

# RECAPP Facility Evaluation Report

## Parkland School Division #70



### Broxton Park School

B9128A

Spruce Grove

**Facility Details**

**Building Name:** Broxton Park School  
**Address:** 505 Mcleod Avenue  
**Location:** Spruce Grove

**Building Id:** B9128A  
**Gross Area (sq. m):** 8,577.38  
**Replacement Cost:** \$23,540,263  
**Construction Year:** 1969

**Evaluation Details**

**Evaluation Company:** Robert Irlam Consulting Inc.  
**Evaluation Date:** May 20 2009  
**Evaluator Name:** J. R. Irlam

**Total Maintenance Events Next 5 years:** **\$5,359,962**  
**5 year Facility Condition Index (FCI):** **22.77%**

**General Summary:**

Broxton Park School has an enrolment of 629 students in kindergarten to grade nine with 124 staff. The first building was constructed in 1969. The school was expanded northwards with additions in 1970 and 1971. In 1986 there was a project to develop amenities for challenged students. There are two pods of portable class rooms: four portable class rooms added to the northeast in 1985 and two portable class rooms added to the north west in 1989. The school is a single storey building.

**Structural Summary:**

The foundation system consists of concrete piles carrying grade beams. There are load bearing concrete block walls carried on grade beams and thickened slab. The roof structure consists of open web steel joists and precast concrete tees over the large gym. There has been some settlement causing unevenness in the concrete slab on grade which has also lead to cracking of the block walls. This settlement appears to have subsided.

**Envelope Summary:**

The SBS roof is laid on sloped insulation and a vapour barrier and was installed within the last 5 years. The concrete block walls have lose fill insulation and there is concrete block exterior skin on walls in the 1969 section and pea gravel stucco on wire mesh on Z bars on block on the east side of the school. Windows are aluminum and require some replacement. Overall the building envelope in an acceptable condition.

**Interior Summary:**

Typical interior finishes are vinyl tile and sheet vinyl floors, acoustic tiles in Tee bar grid ceilings, painted gypsum board ceilings in service areas and wash rooms, walls of painted concrete block and vinyl covered gypsum board. Generally the interiors are in an acceptable condition.

**Mechanical Summary:**

The majority of the plumbing fixtures are original, installed in 1969, 1970, 1971, and 1986. Some have been replaced as needed, but some fixtures remain with minor cracks.

Storm drainage is to splash pads except for the 1986 addition which installed two buried 150mm storm drains exiting the east face of the addition to direct water away from the school to a swale east of the facility.

With exception of the 1986 addition, the building is heated via the air supply systems. Wall-fin radiation and radiant panels were installed to heat the 1986 portion of the building. The original boiler and pumps provide heating water to the radiation, radiant panels, and airside terminal reheat boxes.

There are four multi-zone air supply systems to provide heating and ventilation to the main school facility.

The original 1969 multi-zone supply air system uses thermostatically controlled terminal reheat boxes for each zone.

For the 1970 and 1971 additions, there are three multi-zone air supply systems with electric thermostats to control each zone. In 2008, the original gas heat exchangers in these three air systems were replaced with new glycol heating coils, and two new boilers and pumps were installed to provide the heated glycol.

The main Gymnasium is heated and ventilated via the original 1969 rooftop packaged unit c/w a glycol heating coil that distributes heating and ventilation air via an underslab duct system to the perimeter of the gym. The smaller Gymnasium is heated and ventilated via a gas-fired rooftop packaged unit installed in 2008 to replace the original unit.

Additional rooftop packaged units provide heating and ventilation to the Exercise Room 162, offices west of the gymnasium, Special Needs addition, Kitchen 159 and Classroom 161.

A rooftop packaged indirect natural gas fired make-up air unit provides make-up air to the kitchen range exhaust hood.

Control of the mechanical systems is provided by a BMCS system installed in 2002 and upgraded in 2008.

A wet standpipe system was installed in the original 1969 building, and fire extinguishers are provided throughout for the remainder of the facility. The kitchen rangehood dry chemical fire protection system has recently received notification of non-compliance and needs to be replaced, assuming the kitchen range is being used.

There have been previous complaints of hot and cold areas, all which can be expected with a building design that provides heating from the ceiling, rather than the floor level. A complete renovation of the mechanical systems would be required to eliminate many of these complaints.

Overall, the mechanical systems as designed are in acceptable condition with the 2008 upgrading replacing and upgrading the more critically failing components. Exceptions are some original 1969 equipment such as the boiler (recently re-tubed), the main gymnasium rooftop air system, and the original multi-zone system and terminal reheat boxes, all which have reached their life expectancy. Many of the domestic and hot water heating valves do not fully shutoff during routine maintenance and need replacement, along with some plumbing fixtures the have minor crackage.

#### **Electrical Summary:**

The Service and Distribution Switchboard is a free standing, wall supported circuit breaker type switchboard rated 1200A, 120/208V, 3 phase, 4 wire. Service is underground from the pad mounted transformer on the south side of the school. Branch circuit panelboards from different periods are 120/208V, 3 phase, for the main building and 120/240V, single phase, for the portable classrooms.

A 15 kW natural gas generator provides the emergency power for the school. The loads include selected lighting, exit lights, heating system electrical, life safety and essential communication equipment.

Interior lighting is predominantly fluorescent retrofitted with 28W T8 lamps and electronic ballasts, automatically controlled using motion detectors. About 10% of the lighting is under emergency power. LED exit lights are all under emergency power. Exterior lights are mostly wall mounted high pressure sodium except a few incandescent pot lights under the entrance soffits, all photoelectric cell controlled.

The hard wired, zoned and annunciated fire alarm system by Simplex is outdated. It has manual and automatic detection devices and bells as signaling devices. The state-of-the-art intrusion alarm system uses mainly motion detectors supplemented by magnetic door contactors and break glass detectors.

The Clock and Program system now only handles the class change program as clocks are all electric or battery powered. An addition in the telephone system interfaces with the public address system to give the school the reliable service it demands.

The school is well provided with computer services. In addition to the computer rooms for training, the local area network brings computer services to every classroom, office and staff areas as well as a wireless service transmitted along the corridors and can be picked up anywhere in the school. Smart Boards are provided in classrooms to directly interact with the students.

The condition of the electrical systems in the school is considered to be acceptable overall.

**Rating Guide**

<b>Condition Rating</b>	<b>Performance</b>
1 - Critical	Unsafe, high risk of injury or critical system failure.
2 - Poor	Does not meet requirements, has significant deficiencies. May have high operating/maintenance costs.
3 - Marginal	Meets minimum requirements, has significant deficiencies. May have above average operating maintenance costs.
4 - Acceptable	Meets present requirements, minor deficiencies. Average operating/maintenance costs.
5 - Good	Meets all present requirements. No deficiencies.
6 - Excellent	As new/state of the art, meets present and foreseeable requirements.

## S1 STRUCTURAL

### A1010 Standard Foundations\*

The foundation system consists of reinforced concrete friction piles typically 450mm diameter in the 1969 section with round pile caps carrying grade beams and 400mm in the 1971 section carrying grade beams.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	100	MAR-10

### A1030 Slab on Grade\*

There is a reinforced concrete slab on grade throughout the school typically 100mm thick and 125 thick in the mechanical room with poly vapour barrier on gravel fill. There has been some settlement which has been addressed by ramping the the slab at thresholds into class room 173 for example.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	100	MAR-10

### A2020 Basement Walls (& Crawl Space)

The mechanical room is located in a basement area with reinforced poured concrete walls 200mm which also form a grade beam.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	100	MAR-10

### B1010.01 Floor Structural Frame (Building Frame)\*

The building frame consists of open web steel joists spanning load bearing concrete block walls carried on grade beams or thickened concrete slab. The large gymnasium roof consists of precast concrete tee beams.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	100	MAR-10

### B1010.02 Structural Interior Walls Supporting Floors (or Roof)\*

The roof structure is supported by concrete block walls reinforced every second course in the 1971 section and with bond beams in the 1969 section. Cracking in concrete walls due to structural movement which now appears to have stabilized has been addressed by caulking cracked joints.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	100	MAR-10

**B1010.03 Floor Decks, Slabs, and Toppings\***

The floor deck throughout the school is concrete slab.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	100	MAR-10

**B1010.05 Mezzanine Construction\***

There is a mezzanine floor over the change areas in the large gym which has a concrete floor slab spanning concrete walls. There is glazing and a steel pipe hand rail. There is also a wood framed mezzanine floor in room 118.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	100	MAR-10

**B1010.09 Floor Construction Fireproofing\***

Floors are concrete and therefore fire proof.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	50	MAR-10

**B1020.01 Roof Structural Frame\***

The roof structural frame consists of open web steel joists spanning concrete block walls and precast concrete tee beams over the large gym.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	100	MAR-10

**B1020.06 Roof Construction Fireproofing\***

The roof construction is non combustible being constructed of concrete and open web steel joists with a steel deck.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	50	MAR-10

## S2 ENVELOPE

### B2010.01.02.02 Concrete Block: Ext. Wall Skin\*

The exterior walls on the south and west side of the 1969 section are faced with a 100mm concrete block on a concrete clock back wall with loose fill insulation. Elsewhere the walls are concrete block with loose fill insulation.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	1969	75	MAR-10

#### Event: Repair 2m2 concrete block

**Concern:**

There are several locations including the south side of the school where the exterior block work has cracked and is damaged.

**Recommendation:**

Patch and repair damaged concrete block.

**Consequences of Deferral:**

Further deterioration of exterior concrete block.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Repair	2010	\$5,000	Medium

**Updated:** MAR-10

### B2010.01.08 Cement Plaster (Stucco): Ext. Wall\*

There is pea gravel stucco on the east side of the school. Sections of the existing exterior east wall were refinished in stucco in the 1986 addition and renovation project. Stucco on wire mesh on metal Z bars with rigid insulation and vapour barrier was applied to existing concrete block walls.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	1986	75	MAR-10

#### Event: Repair 10m2 damaged stucco

**Concern:**

There is a section of damaged stucco on the east side of the school where the wire mesh is visible.

**Recommendation:**

Repair and replace stucco.

**Consequences of Deferral:**

Stucco will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Repair	2010	\$5,000	Low

**Updated:** MAR-10



**B2010.01.09 Expansion Control: Exterior Wall Skin\***

The control joints in the stucco are galvanized vertical and horizontal metal dividing strips.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1986	75	MAR-10

**B2010.01.11 Joint Sealers (caulking): Ext. Wall\*\***

There is flexible caulking at all window and door frames.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	20	MAR-10

**Event: Replace 200m caulking**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$6,000	Unassigned

**Updated:** MAR-10

**B2010.01.13 Paints (& Stains): Exterior Wall\*\***

Most of the exterior wall is painted concrete block

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1986	15	MAR-10

**Event: Repaint 1000m2 exterior concrete block wall**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$30,000	Unassigned

**Updated:** MAR-10

**B2010.03 Exterior Wall Vapor Retarders, Air Barriers, and Insulation\***

The stucco walls on the east side of the school have rigid insulation and a vapour barrier. Elsewhere exterior load bearing concrete block walls have loose fill insulation.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	100	MAR-10

**B2010.06 Exterior Louvers, Grilles, and Screens\***

Exterior louvres are aluminum.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	50	MAR-10



**B2010.09 Exterior Soffits\***

The soffits over the entrances are plywood on wood framing.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	50	MAR-10

**B2020.01.01.02 Aluminum Windows (Glass & Frame) \*\***

The windows are the original aluminum windows with opening lights.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	40	MAR-10

**Event: Replace 10m2 windows**

**Concern:**

There are sections of windows throughout the school where windows have failed, opening lights difficult to operate and require replacement including rooms 141, 154, 170, 185.

**Recommendation:**

Replace windows.

**Consequences of Deferral:**

Windows will further deteriorate.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Failure Replacement	2010	\$10,000	Medium

**Updated:** MAR-10

**Event: Replace 100m2 windows**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$150,000	Unassigned

**Updated:** MAR-10

**B2030.02 Exterior Utility Doors \*\***

Utility doors are a mix of solid care wood and metal doors in pressed steel frames.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1971	40	MAR-10

**Event: Replace 12 Exterior Utility Doors**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$12,000	Unassigned

**Updated:** MAR-10

**Event: Replace 2 exterior utility doors**

**Concern:**

Two exterior utility doors are damaged and appear unsightly requiring replacement.

**Recommendation:**

Replace doors.

**Consequences of Deferral:**

Doors will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Repair	2010	\$2,000	Low

**Updated:** MAR-10

**B3010.04.04 Modified Bituminous Membrane Roofing (SBS)\*\***

SBS roofing over all school with rigid insulation and vapour barrier.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	2005	25	MAR-10

**Event: Replace 8000m2 roof**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2030	\$1,500,000	Unassigned

**Updated:** MAR-10

**B3010.08.02 Metal Gutters and Downspouts\*\***

Metal down spouts drain roof areas onto grade.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	30	MAR-10

**Event: Replace 200m down spouts**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$4,000	Unassigned

**Updated:** MAR-10

**B3020.02 Other Roofing Openings (Hatch, Vent, etc)\***

There are roof penetrations with lead and pre-finished metal cappings.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	25	MAR-10

### S3 INTERIOR

#### C1010.01 Interior Fixed Partitions\*

Interior fixed partitions are a mix of concrete block and gypsum board or cement plaster on steel studs.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	100	MAR-10

#### C1010.03 Interior Operable Folding Panel Partitions\*\*

There is a vinyl folding partition between rooms 141 and 142 which is no longer in use.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1970	30	MAR-10

**Event: Replace folding partition**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$50,000	Unassigned

**Updated:** MAR-10

#### C1010.05 Interior Windows\*

There are interior windows between the music room and 3 practice rooms consisting of double glass in pressed steel frames. The staff room 118 also has an interior window with wired glass and pressed steel frame.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	80	MAR-10

**C1020.01 Interior Swinging Doors (& Hardware)\***

Painted solid core wood doors in pressed steel frames are typical throughout the school.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	1969	40	MAR-10

**Event: Replace 20 solid core wood doors**

**Concern:**

Interior doors are damaged and required replacement.

**Recommendation:**

Replace damaged solid core wood doors.

**Consequences of Deferral:**

Doors will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Repair	2010	\$25,000	Medium

**Updated:** MAR-10



Typical damage to edges of wood doors

**C1020.03 Interior Fire Doors\***

There are steel fire doors to special rooms such as mechanical rooms and industrial arts.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	50	MAR-10

**C1030.01 Visual Display Boards\*\***

There are white boards, green boards, tack boards and computerized smart boards in class rooms and staff areas.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	20	MAR-10

**Event: Replace 400 display boards**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$300,000	Unassigned

**Updated:** MAR-10

**C1030.02 Fabricated Compartments(Toilets/Showers)\*\***

There are steel toilet and shower partitions in student wash rooms, staff wash rooms and shower and change areas.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	1971	30	MAR-10

**Event: Repair 15 fabricated compartments**

**Concern:**

There are damaged cubicle partitions which are unsightly and require repair to doors and hinges.

**Recommendation:**

Repair damaged partitions.

**Consequences of Deferral:**

Partitions will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Repair	2009	\$10,000	Low

**Updated:** MAR-10

**Event: Replace 30 Fabricated Compartments**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$45,000	Unassigned

**Updated:** MAR-10

**C1030.06 Handrails\***

Hand rails to the mezzanine floors are painted steel pipe.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	40	MAR-10

**C1030.08 Interior Identifying Devices\***

All rooms have small plastic labels on the top of the door frame with room and door numbers for maintenance purposes. Rooms also have larger plastic and steel signs with room names and numbers.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
5 - Good	1969	20	MAR-10

**C1030.10 Lockers\*\***

There are steel lockers for students in corridors and staff lockers in the custodian's office.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1971	30	MAR-10

**Event: Replace 600 lockers**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$390,000	Unassigned

**Updated:** MAR-10

**C1030.12 Storage Shelving\***

There is painted wood shelving in teaching areas and a mix of steel and wood shelving in service and support rooms.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	30	MAR-10

**C1030.14 Toilet, Bath, and Laundry Accessories\***

There are mirrors, soap and paper towel dispensers, hand blowers, toilet roll holders in staff and student wash rooms.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	20	MAR-10

**C2010 Stair Construction\***

The stair to the staff room mezzanine is wood construction. Stairs to the gym mezzanine are concrete. Stairs down into the main mechanical room are steel.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	100	MAR-10

**C2020.08 Stair Railings and Balustrades\***

Stair railings are typically steel pipe. The balustrades to the gym mezzanine have glazed panels between steel pipes.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	40	MAR-10



**C3010.06 Tile Wall Finishes\*\***

There are glazed ceramic tiles on walls in wash rooms and shower rooms.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	40	MAR-10

**Event: Replace 300m2 ceramic tiles**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$100,000	Unassigned

**Updated:** MAR-10

**C3010.09 Acoustical Wall Treatment\*\***

There are acoustic fabric wall panels on the upper sections of walls in the large gym and music room.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	1969	20	MAR-10

**Event: Replace 200m2 acoustic fabric panels**

**Concern:**

The fabric panels on the walls in the large gym are damaged, appear unsightly and require replacement.

**Recommendation:**

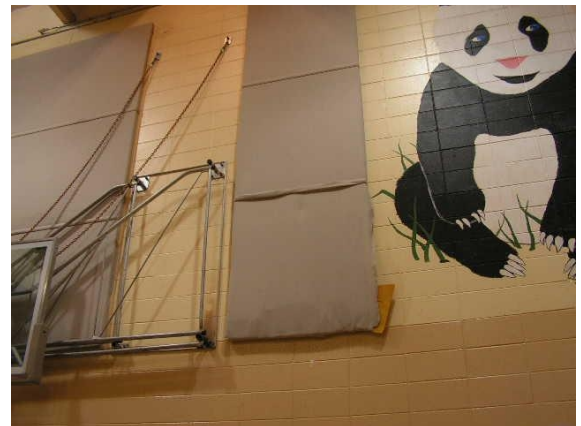
Replace fabric panels.

**Consequences of Deferral:**

Panels will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Failure Replacement	2010	\$50,000	Medium

**Updated:** MAR-10



Acoustic Panels in Main Gym

**C3010.11 Interior Wall Painting\***

Interior concrete block and gypsum board are painted throughout the school.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	10	MAR-10

**C3010.14 Other Wall Finishes\***

There is vinyl finished gypsum board throughout the school.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	1980	0	MAR-10

**Event: Repair 2000m2 vinyl board**

**Concern:**

Vinyl board in most class rooms is damaged with pin holes and abrasions.

**Recommendation:**

Refinish vinyl board.

**Consequences of Deferral:**

Vinyl will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Repair	2010	\$40,000	Low

**Updated:** MAR-10

**C3020.01.01 Epoxy Concrete Floor Finishes \***

There is an epoxy floor finish in student wash rooms 144 and 146 and the wash room 186A.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	0	MAR-10

**C3020.04 Wood Flooring\*\***

Maple strip floor on 50mm x 200mm wood sleepers on rubber pads on concrete slab.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	1969	30	MAR-10

**Event: Refinish 500m2 wood floor**

**Concern:**

The gym floor is damaged, appears unsightly and requires refinishing.

**Recommendation:**

Sand, fill and refinish wood floor.

**Consequences of Deferral:**

Floor will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Repair	2010	\$25,000	Low

**Updated:** MAR-10

**Event: Replace 500 m2 wood gym floor**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$140,000	Unassigned

**Updated:** MAR-10

**C3020.07 Resilient Flooring \*\***

Vinyl tile is typical for class rooms and corridors throughout the school. There is sheet vinyl in the small gym and some class rooms.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	1990	20	MAR-10

**Event: Replace 2000m2 resilient flooring**

**Concern:**

There are sections of vinyl tiles in the school which have deteriorated and require replacement such as the kitchen (room 159), class rooms 173, 155, 152, 185, 159 as well as corridors. The sheet vinyl has also deteriorated in the small gym and some class rooms.

**Recommendation:**

Replace resilient flooring

**Consequences of Deferral:**

Flooring will deteriorate further

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Failure Replacement	2010	\$140,000	Low

**Updated:** MAR-10

**Event: Replace 5000 m2 resilient flooring**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$350,000	Unassigned

**Updated:** MAR-10

**C3020.08 Carpet Flooring\*\***

There is carpet throughout the school in class rooms and staff rooms.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	2000	15	MAR-10

**Event: Replace 1000m2 carpet**

**Concern:**

There are sections of carpet throughout the school which are stained and damaged and require replacement.

**Recommendation:**

Replace damaged carpet.

**Consequences of Deferral:**

Carpet will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Repair	2010	\$60,000	Medium

**Updated:** MAR-10



Deteriorated carpeting

**Event: Replace 1000m2 carpet**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2015	\$60,000	Unassigned

**Updated:** MAR-10

**C3030.04 Gypsum Board Ceiling Finishes (Unpainted)\***

There are painted gypsum board in service rooms and wash rooms throughout the school.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	60	MAR-10

**C3030.06 Acoustic Ceiling Treatment (Susp.T-Bar)\*\***

Acoustic tiles in a tee bar grid are typical throughout the school in corridors and class rooms

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	1969	25	MAR-10

**Event: Replace 1500m2 acoustic tiles**

**Concern:**

There are sections of acoustic tiles in class rooms which are damaged and require replacement.

**Recommendation:**

Replace damaged tiles.

**Consequences of Deferral:**

Tiles will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Repair	2010	\$70,000	Medium

**Updated:** MAR-10

**Event: Replace 5000m2 acoustic tiles**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$225,000	Unassigned

**Updated:** MAR-10

**C3030.07 Interior Ceiling Painting\***

Steel roof deck is painted where exposed in gym areas. Gypsum board ceilings in service rooms, wash rooms and mechanical rooms are painted.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	20	MAR-10

**C3030.09 Other Ceiling Finishes\***

Other ceiling finishes include cedar strip ceiling in staff room which was part of the 1986 renovation project.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	0	MAR-10

## S4 MECHANICAL

### D2010.04 Sinks\*\*

There are 31 single compartment stainless steel sinks, 6 with bubblers in classrooms, 6 double compartment stainless steel sinks, one triple compartment stainless steel sink for the kitchen (with heater and grease interceptor), one mop service basin, and one abandoned stainless steel sink for silk screening.

<b>Rating</b>	<b>Installed</b>	<b>Design Life</b>	<b>Updated</b>
4 - Acceptable	1970	30	MAR-10
	<b>Capacity Size</b>	<b>Capacity Unit</b>	
	N/A	N/A	

#### **Event: Replace 39 Stainless Steel Sinks**

<b>Type</b>	<b>Year</b>	<b>Cost</b>	<b>Priority</b>
Lifecycle Replacement	2013	\$65,000	Unassigned

**Updated:** MAR-10

### D2010.05 Showers\*\*

There are 7 showers in the girls change room and 7 showers in the boys change room installed in the 1969 original building. There is one shower (not used) in the handicapped washroom installed in 1986.

<b>Rating</b>	<b>Installed</b>	<b>Design Life</b>	<b>Updated</b>
4 - Acceptable	1969	30	MAR-10
	<b>Capacity Size</b>	<b>Capacity Unit</b>	
	N/A	N/A	

#### **Event: Replace 15 Showers**

<b>Type</b>	<b>Year</b>	<b>Cost</b>	<b>Priority</b>
Lifecycle Replacement	2013	\$8,000	Unassigned

**Updated:** MAR-10

### D2010.08 Drinking Fountains / Coolers\*\*

There are three wall hung non-refrigerated drinking fountains located in the corridor areas.

<b>Rating</b>	<b>Installed</b>	<b>Design Life</b>	<b>Updated</b>
4 - Acceptable	1970	35	MAR-10
	<b>Capacity Size</b>	<b>Capacity Unit</b>	
	N/A	N/A	

#### **Event: Replace 3 Drinking Fountains**

**Recommendation:**

Replace three drinking fountains with new refrigerated coolers.

<b>Type</b>	<b>Year</b>	<b>Cost</b>	<b>Priority</b>
Lifecycle Replacement	2013	\$15,000	Unassigned

**Updated:** MAR-10



**D2010.09 Other Plumbing Fixtures\***

One Bradley wash sink is located in the Industrial Arts area. This area is now abandoned and used as storage.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	0	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D2010.10 Washroom Fixtures (WC, Lav, Urnl)\*\***

There are 32 water closets, the majority which are floor mounted with flush valves (two are baby fixtures located in the kindergarten washroom 156), 14 floor mounted urinals, 27 stainless steel oval lavatories, and 5 porcelain steel lavatories located in the washroom and change room areas.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1970	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace 32 Wcs 32 Lavs 14 Urnl**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$125,000	Unassigned

**Updated:** MAR-10

**Event: Replace 5 Cracked Urinals and 1 Cracked Water Closet**

**Concern:**

There are two cracked floor mounted urinals in rooms 121 and 165, one cracked floor mounted urinal in room 126A, and one cracked floor mounted water closet in room 115.

**Recommendation:**

Remove cracked fixtures and replace with new.

**Consequences of Deferral:**

Fixtures cannot be cleaned correctly and bacteria could reside in the cracked areas.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Failure Replacement	2010	\$11,000	Medium

**Updated:** MAR-10

**D2020.01.01 Pipes and Tubes: Domestic Water\***

A 100mm water main enters the south face of the school near the Library area. Distribution piping is copper throughout the facility where exposed. Previous reports indicate some galvanized piping is used for larger pipe sizes.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1970	40	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D2020.01.02 Valves: Domestic Water\*\***

Due to the age of the valves, operation of some isolation valves are suspect not to hold. Facility Management personnel report that some valves have been replaced as necessary.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	1969	40	MAR-10
	<u>Capacity Size</u>	<u>Capacity Unit</u>	
	N/A	N/A	

**Event: Replace 135 Valves**

**Concern:**

Many isolation valves have exceeded their life cycle and are reported as failing to shut fully off due to age and wear.

**Recommendation:**

Replace approximately 125 12mm to 25mm valves, and 10 50mm valves.

**Consequences of Deferral:**

Valves will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Failure Replacement	2011	\$45,000	Low

**Updated:** MAR-10

**D2020.01.03 Piping Specialties (Backflow Preventors)\*\***

Backflow preventor on original heating boiler make up complete with bypass valve. Screw-in type backflow preventors are required at the exterior hose bib connections.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	20	MAR-10
	<u>Capacity Size</u>	<u>Capacity Unit</u>	
	N/A	N/A	

**Event: Replace 1 back flow preventor**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$3,500	Unassigned

**Updated:** MAR-10

**D2020.02.02 Plumbing Pumps: Domestic Water\*\***

Domestic hot water inline recirculation pump installed in mechanical room 132, approximately 1/8 HP size..

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1985	20	MAR-10
	<u>Capacity Size</u>	<u>Capacity Unit</u>	
	N/A	N/A	

**Event: Replace Domestic Hot Water Pump**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$1,000	Unassigned

**Updated:** MAR-10

**D2020.02.06 Domestic Water Heaters\*\***

There are two domestic hot water heaters installed in mechanical room 132. One is circa 1990, State heater, 725,000 btuh input, 615 gph recovery with 80 gallon storage. This unit is shutdown due to leaks. The other unit is circa 2001, Bradford White Commercial Hydrojet, 652,500 btuh input, 550 gph recovery with 80 gallon storage.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
3 - Marginal	1988	20	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace 1990 water heater**

**Concern:**

Domestic hot water heater life expectancy exceeded and unit is currently shutdown due to leakage.

**Recommendation:**

Replace domestic hot water heater.

**Consequences of Deferral:**

There is one DHW heater in operation now with no back-up. Failure of the operational unit will leave the school without domestic hot water until repairs are made.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Failure Replacement	2010	\$9,000	Low

**Updated:** MAR-10

**Event: Replace 2001 water heater**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2021	\$9,000	Unassigned

**Updated:** MAR-10

**D2020.03 Water Supply Insulation: Domestic\***

Majority of domestic hot, cold and recirculation piping insulated and canvas jacketed with exception to some minor areas of the mechanical room where pipe repairs have been made.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	40	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D2030.01 Waste and Vent Piping\***

Waste piping is cast iron where exposed and vent piping is copper where exposed. Piping varies in age from 1969 to 1986.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	50	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event:** **Video underground sewer lines to determine condition of piping.**

**Concern:**

Existing underground piping varies in age up to 36 years.

**Recommendation:**

Video underground sewer lines in older sections of school to determine condition of piping.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Study	2009	\$16,777	Medium

**Updated:** MAR-10

**D2030.02.04 Floor Drains\***

Cast Iron Floor Drains are provided throughout the facility and have bronze cover plates for the shower room areas.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	50	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D2030.03 Waste Piping Equipment\* Interceptors**

Grease interceptor installed under kitchen triple compartment sink. Solids interceptor installed for counter sinks in Rooms 174, 177, Bottle trap installed in science prep room 176. (Bottle traps have not been installed in the old science room 175 and are not necessary as this room is now used as a standard classroom.)

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1986	0	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D2030.03 Waste Piping Equipment\* Lift Pump**

Lift pump provided for 1969 Building mechanical room 132.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D2040.01 Rain Water Drainage Piping Systems\***

There are both plastic and cast iron leaders. Cast iron roof drains discharge through cast iron leaders to grade

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
3 - Marginal	1969	50	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Fire stop plastic leaders**

**Concern:**

There are some areas where plastic leaders pass through through a rated wall.

**Recommendation:**

Install fire rated fire stop in plastic piping passing through rated walls.

**Consequences of Deferral:**

Lack of fire stopping will persist.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Code Upgrade	2009	\$2,000	Medium

**Updated:** MAR-10

**D2040.02.04 Roof Drains\***

Cast iron roof drains installed throughout.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	40	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D3010.02 Gas Supply Systems\***

Natural gas service enters the east face of the building near Room 140. A steel gas main then provides services to the mechanical rooms and up to the roof to serve the gas-fired air handling units and the furnaces for the portables.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	60	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D3020.02.01 Heating Boilers and Accessories: H.W.\*\***

One forced draft fire tube boiler installed in mechanical room 132. Saskatoon boiler, 5,230,000 BTU/hr on natural gas. This boiler is inspected every two years. Tubes were replaced two years ago.

One copper water tube boiler is installed in each of mechanical rooms 143 and 163 in 2007 and 2008. Each boiler is a RBT DBI 1350, 1,350,000 btuh input, 1,147,500 btuh output on natural gas.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	35	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Lifecycle Replace 2007 and 2008 Boilers**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2042	\$65,000	Unassigned

**Updated:** MAR-10

**Event: Replace 1969 Heating Boiler**

**Concern:**

Boiler is inspected regularly, and tubes have been replaced, but has reached its life expectancy.

**Recommendation:**

Replace boiler with a more energy efficient new boiler, or possibly two smaller boilers since there is no standby for this unit.

**Consequences of Deferral:**

This boiler will require constant inspection and future upgrading if it is to be maintained in an operational condition. Should the boiler fail, back-up can only be partially provided by the air supply units to the various rooms, and the gymnasium would have no heat.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$100,000	Unassigned

**Updated:** MAR-10

**D3020.02.01 Heating Boilers and Accessories: H.W.\*\* HWH Pumps**

Mechanical Room 132 (1969):

Primary HWH Pumps - 2 base mounted pumps, size unknown, 5.0 HP motors.

HWH Pumps to Glycol Heat Exchanger - 2 Bell & Gossett Model 1531 base mounted pumps, 35 gpm, 1.5 HP motors.

Glycol Pumps to Rooftop Gymnasium supply air unit - 2 in line pumps, size unknown, 1.5 HP.

Mechanical Room 163 (2007):

Primary boiler circulation pump, 5.5 lps, 1.0 HP inline circulation pump.

Coil Pump for air supply unit AS2, 2.46 lps, 0.75 HP inline circulation pump.

Coil Pump for air supply unit AS3, 2.46 lps, 0.75 HP inline circulation pump.

Mechanical Room 143 ( 2008):

Primary boiler circulation pump, 5.5 lps, 1.0 HP inline circulation pump.

Coil Pump for air supply unit AS1, 2.46 lps, 0.75 HP inline circulation pump.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	35	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace 11 pumps**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2040	\$60,000	Unassigned

**Updated:** MAR-10

**D3020.02.02 Chimneys (&Comb. Air): H.W. Boiler\*\* 1969**

A 20" round Type 'B' Gas vent is provided through the roof for the 1969 boiler in Mechanical Room 132.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	35	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace 8m Type B gas vent**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$7,200	Unassigned

**Updated:** MAR-10



**D3020.02.02 Chimneys (&Comb. Air): H.W. Boiler\*\* 2007 & 2008**

A 12" round Type 'B' gas vent is provided through the roof for each of the 2007 and 2008 boilers installed in mechanical rooms 143 and 163.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace 16 m Type B Gas Vent for 2 Boilers**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$12,000	Unassigned

**Updated:** MAR-10

**D3020.02.03 Water Treatment: H. W. Boiler\***

A water treatment firm is contracted to inspect and treat the hot water heating and the direct-fired glycol heating systems and boilers on an annual basis. Pot feeders and glycol fill stations have been provided in each mechanical room as necessary.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D3020.05 Auxiliary Equipment: Heat Generation\***

A plate heat exchanger, Alfa Laval Model CB 76-60H T09 is installed in Mechanical Room 132 to provide heated glycol to the rooftop gymnasium air supply unit heating coil.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	2002	0	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D3040.01.01 Air Handling Units: Air Distribution\*\* 1969**

The air system for 1969 original school in Mechanical Room 132 is a Sheldon Model 130C, and consists of a centrifugal supply fan (23,465 cfm, 30 HP motor), inline return fan (21,500 cfm), motorized fresh, return, and exhaust air dampers, flat throw away filter bank, and a spray coil humidifier (disconnected and not in use).

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
3 - Marginal	1969	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Air Handling Unit**

**Concern:**

The unit has reached its life expectancy.

**Recommendation:**

Replace unit.

**Consequences of Deferral:**

Unit will deteriorate further.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Failure Replacement	2010	\$80,000	Medium

**Updated:** MAR-10

**D3040.01.01 Air Handling Units: Air Distribution\*\* 1969 Gym**

Air system for 1969 original school gymnasium is located on roof, manufacturer unknown. The unit consists of supply fan (8,000 cfm), return fan (5,000 cfm), throw away filter, motorized fresh, return, exhaust air dampers, glycol heating coil, low velocity ductwork distribution to underground ductwork, ducted return air.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
3 - Marginal	1969	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Gymnasium Air Handling Unit**

**Concern:**

The unit has exceeded its life expectancy. There is casing leakage, worn bushings and seals, and damaged interior insulation.

**Recommendation:**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Failure Replacement	2010	\$25,000	Medium

**Updated:** MAR-10

**D3040.01.01 Air Handling Units: Air Distribution\*\* 1970**

Multi-zone unit AS-1 is a 12 zone Lennox DMS2-275 supply air unit located in Mechanical Room 143, 11000 cfm supply air, 10,000 cfm return air. The system consists of supply air and return air fans, motorized fresh and return air dampers, gravity exhaust air damper, throw away filters,

The unit was refurbished and a new glycol heating coil was installed in 2008 to replace the worn indirect gas-fired heat exchanger.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	2008	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace air handling unit**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2038	\$66,000	Unassigned

**Updated:** MAR-10

**D3040.01.01 Air Handling Units: Air Distribution\*\* 1971**

Rooms 167 through 173 and room 176 are heated and ventilated by a Lennox 8 zone multi-zone unit labeled AS-3. Rooms 174, 174F, 175, and rooms 177 to 180 are heated and ventilated by a Lennox 8 zone multi-zone unit labeled AS-2. The air systems consist of supply and return air fans, motorized fresh and return air dampers, gravity exhaust air damper, and disposable filters.

Both units are located in mechanical room 163. Both units were refurbished and new glycol heating coils were installed in 2007 to replace the worn indirect gas-fired heat exchangers.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1971	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Air Handling Units AS-2 and AS-3**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2033	\$84,000	Unassigned

**Updated:** MAR-10

**D3040.01.02 Fans: Air Distribution (Remote from AHU)\***

An aluminium dome type exhaust fan, size unknown, is installed on the roof for exhaust from the kitchen range hood and is interlocked with the kitchen make-up air unit.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1971	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D3040.01.04 Ducts: Air Distribution\***

The air supply ductwork is galvanized steel and is located in the ceiling space of the facility with high sidewall and ceiling air supply. Underground ductwork is installed for the gymnasium.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	50	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D3040.01.06 Air Terminal Units: Air Distribution (VAV Box)\*\* 1969**

Terminal reheat boxes are used for the 1969 original building air supply system

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
3 - Marginal	1969	0	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Failure Replace 18 Air Terminal Units**

**Concern:**

Air terminal units life expectancy exceeded. The reheat coils in the boxes provide heat to the various rooms of the original building, with 18 zones in total.

**Recommendation:**

Replace 18 terminal reheat boxes with new.

**Consequences of Deferral:**

Rooms may not be heated as the reheat coils in the air system are the sole source of heat for the rooms that they serve.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Failure Replacement	2010	\$63,000	Medium

**Updated:** MAR-10

**D3040.01.07 Air Outlets & Inlets:Air Distribution\***

The air outlets are steel ceiling mounted square diffusers, linear grilles, adjustable sidewall grilles, and fixed bar floor and wall grilles.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D3040.03.01 Hot Water Distribution Systems\*\***

Black iron and copper piping, located in the ceiling space provides heating service to radiation, radiant panels, convectors, terminal box coils, and fan coil units.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	40	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Hot Water Distribution System**

**Recommendation:**

Replacement cost based on \$93.00 per square meter of gross floor area.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$800,000	Unassigned

**Updated:** MAR-10

**D3040.03.01 Hot Water Distribution Systems\*\* Valves**

Physical plant personnel report that due to age, many of the isolation valves on the hot water heating system do not hold and require replacement.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
3 - Marginal	1970	40	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace 85 Valves**

**Concern:**

Equipment cannot be isolated for service when the valves do not fully shutdown the lines.

**Recommendation:**

Replace approximately 75 1/2" to 1" valves and 10 2" valves.

**Consequences of Deferral:**

Little consequence since valves only need to isolate equipment when servicing is required and valves could be replaced at that time, However, it would be more appropriate to systematically replace valves during the summer when the heating system is not in use and the school is not occupied.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Failure Replacement	2010	\$32,000	Unassigned

**Updated:** MAR-10

**D3040.04.01 Fans: Exhaust\*\* CTS Area**

All special exhaust fans (paint booth, kiln exhaust, dust collection, small engine exhaust, sink screen hood) in the CTS Area have now been abandoned or removed and the area is used for general storage.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1971	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Remove 6 exhaust fans**

**Recommendation:**

Existing exhaust systems for the shops area are no longer in use and should be removed.

**Consequences of Deferral:**

No consequence as systems could be left in place until the area is renovated for another designated use. In this case, they would be removed at that time

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Preventative Maintenance	2013	\$5,000	Low

**Updated:** MAR-10

**D3040.04.01 Fans: Exhaust\*\* Fume Hood**

A Fume hood is installed in kindergarten room (previously science room) and is not in use.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Fume Hood**

**Recommendation:**

Replacement only recommended if science room activities requiring a fume hood are re-activated.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$9,000	Unassigned

**Updated:** MAR-10

**D3040.04.01 Fans: Exhaust\*\* General**

Roof exhaust fans for washrooms and shower rooms are Delhi square type and aluminum dome type. Some small ceiling fans installed in smaller isolated washrooms.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1970	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event:** **Replace exhaust fans.**

**Recommendation:**

Replace approximately 8 exhaust fans.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$9,000	Unassigned

**Updated:** MAR-10

**D3040.04.01 Fans: Exhaust\*\* Kitchen Range**

A full kitchen range hood is installed complete with washable filters, The exhaust fan is interlocked with the make-up air unit controls.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1971	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event:** **Replace Kitch Range Hood and Exhaust Fan\*\***

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$12,000	Unassigned

**Updated:** MAR-10

**D3040.04.03 Ducts: Exhaust\***

Galvanized steel low velocity exhaust air ductwork is installed in the ceiling space as required to connect to roof mounted fans or rooftop goosenecks.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1970	50	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D3040.04.05 Air Outlets and Inlets: Exhaust\***

The exhaust grilles vary (egg crate and bar type) as to year of construction.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	



**D3040.05 Heat Exchangers\*\***

An Alfa Laval CB 76 Plate Heat Exchanger (installed in 2002) is located in the 1969 original building mechanical room to provide heated glycol for the rooftop Gymnasium Air Handling Unit heating coil.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	2002	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace One Plate Heat Exchanger\*\***

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2032	\$6,000	Unassigned

**Updated:** MAR-10

**D3050.01.02 Packaged Rooftop Air Conditioning Units (& Heating Units)\*\***

1969 Gymnasium: Air system for 1969 original school gymnasium is located on roof, manufacturer unknown. The unit consists of supply fan (8,000 cfm), return fan (5,000 cfm), throw away filter, motorized fresh, return, exhaust air dampers, glycol heating coil, low velocity ductwork distribution to underground ductwork, ducted return air.

1971 Kitchen Make-up Air Unit. A Engineered Air indirect gas fired rooftop unit is provided for make-up air to the Kitchen 159 range exhaust hood.

1971 Room 162 (Exercise Room): A Reznor gas fired rooftop heating unit is provided for heating of this room.

1986 Special Needs Addition: A Lennox GC59-653-150 heating and cooling unit, rated for 135,000 btuh input on natural gas, 4.5 Tons of cooling and 4000 cfm was installed in 1986.

1989 Corridor: A Flamemaster gas-fired roof-top heating unit, size unknown provides winter heating to the connecting corridors for classrooms 187 and 188.

2003 Rooms 126 and 129: A Lennox GCS16-030-75-2P heating and cooling unit, rated for 75,000 btuh input on natural gas and 2-1/2 Ton Cooling was installed in 2003.

2008 Kitchen 159 and Classroom 161: Two separate Lennox TGA 036S2BM14 heating and cooling units, rated at 97000 btuh input on natural gas, 3 Ton cooling, and 1200 cfm were installed in 2008.

2008 Small Gymnasium: A Lennox TGA 120S2BHIX heating and cooling unit, rated for 230,150 btuh input on natural gas, 8 Ton Cooling, and 3400 cfm was installed in 2008.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1990	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace (5) 2003 and 2008 Rooftop Units**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2033	\$105,000	Unassigned

**Updated:** MAR-10

**Event: Replace 1969 Gymnasium Packaged Rooftop Heating Unit**

**Concern:**

The unit has exceeded its life expectancy. There is casing leakage, worn bushings and seals, and damaged interior insulation.

**Recommendation:**

Replace unit with a new rooftop air handling unit c/w glycol heating coil.

**Consequences of Deferral:**

Ongoing maintenance and operational inefficiencies will continue until the unit is replaced.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Failure Replacement	2011	\$25,000	Medium

**Updated:** MAR-10

**Event: Replace 1971 Kitchen Make-Up Air and Heating Units**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$35,000	Unassigned

**Updated:** MAR-10

**Event: Replace 1986 Lennox Rooftop Unit**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2016	\$25,000	Unassigned

**Updated:** MAR-10

**D3050.03 Humidifiers\*\***

The 1969 original school air system In Mechanical Room 132 is complete with sprayed coil humidifier. Dryomatic humidifiers are installed in mechanical rooms 143 & 163 for the multizone units. All humidifiers not in operation.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
3 - Marginal	1969	25	MAR-10

<u>Capacity Size</u>	<u>Capacity Unit</u>
N/A	N/A

**Event: Replace 4 Humidifiers**

**Concern:**

Design standards require that humidification be installed. Units for the 4 main multizone air supply units are out of service by school facility management.

**Recommendation:**

Install 4 new steam humidifiers c/w controls.

**Consequences of Deferral:**

Lack of humidification will persist.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Failure Replacement	2011	\$50,000	Low

**Updated:** MAR-10

**D3050.05.01 Convectors\*\***

Convectors are installed in the washroom and shower room areas.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event:** Replace 12 convector units

**Recommendation:**

Replace approximately 12 convector units.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$9,000	Unassigned

**Updated:** MAR-10

**D3050.05.02 Fan Coil Units\*\***

There are 4 ceiling type and 2 wall type force flows installed in the various entrances to the school.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1970	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event:** Replace 6 Fan Coil Units\*\*

**Recommendation:**

Replace 6 force flow units c/w controls.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$30,000	Unassigned

**Updated:** MAR-10

**D3050.05.03 Finned Tube Radiation\*\***

A small amount of radiation has been installed in the 1986 addition along the east face of this portion of the building.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1986	40	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event:** Replace finned radiation

**Recommendation:**

Replace radiation for about 860 square meters of floor area (1986 addition) at \$46.55 per m2.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2026	\$40,000	Unassigned

**Updated:** MAR-10

**D3050.05.06 Unit Heaters\*\***

There is one hot water unit heater installed in mechanical room 132.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	0	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event:** Replace one unit heater

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$3,500	Unassigned

**Updated:** MAR-10

**D3050.05.08 Radiant Heating (Ceiling & Floor)\*\***

There are 17 radiant panels installed in the 1986 addition.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1986	35	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event:** Replace 17 radiant panels

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2021	\$16,000	Unassigned

**Updated:** MAR-10

**D3060.02.01 Electric and Electronic Controls\*\***

Electric room thermostats (low voltage) are used to control the zone dampers on the four multizone supply air units and the rooftop packaged units. Line voltage thermostats are used to control the entrance force flows.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1970	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Electric and Electronic Controls\*\***

**Recommendation:**

Cost estimate based upon \$1.53 per square meter of gross floor area.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$13,000	Unassigned

**Updated:** MAR-10

**D3060.02.02 Pneumatic Controls\*\***

Duplex air compressor with air dryer provides control air for pneumatic control components in 1969 original school. Pneumatic control valves are used on the radiation and terminal reheat box coils throughout the school. Excessive run time on compressors and both compressors ran to maintain control air pressure. In 2008, the air compressor was replaced with a new unit.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	40	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Pneumatic Controls**

**Recommendation:**

Costing based on \$5.82 per m2 for the 1969 original school and the 1986 addition.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$25,000	Unassigned

**Updated:** MAR-10

**D3060.02.05 Building Systems Controls (BMCS, EMCS)\*\***

Siemens BMCS installed to provide global monitoring and control of the mechanical systems. The system was installed in 2002 and upgraded in 2008 as part of the mechanical upgrade to the systems.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	2008	25	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Building Systems Controls**

**Recommendation:**

Costs based on \$22.04 per m2.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2033	\$190,000	Unassigned

**Updated:** MAR-10

**D4020 Standpipes\***

Wet standpipes provide service to fire hose cabinets in the 1969 original building. An isolation valve is included in mechanical room at the main standpipe connection and a note on the piping reads "KEEP OPEN AT ALL TIME". This valve needs to have a lock installed for a "lock-open" position to assure it open at all times.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	60	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D4030.01 Fire Extinguisher, Cabinets and Accessories\***

ABC fire extinguishers installed on wall hooks, in cabinets and fire hose cabinets.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D4090.04 Dry Chemical Fire Extinguishing Systems (Kitchen Hood)\*\***

The range hood in Kitchen 159 is provided with a dry chemical fire suppression system. The fire inspection conducted in April 2009 included a non-compliance notification stating "...Old style dry chemical system is obsolete and should be replaced with a UUL300 wet chemical type suppression system..."

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	50	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Upgrade Dry Chemical Fire Extinguishing System**

**Concern:**

A non-compliance ticket has been issued for the existing system in April 2009.

**Recommendation:**

Replace existing system with a UUL300 wet chemical type suppression system

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Code Repair	2009	\$15,000	Medium

**Updated:** MAR-10



## S5 ELECTRICAL

### D5010.03 Main Electrical Switchboards (Main Distribution)\*\*

The Main Electrical Switchboard is a free-standing, wall-supported service and distribution switchboard manufactured by Federal Pacific (FPE), rated 1200A, 120/208V, 3 phase, 4 wire. The main service device is a 1200A, 3 pole, circuit breaker of the thermal magnetic type. The distribution section of the switchboard consists of 16, 3 pole circuit breakers, also of the thermal magnetic type, ranging from 70A to 400A and fully occupy the entire section of the switchboard. Additional distribution breakers (individually mounted enclosed circuit breakers) - 200A, 3 pole by FPE and 300A, 3 pole by Westinghouse - are installed above and beside the switchboard due to the lack of space in the distribution section of the switchboard.

<b>Rating</b>	<b>Installed</b>	<b>Design Life</b>	<b>Updated</b>
4 - Acceptable	1970	40	MAR-10
	<b>Capacity Size</b>	<b>Capacity Unit</b>	
	1200A, 120/208V	N/A	

#### **Event: Replace Main Electrical Switchboard**

<b>Type</b>	<b>Year</b>	<b>Cost</b>	<b>Priority</b>
Lifecycle Replacement	2013	\$110,000	Unassigned

**Updated:** MAR-10

### D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)\*\* FPL

Branch circuit panelboards (FPL) are 120/208 V, 3 Phase, 4 Wire panelboards with 225 A bus, typically 42 circuits except double panels which are 84 circuits, surface or flush mounted, located throughout the school.

<b>Rating</b>	<b>Installed</b>	<b>Design Life</b>	<b>Updated</b>
4 - Acceptable	1970	30	MAR-10
	<b>Capacity Size</b>	<b>Capacity Unit</b>	
	225A, 120/208V, 42 circuits	N/A	

#### **Event: Replace Branch Circuit Panelboards (12)**

<b>Type</b>	<b>Year</b>	<b>Cost</b>	<b>Priority</b>
Lifecycle Replacement	2013	\$50,000	Unassigned

**Updated:** MAR-10

### D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)\*\* Commander

A 225A, 120/208V, 3 phase branch circuit panelboard (Commander), located in the corridor, serves two portable classrooms, each having its own 125A, 120/240V, single phase, 3 wire Loadcenter (Commander).

<b>Rating</b>	<b>Installed</b>	<b>Design Life</b>	<b>Updated</b>
4 - Acceptable	1989	30	MAR-10
	<b>Capacity Size</b>	<b>Capacity Unit</b>	
	varies	N/A	

#### **Event: Replacement Branch Circuit Panelboard (1) and Loadcenters (2)**

<b>Type</b>	<b>Year</b>	<b>Cost</b>	<b>Priority</b>
Lifecycle Replacement	2019	\$7,000	Unassigned

**Updated:** MAR-10

**D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)\*\* Link**

A 3 phase branch circuit panelboard (FPE), 225A, 120/208V, in the corridor of the portables serves as distribution centre to the 4 portable classrooms, each having its own 125A, 120/240V, single phase, 3 wire Loadcenter (FPE), with 30A main breaker.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1985	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	varies	N/A	

**Event: Replace Branch Circuit Panelboard (1) and Loadcenters (4)**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2015	\$10,000	Unassigned

**Updated:** MAR-10

**D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)\*\* Westinghouse**

A 400A, 120/208V, 3 phase, 4 wire Distribution Panelboard (Westinghouse) fed from the 300A breaker next to the main switchboard serves as a sub-distribution, for this period of construction, to 225A, 120/208V, 3 phase, 4 wire, branch circuit panelboards (Westinghouse).

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1986	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	varies	N/A	

**Event: Replace Distribution (1) and Branch Circuit Panelboards (4)**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2016	\$20,000	Unassigned

**Updated:** MAR-10

**D5010.07 Motor Control Centers\*\***

A 4 section Motor Control Center (MCC) by Square D replaces the original one. The 600A horizontal, 300A vertical MCC includes a section for motors on emergency power and a control section. It is complete with combination magnetic starters designed for the MCC and manual starters which are built in the control section.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
5 - Good	2001	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Motor Control Center (4 sections) and starters (10 magnetic & 6 manual)**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2031	\$26,000	Unassigned

**Updated:** MAR-10

**D5010.07.02 Motor Starters and Accessories\*\***

There are still some individual motor starters, magnetic and manual, provided throughout the school.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1970	30	MAR-10

**Event: Replace Motor Starters (2 magnetic, 6 manual)**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$3,000	Unassigned

**Updated:** MAR-10

**D5020.01 Electrical Branch Wiring\***

Branch circuit wiring is cables in conduits, concealed in finished areas and surface mounted in utility areas. Some recent additions utilize surface raceways in finished areas; typically in computer rooms where split raceways (e.g., Wiremold G4000) are used.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1970	50	MAR-10
	<u>Capacity Size</u>	<u>Capacity Unit</u>	
	N/A	N/A	

**D5020.02.01 Lighting Accessories (Lighting Controls)\***

For the majority of the school (classrooms, public spaces and hallways, gymnasiums and washrooms) the interior lighting is controlled automatically using infrared type motion detectors with a time delay for turning lights off. Exceptions are utility rooms and the administration office which remain switched. All light switches, whether low voltage or line voltage, are retained to override the motion detector.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
6 - Excellent	2008	30	MAR-10
	<u>Capacity Size</u>	<u>Capacity Unit</u>	
	N/A	N/A	

**Event: Completed - Replace low voltage switching system. Low voltage relays changed with the installation of the automatic lighting control system.**

**Concern:**

Obsolete system, original components.

**Recommendation:**

Replace low voltage switching system.

**Consequences of Deferral:**

Components are difficult to obtain.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2009	\$51,262	Low

**Updated:** MAR-10

**D5020.02.02.02 Interior Fluorescent Fixtures\*\***

The fluorescent lighting system was completely converted to the energy efficient electronic ballasts using a master/slave combination and T8 lamps (lately using 28W). Corridors have surface linear cube fixtures; classrooms have surface 1X4 boxed fixtures; Library has 2X4 recessed fixtures; valance lighting in Staff lounge; washrooms with one-lamp linear cube fixtures; utility rooms with wireguarded strip lights (also in Gymnasium for emergency lights).

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
5 - Good	2001	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Interior Fluorescent Fixtures (2000)**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2031	\$500,000	Unassigned

**Updated:** MAR-10

**D5020.02.02.02 Interior Fluorescent Fixtures\*\* 2008 Gyms**

Fluorescent gymnasium lights - 6-28W T8 lamps fixtures with impact resistance lenses, electronic ballasts - replaced the metal halide fixtures in both gymnasiums.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
6 - Excellent	2008	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Gymnasium Fluorescent Fixtures (48)**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2038	\$19,200	Unassigned

**Updated:** MAR-10

**D5020.02.03.02 Emergency Lighting Battery Packs\*\***

Emergency lighting battery packs with integral lighting heads by Lumacell in the corridor of the portable classrooms.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1989	20	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Battery Packs (2)**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$1,000	Unassigned

**Updated:** MAR-10

**D5020.02.03.02 Emergency Lighting Battery Packs\*\***

Emergency lighting battery packs with integral lighting heads by Lumacell in the corridor of the portable classrooms.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1985	20	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Battery Packs (3)**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$1,500	Unassigned

**Updated:** MAR-10

**D5020.02.03.03 Exit Signs\***

EXIT signs are internally illuminated lighting units, beige polycarbonate enclosures, red stencil letters and LED lamps. They are powered from the emergency distribution system.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
5 - Good	2001	30	MAR-10

**D5020.03.01.01 Exterior Incandescent Fixtures\***

There remain at the canopies of only two entrances, recessed, incandescent pot lights.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1970	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D5020.03.01.03 Exterior Metal Halide Fixtures\***

The parking area is flood lighted by 250W metal halide floodlights located on the top of the building.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1986	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D5020.03.01.04 Exterior H.P. Sodium Fixtures\***

Exterior lighting is provided by high pressure sodium vandal resistant wall packs, 70W and 150W, around the perimeter of the building.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
5 - Good	2001	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D5020.03.02 Exterior Lighting Controls\***

Exterior lighting is photoelectric cell controlled from a number of control locations.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	2001	30	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D5030.01 Detection and Fire Alarm\*\***

The Simplex 2001 fire alarm system is a hard wired, single stage and zoned system with 20 detection zones, using manual stations, heat and smoke detectors and 3 signal circuits using bells. The control panel, with its integral annunciator, is located at the main entrance, unaccompanied by a graphic. The system is on emergency power.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1986	25	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Fire Alarm System (Control Panel and Field Devices)**

**Recommendation:**

Review system in its entirety and redesign to meet contemporary Code requirements.

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$200,000	Unassigned

**Updated:** MAR-10

**D5030.02.02 Intrusion Detection\*\***

The intrusion alarm system is a DSC Security System, using mainly motion detectors, supplemented by door contacts and "break glass" detectors. The system is activated by a coded keypad located at the entrance of the Library by the south exit. The system is monitored by the Parkland School Division.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
5 - Good	2001	25	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Intrusion Alarm System (Control Panel and Field Control Devices)**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2026	\$14,000	Unassigned

**Updated:** MAR-10

**D5030.03 Clock and Program Systems\***

The Simplex 2350 Time Management System provides the program for class changes, broadcasting through the public address loudspeakers; but it no longer controls the clocks which have been changed to electric or battery powered clocks.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1986	25	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D5030.04.01 Telephone Systems\***

The telephone system is a Meridian telephone exchange by Northern Telecom (Nortel) with a recently added Voice Processing Unit to handle the Public Address. Telephone sets are provided in the administration offices, staff areas and some classrooms - other classrooms have intercom units only.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	2001	25	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D5030.04.05 Local Area Network Systems\***

A Local Area Network of data distribution exists in the school. The programs are delivered from the School Board via a Content Delivery Device (CDD) to a sub-server with a 1500W UPS backup to 5 hubs throughout the school. There is a SuperNet entry to the facility.

In addition to computer rooms, computer services are provided to all teaching and administrative staff and to every classroom and Library. " Smart Boards" in classrooms allowed interaction with the students via a touch screen with the programs from the computer. There is also a "secured" wireless transmission for laptops in the school.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
5 - Good	2001	15	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D5030.05 Public Address and Music Systems\*\***

A Voice Processing Unit was added to the telephone system to perform public address functions accessible from telephone sets. A CD player plays the nation anthem through the telephone. Ceiling loudspeakers throughout the school remain from 1986.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	2004	25	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace Public Address System (Headend Equipment and Field Devices)**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2029	\$40,000	Unassigned

**Updated:** MAR-10

**D5030.06 Television Systems\***

Portables television sets with DVD and VHS players are still available although they are seldom used - replaced by the Smart Boards.

There is no television cable distribution system in the school.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1986	20	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**D5090.02 Packaged Engine Generator Systems (Emergency Power System)\*\***

The emergency power system is provided by a natural gas fueled, radiator cooled, engine generator set manufactured by Kohler, located in the Mechanical Room. It is rated 15 kW, 120/208V, 3 phase, 4 wire with a 70A line breaker at the output. The automatic transfer switch is a 100A Robonic Switch by Westinghouse.

The emergency panel is a branch circuit panelboard, 225A, 120/208V, 3 phase 4 wire. Loads include emergency lighting, exit lights, safety and security communication systems and the heating and exhaust equipment.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1970	35	MAR-10
	<b><u>Capacity Size</u></b>	<b><u>Capacity Unit</u></b>	
	N/A	N/A	

**Event: Replace emergency generator set and transfer switch**

<b><u>Type</u></b>	<b><u>Year</u></b>	<b><u>Cost</u></b>	<b><u>Priority</u></b>
Lifecycle Replacement	2013	\$85,000	Unassigned

**Updated:** MAR-10



## S6 EQUIPMENT, FURNISHINGS AND SPECIAL CONSTRUCTION

### E1020.03 Theater and Stage Equipment\*

The stage which opens into the large gym is equipped with stage curtains and rails for lighting and scenery flats and back drops.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	25	MAR-10

### E1090.03 Food Service Equipment\*

There is a commercial kitchen adjacent to both gyms equipped with: gas range, stainless steel wash area, fridge, stainless steel sinks. There is also a dry chemical fire suppression system. The food laboratory consists of 4 U-shaped work areas with plastic laminate counter, upper and lower cabinets. The work areas are equipped with 4 ranges, 5 microwave ovens, hob, wall oven and fridge.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	25	MAR-10

### E1090.07 Athletic, Recreational, and Therapeutic Equipment\*

The gyms are equipped with floor lines for various games, retractable basket ball hoops and back boards, dividing curtain in the large gym and a bleachers system. The 1986 renovations project introduced amenities for challenged students which includes a physical activity room with 6 ceiling hooks to which slings are attached to facilitate exercises.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1986	15	MAR-10

**E2010.02 Fixed Casework\*\***

There is fixed casework throughout the school in class rooms and teaching areas. Typically there are built in wood cabinets or shelves in class rooms with a plastic laminate counter and a sink in most locations. In addition to this there is a plastic laminate control desk in the library.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	35	MAR-10

**Event: Repair 100m fixed case work**

**Concern:**

There are sections of fixed casework in class rooms throughout the school which are damaged and require repair.

**Recommendation:**

Repair damaged fixed casework.

**Consequences of Deferral:**

Casework will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Repair	2010	\$50,000	Medium

**Updated:** MAR-10

**Event: Replace casework (8577gfa)**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$860,000	Unassigned

**Updated:** MAR-10

**E2010.03.01 Blinds\*\***

There is a mix of vertical fabric blinds, Venetian blinds, roller blinds and horizontal blinds integral to the glazing system.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1969	30	MAR-10

**Event: Replace 500m2 blinds**

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2013	\$50,000	Unassigned

**Updated:** MAR-10

**F1010.02.04 Portable and Mobile Buildings - 1989**

Two portable class rooms of wood construction were installed in 1989: wood floor joists spanning built up wood beams; piles; 50mm x 150mm wood stud walls with poly vapour barrier, fibre glass batt insulation; wood roof joists spanning stud walls and steel beams centred on the class rooms; built up roof with gravel; pea gravel stucco exterior finish; aluminum windows with hopper openers; wood stairs to each class room; wood ramp to access corridor. Interior finishes: vinyl covered gypsum board walls; vinyl tile floors; acoustic Tee bar ceiling; steel doors in pressed steel frames.

**Electrical:**

A 225A, 120/208V, 3 phase branch circuit panel board (Commander), located in the corridor, serves the two portable classrooms, each having its own 125A, 120/240V, single phase, 3 wire Loadcenter (commander). Emergency lighting battery packs with integral lighting heads by Lumacell in the corridor of the portable classrooms.

**Mechanical:**

Each class room is equipped with a stand alone natural gas fired ClimateMaster ZQM100 furnace rated at 100,000 btuh input. Natural gas is provided via a gas main located on the roofs. The Units are original installed in 1989.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1989	30	MAR-10

**Event: Repalce building envelope**

**Recommendation:**

Estimate is based on two class rooms with a total gross area of 200m2 and a building envelope cost of \$500 per m2.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2019	\$100,000	Unassigned

**Updated:** MAR-10

**Event: Replace building interiors**

**Recommendation:**

Estimate is based on two class rooms with a total gross area of 200m2 and an interior building cost of \$110 per m2.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2019	\$22,000	Unassigned

**Updated:** MAR-10

**Event: Replace electrical systems**

**Recommendation:**

Estimate is based on two class rooms with a total gross area of 200m2 and an electrical systems cost of \$95 per m2.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2019	\$19,000	Unassigned

**Updated:** MAR-10

**Event: Replace mechanical systems**

**Recommendation:**

Estimate is based on two class rooms with a total gross area of 200m2 and a mechanical systems cost of \$100 per m2.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2019	\$20,000	Unassigned

**Updated:** MAR-10

**F1010.02.04 Portable and Mobile Buildings\*\* 1985**

Four portable class rooms were installed in 1985 with wood construction: wood floor joists spanning built up wood beams; steel screw piles; wood roof joists spanning exterior stud walls and a glulam beam centred in the class rooms; 50mm x 150mm wood stud walls with batt insulation and poly vapour barrier; pea gravel stucco exterior finish; built up roofs with gravel finish; wood stairs and wood ramps exterior access; aluminum windows with hopper openers. Interior finishes: vinyl covered gypsum wall board; vinyl tile floor; textured ceiling; painted steel doors in pressed steel frame.

**Electrical:**

A 3 phase branch circuit panelboard (FPE), 225A, 120/208V, in the corridor of the portables serves as distribution centre to the 4 portable classrooms, each having its own 125A, 120/240V, single phase, 3 wire Loadcenter (FPE), with 30A main breaker. Emergency lighting battery packs with integral lighting heads by Lumacell in the corridor.

**Mechanical:**

Each class room is equipped with a stand alone natural gas fired FlameMaster EM135-CF furnace rated at 121,500 btuh input. Natural gas is provided via a gas main located on the roofs. The units are original installed in 1985.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1985	30	MAR-10

**Event: Replace building envelope**

**Recommendation:**

Estimate is based on 4 portable class class rooms with a total gross area of 450m2 and a cost for the building envelope of \$500 per m2.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2015	\$225,000	Unassigned

**Updated:** MAR-10

**Event: Replace building interiors**

**Recommendation:**

Estimate is based on 4 portable class class rooms with a total gross area of 450m2 and a cost for the building interior \$110 of \$500 per m2.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2015	\$50,000	Unassigned

**Updated:** MAR-10

**Event: Replace electrical systems**

**Recommendation:**

Estimate is based on 4 portable class class rooms with a total gross area of 450m2 and a cost for the electrical systems of \$95 per m2.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2015	\$44,000	Unassigned

**Updated:** MAR-10

**Event: Replace floor tiles**

**Concern:**

The vinyl floor tiles are damaged, appear unsightly and require replacement.  
The ply wood ramp is delaminating and requires replacement.

**Recommendation:**

Replace floor tiles and plywood on ramp.

Tile replacement:	\$10,000
Plywood replacement:	\$2,000
<b>Total</b>	<b>\$12,000</b>

**Consequences of Deferral:**

Tiles and ramp will deteriorate further.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Failure Replacement	2010	\$12,000	Low

**Updated:** MAR-10

**Event: Replace mechanical systems**

**Recommendation:**

Estimate is based on 4 portable class class rooms with a total gross area of 450m2 and a cost for the mechanical systems of \$100 per m2.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2015	\$45,000	Unassigned

**Updated:** MAR-10

**F1040.06 Other Special Facilities\***

The 1986 renovation project provided amenities for challenged students with offices for occupational therapy, physical therapy, life skills (kitchen) area; barrier free toilets with plastic curtain dividers for ease of maneuver; transfer beam with sling to move students from stretcher to change table.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
5 - Good	1986	50	MAR-10

**F2020.01 Asbestos\***

A May 2004 consultant hazardous materials report indicated that asbestos is present throughout the school in floor leveling compound, vinyl tiles in the main office area, boiler insulation, textured ceilings, boards in fume hood and incandescent backing paper. The report proposed to manage the asbestos in place and recommended that in the event that asbestos containing materials were to be disturbed due to building operations they should be removed following low to high risk procedures depending on the material.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	0	MAR-10

**F2020.04 Mould\***

The 2004 consultant hazardous materials report indicated that no mould had been identified. There was no mould observed or reported during the building audit.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	0	MAR-10

**F2020.09 Other Hazardous Materials\***

Other hazardous materials identified in the 2004 consultant hazardous materials report were smoke detectors containing radioactive compounds and mercury containing thermostats. The report recommended managing these materials in place and only removing them if required by building operations and disposing of them appropriately.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	0	MAR-10

**S8 FUNCTIONAL ASSESSMENT****K4010.01 Barrier Free Route: Parking to Entrance\***

The route from the parking lot to the main entrance is barrier free.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	0	MAR-10

**K4010.02 Barrier Free Entrances\***

There are automatic door openers at the main entrance and other entrances.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	0	MAR-10

**K4010.03 Barrier Free Interior Circulation\***

Only the mezzanine floors are not barrier free and not accessible. The requirement for barrier free access to these areas is unlikely.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
4 - Acceptable	1969	0	MAR-10

**K4010.04 Barrier Free Washrooms\***

Barrier free wash rooms were developed in the 1986 renovation and addition project.

<b><u>Rating</u></b>	<b><u>Installed</u></b>	<b><u>Design Life</u></b>	<b><u>Updated</u></b>
5 - Good	1969	0	MAR-10