Inspection and Technical Services

Manitoba Building Code requirements for

FARM BUILDINGS OVER 600 M2

1.3.3.5. Application re farm buildings

1) A ***farm building*** that has a *building area* that exceeds 600 m^2 and that is **NOT** of *low human occupancy* must

   a) be classified – in consideration of its principle occupancy – by the *authority having jurisdiction* as being one of the *major occupancy* classifications; and

   b) meet the requirements of this Code for that *major occupancy* classification.

1.3.3.5. Application re farm buildings

2) A ***farm building*** of *low human occupancy* that has a *building area* that equal or exceeds 600 m^2 is subject to the following provisions of Division B only:

a) Part 1 {General};

b) Section 3.10 {Fire Safety Requirements for Low Human Occupancy Farm Buildings};

c) Part 4 {Structural Design};

d) Section 6.1 {General, HVAC},
Article 6.2.1.1. {Good Engineering Practice} and
Article 6.2.1.4. {Installation Standards}

1.3.3.5. Application re farm buildings

3) Despite Sentence (2), Sections 3.10. and 6.1 {General, HVAC}, and Articles 6.2.1.1. {Good Engineering Practice} and 6.2.1.4. {Installation Standards} **do not apply** to

a) A *farm building* that

i) is not mechanically heated, cooled or ventilated,

ii) has at least 20% of the total area of its perimeter walls open to the outdoors, and

iii) is used only as a shelter for farm animals or for storage of fibre and forage, or

b) A *farm building* or part of a farm building that is used only for manure storage

Need ONLY comply with
Part 4 – Structural Requirements

Administration

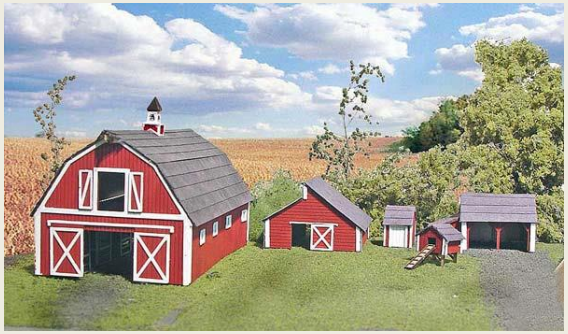
- Farm buildings must be designed by an engineer or architect skilled in the area of work.

Responsible for administering the:	Authority
Manitoba Building Code	Part 3 Authority under the Act
Manitoba Electrical Code	Manitoba Hydro or City of Winnipeg (if within Winnipeg)
Manitoba Sustainable Development	Livestock Manure and Mortalities Management Regulation

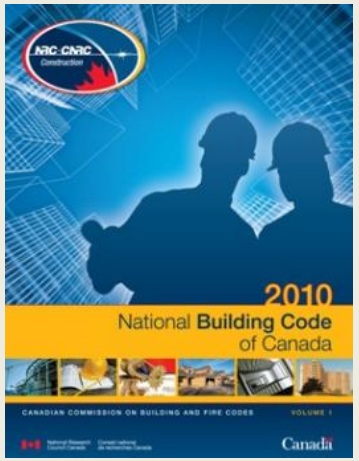
Exclusions

The Code does not apply to

e) A *farm building* that has a *building area* not exceeding 600 m^2.



- "***Code***" means the Manitoba Building Code of Canada 2010, issued by Codes Canada, National Research Council Canada.



Definitions

- ***Low human occupancy*** means, in respect of a *farm building*, an *occupancy* having an *occupant load* of not more than one person per 40 m^2 of *floor area* during normal use.

Definitions

- ***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 agriculture and horticultural produce or feeds but does not include a *building* that falls within the definition of a Group F, Division 1 – High-hazard industrial occupancy.

3.10. Fire Safety Requirements for Low Human Occupancy Farm Buildings

3.10.1.1. Scope

1) This section applies to a farm building, or a part of a farm building, of low human occupancy.

3.10. Fire Safety Requirements for Low Human Occupancy Farm Buildings

3.1.1.2. Floor Areas

1) When a *farm building,* other than a greenhouse, of the number of *storeys* in the first column of Table 3.10.1.2. has a *floor area* on any one *storey* that exceeds the *floor area* listed opposite in the second column, the *farm building* must be separated into *fire compartments* by vertical *fire separations* having a *fire-resistance rating* of at least **2 h**, so that each separated portion has a *floor area* on any one *storey* that is less than the maximum *floor area* listed in the second column of the Table.

Table 3.1.1.2. Maximum Floor Areas for Farm Buildings of Low Human Occupancy

Maximum Number of Storeys (1)	Maximum Floor Area, m^2/storey
1	4800
2	2400
3	1600

2 hour fire separation if floor area is exceeded

3.10. Fire Safety Requirements for Low Human Occupancy Farm Buildings

3.1.1.2. Floor Areas

2) A *farm building* or part of a *farm building* must be separated from an *occupancy* conforming to Part 3 or Part 9 – except for another *farm building* that is subject to Section 3.10. – by a *fire separation* having a *fire-resistance rating* of at least **1 h**.

3.10. Fire Safety Requirements for Low Human Occupancy Farm Buildings

3.1.1.2. Floor Areas

3) In the case of an office in a *farm building*, if the aggregate area of an office is not more than 10% of the *floor area* of the *storey* in which it is located, the office is not considered a *major occupancy*.

4) In a *farm building,* a mezzanine greater than 10% of the floor area in which it is located is considered a separate storey.

3.10. Fire Safety Requirements for Low Human Occupancy Farm Buildings

3.1.2.1. General, Spatial Separations

1) Except for greenhouses, where *exposing building faces* of a *farm building* is located less 30 m from:

- a property line,
- the centreline of a public thoroughfare,
- or *building* other than a *farm building* of *low human occupancy*,

the appropriate requirements of Subsection 9.10.14. {Spatial Separations Between Buildings} for *medium-hazard industrial occupancies* shall apply to the *exposing building faces*.

3.10. Fire Safety Requirements for Low Human Occupancy Farm Buildings

3.1.2.1. Spatial Separations

New

Limiting Distance

Existing

Determines:

- **Fire Resistance Rating (FRR)**
- **Building Area**
- **Type of construction** (combustible & non-combustible)
- **Area of unprotected openings** (windows, doors, openings)
- **Limiting Distance**
  - Greater than 30m → no restrictions on *exposing building face*
  - Less than 30m →use 2010 NBC

Proposed requirement is to apply spatial separation facing:

- a property line,
- the centreline of a public thoroughfare, or
- a *building* other than a *farm building* of *low human occupancy*,

Spatial Separations

- Exposing building face of a farm building (except for greenhouses) must be located at least 30 m (~100 ft) from a property line, the centreline of a public thoroughfare, or a building other than a farm building of low human occupancy.

3.10.3. Fire Blocks in Concealed Spaces

3.10.3.1. Location

1) *Fire stops* must be provided at floor, ceiling and roof levels to cut off all concealed draft openings occurring between *storeys* and between the top *storey* and roof space, including spaces filled with batt, loose fill or foamed plastic insulation.

3.10.3.2. Concealed Spaces in Walls or Partitions

1) The maximum dimension of any concealed space in a wall or *partition* of *combustible construction* must not exceed 3 m vertically and 6 m horizontally.

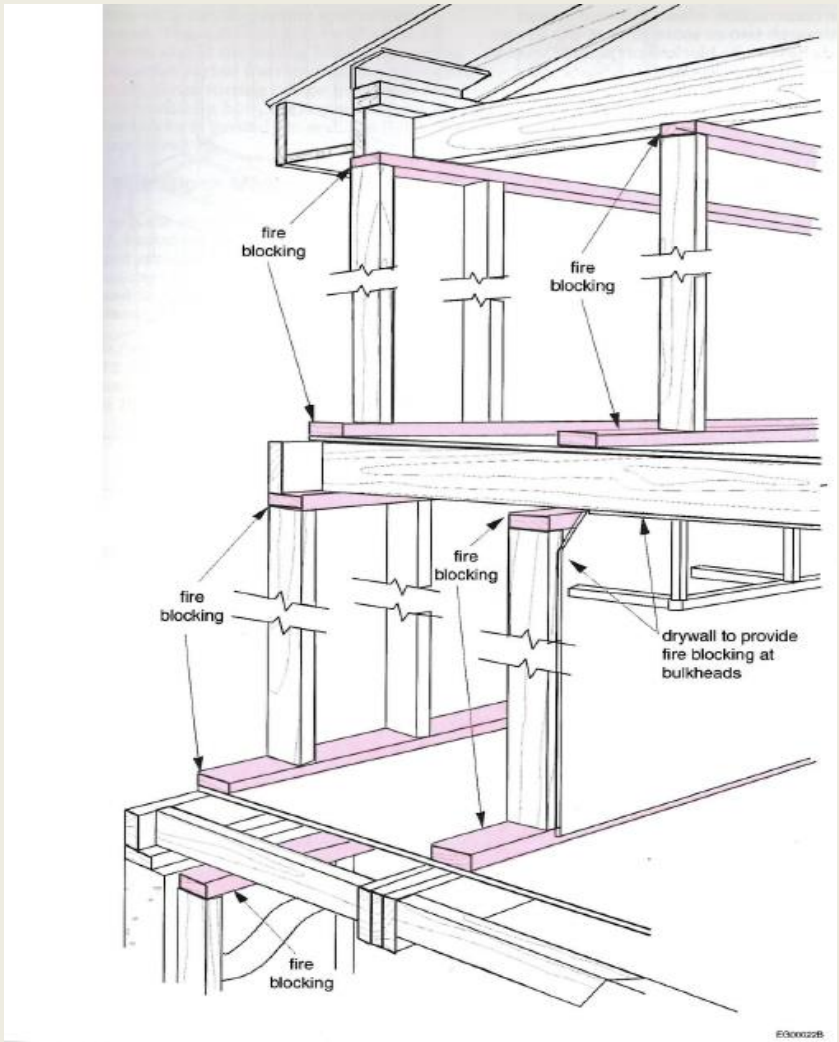


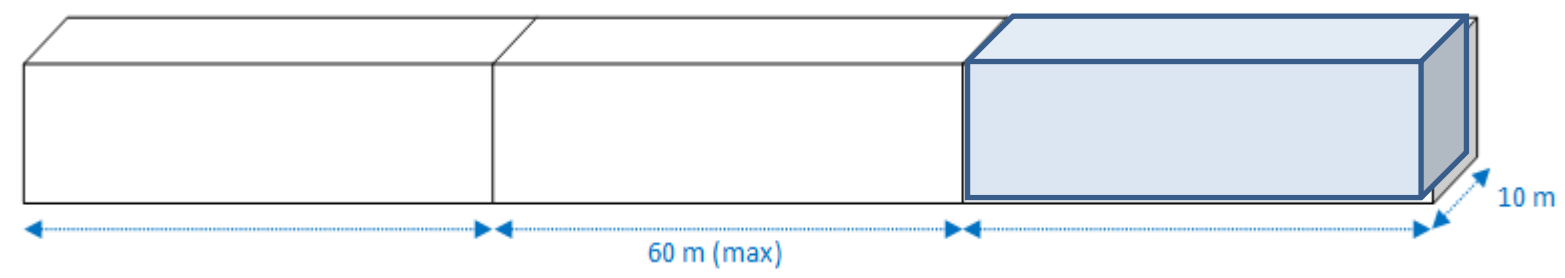
Figure 9.10.-35
Wood framing as fire blocking

3.10.3. Fire Blocks in Concealed Spaces

3.10.3.3. Fire Blocks in Horizontal Concealed Spaces

1) Horizontal concealed spaces within an attic or roof assembly in a *farm building* must be separated by construction conforming to Article 3.10.3.4. into compartments not more than

a) 600 m² in area with no dimension more than 60 m if the exposed construction materials within the space have a *flame-spread rating not* more than 25, or

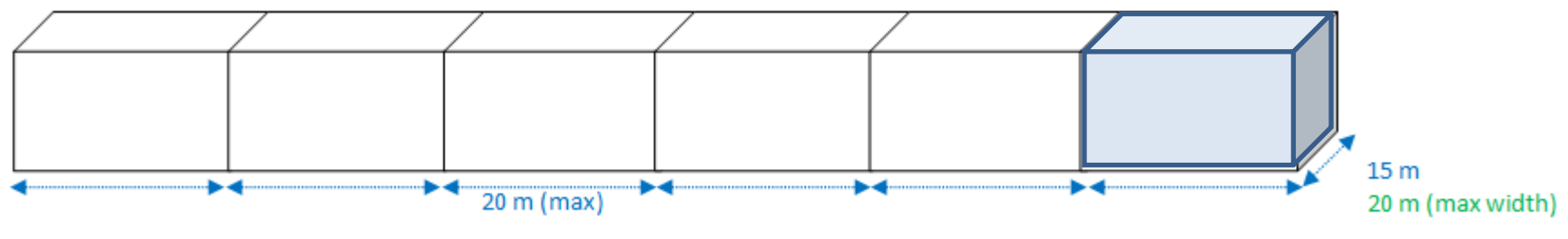


3.10.3. Fire Blocks in Concealed Spaces

3.10.3.3. Fire Blocks in Horizontal Concealed Spaces

1) Horizontal concealed spaces within an attic or roof assembly in a *farm building* must be separated by construction conforming to Article 3.10.3.4. into compartments not more than

b) 300 m² in area with no dimension more than 20 m if the exposed construction materials within the space have a *flame-spread rating* more than 25, and the building is 20 m or less in width, or

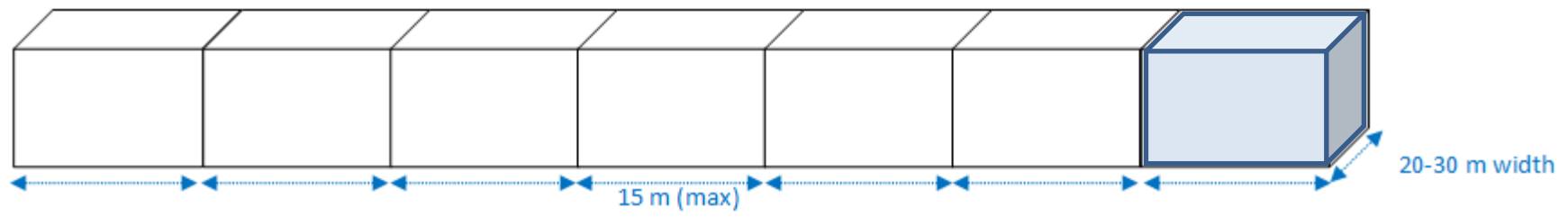


3.10.3. Fire Blocks in Concealed Spaces

3.10.3.3. Fire Blocks in Horizontal Concealed Spaces

1) Horizontal concealed spaces within an attic or roof assembly in a *farm building* must be separated by construction conforming to Article 3.10.3.4. into compartments not more than

c) 300 m^2 in area with the dimension of the compartment in the longitudinal direction no more than 15 m, if the exposed construction materials within the space have a *flame-spread rating* more than 25, and the *building* is between 20 m or more, but less than 30 m in width, or

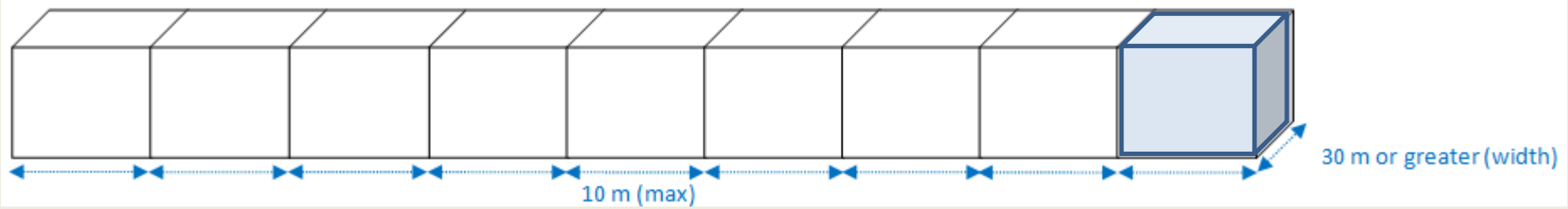


3.10.3. Fire Blocks in Concealed Spaces

3.10.3.3. Fire Blocks in Horizontal Concealed Spaces

1) Horizontal concealed spaces within an attic or roof assembly in a *farm building* must be separated by construction conforming to Article 3.10.3.4. into compartments not more than

d) 10 m in the longitudinal direction of any *building* greater than 30 m in width, if the exposed construction materials within the space have a *flame-spread rating* more than 25.



3.10.3. Fire Blocks in Concealed Spaces

3.10.3.4. Fire Block Materials

1) Materials used to separate concealed spaces into compartments must not be less than

a) solid lumber at least 38 mm thick,

b) two layers of lumber, each at least 19 mm thick with joints staggered, where the width or height of the concealed space requires more than one piece of lumber to block off the space, or

c) phenolic bonded plywood, waferboard, or strandboard at least 11 mm thick with joints supported.

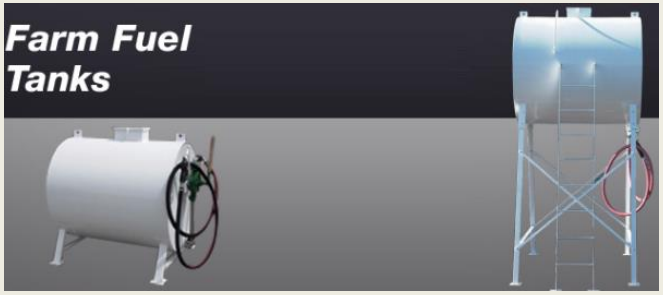
2) Openings through the *fire block* materials referred to in Sentence (1) must be protected to maintain the integrity of the construction.

3) Where the *fire block* materials referred to in Sentence (1) are penetrated by construction elements or by service equipment, a *fire stop* must be used to seal the penetration.

3.10.4. Fuel Storage Tanks

3.10.4.1. Fuel Storage

1) Fuels in a *farm building* must be stored in conformance with the *Manitoba Fire Code,* Manitoba Regulation 155/2011.



3.10.5. Fire Separations

3.10.5.1. Fire Resistance Ratings

1) Except as provided in Sentences (3) and (4), a fuel-fired *appliance* in a *farm building* must be

a) located in a *service room* or *service space* designed for that purpose, and

b) separated from the remainder of the *farm building* by a *fire separation* having a *fire-resistance rating* of not less than **1 h**.

2) A room used in a *farm building* for crop drying or in which farm machinery is repaired must be separated from other *occupancies* by *fire separations* having a *fire-resistance rating* of not less than **1 h**.

3.10.5. Fire Separations

3.10.5.1. Fire Resistance Ratings

3) Fuel-fired space heating *appliances,* space-cooling *appliances* and service water heaters in a *farm building* need not be separated from the remainder of the *building* as required in Clause (1)(b), if the equipment is designed for such use and serves no more than one room or *suite*.

3.10.5. Fire Separations

3.10.5.1. Fire Resistance Ratings

4) A *service room* that contains an incinerator must be separated from the remainder of the *farm building* by a *fire separation* having a *fire-resistance rating* of not less than **1 h**.

3.10.6. Exposed Foamed Plastic Insulation

3.10.6.1. Combustible Insulation and its Protection

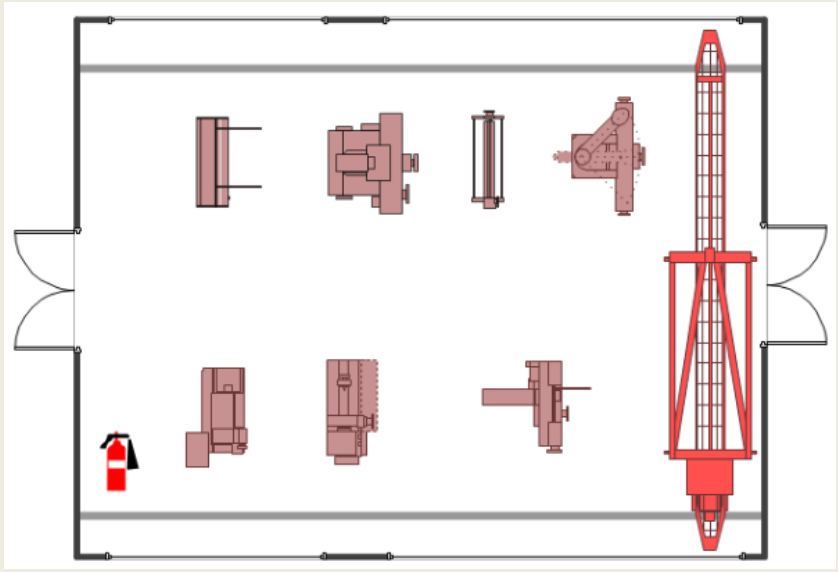
1) Exposed foamed plastic material in *farm buildings* must be protected on the interior surfaces in conformance with Article 9.10.17.10.

2) This Article does not apply to unoccupied high humidity horticultural facilities where agricultural products are stored.

3.10.7. Egress and Exits

3.10.7.1. Number of Exits

1) Every *storey* of a *farm building* must be served by at least **2 *exits*** consisting of exterior doorways and the exits must be spaced remotely from each other at opposite ends of the *building*.



3.10.7. Egress and Exits

3.10.7.2. Type of Exits

1) *Exits* in *farm buildings* must consist of

a) an exterior doorway,

b) Subject to Article 3.10.7.3., an exterior *exit* passageway,

c) an exterior ramp,

d) an exterior stairway,

e) a fire escape conforming to Subsection 3.4.7. ,

f) Subject to Article 3.10.7.4, a *horizontal exit,* or

g) an openable window or panel providing an opening measuring not less than **900 mm by 900 mm**, with the bottom of the opening no more than 1.5 m above the adjacent floor level.

3.10.7.3. Exterior Exit Passageways

1) Access to an exterior *exit* passageway from a *farm building* must be through *exit* doors at the floor level.

3.10.7.4. Restricted Use of Horizontal Exits

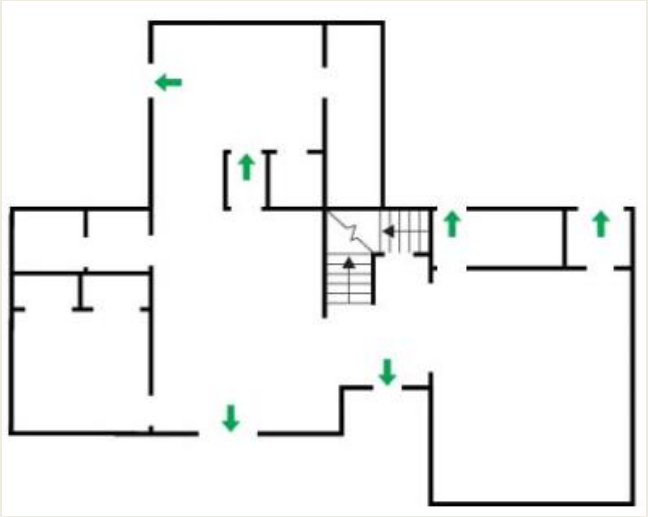
1) *Horizontal exits* must not comprise more than half of the required number of *exits* from a *farm building.*

3.10.7. Egress and Exits

3.10.7.5. Location

1) *Exits* described in Article 3.10.7.2. must be located and arranged so that they are **clearly visible** or their locations must be **clearly indicated**.

2) *Exits* described in Article 3.10.7.2. must be **accessible at all times.**



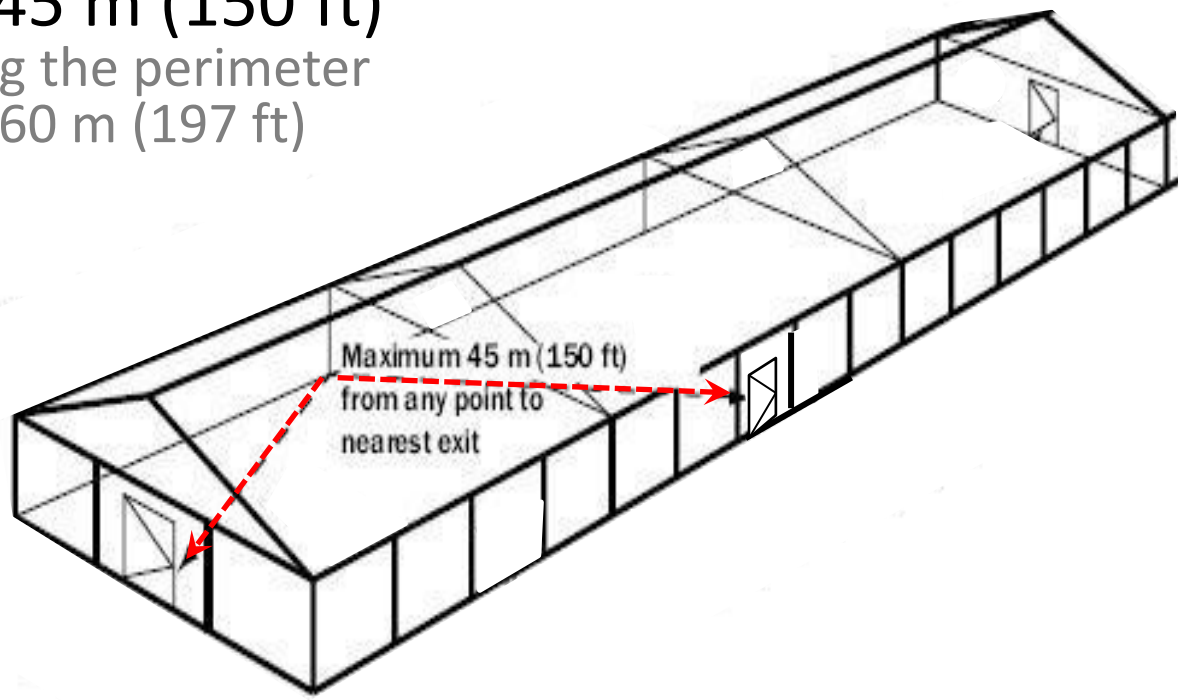
3.10.7.6. Travel Distance to an Exit

1) The travel distance to an *exit* in a *farm building* must not exceed **45 m**.

2) Sentence (1) need not apply if *exits* are placed along the perimeter which are not more than **60 m apart**, measured along the perimeter.

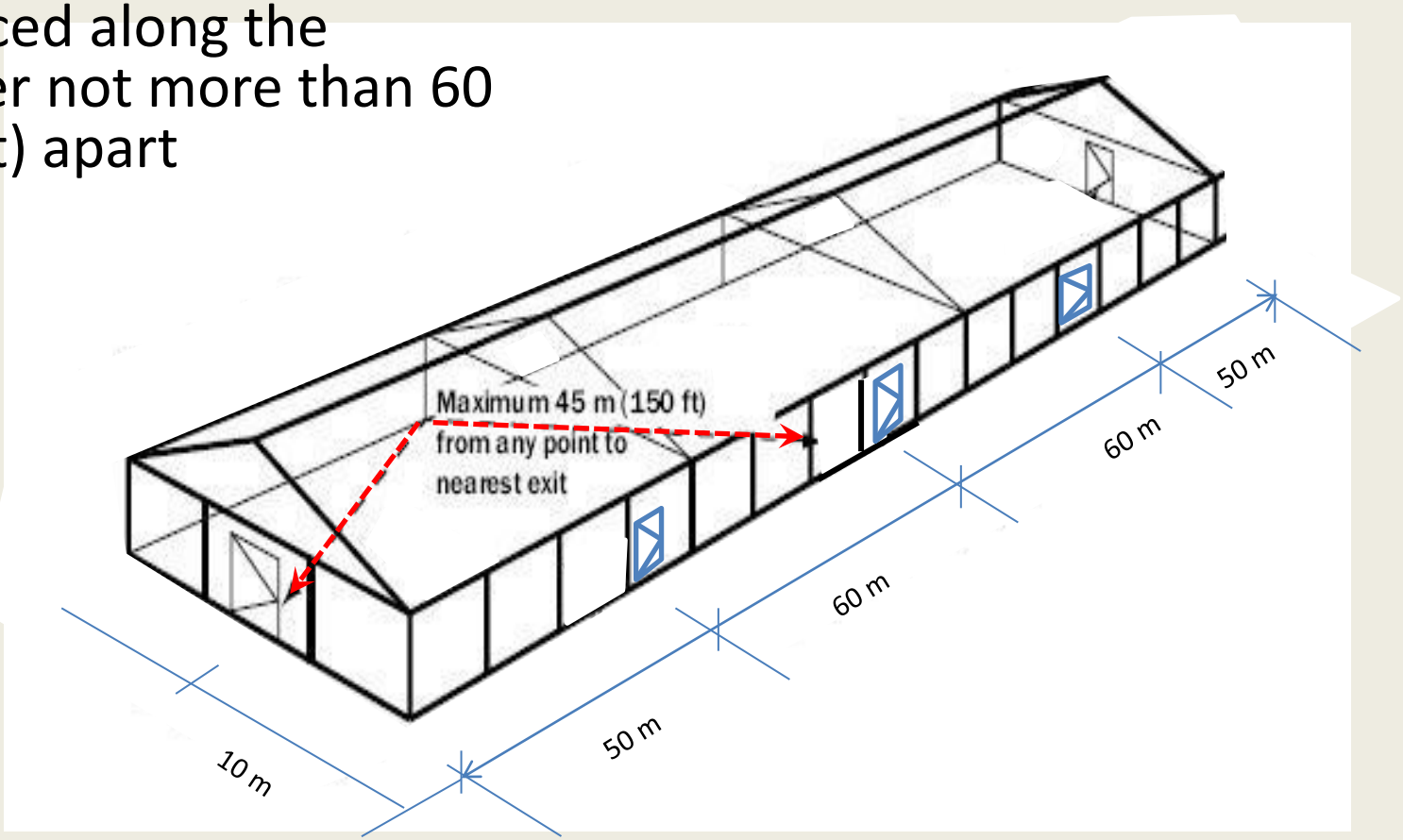
Exits

- Travel distance to an exit in a farm building must not exceed 45 m (150 ft)
  OR placed along the perimeter not more than 60 m (197 ft) apart



Exits

- Travel distance to an exit in a farm building must not exceed 45 m (150 ft) OR placed along the perimeter not more than 60 m (197 ft) apart



3.10.7. Egress and Exits

3.10.7.7. Direction of Door Swing

1) *Exit* doors in a *farm building* that swings inward on its axis must have a sign affixed to it that is no higher than 1.5 m from the floor level and that indicates the direction of door swing.

3.10.7. Egress and Exits

3.10.7.8. Stairs and Ladders for Exits above Ground Level or Floor Level

1) An exterior doorway that serves as an *exit* in a *farm building* must be served by:

a.) an inside stair if the doorway is more than **600 mm** above the adjacent floor level.

b.) an outside stair if the doorway is more than **600 mm** above the adjacent ground level.

2) Despite Sentence (1), an exterior doorway that serves as one of the *exits* required under Sentence 3.10.7.1.(1) must be served by:

a.) an inside stair if the doorway is more than **300 mm** above the adjacent floor level.

b.) an outside stair if the doorway is more than **300 mm** above the adjacent ground level.

3.10.7. Egress and Exits

3.10.7.8. Stairs and Ladders for Exits above Ground Level or Floor Level

3) An *exit* described in Clause 3.10.7.2.(1)(g) {openable window or panel} must be served by a stair if the bottom of the wall opening is more than 600mm above the adjacent ground level.

4) Despite Sentence (3), an exit described in Clause 3.10.7.2.(1)(g) {openable window or panel} may be served by a permanently installed outside ladder conforming to Subsection 3.10.8. if the bottom of the wall opening is more than 2.5 m above ground level.

3.10.8. Ladders

Requirements:

1. Design concentrated load of **1.0 kN**
2. Terminate within **1.0-1.5m** above ground level
3. **175mm** clear space behind rungs, steps or cleats
4. Uniform spacing of rungs, steps or cleats not exceeding **300mm**
5. Distance between siderails not less than **250mm**
6. Safety cages if **6m high**, starting at **3m** from the bottom of the

3.10.9. Building Fire Safety

3.10.9.1. Emergency Lighting

1) Except as provided in Sentence (3) {poultry or egg}, emergency lighting must be provided in *farm buildings* of *low human* to an average level of illumination not less than 10 lx at floor or tread level in

a) *exits*,

b) principal routes providing *access to exit* in open *floor areas*, and

c) *service rooms*

2) The minimum value of the illumination required by Sentence (1) must be not less than 1 lx.

3.10.9. Building Fire Safety

3.10.9.1. Emergency Lighting

3) A *farm building* that is used for poultry or egg production does not require emergency lighting in areas intended for poultry or egg production.

3.10.9. Building Fire Safety

3.10.9.2. Backup Power for Emergency Lighting

1) A *farm building* must have an independent power supply – such as batteries or a generator – which is
   a) capable of maintaining the emergency lighting required by Article 3.10.9.1. for a minimum period of 30 min if the regular power supply to the *farm building* is interrupted, and
   b) designed and installed so that it will assume the electrical load for the emergency lighting automatically upon failure of the regular power.

2) If self-contained emergency lighting units are used, they shall conform to CSA C22.2 No. 141, “Emergency Lighting Equipment.”

3.10.10. Provisions for Firefighting

3.10.10.1. Access Route

1) A *farm building* must be provided with an all weather access road leading to the *building* to ensure access for firefighting.

3.10.10.2. Portable Fire Extinguishers

1) Portable fire extinguishers must be provided and installed in accordance with the Manitoba Fire Code, Manitoba Regulation 155/2011.

Required at 2 main exits

Division C

2.2.2.3. Designers Required

1) Plans, drawings and related documents submitted with an application to build a *building* covered under Article 1.3.3.2. of Division A must be prepared, signed and sealed by an architect, a *professional engineer* or both, as determined in accordance with Table 2.2.2.3.

Table 2.2.2.3.

Building Classification	Designers Required
A1 & A2	Architect and PEng.
A3	Architect or PEng.
B	Architect and PEng.
C	Architect and PEng.
D	Architect and PEng.
E	Architect and PEng.
F1	Architect or PEng.
F2 & F3	Architect or PEng.
Farm Building subject to Section 3.10 of Division B	**Architect or PEng.**

Summary

- Requirements for Large Farm Buildings
  - Part 1: General & Compliance
  - Part 3: Fire Protection & Safety
  - Part 4: Structural Design
  - Part 6: HVAC

- Applies to farm buildings of low human occupancy that exceed 600 m^2 or ~6500 sf

- Manitoba Building Code, M.R. 31/2011 (gov.mb.ca)

Questions?

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