosive materials which, because of their inherent characteristics, constitute a special fire hazard.

Limiting distance means the distance from an *exposing building face* to a property line, the center of a street, lane or public thoroughfare, or to an imaginary line between 2 buildings or *fire compartments* on the same property, measured at right angles to the *exposing building face*.

Low-hazard industrial occupancy (Group F Division 3) means an industrial occupancy in which the combustible content is not more than 50 kg/m2 or 1200 MJ/m2 of floor area.

Major occupancy means the principal occupancy for which a building or thereof is used or intended to be used, and shall be deemed to include the subsidiary occupancies that are an integral part of the principal occupancy.

Means of Egress means a continuous path of travel provided for the escape of persons from any point in a building or contained open space to a separate building, an open public thoroughfare, or an exterior open space protected from fire exposure from the building and having access to an open public thoroughfare.

Medium-hazard industrial occupancy (Group F Division 2) means an industrial occupancy in which the combustible content is more than 50 kg/m2 or 1200MJ/m2 of floor area and not classified as a high-hazard industrial occupancy.

Mercantile occupancy means the occupancy or use of a building or part thereof for the display or selling of retail goods, wares or merchandise.

Mezzanine means an intermediate floor assembly between the floor and ceiling of any room or storey and includes an interior balcony.

Noncombustible construction means that type of construction in which a degree of safety is attained by the use of *noncombustible* materials for the structural members and other *building* assemblies.

Occupancy means the use or intended use of a *building* or part thereof for the shelter or support of persons, animals or property.

Occupant load means the number of persons for which a building or part thereof is designed.

Owner means any person, firm or corporation controlling the property under consideration.

Pile means a slender deep foundation unit that provides support for a building by transferring loads either by end-bearing to soil, or rock at considerable depth below the building or by adhesion or friction, or both, in the soil or rock in which it is placed. Piles are made of materials such as wood steel or concrete or a combination thereof, that is either pre-manufactured and placed by driving, jacking, jetting or screwing, or cast in place in a hole formed by driving excavating or boring.

Post-disaster building means a building that is essential to the provision of services in the event of a disaster, and includes:

- Hospitals, emergency treatment facilities and blood banks;
- Telephone exchanges;
- Power generating stations and electrical substations;
- Control centers for air, land and marine transportation;
- Public water treatment and storage facilities, and pumping stations;
- Sewage treatment facilities and buildings having critical national defense functions; and
- Buildings of the following types unless exempted from this designation by the authority having jurisdiction:
    i. Emergency response facilities.
    ii. Fire, rescue and police stations and housing for vehicles, aircraft or boats used for such purposes, and Communications facilities, including radio and television stations.

Public way means a sidewalk, street, highway, square, or other open space to which the public has access, as of right or by invitation, expressed or implied.

Public corridor means a corridor that provides access to exit from more than one suite.

Residential care facility means a *building* or part of a *building* that is used by a person to provide services to 10 or fewer unrelated individuals who are ambulatory but due to a disability or disorder are precluded from living independently, or who need temporary supervision, assistance, or counseling.

Residential occupancy means the occupancy of a building or part thereof by persons for whom sleeping accommodation is provided but who are not harbored or detained to receive medical care or treatment or are not involuntarily detained.

Sprinklered (as applied to a building or part thereof) means that the building or part thereof is equipped with a system of automatic sprinklers.

Storey means that portion of a *building* that is situated between the top of any floor and the top of the floor next above it, and if there is no floor above it, that portion between the top of such floor and the ceiling above it.

Street means any highway, road, boulevard, square, or other improved thoroughfare 9 m or more in width, that has been dedicated or deeded for public use and is accessible to fire department vehicles and equipment.

Suite means a single room or series of rooms of complementary use, operated under a single tenancy, and includes *dwelling units*, individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories as well as individual stores and individual or complementary rooms for *business and personal services occupancies.*

Unprotected opening (as applying to exposing building face) means a doorway, window or opening other than one equipped with a *closure* having the required *fire-protection rating* or any part of a wall forming part of the *exposing building face* that has *a fire-resistance rating* less than that required for the *exposing building face.*

Unsafe condition means any condition that could cause undue hazard to the life, limb or health of any person or damage to property.

NOTES:

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