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***National Building Code and
National Fire Code
Requirements for Schools
and Arenas***

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Agenda

- ❖ Fire Protection Services to First Nations
- ❖ Fire Risk and Sustainability
- ❖ Project Plan Reviews and Inspections
- ❖ Maintenance of Life and Fire Safety Systems
- ❖ Daily Visual Check
- ❖ Common Deficiencies

Fire Protection Services to First Nations

- 🍁 Fire Protection Engineering Services
 - Ontario Region - Ottawa and Toronto Office
 - Central Regional Office in Winnipeg
- 🍁 Fire Inspections
 - 3 District Offices in Ontario

Fire Protection Services to First Nations

- 🇨🇦 Partners to deliver the Services
 - OFNTSC
 - Tribal Councils
 - Indian and Northern Affairs Canada
 - Health Canada

Fire Protection Services to First Nations

- 🍁 Objectives
 - Life Protection
 - Property Protection
 - Continuity of Operation
 - Environmental Protection

Fire Protection Services

Major Public Access Buildings

	INAC Asset Codes	Building Description
1	A1A	Office
2	A3A	School
3	A3B	Day Care Centre
4	A3H	Fire Station
5	A4I	Student Residence
6	A4L	Teacherage
7	A6A	Community/Recreation/Hall/Cultural Centre
8	A6B	Arena
9	A6C	Gymnasium
10	A6D	Indoor Swimming Pool
11	A6E	Youth Centre/Senior Citizens/Drop In

Fire Protection Services to First Nations

Other Buildings

- Health Centres and Health Stations
- Water Supply/Water Treatment Plants for Fire Protection of Major Public Access Buildings

Occupants of Schools, Arena and Daycare Centres

- ❖ Occupant load is high
- ❖ Require supervision and directions
- ❖ Various age groups
- ❖ Delayed response
- ❖ Unfamiliar with the facilities

Fire Risk and Sustainability

Reducing Fire Risks

=

Gaining in Sustainability

Contaminations Caused by Fires

- 🍁 Air – Toxic smoke and soot
- 🍁 Land – Toxic chemicals from burning materials and liquids
- 🍁 Water - Toxic chemicals from burning materials and liquids
- 🍁 Water – Large amount of water can be used

Impact to First Nations

- ❖ Community social centres
- ❖ Multi-purpose buildings
- ❖ Education and social activities interrupted
- ❖ Resources have to be replaced
- ❖ Loss of Lives

Project Plan Reviews and Inspections

Buildings to meet

- National Building Code 2005
- National Fire Code 2005
- Referenced Standards in the Codes, i.e. fire alarm standard
- Minimum Standard

Project Plan Reviews and Inspections *(continued)*

- ❖ Common deficiencies during the design and construction stages
 - Wrong classification of building
 - Construction requirements not met
 - Doors swing at wrong direction
 - Sprinkler system and/or fire alarm systems not provided where it is required
 - Wrong location of fire hydrants

Project Plan Reviews and Inspections *(continued)*

- ❖ Common deficiencies (cont'd)
 - Fire separations (FS) missing
 - FS do not have correct fire-resistance rating
 - Fire dampers missing or incorrectly installed
 - Stairs have incorrect dimensions of rise and run
 - Handrails and guards have incorrect dimensions
 - Emergency power supply not provided to exit signs

Project Plan Reviews and Inspections *(continued)*

- ❖ Deficiencies = increased risk to life and Increased Costs
- ❖ Plan Reviews and Project Inspections = Buildings meet minimum standards and can reduce costs

Fire Inspections

National Fire Code

- Means of Egress
- Control and eliminate fire hazards
- Fire safety plan
- Inspection, testing and maintenance of fire protection equipment
- Records

Fire Separations

- ❖ Fire-resistance rating
- ❖ Construction
- ❖ Protection of Openings by
 - Fire dampers
 - Fire-rated doors
 - Fire Stopping

Exits and Access to Exits

- ❖ Fire separation of exits
- ❖ Integrity of Exits
- ❖ Exit and egress doors readily
- ❖ Exit width

Fire Extinguishers

- 🍁 NFPA 10, “Portable Fire Extinguishers”
- 🍁 Locations
- 🍁 Types

Sprinkler Systems

- ❖ NFPA 13, “Installation of Sprinkler Systems”
- ❖ Storage too close to sprinklers
- ❖ Distance between sprinklers and distance between sprinkler and vertical partition
- ❖ Damaged deflectors
- ❖ Wrong rating

Fire Alarm Systems

- ❖ ULC S536, “Inspection and Testing of Fire Alarm Systems”
- ❖ Smoke detectors covered
- ❖ Wrong location
- ❖ Detectors missing – e.g. Storage Room in non-sprinklered buildings

Exit Signs

- ❖ Not illuminated
- ❖ Not correct location
- ❖ No emergency power supply
- ❖ Missing or incorrect directional exit sign
- ❖ Insufficient exit signage

Emergency Lighting

- ❖ Light bulbs missing
- ❖ Insufficient illumination level
- ❖ Not tested regularly
- ❖ Emergency power supply is not sufficient

Combustible Materials

- ❖ Section 2.10.3. Combustible Materials in Day Care Centres
 - Combustible materials attached to walls not exceed 20%
 - Waste receptacles – made of noncombustible materials

Flammable and Combustible Liquids

- ❖ NFC, Division B, Part 4 Flammable and Combustible Liquids
- ❖ Subsection 4.2.6. applicable to educational occupancies
- ❖ Fire separated room or storage cabinet
- ❖ Storage cabinet is required to be ULC and cUL listed and labelled

Fire Safety Plan

- ❖ NFC, Division B, Section 2.8. Emergency Planning
- ❖ Article 2.8.3.2. Fire Drill Frequency
 - Day care centres - every month
 - Schools – at least 3 times each school term
- ❖ Audit of fire protection equipment
- ❖ Reviewed by local fire department

Inspection, Maintenance and Testing

- ❖ NFC, Division B, Part 6 Fire Protection Equipment
 - NFPA 10, “Portable Fire Extinguishers”
 - CAN/ULC-S536, “Inspection and Testing of Fire Alarm Systems”
 - NFPA 25, “Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems”

❖ RECORDS

Daily Visual Inspection List

1. Fire doors wedged and blocked open
2. Obstructed aisles, corridors, or exits
3. Self-closers, self-latching hardware not operating properly
4. Exit doors that do not readily open or are blocked

Daily Visual Inspection List

(continued)

5. Accumulation of combustibles
6. Fire extinguishers obstructed
7. Sprinklers obstructed
8. Exit signs not illuminated
9. Pull Stations obstructed

Common Deficiencies

Fire Risk and Sustainability

Fire Protection & Fire Prevention



Reducing Fire Risks



Sustainability

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Fire Prevention Week



Questions?