



Fire Department • Service d'incendie  
Fire Prevention Branch • Direction de la prévention des incendies

# Occupant Load Package

**To assist building owners  
to establish occupant load(s)  
for their establishment**

*The content of this document is the property of the Winnipeg Fire Prevention Branch and should not be copied, modified, retransmitted, or used for any purpose unless permission is provided by the Fire Prevention Branch.*

November, 2016

**The Manitoba Fire Code 2.7.1.4 requires that “in assembly occupancies with occupant loads exceeding 60 persons, the occupant load shall be posted in conspicuous locations near principle entrances to the room or floor area”.**



**2016 YEAR OF RECONCILIATION**  
**2016, ANNÉE DE LA RÉCONCILIATION**

2<sup>nd</sup> Floor, 185 King Street • 185, rue King, 2<sup>e</sup> étage • Winnipeg • Manitoba R3B 1J1  
tel/tél. 204-986-8200 • fax/télec. 204-986-6198 • [www.winnipeg.ca/fps](http://www.winnipeg.ca/fps)

This document contains information to assist building/business owners, who have been issued a “Violation Notice” from the Fire Prevention Branch, to establish an occupant load for their place of assembly. The Winnipeg Fire Paramedic Service maintains the right to require you to obtain the services of a professional engineer or architect, when dealing with more complicated “Assembly” spaces. The professional will be required to conduct a code analysis of your premises and/or building, to ensure all requirements of the Manitoba Fire Code are satisfied.

This process is not intended review applications for any of the following:

- 1) A request to increase previously approved occupant loads through the City of Winnipeg Property and Planning, or
- 2) Any room or space where the occupant loads 60 persons or less, or
- 3) A convenience for building owners, or other organizations to use in lieu of a professional service.

<b>CONTENTS</b>		<b>PAGE</b>
PART 1	INFORMATION	3
PART 2	NET FLOOR AREA AND MEANS OF EGRESS	4
PART 3	MAXIMUM OCCUPANT LOAD CALCULATION WORKSHEET	5
PART 4	APPLICATION FORM TO ESTABLISH OCCUPANT LOAD	7
PART 5	GUIDE TO THE MFC REQUIREMENTS FOR NON-FIXED SEATING	9
PART 6	BUILDING LIFE SAFETY CHECKLIST	11
APPENDIX A	LIFE SAFETY SYSTEMS EXPLANTORY MATERIAL	12

## PART 1-INFORMATION

Applicants requiring a permit to “Establish Occupant Loads” must apply at the City of Winnipeg, Permits Branch, #31-30 Fort Street, (204) 986-5140.

Your submission shall include the following:

- 1) Scaled drawings (2 sets). The drawings must show the seating arrangement of the floor or room. If the room is on a floor other than the ground floor, additional main floor building plans shall be submitted that indicate where the exit discharge locations are. The drawings must be dimensioned and should include all required **Building Fire Safety Systems**, such as locations of exits, direction of door swing, pull stations, fire alarm panel, emergency lighting, exit signs, and the presence of panic hardware.
- 2) The completed Parts 2, 3, 4, and 6 (Building Life Safety Checklist).
- 3) A copy of the Fire Prevention notice indicating *“the occupant load shall be posted in conspicuous locations near principle entrances to the room or floor area”*. ***If applicants cannot produce the “Violation Notice” the Permits Branch will not proceed with the application.***
- 4) Permit fees will be collected by and are the responsibility of the City of Winnipeg Permits Branch.

### IMPORTANT NOTE:

A Building Fire Safety Systems Checklist (Part 6) is included with this package, and must be completed prior to your permit application to establish occupant load. If your premise requires the installation of one or more **Building Life Safety Systems**, it shall be installed through a permit application obtained at the City of Winnipeg Permits, Unit 31 – 30 Fort Street. This should be done prior to your permit application to establish occupant load. See Appendix A if you require more information regarding your **Building Life Safety Systems**, or you may call the Fire Prevention Plan Examiner at 986-7551.

You may elect to engage the services of an architect/ engineer to assist you with the any of the above requirements.

Upon review of your application, you will be contacted to arrange for an onsite inspection. The inspection is necessary to verify the submitted information.

## PART 2-NET FLOOR AREA AND MEANS OF EGRESS

**A Net Floor Area** is defined as the floor space in a room excluding areas occupied by structural features and fixtures, such as tables, furnishings or other equipment. In some assembly occupancies, where the number and type of furnishings change according to the nature of the function, it may be appropriate to calculate maximum occupant loads for each use.

---

<b>To calculate Net Floor Area:</b>	Total Gross Area of the room:	_____ sq ft
Less: Aisles, circulation in front of washrooms/bars (900 mm aisle width)		_____ sq ft
Areas behind the bar and bar fixtures		_____ sq ft
Structural or decorative elements		_____ sq ft
Music booths, stages, dance floors		_____ sq ft
Tables		_____ sq ft
"Net Floor Area" _____ sq ft divided by 10.76 = _____ square meters (m <sup>2</sup> )		

---

**B Means of Egress** is defined as 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. Means of egress includes exits and access to exits.

**Means of egress** shall consistently remain the same all the way to the exterior of the building. The smallest width measured anywhere along the means of egress from a room or floor area, is the only width that will be considered. Exits that converge with other rooms or floor areas may require the services of a professional designer to calculate exit capacity. All exits shall comply to the Manitoba Building Code in terms of door swing, panic hardware, emergency lighting, exit signs, pull stations, and shall not contain any storage.

An **Exit** is defined as the part of a means of egress, including doorways that lead from the floor area it serves, 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.

The Manitoba Building Code (MBC) requirements for exits are:

- 1) If there is only one exit, and the requirements of MBC 3.4.2.1 are satisfied, the occupant load will be limited to 60 persons.
- 2) If there are two exits available, the distance between the 2 exits must be greater than ½ of the diagonal (corner to corner) distance of the room or floor area for the exits to be considered remote (See MBC 3.4.2.3(1)).

- 3) If there are 2 exits from a room or floor area each exit may only contribute ½ of the total exit capacity. This occurs when one exit is wider than the other. Only the smaller exit of the two can be used to determine exit width (See MBC 3.4.3.2(7)).
- 4) If your premise contains 3 or more exits, no exit may contribute more than ½ the total exit capacity (See MBC 3.4.3.2(7)).

### PART 3-MAXIMUM OCCUPANT LOAD CALCULATION

The maximum occupant load of a room or floor area shall be the lesser of:

- 1) Dividing your “net floor area” by 0.4 m<sup>2</sup>/ person and,
- 2) Determining the number of persons for which “means of egress” are provided (exit capacity).

#### 1) Determining your occupant load based on net floor area

**Step 1:** Determine your net floor area (from Part 2, Section A), using your scaled drawings. Be sure you deduct any spaces, previously defined that cannot be considered as part of the net area. The net floor area shall be measured in square meters.

**Step 2:** Divide: 
$$\frac{\text{Net Floor Area (M2-from Part 2)}}{0.4 \text{ (M2/person)}} = \text{_____} \# \text{ of Persons}$$

#### 2) Determining Exit Capacity

**Step 3:** Determine your *total exit width*, which is the cumulative width of exits based on the Manitoba Building Code requirements (from Part 2, Section B). The exit width shall be measured in millimeters.

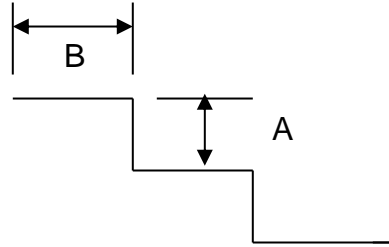
**Step 4:** Divide: 
$$\frac{\text{Total Exit Width (mm)}}{\text{Appropriate Factor (Table A below)}} = \text{_____} \# \text{ of Persons}$$

**TABLE A**

Type of Exit	Appropriate Factor
1) Exits are at grade level or exits with ramps where the slope of the ramp is less than 1:8.	6.1 mm/person
2) Exits served by stairs, at any point along the means of egress, where the rise is not more than 180 mm and the run is not less than 280mm (see example).	8 mm/person
3) Exits served by stairs, <900 mm in width, or where the rise or run value exceeds those in sentence 2 above (see example), or the slope of a ramp is greater than 1:8.	9.2 mm/person

Example: Rise (A)

Run (B)



Your maximum Occupant Load is the lesser value of those calculated in *Step 2* and *Step 4 (page 5)*.

**Note: You may apply for a Maximum Occupant Load that is less than your calculations. If so, indicate in Part 4 of this package the Maximum Occupant Load you are requesting.**

The number of persons permitted to occupy the room or floor area shall not exceed the posted occupant load. If you have requested more than one occupant load, due to different uses of your facility, you may not exceed the number posted for the specific event being held.

If you have any questions or require assistance call the Fire Prevention Plan Examiner at 986-7551.

**PART 4-APPLICATION FORM FOR OCCUPANT LOAD DETERMINATION**

Building Address: \_\_\_\_\_

Business Name: \_\_\_\_\_ Business Phone: \_\_\_\_\_

Type of occupancy (restaurant, pub, banquet hall): \_\_\_\_\_

Applicant	Premise Owner
Name:	Name:
Title:	Address:
Address:	City:                      Postal Code:
City:                      Postal Code:	Phone:
Phone:	
Fax:                      Cell:	

**Requested Occupant Load**

<u>Area #1 (name)</u>	<u>Location in Building</u>
Gross Area _____m <sup>2</sup>	Net Area: _____m <sup>2</sup> @ 0.4 m <sup>2</sup> /person = _____
# Exits: _____	Total Exit Width: _____mm @ _____mm/person = _____
OCCUPANT LOAD REQUESTED _____ persons	
OCCUPANT LOAD CALCULATED _____ persons	

<u>Area#2 (name)</u>	<u>Location in Building</u>	
Gross Area _____m <sup>2</sup>	Net Area: _____m <sup>2</sup>	@ 0.4 m <sup>2</sup> /person = _____
# Exits: _____	Total Exit Width: _____mm	@ _____mm/person = _____
OCCUPANT LOAD REQUESTED _____ persons		
OCCUPANT LOAD CALCULATED _____ persons		

**NOTE:** Non-fixed seating shall conform to the Manitoba Fire Code 2.7.1.5; see Part 5 of this package.

If you are establishing occupant load in more than two rooms or floor areas submit a list in similar format to the above.

I CERTIFY ALL FIGURES ENTERED TO BE TRUE AND ACCURATE.

APPLICANT'S SIGNATURE: \_\_\_\_\_ DATED: \_\_\_\_\_

**To apply for your permit to Establish Occupant Load, return completed Parts 2, 3, 4, and 6 (the *Building Life Safety Checklist*) of this package, along with your scaled drawings and a copy of the Fire Prevention Violation Notice to the City of Winnipeg Permits Branch at 31 – 30 Fort Street, Winnipeg, Manitoba.**



## **PART 5 – GUIDE TO THE MANITOBA FIRE CODE REQUIREMENTS FOR NON-FIXED SEATING**

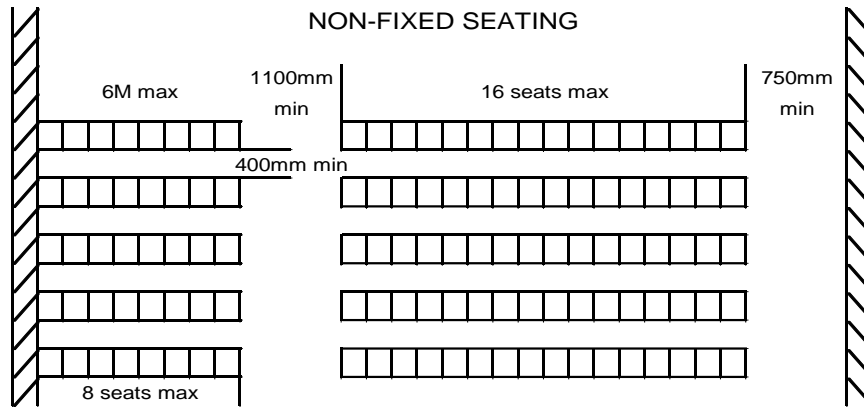
Non-fixed seating applies to seats that are not permanently attached in one position. Generally non-fixed seats are used in areas that are utilized in many different ways. An example would be the gymnasium in a school, or the hall in a community club.

This guide is to assist property/business owners so they are in compliance with the Manitoba Fire Code requirements for non-fixed seating.

Typically, non-fixed seating will either be arranged in rows (indoors or outdoors), or at tables.

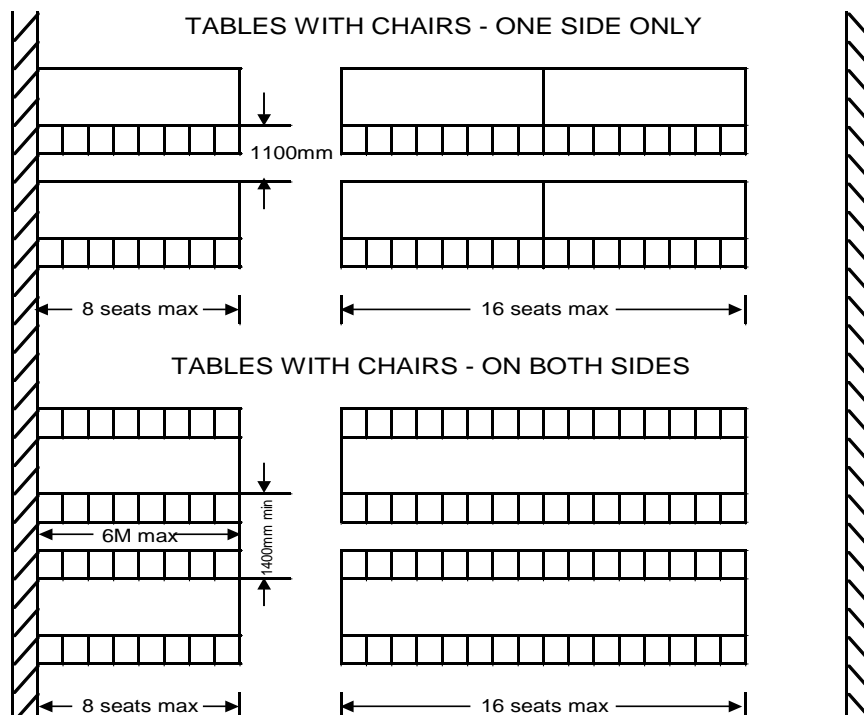
A. Non-fixed seating arranged in rows shall meet the following (see illustration):

- 1) The seats shall be arranged in rows.
- 2) The distance between the rows shall be 400 mm (16 inches), and be measured from a plumb line from the back of one seat to the most forward projection of the seat directly behind it.
- 3) Aisles shall be located so there are no more than 7 seats between any seat and the nearest aisle. Thus, there can only be 16 seats in a row between aisles.
- 4) Aisles that serve rows where there are 60 seats or fewer must be at least 750 mm (30 inches) wide.
- 5) Aisles that serve rows where there are more than 60 seats must be the greater of 1100 mm (44 inches) wide, or the number of seats the aisle serves X 6.1 mm/person. For example, if the aisle serves 100 seats:  $100 \times 6.1 = 610$  mm. The greater of 610 mm or 1100 mm is 1100 mm. Thus, the minimum width the aisle serving 100 seats can be is 1100 mm (44 inches).
- 6) Dead end aisles must not be longer than 6 M (20 ft.).
- 7) When your assembly contains more than 200 seats, the seats in a row shall be fastened together in units no fewer than 8 seats. If the row has 7 or fewer seats, then all the seats in the row shall be fastened together.
- 8) When arranging non-fixed seats in outdoor assembly areas, aisles can be located so there are no more than 15 seats to the nearest aisle (a maximum of 32 seats/row). Aisles shall be the greater of 1200 mm (48 inches), or the number of seats served by the aisle X 1.8 mm.



B. Non-fixed seating that is arranged with tables shall meet the following (see illustration below):

- 1) If the tables being used will be set up with chairs on both sides, the distance from the edge of one table to the edge of the next shall not be less than 1400 mm (56 inches).
- 2) If the tables being used will be set up with chairs on one side only, the distance from the edge of one table to the edge of the next shall not be less than 1000 mm (40 inches).
- 3) There can be no more than 16 seats in a row, or no more than 7 seats to the nearest aisle as was applied to assembly seating in rows.



**PART 6 – BUILDING LIFE SAFETY SYSTEMS  
CHECKLIST (See Appendix A-Explanatory Material)**

BUILDING CODE REQUIREMENT	DOES THIS SYSTEM EXIST IN YOUR PREMISES	PLAN EXAMINATION USE ONLY
DOOR SWING IN DIRECTION OF TRAVEL  Manitoba Building Code (MBC) 3.3.1.11(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Occupant load is >60 persons.
EMERGENCY LIGHTING  MBC 3.2.7.3.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Occupant load is >59 persons.
PANIC HARDWARE  MBC 3.3.2.7.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Occupant load is >100 persons.
EXIT SIGNS  MBC 3.4.5.1.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Building is >2 stories in height, <b>or</b>  Occupant Load is > 150 persons, <b>or</b>  Room/floor area has a fire escape.
FIRE ALARM SYSTEM  MBC 3.2.4.1.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Building is >3 stories in height (includes stories below grade) <b>or</b> Occupant Load is >150 persons in a building containing a licensed beverage establishment or restaurant <b>or</b> Occupant load is >150 persons above or below the 1 <sup>st</sup> storey <b>or</b> Building is sprinklered <b>or</b> The building has a school college or child care facility with an occupant load >40.

## APPENDIX A-Explanatory Material

Door Swing-When rooms or spaces have occupancy of more than 60 persons the potential for congestion or jam point is more at risk for emergency exiting. Thus the code requires exit doors in rooms with more than 60 to swing outward, in the direction of travel.

Emergency Lighting-is a required building life safety system that is intended to provide an acceptable level of lighting that allows building occupants a minimum period of time to safely exit the building. It is typically found in large floor areas, classrooms, corridors that provide access to building exit doors, and at building exit doors.

In many buildings emergency lighting is powered simply by battery packs, however larger buildings may have a generator installed that will start when needed and power the emergency lighting system for the entire building. Regardless of the type of power system, regular maintenance is required to ensure these systems are ready for use at all times.

It is important to consider the location of your building emergency lights when applying to establish your occupant load. If you consider your room or corridors to be lacking in this requirement, additional units should be added. Electrical permits from the City of Winnipeg are required for installation of emergency lighting.

Panic Hardware-is required when occupant loads are greater than 100 persons. It is a hardware feature that permits a door to be opened with one motion. An example is a push bar that will both release the latch and because a pushing motion is used the door will swing open in the direction of travel. You are required to check your exit doors to ensure they can be opened with one motion.

Exit Signs-are required above room exit doors, exits from the building, and if necessary in the corridors that provide access to exits doors. There are two types of exit signs. Earlier codes required the familiar "EXIT" in red (green), while newer ones require a green pictogram ("running man"). A directional arrow may be incorporated into the sign which is intended to inform occupants where a turn is required along the exit path.

When determining if your building provides adequate exit signage, consider your location in the room or access to exit observe whether you can see an exit sign or not. If you cannot see an exit sign from your position additional exit signage may be required. Electrical permits are required for the installation of exit signs.

Fire Alarm System-is required depending on the occupant load in the building. Fire alarm systems contain bells, strobes, pull stations, and detection devices. They may or may not transmit a signal to a monitoring company who in turn contacts 911. Fire alarm systems are intended to provide early warning to building occupants so they can initiate procedures and safely evacuate the building. Some fire alarm systems include a paging system, when announcements are made the bells silence to improve clarity.

Your process to establish an occupant load will likely require that there is a fire alarm system in the building. If your building does not have a fire alarm system, and it is required by code, you must have one installed by a licensed technician under a permit obtained from the City of Winnipeg, before proceeding to establish an occupant load.

Additional Information

An inspection by the Fire Prevention Plan Examiner to confirm the above life safety installations is part of the process to establish occupant load(s). The inspection is needed to confirm the Fire Prevention Plan Examiner is satisfied the existing life safety systems in the building provide an acceptable level of public safety with regard to your application for occupant loads. Any life safety system that is considered deficient will require corrective action before your permit to establish occupant load is fully approved.

The approval of your request to establish occupant load includes a Winnipeg Fire Paramedic Services "Maximum Occupant Load" placard. You are required to post this placard in a location near the principle entrance to the room or floor area. This may be further discussed with the Fire Inspector.

Once your application has been approved and you have received the placard please call the Fire Inspector on your notice to arrange a final inspection, or Fire Prevention reception at (204) 986-8200. This will clear up our records of your outstanding violation.