FIRE SAFETY SYSTEMS MAINTENANCE INFORMATION

To be kept in school administration office

Prepared by Nova Scotia Department of Education

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INTRODUCTION

The fire safety systems in the _____ School are required to be tested and maintained according to the provisions of the National Fire Code of Canada, 2010 and referenced standards. The maintenance staff will be responsible for administering this task.

NOTE: There are numerous code requirements for inspecting and testing of dust collection equipment. These requirements are contained in the Operating and Maintenance (O & M) Manual located in the Technology Production Lab or similar location. Completion of tasks related to Dust Collection is a fire/explosion safety requirement but is managed in a slightly different fashion from this FSP, refer to the O & M Manual in the lab.

The module contains four main sections:

- Section A – Detailed Description of the Fire Safety Systems
- Section B – Fire Safety Maintenance Schedule
- Section C – Fire Safety Systems Maintenance Drawings
- Section D – School/Facility Information Checklist

Section A – Details the fire safety systems that are specific to your school. All important information should be included in this section so that the principal and maintenance/custodial staff can familiarize themselves with the fire safety systems.

Section B – Details the fire safety maintenance schedule for the fire safety systems. The schedule is divided according to frequency of maintenance and skill level required. This is an important section for the principal, school staff, maintenance/custodial staff, and person(s) in charge of inspecting or testing specific components of the fire safety systems depending on the required skill level.

Section C – Details all the fire safety systems maintenance drawings that will be used by the appropriate personnel to familiarize themselves with the location of fire safety system components.

Section D – Details the information checklist that will be used by a school board representative in consultation with your school to produce all three documents required for the fire safety plan.

SECTION A

Detailed Description of Fire Safety Systems

SECTION A

The following section describes the fire safety systems found in _____ School.

Standpipe System

The building features a standpipe system with 65 mm (2½") valves in the intermediate stairwell(s). The standpipe system is fed off of the main water supply header located in the lower level mechanical room. All zone valves are equipped with tamper switches and are monitored at the main fire alarm panel.

In the event that the building's sprinkler system is inactive the building's standpipe system will remain operable.

The system can also be boosted by a fire department pumper truck via the fire department connection located on the south side of the building. Refer to Image 1.

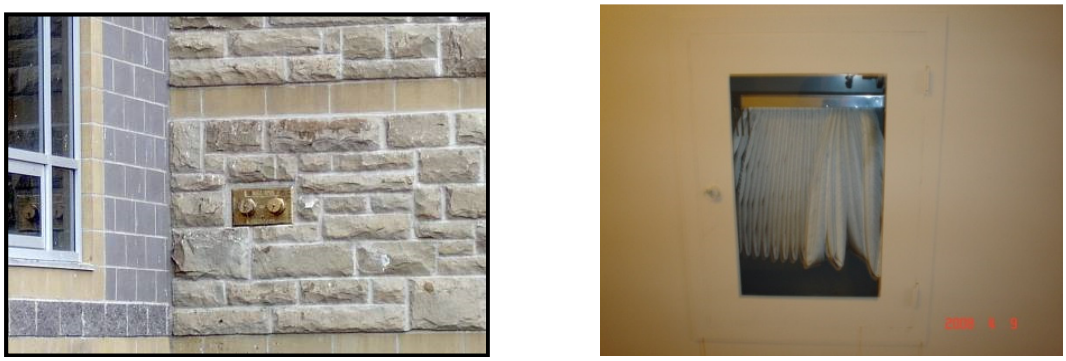


Image 1 – Fire Department Connection and typical Hose Cabinet in building

Hose Cabinets

Each floor area is equipped with hose cabinets, which are fed off of the standpipe riser. The hose cabinets are monitored by the main fire alarm panel.

The hose cabinets do not contain any fire hose. They may be utilized by the fire department who have their own hoses.

The system can also be boosted by a fire department pumper truck via the fire department connection located on the south side of the building. Refer to Image 1.

Sprinkler System

The entire facility is protected by an automatic electrically supervised sprinkler suppression system. The system is a wet pipe system, zoned by area, complete with an alarm valve assembly. Refer to Image 2.

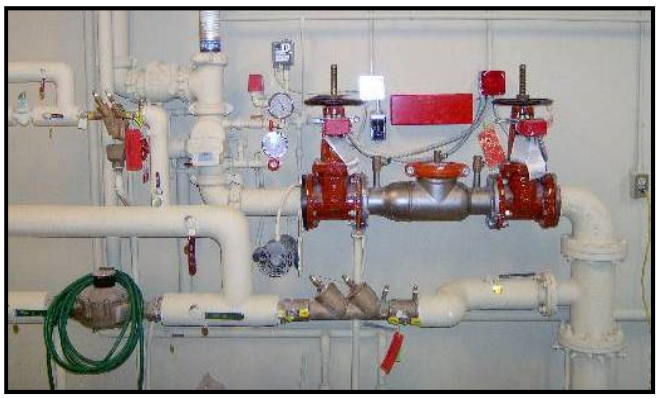


Image 2 – Alarm Valve Assembly

Water Supply

The system is supplied by a 150 mm (6") water entrance located in the mechanical room located in the basement. This water entrance is connected to a 250 mm (10") water main located on the street via a 200 mm (8") water main. There is a fire pump complete with a controller and transfer switch that provides a boost in water pressure and flow for the sprinkler system.

There is also an excess pressure pump used to maintain a constant water pressure in the system due to fluctuations in the supplied municipal pressure. The sprinkler system can also be boosted by a fire department pumper truck via the fire department connection located on the south side of the facility (Refer to Image 1). The fire pump test header is located outside on the north face of the building.

System Zoning

The sprinkler system is divided into 5 zones with each zone having a control valve and a flow switch. The isolation control valve and flow switches are located in the lower level mechanical room. Refer to Image 3.

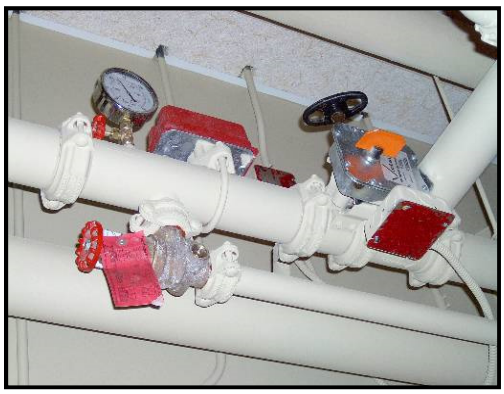


Image 3 – Sprinkler Flow Switch and Control Valve c/w Tamper Switch

The following table outlines the sprinkler system zoning.

Zone #	Location
1	Mechanical Room
2	Basement East
3	Basement West
4	Main Floor East
5	Main Floor West

Fire Detection and Alarm System

A single stage fire detection and alarm system is provided for the facility. A single stage system is one that activates an alarm signal, alerts occupants of a potential fire emergency, and indicates evacuation. Automatic detection is provided by smoke detectors in the exit stair shafts and sprinkler heads located throughout. The fire alarm system also monitors the sprinkler system as described earlier. Refer to Image 4.

Image 4 – Smoke Detector

The alarm system can be manually activated by initiating the pull stations located at exits throughout the building. Refer to Image 5.

Image 5 – Manual Pull Station

The fire alarm indicating or annunciator panel will display where a device was activated, indicating where in the building the fire emergency is located. The main fire alarm panel is located in the mechanical room on the basement level. Refer to Image 6.

Image 6 – Main Fire Alarm Control Panel

Signaling is provided by combination horn/strobe units or bells mounted on walls throughout the facility. Refer to Image 7.

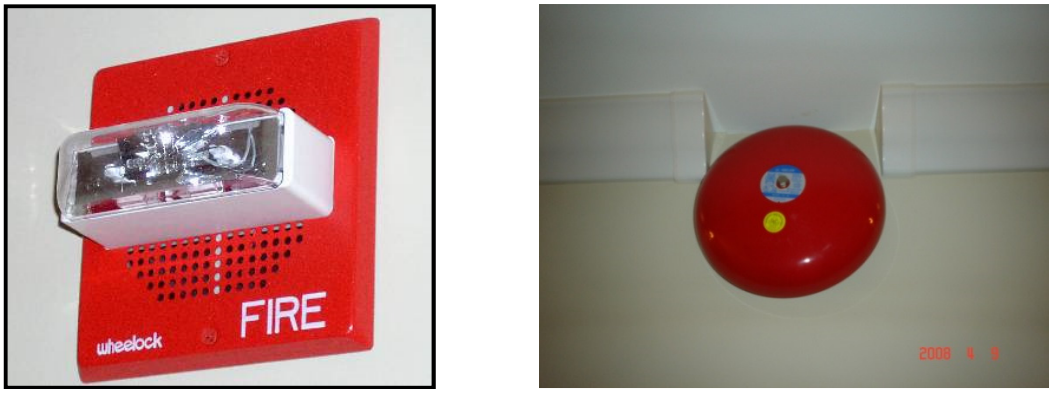


Image 7 – Horn/Strobe and bell

The fire alarm system has a number of indicating or annunciator panels. These will display where a device was activated, indicating where in the building the fire emergency is located. The main fire alarm panel, with controls, is located in the mechanical room basement level. Additional annunciator and controls are located in the following areas:

- Annunciator panel is located in the secretary's office on the main level.
- Annunciator panel with full controls is located at the main entrance.

Refer to Image 8.

Image 8 – Fire Alarm Annunciator Panel – Main Entrance on Main Level

The fire alarm system is centrally monitored by XYZ monitoring service located in Toronto, Ontario.

Egress Systems Applying to Corridors and Access to Exits

Fire separation involves dividing a building into separate compartments whose boundaries limit the spread of smoke and fire to an adjacent compartment. The walls in the school corridors have a 1 h fire resistance rating.

Hallway doors accessing exits are specially designed to maintain the integrity of the fire separation. They are configured to remain closed at all times. The doors are provided with electromagnetic hold-open devices that release the door upon receiving a signal from the fire alarm panel, allowing them to close in the event of a fire alarm. Refer to Images 9 and 10. Fire dampers that are activated by a temperature sensitive fusible link are installed in openings within the walls (fire separations). There are self-contained emergency lighting units and illuminated exit signs located in corridors and exits. Motorized smoke dampers are installed in the mechanical ventilation ductwork. These smoke dampers close to prevent infiltration of smoke from another zone upon receiving a signal from the fire alarm panel.

Image 9 – Fire Door

Image 10 – Electromagnetic Hold-Open Device

Portable Fire Extinguishers

Portable fire extinguishers are strategically located throughout the school. Refer to Images 11 and 12. They are type ABC, which means they can be used on Class A, Class B, and Class C type fires. Class A fires involve combustibles such as wood and paper, Class B fires involve flammable liquids, and Class C fires involve energized electrical equipment. Extinguishers are intended to be the first line of defense in containing and controlling a fire.

Image 11 – Portable Fire Extinguisher in Cabinet

Image 12 – Wall Mounted Portable Fire Extinguisher

Emergency Power and Lighting

This building contains self-contained emergency lighting units and illuminated exit signs located in corridors and exits. See Refer to Images 13, 14, and 15.

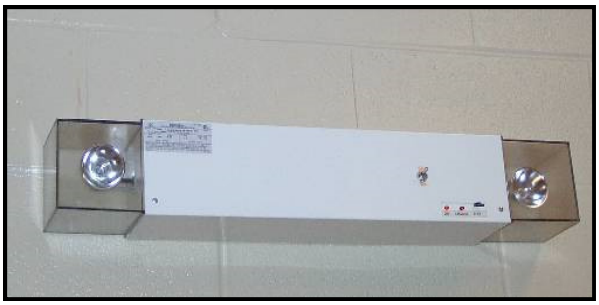


Image 13 – Emergency Lighting Unit

Image 14 – Emergency Lighting Unit Lamps

Image 15 – Illuminated Exit Sign

Elevator

The elevator has been configured to return to main level (home) if the fire alarm activates. The elevator should not be used as a means of evacuation unless authorized by the fire department.

Posted Signage

Signs are posted throughout the facility that includes emergency instructions for staff and visitors and graphics that depict the locations of exit routes and exits. Refer to Images 16 and 17.

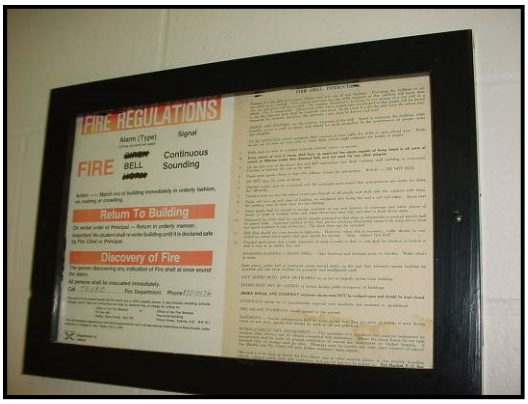


Image 16 – Posted Signage

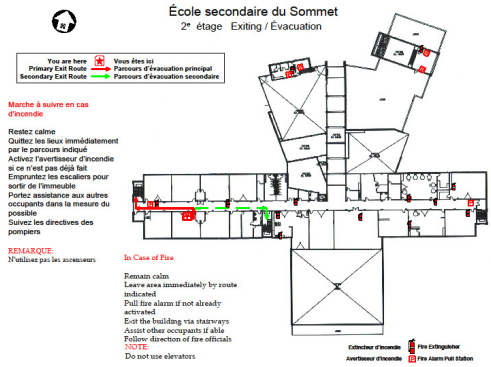


Image 17 – Exit Routes

Smoke Control Systems

The building's air handling system has been configured to facilitate the exhaust of smoke produced by a fire.

Zoning

Smoke can be removed on a zone-by-zone basis that corresponds to the sprinkler and fire alarm zoning.

Automatic Mode

The system is normally in automatic mode.

In automatic mode, if a flow switch activates within a particular zone, the respective zone smoke control system will become active and the fans and dampers will assume the configuration to cause the "fire zone" to have negative air pressure with respect to adjacent zones. This is intended to contain smoke in the "fire zone" until the smoke is exhausted out of the building.

The smoke control system also has the ability to pressurize the exit stairways to limit the migration of smoke into the stairways, which are exit routes.

Manual Mode

The manual override functions at the main entrance fire alarm annunciator allows for the manual initiation of the sequences.

SECTION B

Fire Safety Maintenance Schedule

SECTION B

Fire Safety Maintenance Schedule

The following list outlines the inspections and tests required by the National Fire Code of Canada, 2010 and as modified through discussion with the Authority Having Jurisdiction. The first two pages describe the degree of maintenance required by a check, inspection or test, as well as what skills are necessary to perform that level of maintenance. The following pages constitute the bulk of this section: the maintenance requirements themselves. These include code references and requisite skill levels, and are grouped by frequency interval. Maintenance drawings indicating the locations of fire safety equipment and devices are included in this module.

Code References

Requirements of this document are based on the National Fire Code 2010, and as modified by the Nova Scotia Fire Safety Act and Regulations. Various other codes referenced by the NFC apply to this document as follows:

Code	*Year*
NFPA 25	2008
NFPA 10	2007
NFPA 664	2007
CAN/ULC S536	2004
NFC	2010

Maintenance Level

For the purpose of carrying out maintenance procedures, the following definitions should be considered applicable:

- ✪ **INSPECT** means physical examination to determine that the device or system will apparently perform in accordance with its intended function, to inspect a device does not require its operation; and

- ✪ **TEST** means operation of device or system to ensure that it will perform in accordance with its intended function.

Note: Notify the Nova Scotia School Insurance Program (S.I.P.) by phoning pager number 902-458-5999 of all interruptions in any fire protection system. Leave message with name and phone number, name of school board, name and address of the location, and the length of the interruption. Indicate what system is being shut down, ie. Fire alarm, sprinkler, etc. Once the system is back up and running, call the pager and leave a message that the system is back up and running

SKILL CATEGORIES

Skill categories have been established to identify the skills and knowledge deemed appropriate to perform the **Inspection** and **Test** duties required by the National Fire Code of Canada, 2010. Note that a higher skill number does not necessarily incorporate the training and experience required for a lower skill number.

Administrative Skill 1 – This person has average observational skills. This person is a teacher or part of the facility's administrative personnel. This person is not part of a facility's maintenance staff.

Skill 2 – This person has some familiarity with mechanical devices, such as valves and pressure gauges. This person should be able to determine, by observation, whether valves are open or closed and should be able to read pressure gauge indications. This person must have the ability to recognize where the mechanical system requires repairs beyond his or her ability. This person is part of a school or facility's maintenance staff and/or custodial staff or a contractor employed by the board.

Skill 3 – This person has specialized training and hands-on experience related to mechanical systems and electrical systems. This individual will have had training associated with emergency generators, heating and air conditioning equipment, plumbing, and other building systems. It is not required that this individual be an electrician.

Skill 4a – This individual may or may not be an electrician but is usually a representative of a fire alarm system manufacturing or testing company or certified by the Canadian Fire Alarm Association (CFAA). This company will be engaged in day-to-day activities that include the maintenance and testing of fire alarm systems and, as such, will have developed specific skills related to fire alarm systems.

Skill 4b – This individual is usually a representative of a company engaged in the servicing and maintenance of fire extinguishers on a day-to-day basis. This skill level includes individuals licensed by the Office of the Fire Marshal.

Skill 4c – This individual is usually a representative of a company engaged in the supply, installation, and maintenance of sprinkler systems and is employed by the company as a field service technician.

Skill 4d – This individual is usually a representative of a company engaged in the supply, installation, and maintenance of kitchen hood fire suppression equipment and is employed by the company as a field service technician.

Skill 4e – This individual is usually a representative of a company engaged in the supply, installation, and maintenance of elevators and is employed by the company as a field service technician.

Skill 4f – This individual is usually a representative of a company engaged in the supply, installation, and maintenance of Emergency Generators and is employed by the company as a field service technician

B.1 Daily Inspect and Test Items

Note: All Items under Daily tasks (B.1) will be done on a daily basis, but will only be recorded on the appropriate charts in the fire safety systems maintenance log on a weekly basis. These items are to be checked off at the end of each week.

B.1.1 Daily Inspect and Test Item Requirements – Skill Level 1 or 2

B.1.1.1 Fire Alarm System

Item	Requirement	Code Reference	Skill Level
1.	Fire Alarm System – Visually **inspect** the fire alarm panel to ensure that the AC power lamp is illuminated and to determine if there are any trouble signals annunciated. If the AC power lamp is off, press the "lamp test" switch to verify that power is connected. Failure of the lamps to come on indicates that the AC power to the system has been interrupted. Check the fire alarm system AC breaker or call your supervisor. If any lamps besides the AC power on lamp are illuminated, note the lamp description and advise your supervisor immediately.	NFC 6.3.1 CAN/ULC S536 4.1	1
2.	Fire Alarm Keys – **Inspect** to ensure keys for fire alarm system are present and easily accessible.	NFC 2.8.1.3.	1

B.1.1.2 Pressure Tanks

Item	Requirement	Code Reference	Skill Level
1.	Temperature Readings – The temperature of water contained in tanks shall be **read** at intervals not greater than 24 h during freezing weather and measures shall be taken to ensure that it does not fall below 4.4ºC.	NFPA 25 9.2.4	1
2.	For tanks in buildings, the temperature of the tank enclosure shall be **read** at intervals not greater than 24 h during freezing weather and measures shall be taken to ensure that the temperature of the water does not fall below 4.ºC.	NFPA 25 13.4.4.1.1	1

B.1.1.3 Standpipes

Item	Requirement	Code Reference	Skill Level
1.	Preaction Valves and Deluge Valve enclosures subject to freezing shall be **inspected** during cold weather for its ability to maintain a minimum temperature of at least 40°F (4.4°C).	NFPA 25 13.4.3.1.1	1

B.1.1.4 Private Hydrants

Item	Requirement	Code Reference	Skill Level
1.	Hydrant Maintenance – Hydrants shall be maintained in operating condition.	Fire Safety Committee	2
2.	Hydrants – Shall be kept readily accessible for fire fighting use and their locations shall be clearly identified.	Fire Safety Committee	2
3.	Hydrants – Shall be inspected to ensure that the caps are in place.	Fire Safety Committee	2

B.1.1.5 Fire Department Access

Item	Requirement	Code Reference	Skill Level
1.	Fire Department Access – **Inspect** driveways to ensure they are accessible for emergency vehicles at all times. Signs shall be posted to prohibit the parking of vehicles that might obstruct fire department access.	NFC 2.5.1.5.	1 or 2

B.1.1.6 Egress Systems Applying to Corridors and Access to Exits

Item	Requirement	Code Reference	Skill Level
1.	Doors in Fire Separations – **Inspect** doors in fire separations to ensure that they remain closed unless the door is equipped with an approved hold open device.	NFC 2.2.2.4.(2)	1
2.	Exit Lighting and Exit Signs – **Inspect** exit lights and exit signs to ensure they are illuminated during times the building is occupied.	NFC 2.7.3.1.(2)	1
3.	Exterior Exit Routes – **Inspect** exterior exit paths to ensure they are maintained free of snow or ice.	NFC 2.7.1.7.	1

B.2 Weekly Inspect and Test Items

Note 1: All tests and inspections for items B.2 shall be recorded by the facility administrator or facility maintenance personnel on the appropriate charts in the fire safety systems maintenance log upon completion of the tasks.

B.2.1 Weekly Inspect and Test Items Requiring Skill Level 1 or 2

B.2.1.1 Fire Pump Reservoirs

Item	Requirements	Code Reference	Skill Level
1.	**Inspect** the temperature of water in tanks without low temperature alarms connected to a constantly attended location, and record weekly during the heating season when the outside mean temperature is less than 40°F (4.4°C).	NFPA 25 9.2.4.3	2

B.2.2 Weekly Inspect and Test Items Requiring Skill Level 3

B.2.2.1 Electric Fire Pumps

Item	Requirement	Code Reference	Skill Level
1.	Electric Fire Pumps – **Inspect** to confirm the following: a) Pump System Conditions: • Pump suction and discharge and by-pass valves are fully open. • Piping is free of leaks. • Suction line pressure gauge reading is normal. • System line pressure gauge reading is normal. • Suction reservoir is full. • Wet pit suction screens (if applicable) are unobstructed and in place. b) Electrical System Conditions: • Controller pilot light (power on) is illuminated. • Transfer switch normal pilot light is illuminated. • Isolating switch is closed – standby (emergency) source. • Reverse phase alarm pilot light is off or normal phase rotation pilot light is on.	NPFA 25 8.2.2	3

- Oil level in vertical motor sight glass is normal.

2.	The **test** shall be conducted by starting the pump Automatically. The electric pump shall run a minimum of 10 minutes. The pertinent visual observations or adjustments specified in the following checklists shall be conducted while the pump is running: (1) Pump system procedure: (a) Record the system suction and discharge pressure gauge readings. (b) Check the pump packing glands for slight discharge. (c) Adjust gland nuts if necessary. (d) Check for unusual noise or vibration. (e) Check packing boxes, bearings, or pump casing for overheating. (f) Record the pump starting pressure. (2) Electrical system procedure: (a) Observe the time for motor to accelerate to full speed. (b) Record the time controller is on first step (for reduced voltage or reduced current starting). (c) Record the time pump runs after starting (for automatic stop controllers).	NFPA 25 8.3.1.2	3

Note 1 : The manufacturer's recommendations for preventative maintenance shall be followed. If abnormalities are found, shut the fire pump off and contact your supervisor immediately to have technical personnel, as certified by the pump manufacturer, service the fire pump.

B.2.2.2 Diesel Fire Pumps

Item	Requirement	Code Reference	Skill Level
1.	Diesel Fire Pumps – **Inspect** pump room temperature to ensure that the ambient temperature in the pump; room never falls below the minimum recommended by the engine manufacturer or 4ºC, whichever is higher. **Inspect** to confirm the following: a) Pump House/Room Conditions: • Heat is adequate, not less than 4.4ºC (40ºF) (21ºC (70ºF) for pump room with diesel pumps without engine heaters). • Ventilating louvers are free to operate. b) Pump System Conditions: • Pump suction and discharge and by-pass valves are fully open. • Piping is free of leaks. • Suction line pressure gauge reading is normal. • System line pressure gauge reading is normal. • Suction reservoir is full. • Wet pit suction screens (if applicable) are unobstructed and in place. c) Diesel System Conditions: • Fuel tank is two-third full. • Controller selector switch is in auto position. • Batteries' (2) voltage readings are normal. • Batteries' (2) charging readings are normal. • Batteries' (2) pilot lights are on or battery failure (2) pilot lights are off. • All alarm pilot lights are off. • Engine running time meter is reading. • Oil level in right angle gear drive is normal. • Crankcase oil level is normal. • Cooling water level is normal. • Electrolyte level in batteries is normal. • Battery terminals are free from corrosion. • Water-jacket heater is operating.	NFPA 25 8.2.2	3
2.	**Test** the diesel fire pump by starting the pump automatically. The pump shall be run for a minimum of 30 minutes. The automatic weekly test timer can be substituted for the	NFPA 25 8.3	3

starting procedure where provided. During testing complete the following:

(a) Pump System Conditions:
- Record the system suction and discharge pressure gauge readings.
- Check the pump packing glands for slight discharge.
- Adjust gland nuts if necessary.
- Check for unusual noise or vibration.
- Check packing boxes, bearings, or pump casing for overheating.
- Record the pump starting pressure.
-

(b) Diesel Engine System Conditions:
- Observe the time for engine to crank.
- Observe the time for engine to reach running speed.
- Observe the engine oil pressure gauge, speed indicator, water, and oil temperature indicators periodically while engine is running.
- Record any abnormalities.
- Check the heat exchanger for cooling water flow.

Note 2: The manufacturer's recommendations for preventative maintenance shall be followed. If abnormalities are found, shut the fire pump off and contact your supervisor immediately to have technical personnel, as certified by the pump manufacturer, service the fire pump.

B.2.2.3 Sprinkler System

Item	Requirement	Code Reference	Skill Level
1.	Unless air pressure supervision is connected to a constantly attended location, Dry Pipe Gauges are to be **inspected** to ensure gauges are within the specified range. The air compressor for the dry-pipe system is designed to maintain the air pressure within a specified range (start and stop points). When, through leakage, the air pressure drops to the lower limit of this range, the compressor should automatically start-up and increase the air pressure within the piping network until it reaches the upper limit, at which point the compressor shall shut off. If the compressor starts and stops continually or pressure is below the recommended limits, advise your supervisor immediately.	NFPA 25 5.2.4.2	3

2.	For Backflow Prevention Assemblies, **inspect** the double check assembly (DCA) valves and double check detector assembly (DCDA) valves to ensure that the OS&Y isolation valves are in the normal open position. Reduced pressure assemblies (RPA) and reduced pressure detector assemblies (RPDA) shall be **inspected** to ensure that the differential-sensing valve relief port is not continuously discharging and the OS&Y isolation valves are in the normal open position	NFPA 25 13.6.1	3
3.	For Preaction Valves and Deluge Valves**, inspect** valve enclosures equipped with low temperature alarms	NFPA 25 13.4.3.1	3
4.	Unless the sprinkler control valves are supervised, **inspect** to verify that the valves are in the following condition: (1) In the normal open or closed position (2) Properly sealed, locked, or supervised (3) Accessible (4) Provided with appropriate wrenches (5) Free from external leaks (6) Provided with appropriate identification After any alterations or repairs, an inspection shall be made by the property owner to ensure that the system is in service and all valves are in the normal position and properly sealed, locked, or electrically supervised.	NFPA 25 13.3.2	3

B.2.2.4 Emergency Generator

Item	Requirement	Code Reference	Skill Level
1.	**Inspect** emergency power systems in conformance with CAN/CSA C-282, and in conformance with manufacturer's specifications. This includes, but is not limited to: (a) Check all fuels, coolants and lubricants for leakages and proper levels. (b) Check operation of fuel transfer pump (if applicable). (c) Examine electric motor starting systems for cleanliness, mounting and terminal security. (d) Check air motor starting systems for pressure and valve leakage. For air starter only (e) Check air motor compressor operation and bleed off any condensation. (f) Check that louver and control panel settings are ready for start up. (g) Check engine room ventilation system for proper operation. (h) Check that all starter batteries and charging equipment are properly maintained and operable, including electrolyte level, specific gravity, electrical connections for tightness, leaks and sulfation. Check cleanliness and dryness between terminal posts. Check charger for electrical connections, cleanliness, and operation of both float and equalize modes.	NFC 6.5	3

B.3 Monthly Inspect and Test Items

Note 1: All tests and inspections for item B.3.1 and B.3.2 shall be recorded by the facility administrator or facility maintenance personnel on the appropriate charts in the fire safety systems maintenance log upon completion of the tasks.

Note 2: All tests and inspections for item B.3.3 shall be recorded by the Contractor or other person(s) designated by the Owner on the appropriate charts in the fire safety systems maintenance log upon completion of the tasks.

B.3.1 Monthly Inspect and Test Items Requiring Skill Level 1 or 2

B.3.1.1 Fire Alarm System

Item	Requirement	Code Reference	Skill Level
1.	Fire Alarm - **Test** the following components of the fire alarm system and take appropriate corrective measures if required.	NFC 6.3.1.2	1
	(a) On a rotational basis, one fire alarm manual pull station device in the building shall be operated and shall initiate a fire alarm condition. (b) The intended function of all alarm audible and visual signal appliances shall be ensured. (c) The annunciator panel shall be checked to ensure that the tested devices are annunciated correctly. (d) Inspect batteries to ensure terminals are clean and lubricated and clamps are secure.	CAN/ULC S536 4.2	
	Where any of the above tests do not provide their designed function, contact your supervisor immediately. After the test, ensure that the system is reset and that only the "POWER ON" indicator is illuminated.		
	NOTE: If this test is not part of a fire drill, ensure that the building occupants have been notified that an alarm signal will sound. Notify the Fire Department and/or the Central Station monitoring the fire alarm system (if applicable). Also, when the test is complete, notify above parties that the test is over.		

B.3.1.2 Egress Systems Applying to Corridors and Access to Exits

Item	Requirement	Code Reference	Skill Level
1.	Self-Contained Emergency Lighting – Self-contained emergency lighting units shall be **inspected** to ensure that pilot lights are functioning and that terminal connections are clean and tight. **Test** the units to ensure that they will function upon failure of the primary power source.	NFC 6.5.1.6	2

Note: Self contained emergency lighting units equipped with "maintenance free" type battery units, shall be inspected at intervals not greater than 60 months (as per agreement with the Office of the Fire Marshal).

B.3.1.3 Portable Fire Extinguishers

Item	Requirement	Code Reference	Skill Level
1.	Portable Fire Extinguishers – **Inspect** all fire extinguishers to ensure that the fire extinguisher has not been tampered with, is not damaged, missing, impaired, leaking, undercharged or overcharged, or has obvious corrosion. If the extinguisher appears defective, replace it immediately or the supervisor shall be notified that corrective action is required.	NFC 6.2 NFPA 10 7.2	1

B.3.1.4 Pressure Tanks

Item	Requirement	Code Reference	Skill Level
1.	Pressure Tanks The air pressure in pressure tanks with a non-supervised air pressure source shall be **inspected**. (a) The water level shall be observed, and (b) The pressure shall be read. (c) Water levels and pressure for pressure tanks shall be maintained at the specified levels.	NFPA 25 9.2.2.2	1
2.	Pressure tanks not equipped with supervised water level alarms connected to a constantly attended location shall be **inspected.**	NFPA 25 9.2.1	1

B.3.2 Monthly Inspect and Test Items Requiring Skill Level 3

B.3.2.1 Electric Fire Pumps

NOTE: The requirements for this have been moved to weekly.

B.3.2.2 Sprinkler Control Valves/Gauges/Switches

Item	Requirement	Code Reference	Skill Level
1.	Locked Sprinkler System Control Valves and tamper switches – **Inspect** control valves and tamper switches, which are locked open, to confirm that they are in the fully open position.	NFPA 25 13.3.2.1.1	3
2.	Wet-Pipe System Gauges – **Inspect** gauges in wet-pipe sprinkler systems to ensure they are in good condition and that normal water supply pressure is being maintained.	NFPA 25 5.2.4.1	3
3.	**Test** high water temperature limit switches on tank heating systems, where provided, whenever the heating system is in service.	NFPA 25 9.3.4	3
4.	Low water temperature alarms, where provided, shall be **tested** (cold weather only).	NFPA 25 9.3.3	3
5.	The preaction or deluge valve shall be externally **inspected** to verify the following: (a) The valve is free from physical damage. (b) All trim valves are in the appropriate open or closed position. (c) The valve seat is not leaking. (d) Electrical components are in service.	NFPA 25 13.4.3.1.6	3
6.	Alarm valves and system riser check valves shall be externally **inspected** and shall verify the following: (a) The gauges indicate normal supply water pressure is being maintained. (b) The valve is free of physical damage. (c) All valves are in the appropriate open or closed position. (d) The retarding chamber or alarm drains are not leaking.	NFPA 25 13.4.1.1	3
7.	The dry pipe valve shall be externally **inspected** to verify the following: (a) The valve is free of physical damage. (b) All trim valves are in the appropriate open or closed position. (c) The intermediate chamber is not leaking.	NFPA 25 13.4.4.1.4	3

8.	For systems secured with locks or electrically supervised in accordance with applicable NFPA standards: For Backflow Prevention Assemblies, **inspect** the double check assembly (DCA) valves and double check detector assembly (DCDA) valves to ensure that the OS&Y isolation valves are in the normal open position. Reduced pressure assemblies (RPA) and reduced pressure detector assemblies (RPDA) shall be **inspected** to ensure that the differential-sensing valve relief port is not continuously discharging and the OS&Y isolation valves are in the normal open position	NFPA 25 13.6.1	3

B.3.2.3 Egress Systems Applying to Corridors and Access to Exits

Item	Requirement	Code Reference	Skill Level
1.	Doors in Fire Separation -- **Test** all door hardware including latches, hinges, door closers, etc. Ensure that they operate properly while manually opening and closing the door. When opened, ensure that they return to their closed position and latch. If door closers, latches or hinges do not operate properly, take corrective action or advise your supervisor that this work is necessary.	NFC 2.2.2.4.(3)	3
2.	Exit Doors – All doors forming part of a means of egress shall be **tested**, including all hardware.	NFC 2.7.2.1	3

B.3.3 Monthly Inspect and Test Items Requiring Skill Level 4f

B.3.3.1 Emergency Generator

Item	Requirement	Code Reference	Skill Level
1.	**Inspect, test, and maintain** emergency power systems in conformance with CAN/CSA C-282, and in conformance with manufacturer's specifications. **Testing** shall include simulating a failure of the normal power supply so that: (a) The generating system operates under at least 30% of rated load for 60 minutes. (b) All automatic transfer switches are operated under load. **Inspect** for correct function of all auxiliary equipment operated by the generator. Record all instrument readings as per manufacturer's instructions and verify that they are normal. **Inspect** generator for brush sparking and bearing seal leakage.	NFC 6.5 CAN/CSA C282	4f

B.4 Quarterly Inspect and Test Items

Note1: All tests and inspections for item B.4.1 shall be recorded by the facility administrator or facility maintenance personnel on the appropriate charts in the fire safety systems maintenance log upon completion of the tasks.

Note 2: All tests and inspections for item B.4.2 and B.4.3shall be recorded by the Contractor or other person(s) designated by the Owner on the appropriate charts in the fire safety systems maintenance log upon completion of the tasks.

B.4.1 Quarterly Inspect and Test Items Requiring Skill Level 1-3

B.4.1.1 Sprinkler Control Valves and Water Flow Activating Devices

Item	Requirement	Code Reference	Skill Level
1.	Hydraulic Nameplate – **Inspect** the hydraulic nameplate on hydraulically designed sprinkler system to ensure that the plate is securely attached to the sprinkler riser and is legible.	NFPA 25 5.2.7	1
2.	Alarm Devices – **Inspect** to verify that waterflow devices, valve supervisory devices and supervisory signal devices (except valve supervisory switches) are free of physical damage.	NFPA 25 5.2.6	3
3.	Pressure reducing valves and relief valves – **Inspect** to ensure valve is open, not leaking, maintaining downstream pressure, in good condition with hand-wheels installed and in proper shape.	NFPA 25 13.5.1.1	3
4.	Hose valves shall be **inspected** to ensure that hose caps are in place and not damaged. Hose threads shall be inspected for damage. Valve handles shall be present and not damaged. Gaskets shall be inspected for damage or deterioration	NFPA 25 13.5.6.1	3

B.4.1.2 Fire Department Connection

Item	Requirement	Code Reference	Skill Level
1.	Fire Department Connection – **Inspect** to verify: (a) The fire department connections are visible and accessible. (b) Couplings or swivels are not damaged and rotate smoothly. (c) Plugs or caps are in place and undamaged. (d) Gaskets are in place and in good condition. (e) Identification signs are in place. (f) The check valve is not leaking. (g) The automatic drain valve is in place and operating properly. (h) The fire department connection clapper(s) is in place and operating properly. Note: If fire department connection plugs or caps are not in place, the interior of the connection shall be inspected for obstructions, and it shall be verified that the fire department connection clapper is operational over its full range. Components shall be repaired or replaced as necessary in accordance with the manufacturer's instructions. Any obstructions that are present shall be removed.	NFPA 25 13.7.1	3

B.4.2 Quarterly Inspect and Test Items Requiring Skill Level 4c

B.4.2.1 Sprinkler Systems

Item	Requirement	Code Reference	Skill Level
1.	**Inspect** the exterior of the tank, supporting structure, vents, foundation, and catwalks or ladders, where provided for signs of obvious damage or weakening. **Inspect** the area surrounding the tank and supporting structure, where provided, to ensure that the following conditions are met: (a) The area is free of combustible storage, trash, debris, brush, or material that could present a fire exposure hazard. (b) The area is free of the accumulation of material on	NFPA 25 9.2.5	4c

or near parts that could result in accelerated corrosion or rot.

(c) The tank and support are free of ice buildup.

(d) The exterior sides and top of embankments supporting coated fabric tanks are free of erosion.

NOTE: Before conducting the following tests, ensure that the Fire Department and/or central station monitoring the fire alarm system have been notified that testing is being conducted.

2.	**Test** main drain any time the control valve is closed and reopened at system riser.	NFPA 25 13.3.3.4	4c
3.	**Test** Mechanical waterflow devices including, but not limited to, water motor gongs	NFPA 25 5.3.3.1 13.2.6.1	4c
4.	Dry Pipe Valves/Quick-Opening Devices **Test** the priming water level.	NFPA 25 13.4.4.2.1	4c
5.	Dry Pipe Valves/Quick-Opening Devices **Test** low air pressure alarms, if provided, in accordance with the manufacturer's instructions	NFPA 25 13.4.4.2.6	4c
6.	Dry Pipe Valves/Quick-Opening Devices **Test** quick-opening devices, if provided	NFPA 25 13.4.4.2.4	4c
7.	Preaction Valves and Deluge Valves **Test** the priming water level in supervised preaction systems for compliance with the manufacturer's instructions	NFPA 25 13.4.3.2.1	4c
8.	Preaction Valves and Deluge Valves. **Test** low air pressure alarms, if provided, in accordance with the manufacturer's instructions.	NFPA 25 13.4.3.2.12	4c

B.4.3 Quarterly Inspect and Test Items Requiring Skill Level 4e

B.4.3.1 Elevators

Item	Requirement	Code Reference	Skill Level
1.	**Test** to ensure operation in conformance with CAN/CSA-B44, "*Safety Code for Elevators*" must be performed on: (a) In-car emergency service switches. (b) Manual key-operated recall switches located outside an elevator shaft. (c) Automatic emergency recall systems. All elevating devices throughout the Province of Nova Scotia will require a maintenance program by a registered elevator contractor. The contractor must employ licensed mechanics meeting the full requirements of NS Elevators and Lifts Act and Regulations. These mechanics will be responsible for providing the owner with an annual condition report on the elevating device. This report will be mandatory for renewal of a yearly operating license. A copy of all documentation for inspection and testing carried out for elevating devices shall be kept on site	NFC 7.2.2.1.(2)	4e

B.5 Semi-Annual Inspect and Test Items

Note 1: All tests and inspections for item B.5 shall be recorded by the Contractor or other person(s) designated by the Owner on the appropriate charts in the fire safety systems maintenance log upon completion of the tasks.

Note 2: The Office of the Fire Marshal will consider changing the semi-annual requirement for kitchen suppression systems to annual inspections and tests. This will be reviewed on an individual basis and will be based on the types of systems in place and their usage.

B.5.1 Semi-Annual Inspect and Test Items Requiring Skill Level 4d

B.5.1.1 Kitchen Suppression Systems

Item	Requirement	Code Reference	Skill Level
1.	Commercial Cooking Equipment – Sprinklers and other fire extinguishing systems used to protect commercial cooking equipment shall be **inspected** and serviced in accordance with the manufacturer's written maintenance instructions (preferably by the manufacturer of the equipment being inspected and serviced). **Test** all actuation components, including remote manual pull stations, mechanical or electrical devices, detectors, actuators, etc., for proper operation. **Inspect** all hoods, grease removal devices, fans, ducts and other appurtenances for contamination with grease or oily sludge. Clean to bare metal at frequent intervals as required. Note that the entire exhaust system, including grease extractors, may have to be inspected daily or weekly to assess the degree of accumulation depending on the amount of cooking equipment usage.	NFC 2.6.1.9.2 NFPA 96 11.2.1	4d

B.5.2 Semi-Annual Inspect and Test Items Requiring Skill Level 4f

B.5.2.1 Emergency Generator

Item	Requirement	Code Reference	Skill Level
1.	Equipment must be operated and maintained in accordance with manufacturer's instructions. (a) Check engine crankcase and breathers; clean if necessary. (b) Check governor; clean and lubricate as needed. (c) Check linkages and clean if necessary.	NFC 6.5 CAN/CSA C 282	4f

B.5.3 Semi-Annual Inspect and Test Items Requiring Skill Level 4c

B.5.3.1 Sprinkler System

Item	Requirement	Code Reference	Skill Level
1.	**Test** vane-type and pressure switch–type waterflow devices	NFPA 25 5.3.3 13.2.6	4c
2.	**Test** control valve supervisory switches	NFPA 25 13.3.3.5	4c

B.6 Annual Inspect and Test Items

Note 1: All tests and inspections for items B.6.1 shall be recorded by the facility administrator or facility maintenance personnel on the appropriate charts in the fire safety systems maintenance log upon completion of the tasks.

Note 2: All tests and inspections for items B.6.2 to B.6.7 shall be recorded by the Contractor or other person(s) designated by the Owner on the appropriate charts in the fire safety systems maintenance log upon completion of the tasks.

Note 3: The Authority Having Jurisdiction (AHJ) permits the removal of all standpipe hoses in schools. However, the actual standpipe systems and valves are required to be reviewed with the AHJ on an individual basis to determine if their removal is acceptable. For school board buildings other than schools that require standpipe systems or fire hose stations, inspection and testing shall be carried out as per the requirements of this document.

B.6.1 Annual Inspect and Test Items Requiring Skill Level 3

B.6.1.1 Sprinkler Systems

Item	Requirement	Code Reference	Skill Level
1.	Dry Pipe Sprinkler System Auxiliary Drains – **Inspect** all auxiliary drains to ensure that they are drained prior to freezing temperatures before each winter.	NFPA 25 12.4.4.3.2	
2.	**Inspect** Sprinklers from the floor level. **Inspect** sprinkler pipe and fittings from the floor level. **Inspect** sprinkler pipe hangers and seismic braces from the floor level **Inspect** Buildings with wet pipe systems annually, prior to the onset of freezing weather. Buildings shall be inspected to verify that windows, skylights, doors, ventilators, other openings and closures, blind spaces, unused attics, stair towers, roof houses, and low spaces under buildings do not expose water filled sprinkler piping to freezing and to verify that adequate heat [minimum 40°F (4.4°C)] is available.	NFPA 25 5.2	3
3.	**Inspect** components of standpipe and hose system	NFPA 25 6.2.1	3
4.	For hose systems, **Inspect** hose connections, hose cabinet, hoses, hose storage device and hose nozzle	NFPA 1962	3
5.	For preaction and deluge valves, **inspect** the interior of the preaction or deluge valve and the condition of detection devices, when the trip test is conducted. Internal inspection of valves that can be reset without removal of a faceplate shall be permitted to be conducted every 5 years.	NFPA 25 13.4.3.1.7	3

6.	**Inspect** the interior of the dry pipe valve when the trip test is conducted	NFPA 25 13.4.4.1.5	3
7.	For hose connection pressure reducing valves**, inspect** to verify the following: (a) The handwheel is not broken or missing. (b) The outlet hose threads are not damaged. (c) No leaks are present. (d) The reducer and the cap are not missing	NFPA 25 13.5.2.1	3
8.	For hose rack assembly pressure reducing valves**, inspect** to verify the following: **(a)** The handwheel is not missing or broken. **(b)** No leaks are present.	NFPA 25 13.5.3.1	3

B.6.1.2 Inspection of Fire Dampers

--This requirement moved to Multi-Year Inspection Schedule B.8.1.3 .

B.6.1.3 Pressure Tanks

Item	Requirement	Code Reference	Skill Level
1.	For water storage tank systems, **inspect** expansion joints for leaks and cracks. **Inspect t**he hoops and grillage of wooden tanks **Inspect** exterior painted, coated, or insulated surfaces of the tank and supporting structure, where provided, for signs of degradation	NFPA 25 9.2.5	3

B.6.1.4 Fire Department Connection

– This requirement has been moved to Quarterly Inspection Schedule

B.6.1.5 Heating, Ventilating, and Air-Conditioning Systems

Item	Requirement	Code Reference	Skill Level
1.	Mechanical Air-Conditioning and Ventilating Systems – Disconnect switches for mechanical air-conditioning and ventilating systems should be operated to establish that the system can be shut down in an emergency. This should be carried out at the same time as the yearly sprinkler and fire alarm inspections are completed. This will provide an opportunity to test the operation of these fire safety components together as a system to confirm their proper operation.	NFC 2.6.1.6.(2)	3
2.	**Inspect** chimney flue to identify any dangerous condition. Clean as often as required.	NFC 2.6.1.4	3

B.6.1.6 Egress Systems Applying to Corridors and Access to Exits

Item	Requirement	Code Reference	Skill Level
1.	Self-Contained Emergency Lighting – All self-contained emergency lighting unit equipment should be **tested** to ensure the unit will provide emergency lighting for a duration equal to the design criterion under simulated power failure conditions (30 minutes). Remove electrical power to the emergency lighting unit for 30 minutes to determine if emergency lighting is provided. After completion of the **test**, the charging conditions for voltage and current and the recovery period shall be tested to ensure that the charging system is functioning in accordance with the manufacturer's specifications. If, after completion of the test, it is determined that the charging system is not functioning in accordance with the manufacturer's specifications, notify your supervisory immediately.	NFC 6.5.1.6(1) 6.5.1.7.(1)	3

B.6.1.7 Fire Safety Plan

Item	Requirement	Code Reference	Skill Level
1.	A Fire Safety Plan conforming to section 2.8 of the National Fire Code of Canada shall be prepared in cooperation with the Fire Department and other applicable regulatory authorities. The Fire Safety Plan shall be reviewed at intervals not greater than 12 months to ensure that it takes account of changes in the use and other characteristics of the building.	NFC 2.8	3

B.6.2 Annual Inspect and Test Items Requiring Skill Level 4a

B.6.2.1 Fire Alarm

Item	Requirement	Code Reference	Skill Level
1.	Fire Alarm System - The fire alarm shall be **tested** in accordance with CAN/ULC S536-M, "*Standard for the Inspection and Testing of Fire Alarm Systems"*. Every reasonable effort shall be made to **test** all of the	NFC 6.3.1.2. CAN/ULC S536	4a

following components. In the event that some components cannot reasonably be made accessible, a list of such components and their location shall be included in the report. If any tests fail, corrective action shall be taken immediately and the supervisor shall be notified.

The following components should be included in the fire alarm test:

(a) One initiating device in each initiating circuit shall be operated to sound all alarm signal appliances (general alarm). Other initiating devices within the circuit may be **tested** with the signal appliances silenced.

(b) Ancillary devices such as for fan shut down, fire damper operation and the like need not be actuated during testing of initiating devices.

(c) The control unit shall be **tested** for trouble signal indication of each supervised circuit.

(d) Standby batteries shall be **inspected** for correct electrolyte level, specific gravity, integrity of connections, sulphation, corrosion, and electrolyte leaks, including dryness between terminal posts.

(e) **Test** the intended function of the audible and visual trouble signals shall be ensured. To do this, the wiring to one side of a manual pull station shall be removed to verify that a trouble condition results.

(f) **Test** fire alarm batteries to ensure that:
- terminals are clean and lubricated
- terminal clamps are clean and tight
- electrolyte level and specific gravity, where applicable, are as specified by the manufacturer.

(g) **Test** the battery by operating the system on standby power for a minimum of 2 hours in the supervisory mode followed by 10 minutes in the general alarm mode. At the end of the 10 minute general alarm operation, measure and record the battery terminal voltage. In addition, **inspect** the audibility of the signals. Do not leave the system unattended at any time during this test.

(h) **Inspect** each circuit and device that is initiated for correct zone designation and annunciation at the annunciator.

(i) **Test** each manual pull station for alarm operation.

(j) All the automatic alarm initiating devices shall be **inspected** and **tested** for their intended function in accordance with the manufacturer's instructions. Automatic alarm initiating devices include smoke detectors and sprinkler water flow

B.6.3 Annual Inspect and Test Items Requiring Skill Level 4b

B.6.3.1 Portable Fire Extinguishers

Item	Requirement	Code Reference	Skill Level
1.	Maintenance – Fire extinguishers should be **tested** and maintained by trained personnel in accordance with the referenced code.	NFC 6.2.1.1. NFPA 10	4b

B.6.4 Annual Inspect and Test Items Requiring Skill Level 4c

B.6.4.1 Sprinkler Systems

Item	Requirements	Code Reference	Skill Level
1.	Each control valve shall be **operated** through its full range and returned to its normal position. A main drain **test** shall be conducted any time the control valve is closed and reopened at system riser	NFPA 25 13.3.3	4c
2.	The freezing point of solutions in antifreeze shall be **tested** annually by measuring the specific gravity with a hydrometer or refractometer and adjusting the solutions if necessary.	NFPA 25 5.3.4	4c
3.	Each dry pipe valve shall be **trip tested** annually during warm weather	NFPA 25 13.4.4.2.2	4c

B.6.4.2 Fire Pumps

1.	A **test** of each pump assembly shall be conducted under minimum, rated, and peak flows of the fire pump by controlling the quantity of water discharged through approved test devices. If available suction supplies do not allow flowing of 150 percent of the rated pump capacity, the fire pump shall be permitted to operate at maximum allowable discharge. The annual test shall be conducted as described in NFPA 8.3.3.1.2.1, 8.3.3.1.2.2, or 8.3.3.1.2.3.	NFPA 25 8.3.3.1	4c

Note : The manufacturer's recommendations for preventative maintenance shall be followed. If abnormalities are found, shut the fire pump off and contact your supervisor immediately to have technical personnel, as certified by the pump manufacturer, service the fire pump.

B.6.4.3 Standpipes

Item	Requirement	Code Reference	Skill Level
1.	For standpipe and hose systems, **test** the hose storage device	NFPA 1962	4c

B.6.4.4 Private Fire Hydrants

Item	Requirement	Code Reference	Skill Level
1.	For private fire service mains and hydrants, **Inspect** hydrants (dry barrel and wall), hydrants (wet barrel), mainline strainers, exposed and underground piping.	NFPA 25 7.2.2	4c
2.	Hydrants shall be **tested** to ensure proper functioning. Each hydrant shall be opened fully and water flowed until all foreign material has cleared. Flow shall be maintained for not less than 1 minute	NFPA 25 7.3.2	4c

B.6.4.5 Backflow Preventers

Item	Requirement	Code Reference	Skill Level
1.	All backflow preventers installed in fire protection system piping shall be **tested** in accordance with the following: (a) A forward flow test shall be conducted at the designed flow rate, including hose stream demand, of the system, where hydrants or inside hose stations are located downstream of the backflow preventer. (b) A backflow performance test, as required by the authority having jurisdiction, shall be conducted at the completion of the forward flow test.	NFPA 25 13.6.2	4c

B.6.5 Annual Inspect and Test Items Requiring Skill Level 4d

B.6.5.1 Kitchen Suppression Systems

Item	Requirement	Code Reference	Skill Level
1.	Commercial Cooking Equipment – Sprinklers and other fire extinguishing systems used to protect commercial cooking equipment shall be **inspected** and serviced in accordance with the manufacturer's written maintenance instructions (preferably by the manufacturer of the equipment being inspected and serviced). **Test** all actuation components, including remote manual pull stations, mechanical or electrical devices, detectors, actuators, etc., for proper operation. **Inspect** all hoods, grease removal devices, fans, ducts and other appurtenances for contamination with grease or oily sludge. Clean to bare metal at frequent intervals as required. Note that the entire exhaust system, including grease extractors, may have to be inspected daily or weekly to assess the degree of accumulation depending on the amount of cooking equipment usage.	NFC 2.6.1.9. NFPA 96	4d

B.6.6 Annual Inspect and Test Items Requiring Skill Level 4e

B.6.6.1 Elevators

Item	Requirement	Code Reference	Skill Level
1.	Tests to ensure operation in conformance with CAN/CSA-B44, *"Safety Code for Elevators"* shall be performed on: (a) in-car emergency service switches, (b) manual key-operated recall switches located outside an elevator shaft, and (c) automatic emergency recall systems.	NFC 7.2.2.1.(2) ASME A17.1/ CSA B44	4e

Note : All elevating devices located in schools throughout the Province of Nova Scotia will require a maintenance program by a registered elevator contractor. The contractor must employ licensed mechanics meeting the full requirements of the NS Elevators and Lifts Act and Regulations. These mechanics will be responsible for providing the owner with an annual condition report on the elevating device. This report will be mandatory for renewal of a yearly operating license. A copy of all documentation for inspection and testing carried out for elevating devices shall be kept with the fire safety systems maintenance log.

B.6.7 Annual Inspect and Test Items Requiring Skill Level 4f

B.6.7.1 Emergency Generator

Item	Requirement	Code Reference	Skill Level
	Inspect, test and **maintain** emergency power systems in conformance with CAN/CSA C-282, and in conformance with manufacturer's specifications. **Testing** shall include a 2-hour full load test. Liquid fuel storage tanks shall be drained and refilled with fresh fuel.	NFC 6.5 CAN/CSA C 282	4f

Multi-Year Inspection and Testing Requirements

See attached spreadsheet to determine multi-year requirements

Note1: All tests and inspections for items B.7 to B11 shall be recorded by the contractor or facility maintenance personnel on the appropriate ANNUAL charts in the fire safety systems maintenance log upon completion of the tasks. Contractor shall provide separate documentation and forward to the board, details of the annual and multi-year inspections.

B.7 Three (3) Year Inspect and Test Items

B.7.1 Three (3) Year Inspect and Test Items Requiring Skill Level 4c

B.7.1.1 Sprinkler Systems

Item	Requirement	Code Reference	Skill Level
1.	Dry-Pipe Sprinkler Systems – The dry-pipe valves shall be trip **tested** with the control valve fully open using the inspector's test valve. This trip test is to ensure that following the release of air pressure the clapper (valve) will trip (open) and water will flow into the dry-pipe system. It is preferable to conduct this test in the spring in order to eliminate the accumulation of condensation. This test is conducted by opening the inspectors test connection. Ensure that from the time the valve is opened to the time water is present at the test connection, does not exceed one minute. Also ensure that an alarm signal is initiated within a maximum of five minutes and properly zoned at the fire alarm panel. After this test has been conducted, the dry-pipe system shall be drained, then the clapper and valve water priming level reset. NOTE: (a) Generally an alarm signal will be initiated within one minute. If the alarm takes longer than one minute and less than five minutes, (although not required if within five minutes) it may be desirable to check that the alarm pressure switch is functioning properly. Contact your supervisor to determine if precautionary actions are to be taken. (b) Before conducting this test, ensure that the building occupants have been notified that an alarm signal will sound. Also notify the Fire Department and/or the Central Station monitoring the fire alarm system before and after the test.	NFPA 25 13.4.4.2.2.2	4c

B.7.1.2 Pressure Tanks

Item	Requirement	Code Reference	Skill Level
1.	Sediment Accumulation and Corrosion – Tanks shall be **inspected** at intervals not greater than 3 years for sediment accumulations and for corrosion where tank does not have corrosion protection. Accumulations of sediment found during inspections shall be removed. Corroded iron or steel work shall be scraped and repainted as required.	NFPA 25 9.2.6.1.1	4c

B.8 Five (5) Year Inspect and Test Items

B.8.1 Five (5) Year Inspect and Test Items Requiring Skill Levels 3, 4b, and 4c

B.8.1.1 Standpipes

Item	Requirement	Code Reference	Skill Level
1.	Standpipe Systems Flow Testing – Standpipe systems shall be flow tested at intervals not greater than 5 years to ensure that the design flow can be delivered. Hydrostatic test Manual system If during the flow test required above, if there is any indication of the presence of debris in the piping, the entire system shall be flushed of foreign material.	NFPA 25 6.3.1 6.3.2	4c
2.	Fire Hoses - In-service hose designed for occupant use only shall be removed and service-tested at intervals not exceeding 5 years after the date of manufacturer and every 3 years thereafter.	NFPA 1962 4.3.2	4c
3.	For Hose Connection Pressure Reducing Valves and Hose Rack Assembly Pressure Reducing Valves, conduct a full flow **test** on each valve and compare to previous results	NFPA 25 13.5.2.2 13.5.3.2	4c

Note 2: The Authority Having Jurisdiction (AHJ) permits the removal of all standpipe hoses in schools. However, the actual standpipe systems and valves are required to be reviewed with the AHJ on an individual basis to determine if their removal is acceptable. For school board buildings other than schools that require standpipe systems or fire hose stations, inspection and testing shall be carried out as per the requirements of this document.

B.8.1.2 Sprinkler Systems

Item	Requirement	Code Reference	Skill Level
1.	Gauges – Gauges shall be **replaced** every 5 years **or tested** every 5 years by comparison with a calibrated gauge. Gauges not accurate to within 3% of the full scale shall be recalibrated or replaced.	NFPA 25 5.3.2	4c
2.	Valves – **Inspect/Test** alarm valves, check valves, strainers, filters and orifices.	NFPA 25 13.4 13.5	4c
3.	**Inspect** piping and branch line conditions by opening flushing connection at the end of one main and by removing a sprinkler toward the end of one branch line for the purpose of inspecting for the presence of foreign organic and inorganic material.	NFPA 25 14.2.1	4c
4.	Flow **test** underground and exposed piping to determine the internal condition of the piping	NFPA 25 7.3.1	4c

B.8.1.3 Egress Systems Applying to Corridors and Access to Exits

Item	Requirement	Code Reference	Skill Level
1.	Fire Dampers – Fire Dampers, Smoke Dampers, and Fire Stop Flaps – Shall be **inspected** at intervals not greater than 60 months (as per agreement with the Office of the Fire Marshal)(or whenever alterations are made) to ensure they are in place and are not obviously damaged or obstructed. A **test** to ensure that they are operable is recommended. The test involves removing the fusible link to ensure fire damper falls into place properly. If defects are found, correct or advise supervisor that corrective action is required.	NFC 2.2.2.4.(5)	3

B.8.1.4 Portable Fire Extinguishers

Item	Requirement	Code Reference	Skill Level
1.	Wet chemical, carbon dioxide, and stainless steel stored-pressure dry chemical fire extinguishers shall be emptied and subjected to the applicable **internal examination** procedures as detailed in the manufacturer's service manual and NFPA 10.	NFPA 10 7.3.1.1.2	4b
2.	Wet chemical, carbon dioxide, and stainless steel stored-pressure dry chemical fire extinguishers shall be hydrostatically retested.	NFPA 10 8.3.1	4b

B.8.1.5 Pressure Tanks

Item	Requirement	Code Reference	Skill Level
1.	Sediment Accumulation and Corrosion – Tanks shall be **inspected** at intervals not greater than 5 years for sediment accumulations and for corrosion where tank has corrosion protection. Accumulations of sediment found during inspections shall be removed.	NFPA 25 9.2.6.1.2	4c
2.	**Test** level indicators and pressure gauges	NFPA 25 9.3	4c

B.9 Six (6) Year Inspect and Test Items

B.9.1 Six (6) Year Inspect and Test Items Requiring Skill Level 4b

B.9.1.1 Portable Fire Extinguishers

Item	Requirement	Code Reference	Skill Level
1.	Dry Chemical Stored Pressure Extinguishers – stored-pressure fire extinguishers that require a 12-year hydrostatic test shall be emptied and subjected to the applicable **maintenance procedures** as detailed in the manufacturer's service manual.	NFPA 10 7.3.1.2.1	4b

B.10 Ten (10) Year Inspect and Test Items

B.10.1 Ten (10) Year Inspect and Test Items Requiring Skill Level 4c

B.10.1.1 Sprinkler Systems

Item	Requirement	Code Reference	Skill Level
1.	Dry Sprinklers – Dry sprinklers that have been in service for 10 years shall be **tested** or replaced. If maintained in service they shall be re-tested at 10 year intervals.	NFPA 25 5.3.1.1.1.5	4c
2.	For sprinklers in service for 50 years, **replace, or test** a representative sample	NFPA 25 5.3.1.1.1	4c

B.11 Twelve (12) Year Inspect and Test Items

B.11.1 Twelve (12) Year Inspect and Test Items Requiring Skill Level 4b

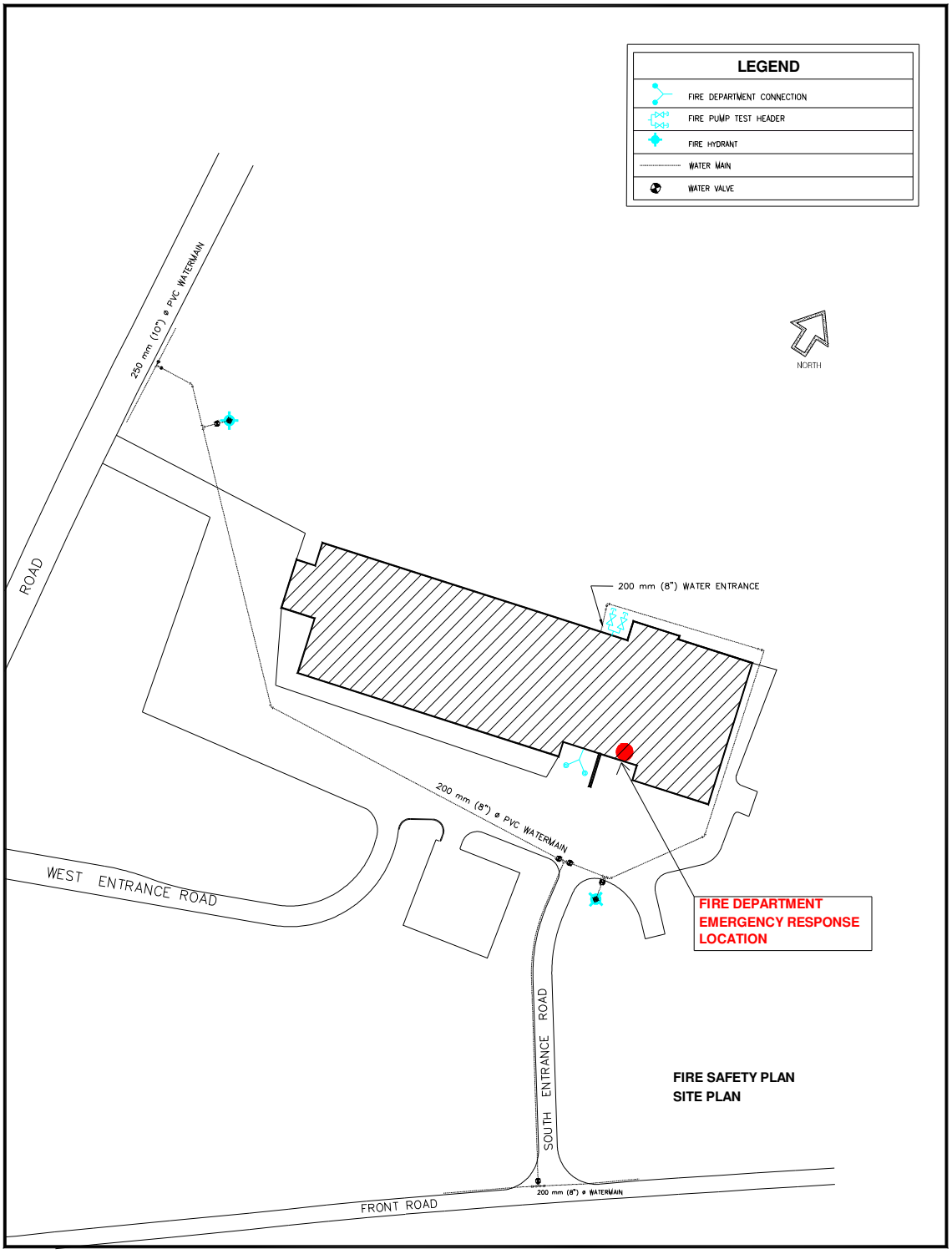
B.11.1.1 Portable Fire Extinguishers

Item	Requirement	Code Reference	Skill Level
1.	Dry Chemical Stored Pressure Extinguishers – Dry Chemical stored pressure extinguishers shall be hydrostatically retested.	NFPA 10 8.3.1	4b

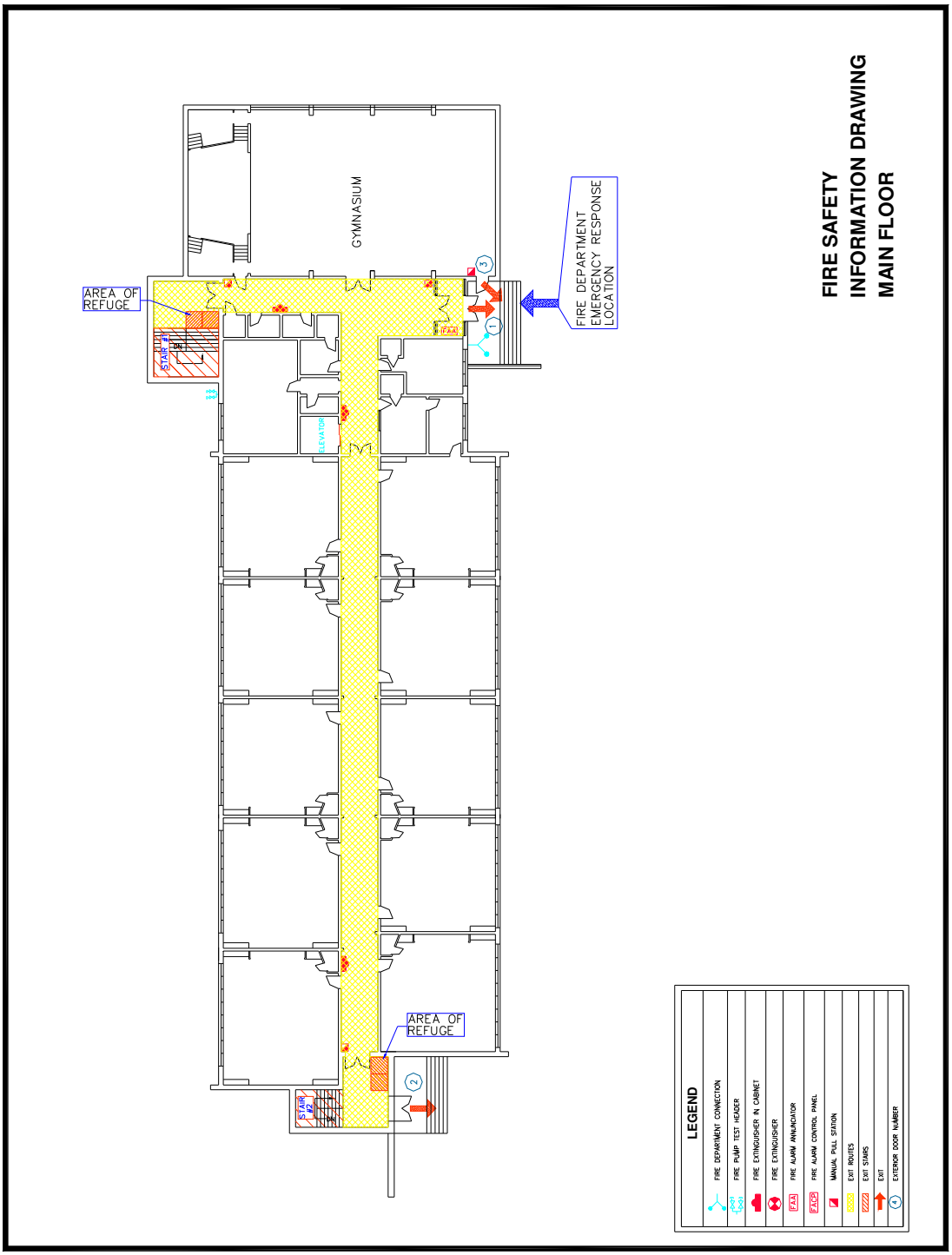
SECTION C

Fire Safety Systems Maintenance Drawings

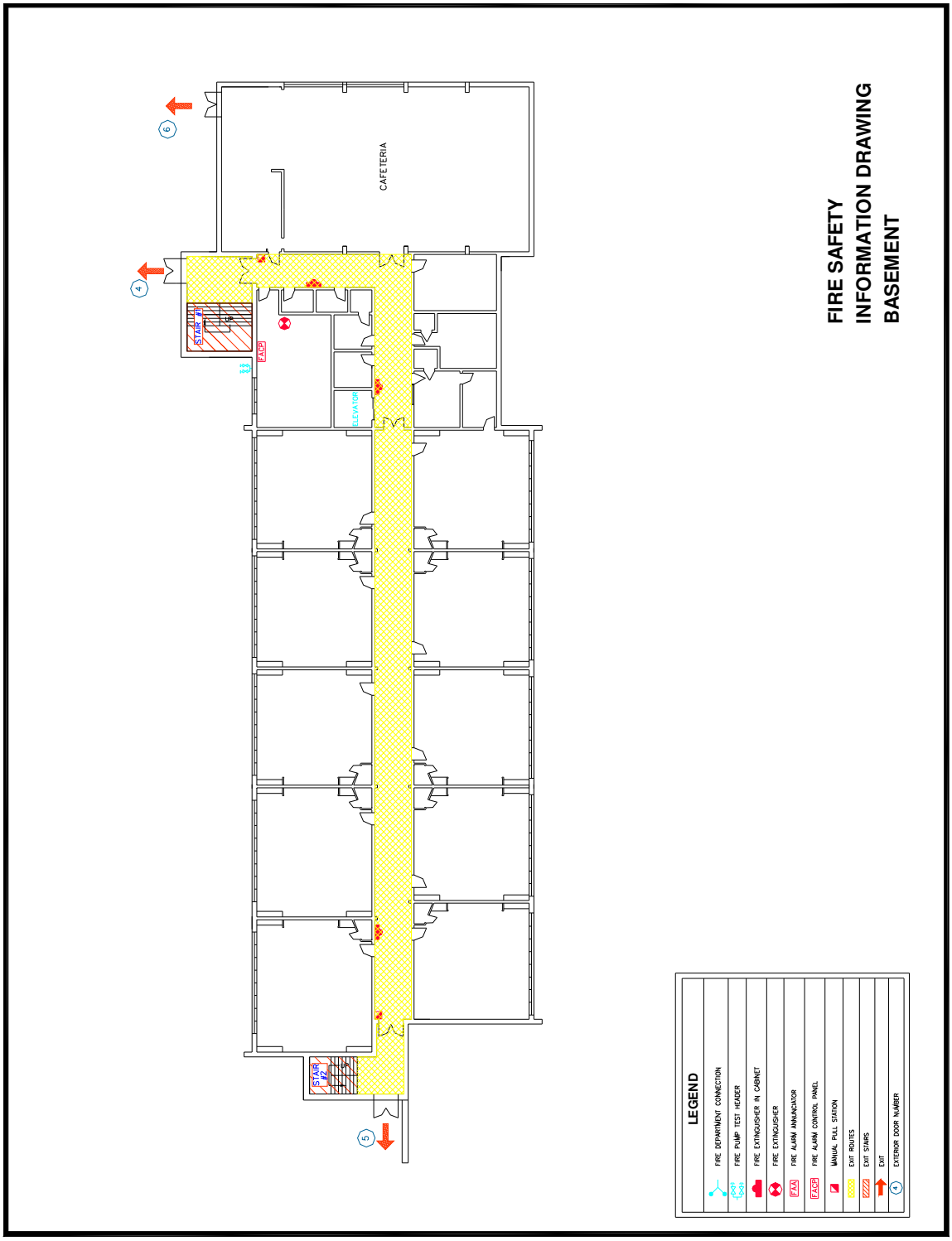
EXAMPLE


LEGEND
FIRE DEPARTMENT CONNECTION
FIRE PUMP TEST HEADER
FIRE HYDRANT
WATER MAIN
WATER VALVE
NORTH
250 mm (10") ø PVC WATERMAIN
ROAD
200 mm (8") WATER ENTRANCE
200 mm (8") ø PVC WATERMAIN
WEST ENTRANCE ROAD
FIRE DEPARTMENT EMERGENCY RESPONSE LOCATION
SOUTH ENTRANCE ROAD
FIRE SAFETY PLAN
SITE PLAN
FRONT ROAD
200 mm (8") ø WATERMAIN

EXAMPLE


FIRE SAFETY
INFORMATION DRAWING
MAIN FLOOR
GYMNASIUM
AREA OF REFUGE
FIRE DEPARTMENT EMERGENCY RESPONSE LOCATION
AREA OF REFUGE
ELEVATOR
STAIR #1
STAIR #2
FAA
LEGEND
FIRE DEPARTMENT CONNECTION
FIRE PUMP TEST HEADER
FIRE EXTINGUISHER IN CABINET
FIRE EXTINGUISHER
FIRE ALARM ANNUNCIATOR
FIRE ALARM CONTROL PANEL
MANUAL PULL STATION
EXIT ROUTES
EXIT STAIRS
EXIT
EXTERIOR DOOR NUMBER

EXAMPLE


FIRE SAFETY
INFORMATION DRAWING
BASEMENT
CAFETERIA
ELEVATOR
FACP
STAIR #1
STAIR #2
LEGEND
FIRE DEPARTMENT CONNECTION
FIRE PUMP TEST HEADER
FIRE EXTINGUISHER IN CABINET
FIRE EXTINGUISHER
FIRE ALARM ANNUNCIATOR
FIRE ALARM CONTROL PANEL
MANUAL PULL STATION
EXIT ROUTES
EXIT STAIRS
EXIT
EXTERIOR DOOR NUMBER

SECTION D

School/Facility Information Checklist

School/Facility Information Checklist

Provide information in the following spaces provided, or insert N/A where not applicable, or D/K where you don't know. NFC Division C Article 2.2.1.2.

_____	_____	_____
Data Collector Name	Telephone	Date

A. General Information

Name of School/Facility: _____
School Board: _____
Street Address: _____

_____

_____

_____

Level of Education: _____

_____

_____

_____

_____

Daycare located within facility?: Yes _____ No _____
if yes, Location: _____
Age of facility: _____
Number of storeys in building: _____
Basement?: Yes _____ No _____
Attic?: Yes _____ No _____
Mechanical Penthouse?: Yes _____ No _____

Type of Construction (check the appropriate category)

Wood Frame	_____	Combination Steel/Wood	_____
Steel Frame	_____	Concrete Frame	_____
		Combination Concrete/Steel	_____

B. Fire Safety Systems Information

1. Water Supply

a) Municipal Water Supply Yes _____ No _____
if yes, Size of water entrance: _____
Location: _____
if more than one, Quantity: _____
Location: _____

b) Backflow Preventer Yes _____ No _____
if yes, Location(s): _____
Manufacturer: _____
Model number: _____
Specification: _____

c) Pressure Tanks Yes _____ No _____
if yes, Location: _____
Quantity: _____
Capacity (each): _____

d) Cistern Yes _____ No _____
if yes, Location: _____
Water source: _____
Brief description of cistern layout: _____
_____
_____
_____
_____
_____

e) Fire Department Connection(s)

Quantity: _____
Location(s): _____
_____
_____
_____

f) Fire Pump(s) Yes _____ No _____
if yes, Location: _____
Type: Electric: _____ Diesel: _____
Pump Information _____
Pump manufacturer: _____
Model number: _____
Specifications: _____

Electric Motor Information _____
Motor manufacturer: _____
Model number: _____
Specifications: _____

Diesel Motor Information _____
Motor manufacturer: _____
Model number: _____
Specifications: _____

g) Excess Pressure Pump Information _____
Pump manufacturer: _____
Model number: _____
Specifications: _____

h) Fire Pump Controller Information _____
Pump controller manufacturer: _____
Model number: _____
Specifications: _____

i) Jockey Pump Controller Information _____
Jockey Pump manufacturer: _____
Model number: _____
Specifications: _____

2. Standpipe System: Yes _____ No _____
   Hose(s): Yes _____ No _____
   Valve Size: _____
   Cabinet: _____
   Fire extinguisher in cabinet?: _____

3. Private Fire Hydrants Yes _____ No _____
   Quantity: _____
   Location(s): _____
   _____
   _____
   _____
   _____
   _____
   _____

4. Sprinkler Systems Full Yes _____ No _____
   Partial Yes _____ No _____

a) Sprinkler Alarm Valve(s): Yes _____ No _____
   Quantity: _____
   Location(s): _____
   _____
   _____
   _____
   Sprinkler alarm valve manufacturer: _____
   Model number: _____
   Specification: _____

b) Sprinkler Dry Pipe Valve(s): Yes _____ No _____
   Quantity: _____
   Location(s): _____
   _____
   _____
   _____
   Sprinkler dry pipe valve manufacturer: _____
   Model number: _____
   Specification: _____
   Air Compressor Location: _____

c) Sprinkler Zone Control Valve(s): _____
Quantity: _____
Location(s): _____
_____
_____
_____
Sprinkler zone control valve manufacturer: _____
Model number: _____
Specification: _____

d) Sprinkler Flow Switch(es): _____
Quantity: _____
Location(s): _____
_____
_____
_____
Sprinkler flow switch manufacturer: _____
Model number: _____
Specification: _____

e) Sprinkler System Zoning
Zone Name (or Number) _____ Location: _____
Zone Name (or Number) _____ Location: _____
Zone Name (or Number) _____ Location: _____
Zone Name (or Number) _____ Location: _____
Zone Name (or Number) _____ Location: _____
Zone Name (or Number) _____ Location: _____

5. Specialized Systems

a) Deluge System: _____
Valve (s): _____
Quantity: _____
Location(s): _____
_____
_____
_____
Manufacturer: _____
Model number: _____
Specification: _____

b) Pre-Action System(s): _____
Quantity: _____
Location(s): _____
_____
_____
_____
System Details: _____
Model number: _____
Specification: _____

c) Other Specialized Systems: _____
Quantity: _____
Location(s): _____
_____
_____
_____
System Details: _____
Model number: _____
Specification: _____

6. Fire Detection and Alarm System: Yes _____ No _____
Single Stage or Two Stage System: _____
Manufacturer: _____
Model Number: _____
Main Fire Alarm Control Location: _____
Annunciator Panels Yes _____ No _____
if yes, Model Number: _____
Location(s): _____
_____
_____
_____
_____

Central Station Monitoring: _____
_____

Contact Name: _____

Telephone Number: _____

Methods for Activating Fire Alarm Systems

System Type:	(ie. Manual pull stations)	Location:	(ie. At or near exits)
System Type:	(ie. Automatic heat detectors)	Location:	(ie. Service rooms, offices)
System Type:	(ie. Automatic smoke detector)	Location:	(ie. Exit stairs)
System Type:	(ie. Sprinkler flow switches)	Location:	(ie. At zone control valves)
System Type:	(ie. Sprinkler control valves)	Location:	(ie. Corridor ceiling)
System Type:	(ie. Duct detector)	Location:	(ie. Specific location)
System Type:		Location:	
System Type:		Location:	
System Type:		Location:	
System Type:		Location:	

Fire Alarm Signaling Devices (ie. bells, horns, strobes, or combination)
Manufacturer: _____
Model Number: _____

7. Egress Systems

a) Fire Separations (rated or non-rated) (Indicate NR if non-rated)

Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____

b) Fire Doors

Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____

c) Electromagnetic Door Hold-Open Devices Yes _____ No _____
Location: _____ Type: _____
Location: _____ Type: _____
Location: _____ Type: _____
Location: _____ Type: _____
Location: _____ Type: _____
Location: _____ Type: _____
Location: _____ Type: _____
Location: _____ Type: _____
Location: _____ Type: _____
Location: _____ Type: _____

d) Fire Dampers Yes _____ No _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____
Location: _____ Rating: _____

e) Emergency Lighting Yes _____ No _____
Type: _____
Manufacturer: _____

f) Exit Signs Illuminated Yes _____ No _____
DC Back-up Yes _____ No _____
Posted Signage with Emergency Procedures/Exits Yes _____ No _____
General Location (ie. corridors): _____

8. Fire Extinguishers
Manufacturer: _____
Model Number: _____
Size: _____
Location(s) by type: _____
Type: _____ Location(s): _____
Type: _____ Location(s): _____
Type: _____ Location(s): _____
Type: _____ Location(s): _____
Type: _____ Location(s): _____
Type: _____ Location(s): _____
Type: _____ Location(s): _____
Type: _____ Location(s): _____
Type: _____ Location(s): _____
Type: _____ Location(s): _____

9. Smoke Control Systems? Yes _____ No _____

Location of smoke control panel: _____
How smoke control is activated: Auto: _____ Manual: _____
Both: _____
Motorized Smoke Control Dampers
Manufacturer: _____
Model Number: _____
Location: _____
Location: _____
Location: _____
Location: _____
Location: _____
Location: _____

10. Kitchen Hood Suppression System(s)

Type: _____ Quantity: _____
Manufacturer: _____
Model: _____
Specific Location(s): _____
_____
_____
_____

11. Dust Collection Systems

Type: _____ Quantity: _____
Manufacturer: _____
Model: _____
Specific Location(s): _____
_____
_____
_____

12. Secondary Off-Site Shelter:

Location: _____
Confirmation of Agreement for Use: _____
Logistics for Access:
Keys: _____
Contact Person: _____
Telephone Number(s): _____
_____

C. FIRE DEPARTMENT INFORMATION HAS BEEN MOVED TO PRINCIPAL'S GUIDE.