

RECAPP Facility Evaluation Report

Edmonton School District No. 7



Greenfield School

B3138A
Edmonton

Facility Details

Building Name: Greenfield School
Address: 3735 - 114 Street
Location: Edmonton

Building Id: B3138A
Gross Area (sq. m): 4,145.80
Replacement Cost: \$11,636,000
Construction Year: 1968

Evaluation Details

Evaluation Company: HENOCH ARCHITECT
Evaluation Date: October 3 2011
Evaluator Name: J.Henoch, AAA, MRAIC

Total Maintenance Events Next 5 years: **\$2,064,600**
5 year Facility Condition Index (FCI): **17.74%**

General Summary:

This is a single story, brick clad building with a flat roof originally constructed in 1968. An addition was built at the north end of the school in 1971 bringing its total area to 4,146 square meters.

The school includes Kindergarten to Grade 6 and has a capacity of approximately 500 with a current enrolment of 483

Structural Summary:

Concrete slab on grade with concrete foundation walls on strip footings.

Load bearing concrete block walls supporting glulam beams carrying a wood roof deck.

Structurally, the facility is in acceptable condition.

Envelope Summary:

Brick veneer on both concrete block and steel stud back-up with either rigid or batt insulation. In addition, small portions of the walls are clad in either cement stucco, vertical t & g wood or prefinished steel.

The roof membrane is a modified bituminous SBS with drainage to interior drains except at penthouses and on the music room roof where drainage is to scuppers and downspouts.

Windows are aluminum, double glazed, sealed awning style units. Exterior doors are solid wood units with and without glazing. Frames are a combination of wood and metal.

The envelope is in acceptable condition.

Interior Summary:

Interior floor finishes include carpet and vinyl composite tile. Washrooms have ceramic tile and the gymnasium and stage have hardwood flooring. The mechanical and utility rooms typically have a painted concrete floor finish.

Interior ceiling finishes are generally exposed wood roof deck from which is suspended a wooden grid or, in the 1971 Section, a suspended t-bar and acoustic tile system. Washroom ceilings generally have a painted gypsum board finish.

Interior wall finishes are generally painted concrete block, painted gypsum board, vinyl or ceramic tiles in the washrooms.

The interior systems are in acceptable condition.

Mechanical Summary:

Two (2) hot water heating boilers provide heating for the school. Hot water is supplied to finned radiation in cabinets, convectors, fan cabinet heaters, duct mounted heating coils and hot water coils in all ventilation units. Heating and ventilation is provided with four heating and ventilating units. Air distribution ductwork is predominantly overhead with some under floor ductwork in both sections. Plumbing consists of conventional plumbing fixtures with flush tank operated water closets, flushometer operated urinals and predominantly stainless steel vanities with push button operation. Domestic hot water is provided with a single gas fired water heater. Heating and ventilating systems are controlled with pneumatic operators and thermostats interfaced with a DDC system. A wet standpipe system supplies water to the two fire hose cabinets in the gymnasium. The other areas are protected with chemical hand extinguishers.

Issues of importance which need to be addressed are: (a) the heating and ventilation systems, specifically in the 1968 section, (b) installing a backflow prevention device in the domestic water line and (c) replacing the domestic water heater.

The mechanical system is in acceptable condition.

Electrical Summary:

Service is 600A, 120/208V, 3 phase, 4 wire from a pad mounted transformer to the 600A, 120/208V circuit breaker type Service and Distribution Switchboard and distributed to branch circuit panelboards throughout the building. Stand alone magnetic and manual starters are used for the control of motors. Emergency power is derived from a 5 kW natural gas generator, serving emergency lights only.

Lighting is predominantly fluorescent of the electronic ballasts and T8 lamp type, converted in 2004. Exit lights have been converted to LED lamps. Emergency lighting is provided by incandescent lights in the corridors and entrances locations and will come on with the generator. Exterior lighting consists of wall and under canopy mounted high pressure sodium lights photoelectric cell and time clock controlled.

The fire alarm system is a hard wired system with audio only signaling devices. An intrusion alarm system uses passive infrared motion sensors throughout. Communication systems include telephone, public address, cable television, local area network with WiFi and FM classroom sound system.

The overall condition of the electrical systems is acceptable.

| Rating Guide | |
|-------------------------|---|
| Condition Rating | Performance |
| 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***

Concrete foundation walls on strip footings.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

A1030 Slab on Grade*

Concrete slab on grade throughout.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

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

Concrete block structural walls.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

B1010.03 Floor Decks, Slabs, and Toppings*

The stage floor is of exposed wood construction with the underside used as a storage space.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 2 - Poor | 1968 | 0 | MAR-12 |

Event: Install Fire Barrier to Underside of Stage - (75m2)**Concern:**

Being a storage space the underside of the stage is required to be separated from combustible materials and to have heat/smoke detectors.

Recommendation:

Install gypsum board to the underside of the stage and install required heat/smoke detectors.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|--------------|-------------|-------------|-----------------|
| Code Upgrade | 2012 | \$12,000 | High |

Updated: MAR-12

B1020.01 Roof Structural Frame*

Glu-lam beams.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

B1020.04 Canopies*

A wood post and beam structural frame supports canopies at the main entry and at the rear of the building.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

S2 ENVELOPE**B2010.01.02.01 Brick Masonry: Ext. Wall Skin***

The majority of the facility is clad with clay brick veneer.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | JAN-07 |

B2010.01.06.03 Metal Siding**

Prefinished, vertical metal siding on portions of the exterior walls and on fascias.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 40 | MAR-12 |

Event: Replace Steel Siding - (800m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$200,000 | Unassigned |

Updated: MAR-12

B2010.01.06.04 Wood Siding**

Vertical t & g wood cladding over doors and windows.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 3 - Marginal | 1998 | 40 | MAR-12 |

Event: Replace Wood Siding - (40m2)**Concern:**

The t & g siding is cracked, buckled and has areas of decay.

Recommendation:

Replace the wood siding.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|---------------------|-------------|-------------|-----------------|
| Failure Replacement | 2012 | \$5,000 | Medium |

Updated: MAR-12

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

Portions of the exterior wall have stucco cladding.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

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

Sealant at perimeter of wall openings.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1985 | 20 | MAR-12 |

Event: Replace Joint Sealers - (120m)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$3,600 | Unassigned |

Updated: MAR-12**B2010.01.13 Paints (& Stains): Ext. Wall****

Paint finish on stucco and wood cladding.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1998 | 15 | MAR-12 |

Event: Repaint Stucco and Wood Cladding - (200m2)

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

Updated: MAR-12**B2010.02.03 Masonry Units: Ext. Wall Const.* 1968 Section**

Concrete block back-up for brick cladding.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

B2010.02.05 Wood Framing: Ext. Wall Const.* 1971 Section

Wood stud back-up for brick cladding or stucco.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1971 | 0 | MAR-12 |

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

Mastic air/vapour barrier on concrete block assumed, with rigid insulation in the cavity and below grade.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

B2010.03 Exterior Wall Vapour Retarders, Air Barriers, and Insulation* - Mechanical Penthouses

Batt insulation in the (wood) stud space with a polyethelene air/vapour retarder exposed to the room

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 2 - Poor | 0 | 0 | MAR-12 |

Event: Install Fire Barrier (40m2)**Concern:**

The batt insulaton in the stud spaced must be protected on the interior by a gypsum board or similar fire barrier.

Recommendation:

Install a gypsum board or similar approved fire barrier over the batt insulation.

(Cost includes temporary relocation of mechanical equipment or reconfiguration of the wall assembly)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|--------------|-------------|-------------|-----------------|
| Code Upgrade | 2012 | \$24,000 | High |

Updated: MAR-12

Event: Investigate Fire Protection Options**Concern:**

The batt insulaton in the stud spaced must be protected on the interior by a gypsum board or similar fire barrier.

Recommendation:

Retain an architect to assess fire protection requirements for the mechanical penthouses and to assess options for upgrade.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-------------|-------------|-------------|-----------------|
| Study | 2012 | \$3,500 | High |

Updated: MAR-12

B2010.09 Exterior Soffits*

Painted underside of t & g roof deck.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

B2020.01.01.02 Aluminum Windows (Glass & Frame) - 1968 Section**

Aluminum windows with sealed glazing in fixed and awning type sashes.
Several sealed units have defective seals. These should be replaced to restore insulation values and visibility.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 40 | MAR-12 |

Event: Replace Aluminum Windows - (11m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$12,000 | Unassigned |

Updated: MAR-12

B2020.01.01.06 Vinyl, Fibreglass & Plastic Windows**

Sealed units in vinyl frames in rooms 19, 20, 28.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1994 | 40 | MAR-12 |

Event: Replace Windows - (8m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2034 | \$8,000 | Unassigned |

Updated: MAR-12

B2030.01.01 Aluminum-Framed Storefronts: Doors - 1968 and 1971**

Aluminum frame with wood doors and sealed unit sidelight in classrooms and at courtyard with t & g wood infill panels.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1971 | 30 | MAR-12 |

Event: Replace Aluminum Storefront - (48m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$58,000 | Unassigned |

Updated: MAR-12

B2030.01.10 Wood Entrance Door**

Typical entrance doors are painted wood with single, wired glazing in steel frames.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 30 | MAR-12 |

Event: Replace Entrance Doors - (12m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$24,000 | Unassigned |

Updated: MAR-12

B2030.02 Exterior Utility Doors**

Wood doors in steel frames.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 40 | MAR-12 |

Event: Replace Utility Doors - (9)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$17,000 | Unassigned |

Updated: MAR-12

B3010.01 Deck Vapour Retarder and Insulation*

SBS vapour retarder, rigid insulation assumed.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 5 - Good | 2005 | 0 | MAR-12 |

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

SBS roofing throughout.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 5 - Good | 2005 | 25 | MAR-12 |

Event: Replace Roofing - (5100m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2030 | \$770,000 | Unassigned |

Updated: MAR-12

B3010.08.02 Metal Gutters and Downspouts**

Prefinished metal downspouts at mechanical penthouses.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 5 - Good | 1998 | 30 | MAR-12 |

Event: Replace Downspouts - (12m)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2028 | \$2,000 | Unassigned |

Updated: MAR-12

S3 INTERIOR**C1010.01 Interior Fixed Partitions* Concrete Block**

Painted concrete block partitions.

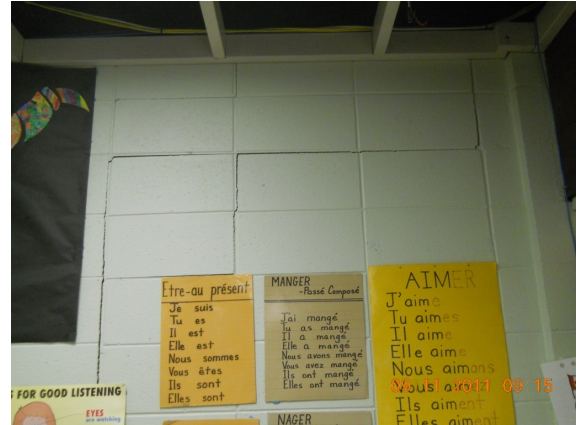
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

Event: Repair Wall Cracks (20m)**Concern:**

Due to shifting of the structure there are numerous locations where mortar joints in the concrete block walls have opened. This is unsightly and site personnel indicate that in some locations the voids have extend entirely through the wall. There is evidence that patch repairs are done regularly and this practice should be continued and combined with possible major local structural upgrades if the movement becomes excessive.

Recommendation:

Patch and paint portions of block walls exhibiting the worst cracks.



CRACKED MASONRY - ROOM 11

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-------------|-------------|-------------|-----------------|
| Repair | 2012 | \$1,000 | Medium |

Updated: MAR-12

C1010.01 Interior Fixed Partitions* Wood Stud

Some partitions are of wood stud construction.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

C1010.02 Interior Demountable Partitions*

Vinyl covered demountable partitions in some classrooms.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

C1010.03 Interior Operable Folding Panel Partitions**

The Gymnasium has a full height, chain and pulley operated, folding panel partition.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 30 | MAR-12 |

Event: Replace Folding Partition - (196m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$130,000 | Unassigned |

Updated: MAR-12

C1010.05 Interior Windows*

Fixed glass in both wood and aluminum frames.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 2005 | 0 | MAR-12 |

C1010.07 Interior Partition Firestopping*

There are numerous locations where pipe and conduit penetrations through walls have not been properly firestopped.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 3 - Marginal | 1968 | 0 | MAR-12 |

Event: Install Firestopping at Wall Penetrations (60)**Concern:**

There are numerous locations where pipe and conduit penetrations through walls have not been properly firestopped.

Recommendation:

Install firestopping where pipes and conduit penetrate required separations.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|--------------|-------------|-------------|-----------------|
| Code Upgrade | 2012 | \$3,000 | High |

Updated: MAR-12

C1020.01 Interior Swinging Doors (& Hardware)*

Wood doors, some with glazing, in steel frames.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

C1020.03 Interior Fire Doors*

Rated and labeled steel fire doors in steel frames.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

C1020.04 Interior Sliding and Folding Doors*

Wood sliding and bi-fold closet doors.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 2005 | 0 | MAR-12 |

C1030.01 Visual Display Boards**

White boards and tack boards in the classrooms.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 2007 | 20 | MAR-12 |

Event: Replace Whiteboards (165m2) and Tack Boards (165m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2027 | \$32,000 | Unassigned |

Updated: MAR-12

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

Toilet partitions are prefinished, hollow metal construction.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1991 | 30 | MAR-12 |

Event: Replace Toilets Partitions - (25 stalls)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2021 | \$32,000 | Unassigned |

Updated: MAR-12

C1030.08 Interior Identifying Devices*

Door mounted embossed acrylic signs.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1998 | 0 | MAR-12 |

C1030.12 Storage Shelving*

Plywood shelving in storage rooms.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

C1030.14 Toilet, Bath, and Laundry Accessories*

Paper and soap dispensers, mirrors, grab bars.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1991 | 0 | MAR-12 |

C2010 Stair Construction*

Metal access ladder with safety cage provides access to a penthouse. Wood and concrete steps to gymnasium and stage.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

C2020.05 Resilient Stair Finishes**

Vinyl tiles on stair to gymnasium, and rubber treads on stairs to the stage.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 5 - Good | 2005 | 20 | MAR-12 |

Event: Replace Stair Finishes - (15 treads)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2025 | \$1,500 | Unassigned |

Updated: MAR-12

C2020.08 Stair Railings and Balustrades*

Rubber clad steel handrails at stairs.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 5 - Good | 1968 | 0 | MAR-12 |

C3010.06 Tile Wall Finishes**

Ceramic wall tiles in washrooms.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 40 | MAR-12 |

Event: Replace wall tiles (130m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$33,000 | Unassigned |

Updated: MAR-12

C3010.09 Acoustical Wall Treatment**

Wood and fabric acoustic panels in the gymnasium.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 20 | MAR-12 |

Event: Replace Acoustic Wall Panels - (60m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$13,000 | Unassigned |

Updated: MAR-12

C3010.11 Interior Wall Painting*

Gypsum board walls in the 1968 Section are painted.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1998 | 0 | MAR-12 |

Event: Repaint Door Frames, Doors and Millwork**Concern:**

The paint on doors and frames in heavy traffic areas as well as painted millwork and convector covers is worn, marred and unsightly.

Recommendation:

Paint doors and frames, millwork and convector covers where the finish has deteriorated.

Cost estimate based on 50 doors and 130m2 of millwork etc.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|---------------------|-------------|-------------|-----------------|
| Failure Replacement | 2012 | \$6,000 | High |

Updated: MAR-12

C3010.12 Wall Coverings*

Vinyl wall covering on all walls in the 1971 Section.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1971 | 0 | MAR-12 |

C3020.01.01 Epoxy Concrete Floor Finishes*

The student washrooms in the 1971 Section have an epoxy floor finish.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1971 | 0 | MAR-12 |

C3020.01.02 Painted Concrete Floor Finishes*

Painted concrete floors in mechanical and utility rooms.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

C3020.02 Tile Floor Finishes**

Ceramic floor tiles in washrooms and portions of corridors.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 5 - Good | 1998 | 50 | MAR-12 |

Event: Replace Floor Tile - (115m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2048 | \$20,000 | Unassigned |

Updated: MAR-12

C3020.02 Tile Floor Finishes Corridors**

Vinyl composite tiles in main corridors.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 5 - Good | 2005 | 50 | MAR-12 |

Event: Replace Vinyl Floor Tile - (790m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2055 | \$40,000 | Unassigned |

Updated: MAR-12

C3020.04 Wood Flooring**

Hardwood floor in the gymnasium and on the stage.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 5 - Good | 1993 | 30 | MAR-12 |

Event: Replace Wood Flooring - (435m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2023 | \$110,000 | Unassigned |

Updated: MAR-12

C3020.07 Resilient Flooring 1968 and 1971**

Both 9"x9" and 12"x12" vinyl tiles (some with a minor amount of asbestos) are used throughout.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 20 | MAR-12 |

Event: Replace Vinyl Floor Tiles - (1300m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$65,000 | Unassigned |

Updated: MAR-12

Event: Replace Vinyl Tile - (21m2)**Concern:**

The VCT floor tile in the fan room, (27) is worn.

Recommendation:

Replace the vinyl flooring in fan room 27.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|---------------------|-------------|-------------|-----------------|
| Failure Replacement | 2013 | \$1,500 | Low |

Updated: MAR-12

C3020.08 Carpet Flooring**

Carpet in some classrooms, Administration areas and Library.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1981 | 15 | MAR-12 |

Event: Replace Carpet (1670m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$110,000 | Unassigned |

Updated: MAR-12

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

The 1971 Section and corridors of the 1968 Section have suspended acoustic tile ceilings.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1971 | 25 | MAR-12 |

Event: Replace accoustic ceiling (1500m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$70,000 | Unassigned |

Updated: MAR-12

C3030.07 Interior Ceiling Painting*

Portions of the underside of the roof deck and drywall ceilings are painted.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1998 | 0 | MAR-12 |

C3030.09 Other Ceiling Finishes*

Much of the 1968 Section has a 600mm x 600mm timber grid suspended below the exposed wood roof deck.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |



Greenfield_0105.JPG

Event: Replace Ceiling Grid With Acoustic Tile - (2800m2)

Concern:

Site personnel report that the grid is a major maintenance problem because of the difficulty in keeping it dust free.

Recommendation:

Remove existing wood grid ceiling and install new suspended acoustic tile ceiling in the 1968 portion of the school to match the 1971 addition.

(This may also assist in proposed mechanical upgrading.)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|------------------------------|-------------|-------------|-----------------|
| Operating Efficiency Upgrade | 2014 | \$184,000 | Low |

Updated: MAR-12

S4 MECHANICAL

D2010.04 Sinks**-1968 and 1971

Twenty-one (21) sinks are stainless steel counter mounted with swing spout faucets and bubblers and two (2) are similar except without bubblers. Three (3) mop sinks are cast in place concrete and one (1) is precast floor mounted. Except for the mop sink in the northeast custodian's room all have plumbing brass with vacuum breakers.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 3 - Marginal | 1969 | 30 | MAR-12 |

Event: Install Vacuum Breaker-(1)

Concern:

The absence of the vacuum breaker in the water supplies could cause water back siphoning into the domestic water system.

Recommendation:

Install a vacuum breaker on the water faucet or replace the faucet with an approved back flow prevention device.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|--------------|-------------|-------------|-----------------|
| Code Upgrade | 2012 | \$1,200 | High |

Updated: MAR-12

Event: Replace Sinks-(27)

Recommendation:

Replacement costs for sinks are as follows:

Stainless steel counter sinks with bubblers: ----- 21@
 \$3,000 = \$63,000
 Stainless steel counter sinks without bubblers: ---- 2@
 \$1,400 = \$ 2,800
 Precast service sinks: ----- 4@ \$2,300
 = \$ 9,200
 Total -----
 --- \$75,000

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$75,000 | Unassigned |

Updated: MAR-12

D2010.08 Drinking Fountains/Coolers-1968 Section**

Drinking fountains are wall mounted vitreous china.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 35 | MAR-12 |

Event: Replace Drinking Fountains-(3)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$4,600 | Unassigned |

Updated: MAR-12

D2010.10 Washroom Fixtures (WC, Lav, Urnl)-1968 and 1971**

Urinals are vitreous china, stall type with flushometers.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 35 | MAR-12 |

Event: Replace Urinals-(10)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$18,000 | Unassigned |

Updated: MAR-12

D2010.10 Washroom Fixtures (WC, Lav, Urnl)-1968 and 1971**

Twenty-four (24) stainless steel vanities with push button faucets are counter mounted. Two (2) vitreous china lavatories are counter mounted and one (1) is wall mounted. All three china sinks have push button faucets.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 5 - Good | 1969 | 35 | MAR-12 |

Event: Replace Lavatories-(27)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$51,300 | Unassigned |

Updated: MAR-12

D2010.10 Washroom Fixtures (WC, Lav, Urnl)-1968 and 1971**

Water closets are vitreous china, floor mounted, tank type.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 35 | MAR-12 |

Event: Replace Water Closets-(26)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$46,800 | Unassigned |

Updated: MAR-12

D2020.01.01 Pipes and Tubes: Domestic Water*-1968 and 1971

Domestic water piping is copper.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 0 | MAR-12 |

D2020.01.02 Valves: Domestic Water-1968 and 1971**

Domestic water valves are bronze globe and gate valves.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 40 | MAR-12 |

Event: Replace Domestic Water Valves**Recommendation:**

10---- 50mm @ \$1,100 = \$11,000
 2---- 38mm @ \$ 800 = \$1,600
 6---- 32mm @ \$700 = \$4,200
 5---- 18mm @ \$150 = \$750
 150-- 13mm @ \$ 30 = \$4,500

Total= \$22,050

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$22,000 | Unassigned |

Updated: MAR-12

D2020.01.03 Piping Specialties (Backflow Preventers)-1968 Section**

There are two (2) backflow prevention devices. A 50mm backflow prevention device was installed in the fire line 1999 and a common 19mm device was installed in the makeup feed water for the two (2) boilers in 1994.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 2 - Poor | 1997 | 20 | MAR-12 |

Event: Install a Backflow Preventor in Domestic Water Line-(1)**Concern:**

There is no backflow prevention device in the domestic water line. Contaminated water could be siphoned into the domestic water system.

Recommendation:

Install a backflow prevention device in the domestic water line.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|--------------|-------------|-------------|-----------------|
| Code Upgrade | 2012 | \$3,000 | High |

Updated: MAR-12

Event: Repair Backflow Prevention Device-(1)**Concern:**

One port in the 50mm backflow prevention device is faulty.

Recommendation:

Repair the faulty port.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-------------|-------------|-------------|-----------------|
| Repair | 2012 | \$1,200 | High |

Updated: MAR-12

Event: Replace Backflow Prevention Devices-(2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2017 | \$6,500 | Unassigned |

Updated: MAR-12

D2020.02.02 Plumbing Pumps: Domestic Water-1968 Section**

A bronze body inline water circulation pump circulates the domestic water from the distribution extremities back to the water heater. It is estimated that this pump was replaced in 2007.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 2007 | 20 | MAR-12 |

Event: Replace Domestic Water Recirculation Pump-(1)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2027 | \$1,700 | Unassigned |

Updated: MAR-12

D2020.02.06 Domestic Water Heaters-1968 Section**

The domestic water heater is a John Wood Model 50S36 FV-04. It is natural gas fired and has an input of 11.7 kW and a water storage capacity of 189 liters.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 2 - Poor | 2010 | 20 | MAR-12 |

Event: Replace DHW Heater-(1)**Concern:**

This water heater has had frequent ignition failures and does not perform adequately. There is considerable flaking from the glass lined heater tank.

Recommendation:

Replace the domestic water heater.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|---------------------|-------------|-------------|-----------------|
| Failure Replacement | 2012 | \$2,300 | High |

Updated: MAR-12

D2020.03 Water Supply Insulation: Domestic*1968 and 1971

Domestic water supply piping is insulated with fibreglass piping insulation c/w jacket cover. Insulation is not applied around the meter. This should be done to prevent condensation forming on the cold water piping.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 0 | MAR-12 |

D2030.01 Waste and Vent Piping*-1968 and 1971

Sanitary sewer and vent piping consists of cast iron and copper piping.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 0 | MAR-12 |

D2030.02.04 Floor Drains*-1968 and 1971

Floor drains have cast iron bodies and cast iron strainers in mechanical rooms. In public areas they have cast iron bodies and nickel bronze strainers.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------------|-------------------------|---------------------------|-----------------------|
| 4 - Acceptable | 1969 | 0 | MAR-12 |

D2040.01 Rain Water Drainage Piping Systems*-1968 and 1971

Rain water collecting on the roof is drained from the roof with roof hoppers and rain water leaders into an underground storm sewer system. Sloping roofs have roof gutters and sheet metal rain water leaders discharging into a cast iron hub above grade. These hubs connect into the storm water drainage system.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------------|-------------------------|---------------------------|-----------------------|
| 4 - Acceptable | 1969 | 0 | MAR-12 |

D2040.02.04 Roof Drains*-1968 and 1971

Roof drains have cast iron bodies and cast aluminum dome strainers.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------------|-------------------------|---------------------------|-----------------------|
| 4 - Acceptable | 1969 | 0 | MAR-12 |

D3010.02 Gas Supply Systems*-1968 Section

Natural gas is reduced in pressure and regulated before being metered . From the downstream side of the meter, gas is supplied to gas fired equipment with carbon steel pipe and welded joints.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------------|-------------------------|---------------------------|-----------------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

D3020.02.01 Heating Boilers and Accessories: H.W.-1968 Section**

There are two (2) cast iron natural gas fired boilers, Peerless Model 210-13-W. Each boiler has an input of 738.6 kW., is equipped with a pressure relief valve and a low water fuel cutoff. A common backflow prevention device is installed in the common feed waterline for the boilers. The boiler was last inspected by ABSA on June 09, 2010. The insulation on the boiler breeching which is located between and above the boilers has carbon build up.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 3 - Marginal | 1968 | 35 | MAR-12 |

Event: Investigate & Repair Carbon Forming on Breeching**Concern:**

There is carbon forming on the breeching indicating a possible combustion problem.

Recommendation:

Analyzed the fuel gasses and if necessary, adjust the fuel/air ratio for maximum efficiency.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|--------------------------|-------------|-------------|-----------------|
| Preventative Maintenance | 2012 | \$1,200 | Low |

Updated: MAR-12

Event: Replace Hot Water Heating Boilers-(2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$102,300 | Unassigned |

Updated: MAR-12

D3020.02.02 Chimneys (& Comb. Air): H.W. Boiler-1968 Section**

The boilers are vented into a masonry chimney with a common breeching. Combustion air for the natural gas burning appliances is provided with an insulated galvanized sheet metal duct that brings outdoor into the boiler room. The combustion air duct terminates in an arctic trap.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 35 | MAR-12 |

Event: Replace Breeching & Comb. Air**Recommendation:**

The replacement cost for the boiler breeching and combustion air system is based on the following:

Boiler breeching length of 5 meters and combustion air duct length of 5 meters.

Cost is \$620 per meter length.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$6,200 | Unassigned |

Updated: MAR-12

D3020.02.03 Water Treatment: H. W. Boiler*-1968 Section

A pot feeder is installed in the heating system water lines for adding chemicals.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

D3040.01.01 Air Handling Units: Air Distribution-1968 and 1971**

Three (3) Recold Model AHB-200 air handling units serving the 1968 section are located in separate penthouses. Each of these air handling units is driven with a 3.73 kW motor. A fan room on the main floor is located at the north east corner of the school adjacent to the south wall of the entrance to the 1971 section. This ventilation system consists of a Chicago Blower, double width, double inlet supply air fan driven with a 3.73 kW motor and a Chicago Blower, double width, double inlet return air fan driven with a 2.24 kW motor. All four (4) air handling systems have a heating coil, filters and dampers for introducing outdoor air and return air into the system. The air handling unit in the south penthouse is a multizone unit with six zones. The other three air handling units are single zone units.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------------|-------------------------|---------------------------|-----------------------|
| 3 - Marginal | 1968 | 30 | MAR-12 |

Event: Do a Study**Concern:**

The floor plan and classroom layout was changed from an open area classroom concept to the conventional classrooms in some areas. Ventilation in the interior classrooms does not provide satisfactory air quality. Common complaints are that occupants in these classrooms are tired and lethargic by the afternoon and space temperatures cannot be satisfactorily controlled. Lethargy and tiredness are indicators of high carbon dioxide levels. Noise levels are quite high in the classrooms below the penthouses, making it difficult for teachers to communicate with students. This is an indication of insufficient sound and vibration isolation from the fans in the penthouses. Other issues are, high maintenance costs for the ventilation equipment and unavailability of equipment parts.

Recommendation:

Do an engineering study to review the mechanical systems and provide recommendations with cost estimates to correct the present conditions.

Consequences of Deferral:

Continued problems with air flow and difficulty in temperature management.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|--------------------|--------------------|--------------------|------------------------|
| Study | 2012 | \$20,000 | High |

Updated: MAR-12

Event: Upgrade/Heating and Ventilating Systems**Concern:**

Originally, the 1968 section had the open area classroom concept. Later, partitions were added which did not entirely take into consideration the ventilation requirements for the realignment. Ceiling fans were later added to circulate air within the interior classrooms and the library to improve air quality. The three (3) heating and ventilating units located in the penthouses are mounted on spring isolators that are resting on wooden floors. These units transmit noise to spaces below which is objectionable for classroom teaching. Replacement parts for the ventilation units are becoming difficult to obtain, adding to the cost of maintaining the units.

Recommendation:

In accordance with the recommendations of the Study,

upgrade the heating and ventilating systems to acceptable standards.
 Cost estimate is based on replacement of 3 air handling units.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|----------------------------|-------------|-------------|-----------------|
| Indoor Air Quality Upgrade | 2013 | \$238,000 | High |

Updated: MAR-12

D3040.01.03 Air Cleaning Devices: Air Distribution*-1968 and 1971

All four air handling units have 50mm deep throw away panel filters. The air handling system in the 1971 section has a carbon filter in addition to the air filters. The carbon filter is for removal of odors, however it appears that it has not been used for some time.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 0 | MAR-12 |

D3040.01.04 Ducts: Air Distribution*-1968 and 1971

Air distribution is done with galvanized sheet metal ducts. Most of the air distribution ductwork is overhead, however, under floor ductwork is used in the music room and in most of the 1971 section. Ductwork should be inspected internally for dust and debris. If ductwork is unclean it should be cleaned by a reputable company specializing in this type of work.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 0 | MAR-12 |

D3040.01.07 Air Outlets & Inlets: Air Distribution*-1968 and 1971

The return air grills are metal egg crate style and are used in walls, ceilings and open end ducts.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

D3040.03.01 Hot Water Distribution Systems**

Hot water heating piping is carbon steel with screwed joints. Heating hot water is circulated with two belt driven floor mounted pumps. Some insulation is suspected of containing asbestos and will need to be abated if work is to be done on those parts of the system. HW circulation pumps are mounted on an unstable base.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 40 | MAR-12 |

Event: Failure Replacement pump flange gaskets

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|---------------------|-------------|-------------|-----------------|
| Failure Replacement | 2011 | \$5,120 | Unassigned |

Updated: JUL-11

Event: Replace Hot Water Heating Distribution- (\$93/sq.m.gfa)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$385,600 | Unassigned |

Updated: MAR-12

D3040.04.01 Fans: Exhaust-1968 and 1971**

There are five (5) roof mounted cabinet exhaust fans and one (1) aluminum dome exhaust fan.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 30 | MAR-12 |

Event: Replace Exhaust Fans-(6)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$12,600 | Unassigned |

Updated: MAR-12

D3040.04.03 Ducts: Exhaust*-1968 and 1971

Exhaust air ducts are made of galvanized sheet metal.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 0 | MAR-12 |

D3040.04.05 Air Outlets and Inlets: Exhaust*-1968 and 1971

Exhaust air grilles are mostly aluminum egg crate type. Louvers on wall outlets are made of steel with horizontal blades.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 0 | MAR-12 |

D3050.02 Air Coils-1968 and 1971**

Hot water heating coils are used in all four (4) air handling units. Zone heating coils are installed in supply air ducts for interior classrooms.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 30 | MAR-12 |

Event: Replace Air Coils-(22)**Recommendation:**

Estimated cost for replacing the air coils is as follows:

Heating coils for three (3) AHU's in the 1968 section: each coil 762mm x 2438mm at a cost of \$1,292/sq.m.= \$7,200

Heating coils for one (1) AHU in the 1971 section: each coil 1220mm x 1828mm at a cost of \$1,292/sq.m. = \$2,900

Sub Total = \$10,100

Allowing 100% of the materials cost for removal of existing coils and installing new coils amounts to a total of \$20,200

The estimated cost for eighteen (18) coils in the ductwork above the ceiling is \$800/coil for a total of \$14,400.

Due to the absence of engineering drawings, estimates were made as near as possible to arrive at a replacement cost. Some information was used from the previous report but the information was not verified.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2012 | \$34,600 | Unassigned |

Updated: MAR-12

D3050.03 Humidifiers-1968 and 1971**

Each of the air handling units in the 1968 section have evaporator pan humidifiers.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 2 - Poor | 1968 | 25 | MAR-12 |

Event: Replace Humidifiers-(4)**Concern:**

The existing humidifiers are severely oxidized, it appears they have not been used for some time. There is no humidifier in the 1971 section air handling unit. The absence of acceptable humidity levels in cold weather could contribute to spreading colds and viruses.

Recommendation:

Install a gas fired steam generator and replace the evaporator pan humidifiers with steam manifolds in the three (3) 1968 section air handling units. A steam manifold should also be installed in the 1971 section air handling unit.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|----------------------------|-------------|-------------|-----------------|
| Indoor Air Quality Upgrade | 2012 | \$18,500 | High |

Updated: MAR-12

D3050.05.01 Convectors-1968 and 1971**

Convectors are used in wash rooms with exterior walls, near entrances in some cases and in three (3) penthouses. They are mostly floor mounted.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 40 | MAR-12 |

Event: Replace Heating Convectors-(12)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$9,600 | Unassigned |

Updated: MAR-12

D3050.05.02 Fan Coil Units-1968 Section**

Floor mounted fan cabinet heaters are only located in the entrances of the 1968 section.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 30 | MAR-12 |

Event: Replace Fan Cabinet Heaters-(4)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$14,000 | Unassigned |

Updated: MAR-12

D3050.05.03 Finned Tube Radiation1968 and 1969**

Finned tube radiation is applied in rooms with exterior walls.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 40 | MAR-12 |

Event: Replace Finned Tube Radiation-(46.55/sq.m. gfa)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$193,000 | Unassigned |

Updated: MAR-12

D3050.05.06 Unit Heaters-1968 Section**

A horizontal unit heater is installed in the boiler room for heating the combustion air.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 30 | MAR-12 |

Event: Replace unit Heater-(1)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$7,000 | Unassigned |

Updated: MAR-12

D3050.05.07 Unit Ventilators-1971 Section**

A unit ventilator is installed in each of two (2) exterior classrooms.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1971 | 30 | MAR-12 |

Event: Replace Unit Ventilators-(2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$11,400 | Unassigned |

Updated: MAR-12

D3060.02.01 Electric and Electronic Controls-1968 Section**

Electric thermostats are used for controlling the fan operation on fan cabinet heaters, unit heaters and boiler controls, i.e. low water fuel cut off.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 30 | MAR-12 |

Event: Replace Electric Controls

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$4,200 | Unassigned |

Updated: MAR-12

D3060.02.02 Pneumatic Controls-1968 and 1971**

Pneumatic controls are used for thermostats, valve and damper actuators. They are interfaced with the BMS system.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1969 | 40 | MAR-12 |

Event: Replace Pneumatic Controls-(\$5.82/sq.m.gfa)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$24,200 | Unassigned |

Updated: MAR-12

D3060.02.05 Building Systems Controls (BMCS, EMCS)-1968 and 1971**

The BMCS is an Andover DDC system and is used to control the building mechanical systems remotely. The DDC system is connected to the existing pneumatic devices such as thermostats, pressure sensors, and damper actuators.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 5 - Good | 2000 | 20 | MAR-12 |

Event: Replace DDC System-(\$21.82/sq.m.gfa)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2020 | \$90,500 | Unassigned |

Updated: MAR-12

D4020 Standpipes*-1968 Section

A hose and standpipe system is provided for the gymnasium fire hose cabinets.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

D4030.01 Fire Extinguisher, Cabinets and Accessories*-1968 and 1971

Fire extinguishers are 2.27 kg type ABC dry chemical. They are located in corridor wall recesses. Inspection tags are up to date.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------------|-------------------------|---------------------------|-----------------------|
| 4 - Acceptable | 2005 | 0 | MAR-12 |

S5 ELECTRICAL**D5010.01.02 Main Electrical Transformers (Utility Owned)***

The pad mounted transformer, with guard rails on two sides, is located on the southeast part of the school property, approximately 20m outside the Electrical Room.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|----------------------|----------------------|----------------|
| 4 - Acceptable | 1968 | 40 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/a | N/A | |

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

The Service and Distribution Switchboard (by Westinghouse) is rated at 600A, 120/208V, 3 phase, 4 wire, with a 600A molded case, thermal magnetic main breaker and distribution breakers, also thermal magnetic, ranging 40A - 150A, except one 15A 2 pole breaker to the generator.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|----------------------|----------------------|----------------|
| 4 - Acceptable | 1968 | 40 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | 600A, 120/208V | N/A | |

Event: Replace Service and Distribution Switchboard

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$40,000 | Unassigned |

Updated: MAR-12

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

Branch circuit panelboards are 120/208V, 3 phase, 4 wire (by Eaton/Cutler Hammer), 72 circuit capacities (except one with 42) surface mounted panelboards, replacing an existing panel or adding to it.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|----------------------|----------------------|----------------|
| 5 - Good | 2008 | 30 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | Varies | N/A | |

Event: Replace Branch Circuit Panelboards (4)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2038 | \$18,000 | Unassigned |

Updated: MAR-12

D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution) - 1968 and 1971**

Branch circuit panelboards (Westinghouse) are 120/208V, 3 phase, 4 wire, rated 225A, 100A or 70A with 42, 30, 24, 18 or 12 circuit capacities except the emergency panel which is a 4 circuit, 120/240V, single phase panel.

A Stab-Lok Panel by FPE was added in the Boiler Room in 1980 - 100A, 120/208V, 3 phase, 4 wire, 24 circuits with a 60A main breaker.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 4 - Acceptable | 1969 | 30 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | Varies | N/A | |

Event: Replace Branch Circuit Panelboards (13)

| | | | |
|-----------------------|--------------------|--------------------|------------------------|
| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
| Lifecycle Replacement | 2015 | \$36,000 | Unassigned |

Updated: MAR-12

D5010.07.02 Motor Starters and Accessories - 1968 and 1971**

3 phase motors are controlled by magnetic starters or 3 phase manual starters while smaller single phase motors by toggle type manual starters.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 4 - Acceptable | 1969 | 30 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

Event: Replace Magnetic Starters (7), 3 Ph Manual Starters (6) and Single Ph Manual Starters (16)

| | | | |
|-----------------------|--------------------|--------------------|------------------------|
| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
| Lifecycle Replacement | 2015 | \$14,400 | Unassigned |

Updated: MAR-12

D5020.01 Electrical Branch Wiring*

The wiring method remains essentially cables in conduits, concealed in finished areas and surface mounted in utility areas. Pac-poles are used in recent installations, particularly in computer rooms, to bring wiring from the ceiling.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 4 - Acceptable | 1968 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5020.02.01 Lighting Accessories: Interior (Lighting Controls)*

The interior lighting system is locally controlled using line voltage switches. Group switching and central controls use low voltage.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 4 - Acceptable | 1968 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5020.02.02.01 Interior Incandescent Fixtures*

Various incandescent fixtures, with glass enclosures, still remain - those in the washrooms have all been fitted with self-contained compact fluorescent lamps and those at the entrances have fallen into disuse with the addition of fluorescent in 2004. The floodlights in the gymnasium, used as stage lights, remain in operation. The 75W PAR lamps in recessed fixtures in the corridors and surface mounted lampholders at entrances are used solely as emergency lights.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 4 - Acceptable | 1968 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5020.02.02.02 Interior Fluorescent Fixtures**

The fluorescent lighting system have been converted to the energy efficient type of electronic ballasts and T8 lamps, consisting mostly of surface mounted fixtures with wrap around acrylic lenses in classrooms and hallways, 2 X 4 recessed fixtures, strip lights with or without wireguards and wireguarded surface fixtures in the gymnasium.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 5 - Good | 2004 | 30 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

Event: COMPLETED (in 2008): Repair Light Fixtures**Concern:**

Some fixtures have missing or damaged lenses.

Recommendation:

Replace lenses/fixtures or remove if no longer in use.

| | | | |
|--------------------|--------------------|--------------------|------------------------|
| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
| Repair | 2008 | \$2,239 | Medium |

Updated: MAR-12

Event: Replace Fluorescent Fixtures (1050)

| | | | |
|-----------------------|--------------------|--------------------|------------------------|
| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
| Lifecycle Replacement | 2034 | \$210,000 | Unassigned |

Updated: MAR-12

D5020.02.03.01 Emergency Lighting Built-in*

Incandescent lights using 75W PAR lamps, recessed in corridors and surface mounted at entrances, are used as emergency lights, which will only come on when the generator comes on.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|----------------------|----------------------|----------------|
| 3 - Marginal | 1968 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

Event: Add Emergency Lighting to Washrooms and Library.**Concern:**

The present built-in emergency lighting is inadequate - washrooms and Library do not have emergency lights.

Recommendation:

Add fixtures from the same circuits to washrooms and provide an emergency lighting battery pack with lighting heads in the Library.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|--------------|-------------|-------------|-----------------|
| Code Upgrade | 2012 | \$3,000 | High |

Updated: MAR-12

D5020.02.03.02 Emergency Lighting Battery Packs**

An emergency lighting battery pack with integral lighting heads is present at the exit location of Room 13/14.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|----------------------|----------------------|----------------|
| 4 - Acceptable | 1971 | 20 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

Event: Replace Emergency Lighting Battery Pack

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$1,000 | Unassigned |

Updated: MAR-12

D5020.02.03.03 Exit Signs*

Exit signs are internally illuminated exit lights, metallic housing, stencil faces, fitted with LED lamps.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|----------------------|----------------------|----------------|
| 5 - Good | 1968 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5020.03.01.01 Exterior Incandescent Fixtures*

Surface or wall mounted incandescent lighting fixtures left unused at entrances and exits - with the addition of new HPS lights.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|----------------------|----------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5020.03.01.04 Exterior H.P. Sodium Fixtures*

Wall and ceiling mounted high pressure sodium fixtures are used at exit and entrance locations of the school.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|----------------------|----------------------|----------------|
| 5 - Good | 1986 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5020.03.02 Lighting Accessories: Exterior (Lighting Controls)*

The exterior lighting system is photoelectric cell and time clock controlled.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|----------------------|----------------------|----------------|
| 5 - Good | 1968 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5030.01 Detection and Fire Alarm**

The fire alarm system is a single stage, hard wired (Edwards 6616) system with 15 detection zones and one signaling zone. The control panel is located in an office in the Administration and an annunciator (without a graphic) is located at the main entrance. The system uses manual stations, heat and smoke detectors as detection devices and audio only (bells) signaling devices.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|----------------------|----------------------|----------------|
| 4 - Acceptable | 1989 | 25 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

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

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

Updated: MAR-12

D5030.02.01 Door Answering*

Pushbutton at the main entrance enables caller to call through the public address system.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|----------------------|----------------------|----------------|
| 5 - Good | 1968 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5030.02.02 Intrusion Detection**

The intrusion detection system is a Magnum Alert system with the control panel located in the Electrical Room and the coded activation keypad at the front entrances. The system uses passive infrared motion detectors located throughout the school.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 5 - Good | 1998 | 25 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

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

| | | | |
|-----------------------|--------------------|--------------------|------------------------|
| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
| Lifecycle Replacement | 2023 | \$18,000 | Unassigned |

Updated: MAR-12

D5030.03 Clock and Program Systems*

The school class change program is controlled by the Simplex Program and Timer system, with buzzers in classrooms and washrooms and horns outdoors. Clocks are battery operated.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 4 - Acceptable | 1968 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5030.04.01 Telephone Systems*

The telephone system is the Meridian system by Nortel. Telephone and intercom services are provided to the Administrative and teaching staff as well as to the classrooms. The telephone exchange is located in the Electrical Room.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 5 - Good | 1998 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5030.04.05 Local Area Network Systems*

Switching and server equipment, backed up by a 1500W UPS, is located in the Server Room near the southeast entrance, with two other switchers in the rest of the building. The SuperNet entrance is in the Electrical Room, the same location as the telephone entrance. Category 5, 5e and 6 cables are used for horizontal distribution through different periods of upgrades. In addition to the computer rooms, data outlets are provided to all teaching and administration staff, Library and every classroom, where Smart Boards are provided. Recently (2010), wireless transmission has been provided throughout the school.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 5 - Good | 1998 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5030.05 Public Address and Music Systems**

The public address system is the Bogen Multicom 2000 system, located in the Electrical Room. Interfacing with the telephone system, the Bogen system provides public address throughout the school and in classrooms, through ceiling and wall loudspeakers. The system has its own handset with an auxiliary connection for a CD player for the national anthem.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 5 - Good | 1998 | 20 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

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

| | | | |
|-----------------------|--------------------|--------------------|------------------------|
| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
| Lifecycle Replacement | 2018 | \$18,000 | Unassigned |

Updated: MAR-12

D5030.05 Public Address and Music Systems - Gymnasium**

A separate sound reinforcement system is provided in the gymnasium, replacing the original in-wall amplifier on stage, with fixed mounted wall loudspeakers. Wireless microphone facility was recently added (2009).

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 5 - Good | 1998 | 20 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

Event: Replace Gymnasium Sound System (Amplifier and Loudspeakers)

| | | | |
|-----------------------|--------------------|--------------------|------------------------|
| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
| Lifecycle Replacement | 2018 | \$16,000 | Unassigned |

Updated: MAR-12

D5030.06 Television Systems*

A cable television distribution system is present in the school with a service connection from Shaw. Classrooms are provided with television sets with DVD and/or VHS players but their use has been increasingly taken over by the Smart Boards.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 4 - Acceptable | 1980 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

D5030.07 Other Communications and Security Systems*

A wireless FM Voice Enhancement System (TOA amplifier) is available in the classrooms and distributed (hardwired) to separate ceiling speakers.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 5 - Good | 1990 | 0 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | N/A | N/A | |

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

The emergency generator is a natural gas, air cooled engine generator set manufactured by Kohler, rated 5 kW, 120/240V, single phase, 3 wire. The transfer switch is a 30A, 2 pole automatic transfer switch by Zenith with an activating relay that closes on emergency power. Its load is limited to emergency lighting in the corridors and entrances that only comes on when the generator is running.

| | | | |
|----------------------|-----------------------------|-----------------------------|-----------------------|
| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
| 4 - Acceptable | 1968 | 35 | MAR-12 |
| | <u>Capacity Size</u> | <u>Capacity Unit</u> | |
| | 5 kW | N/A | |

Event: Replace 5 kW Generator

| | | | |
|-----------------------|--------------------|--------------------|------------------------|
| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
| Lifecycle Replacement | 2015 | \$25,000 | Unassigned |

Updated: MAR-12

S6 EQUIPMENT, FURNISHINGS AND SPECIAL CONSTRUCTION**E1020.03 Theatre and Stage Equipment***

Proscenium curtain.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

E1090.04 Residential Equipment*

Refrigerators, range and microwave oven in the kitchenette and some classrooms.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 2005 | 0 | MAR-12 |

E1090.07 Athletic, Recreational, and Therapeutic Equipment*

Wall and ceiling mounted basketball back boards in the gymnasium.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

E2010.02 Fixed Casework**

Painted or clear finished plywood cabinets, cupboards and counters with plastic laminate counters tops.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 35 | MAR-12 |

Event: Refurbish Cabinets - (28m)**Concern:**

Some cabinets have missing or broken plastic laminate surfaces and worn door and drawer finishes.

Recommendation:

Replace defective plastic laminate and refinish surfaces where required.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-------------|-------------|-------------|-----------------|
| Repair | 2013 | \$16,000 | Medium |

Updated: MAR-12

Event: Replace Casework - (180m)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$90,000 | Unassigned |

Updated: MAR-12

E2010.03.01 Blinds**

Aluminum venetian blinds throughout.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1980 | 30 | MAR-12 |

Event: Replace Blinds - (30m2)

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------|-------------|-------------|-----------------|
| Lifecycle Replacement | 2015 | \$6,000 | Unassigned |

Updated: MAR-12

S8 SPECIAL ASSESSMENT**K3020.03 Air Conditioning/Cooling* Computer Room**

The computer room is excessively warm when in use.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 3 - Marginal | 1968 | 0 | MAR-12 |

Event: Install Air Conditioning System**Concern:**

The computer room is very warm when in use. Working and concentrating in excessively warm temperatures causes stress and decreases memory retention and electronic equipment life decreases with an increase in temperature.

Recommendation:

To improve indoor air quality, consider installing two ductless DX split air conditioning systems mounted at each end of the room.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|----------------------------|-------------|-------------|-----------------|
| Indoor Air Quality Upgrade | 2014 | \$8,000 | Medium |

Updated: MAR-12

K4010.01 Barrier Free Route: Parking to Entrance*

There is a barrier free route from a signed, designated parking stall to the main entrance.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

K4010.02 Barrier Free Entrances*

There is no entrance door with a power operator.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 3 - Marginal | 1968 | 0 | MAR-12 |

Event: Provide Automatic Door Opener**Concern:**

Barrier free standards are not met because there is no entrance with power operated doors.

Recommendation:

Install a power assisted automatic door opener at the main entrance.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------------|-------------|-------------|-----------------|
| Barrier Free Access Upgrade | 2012 | \$3,500 | High |

Updated: MAR-12

K4010.03 Barrier Free Interior Circulation*

The gymnasium is only accessible to the main floor level by steps.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

Event: Install a Lift For Access to the Gym.**Concern:**

Barrier free access standards require that the Gymnasium has barrier free access.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------------|-------------|-------------|-----------------|
| Barrier Free Access Upgrade | 2012 | \$30,000 | High |

Updated: MAR-12

K4010.04 Barrier Free Washrooms*

Student washrooms have been modified to provide toilet stalls that are barrier free.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|---------------|------------------|--------------------|----------------|
| 3 - Marginal | 1968 | 0 | MAR-12 |

Event: Upgrade the Barrier Free Stalls - (3 Stalls)**Concern:**

The grab bars, coat hooks, door handles and signage for the barrier free toilets do not meet barrier free standards.

Recommendation:

Install grab bars, coat hooks, door handles and signage and make other changes as required to meet barrier free standards.

| <u>Type</u> | <u>Year</u> | <u>Cost</u> | <u>Priority</u> |
|-----------------------------|-------------|-------------|-----------------|
| Barrier Free Access Upgrade | 2012 | \$1,500 | Low |

Updated: MAR-12

K4030.01 Asbestos*

A report assumed to be prepared in 2002 and referenced in the 2006 evaluation, indicates the presence of some asbestos containing materials including some floor and ceiling tiles, duct and piping insulation. Only the pipe insulation is shown to have a high priority for abatement.

Records indicate various expenditures for asbestos abatement however the location and type of removed materials are not identified.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

K4030.04 Mould*

No mould noted or reported.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

K4030.09 Other Hazardous Materials*

No PCB's, radioactive compounds, lead containing or ozone depleting substances noted or reported.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 1968 | 0 | MAR-12 |

K5010.01 Site Documentation*

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 0 | 0 | MAR-12 |



SITE PLAN

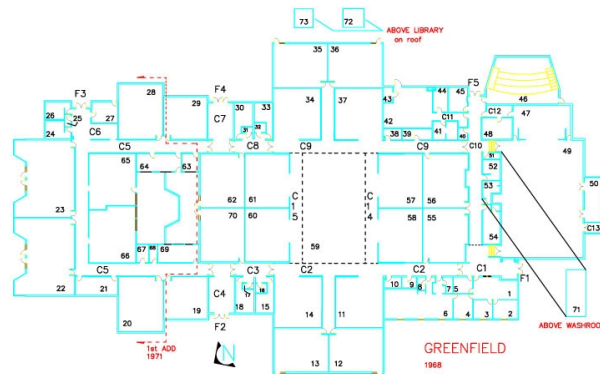
K5010.02 Building Documentation*

This evaluation was undertaken on October 9, 2011 by J. Henoach of HENOACH ARCHITECT with sub consultants L. Riess, P.Eng. (mechanical) and B. Cheung, P. Eng. (electrical) accompanied by the building custodian and personnel from Edmonton Public School Board.

At the time of the evaluation original construction drawings were not available (being digitized) therefore some building construction has not been verified and where costs depend on an estimate of quantity of materials, these numbers should be considered only "order of magnitude".

Where referenced, room numbers are those provided by Facilities Services, Edmonton Public Schools.

| <u>Rating</u> | <u>Installed</u> | <u>Design Life</u> | <u>Updated</u> |
|----------------|------------------|--------------------|----------------|
| 4 - Acceptable | 0 | 0 | MAR-12 |



MAIN FLOOR PLAN