# **RECAPP Facility Evaluation Report**

**Edmonton School District No. 7** 



McKernan Elementary / Junior High School
B3213A
Edmonton

# Edmonton - McKernan Elementary / Junior High School (B3213A)

**Facility Details** 

Building Name: McKernan Elementary / Juni

**Address:** 11330 - 76 Avenue

Location: Edmonton

Building Id: B3213A
Gross Area (sq. m): 7,549.40
Replacement Cost: \$22,226,000

Construction Year: 1952

### **Evaluation Details**

Evaluation Company: N53 Architecture Inc.

Evaluation Date: December 11 2012

Evaluator Name: Jason Porterfield

Total Maintenance Events Next 5 years: \$4,323,080 5 year Facility Condition Index (FCI): 19,45%

#### **General Summary:**

McKernan is a two story school facility with a total area of 7,549m2. The original school building was constructed in 1952 with an area of 4,890.00m2. Two additions were later constructed, one in 1953 with an area of 764m2 and the other in 1973 with an area of 1,895m2.

Major modernization was undertaken in 1993 which included new flooring, paint, suspended acoustic ceiling, and a new front lobby student gathering area. There is newer casework installed in the home economics room but otherwise the casework is all original throughout the school.

The schools houses 22 classrooms, 2 gymnasiums, a music room, an art room, an audio/visual room, 3 science rooms, a home economics room, a library, a drama room, industrial arts area, administration and ancillary support facilities.

At the time of inspection there were no portable classrooms on site.

At time of site visit there were 538 enrolled students.

## **Structural Summary:**

All sections consist of concrete foundation walls and concrete columns on reinforced footings. The main floor is a concrete on metal decking supported by metal joists over a crawl/space/basement. Second floor construction is concrete on metal decking over metal joists supported by load bearing concrete block and isolated metal beams/columns. Roof construction consists of metal decking on metal joists. There is a concrete slab on grade in the crawl space. In 2010 there was major foundation restructuring done on the south west corner to repair the major settlement that the building experienced. To date there have been no new issues or settlement of the building.

#### Recommendations:

There is water penetrating the foundation walls. Recommend a review of current water protection systems in place at school including the construction of the 2003 weeping tile and sump pump. Provide new waterproofing concrete wall membrane to the exterior side of the foundations in troubled areas.

The overall condition of the structure is in acceptable condition.

#### **Envelope Summary:**

The exterior finish is brick with precast concrete panels located over the entries of the 1973 building. The 1952 and 1953 sections have precast concrete window sills and parapets. Windows of the 1952 and 1953 section are a combination of glass block over sealed PVC fixed and opening units. The windows of the 1973 section consist of sealed aluminum fixed and opening units. Painted wood canopies are located at entrances to all sections. Solid core wood doors in pressed steel frames with sealed fixed glazing are located in all sections of the school. The roofing over the 1952 and 1953 sections is a built-up asphalt membrane system and the roof over the 1973 section has been replaced with a SBS roofing system in 2007 with parapets and cap flashing.

# Recommendations:

Recommend removing the original glass block windows and replace with new aluminum windows.

The roofing is worn and in need of replacement. Recommend replacing the built up roofing on the 1952 and 1953 sections.

Overall the envelope elements appear to be in acceptable condition.

#### **Interior Summary:**

Report run on: March 15, 2013 1:33 PM Page 2 of 50

Flooring consists of vinyl composite tile (VCT), sheet vinyl flooring in classrooms, carpeting in administration areas, ceramic tile in washrooms, terrazzo in the corridors, wood strip flooring in the gym and painted concrete floor in the mechanical rooms. Walls are painted concrete block and gypsum wallboard with some pre-finished vinyl wall coverings. There is a 2m high wood strip accent over the fabric acoustic panels located in the main gymnasium at the ceiling level. Isolated concrete columns are finished with ceramic tiles throughout the corridors. The ceilings consist of suspended acoustical tile and painted gypsum board. Single tier lockers are located in the corridors on the main and second floor and in the gym change rooms. Casework is painted plywood veneer with plastic laminated counter tops. Whiteboards, chalk boards, smartboards and tackboards are located throughout classrooms and corridors. Doors are clear finish sold core wood in painted pressed steel frames.

Basement mechanical room spaces have severe wall damage to exposed elements.

#### Recommendations:

Recommend repairing the wall damage in the classrooms from the desks and chairs and to install a new chair rail around perimeter of classrooms.

The lockers in the boys change room are damaged and have no doors. Recommend replacing the lockers in the boys change room.

The carpet in the classrooms, library, music room and computer room should be replaced as it is damaged and ripped. The fixed casework throughout is in need of replacement. It is worn and the plastic laminate countertops are starting to peel

The overall condition of the interior is acceptable.

## Mechanical Summary:

The mechanical systems include two Vulcan Firetube steam boilers located that been in operation since 1952, complete with a steam to water Shell & Tube Heat exchanger serving the north side of the school. The school's ventilation is provided by 3 Air Handling Units (AHU) serving the two floors of the school. All distribution ducting is galvanized sheet steel that is within the ceiling space. Finned tube radiation panels are provided along the perimeter of the south side portion of the school and the mechanical systems have pneumatic controls. Most of the plumbing fixtures have been upgraded in the 1993 modernization with some of the original fixtures in place. There is new roof drains installed in the 1973 addition that was done in 2007. The 1952 and 1953 section roof drains are original and missing the gravel screens. There are 2 domestic hot water heaters that provide the school with hot water throughout.

#### Recommendations:

Replace sump pump in south mechanical room.
Replace 12 roof drains on the 1952 and 1953 sections
Replace Two (2) Steam Boilers and Entire Heating System
Replace water treatment system
Replace 3 Air Handling Units
Replace 2 steam pumps and piping

The overall condition of the mechanical systems is marginal.

#### **Electrical Summary:**

The school was initially built in 1952 with additions in 1953 and 1973. The main distribution panel is circuit breaker type, 120/208V, 3 phase, 4 wire and is distributed to secondary panels throughout the school. The interior lighting has been upgraded in 2011 to T8 lamps throughout and is controlled by line voltage controls. The building has new retrofitted (2002) LED exit lights located at paths of exits and emergency battery pack lighting throughout. Exterior lighting is high pressure sodium fixtures mounted along the perimeter of the building. They are controlled by photoelectric cells.

There is a Edwards 6632 hardwired zoned fire alarm system and Magnum Alert 3000 security system. Data and telephone is provided in each classroom.

#### Recommendations:

None at this time.

The electrical systems are well maintained and in good condition.

# Edmonton - McKernan Elementary / Junior High School (B3213A)

Rating Guide		
<b>Condition Rating</b>	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\* - 1952 Section

Concrete strip footings supporting concrete foundation walls with concrete pad footings supporting concrete columns at intermediate support locations.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

Event: investigation of water seepage

TypeYearCostPriorityStudy2012\$315Unassigned

Updated: MAR-13

#### A1010 Standard Foundations\* - 1952/1953 Sections

Concrete strip footings supporting concrete foundation walls with concrete pad footings supporting concrete columns at intermediate support locations.

South west corner of the building experienced a large sudden settlement shift of 177mm in 2010. Repair work was done and the building foundations were raised and restructured. Currently there is no more issues with settlement in the area.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### A1010 Standard Foundations\* - 1973 Section

Concrete strip footings supports concrete foundation walls.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# A1030 Slab on Grade\* - 1952 Section

Cast-in-place concrete slab located in basement mechanical room spaces. Thickness and reinforcing unknown.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

Event: structural consultant

TypeYearCostPriorityStudy2012\$1,042Unassigned

**Updated:** MAR-13

Report run on: March 15, 2013 1:33 PM Page 5 of 50

#### A1030 Slab on Grade\* - 1953 Section

Cast-in-place concrete slab located in basement mechanical rooms. Thickness and reinforcing unknown.

RatingInstalledDesign LifeUpdated4 - Acceptable19530MAR-13

#### A1030 Slab on Grade\* - 1973 Section

Cast-in-place concrete slab on grade. Thickness and reinforcing unknown.

RatingInstalledDesign LifeUpdated4 - Acceptable19730MAR-13

# A2020 Basement Walls (& Crawl Space)\* - 1952 Section

Cast-in-place concrete foundation walls in basement mechanical/storage rooms. Concrete columns located in crawl spaces support the floor structure.

RatingInstalledDesign LifeUpdated3 - Marginal19520MAR-13

# Event: Repair Water Infiltration to Basement Spaces--100 m2

#### Concern:

Water infiltration into basement spaces causing damage to bottom of doors, frames and some mechanical equipment. Weeping tile installed in 2003 does not appear to have solved the situation.

#### Recommendation:

Review of current water protection systems in place at school including the construction of the 2003 weeping tile and sump pump. Provide new waterproofing concrete wall membrane to the exterior side of the foundations in troubled areas.



IMG\_9828.jpg

TypeYearCostPriorityRepair2012\$50,000Medium

Updated: MAR-13

#### A2020 Basement Walls (& Crawl Space)\* - 1953 Section

Cast-in-place concrete basement walls. Concrete columns on pad footings located in crawl space.

RatingInstalledDesign LifeUpdated4 - Acceptable19530MAR-13

#### B1010.01 Floor Structural Frame (Building Frame)\* - 1952 Section

Concrete floor beams supported on concrete foundation walls and concrete columns in crawl space areas. OWS joists and metal deck supporting second floor concrete slab.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### **Event: Completed-Repair Floor Settlement**

Concern:

Floor settlement in South West area of school leaving floors with noticeable slopes.

Recommendation:

Repair foundation to eliminate settlement

TypeYearCostPriorityRepair2010\$469,976High

Updated: MAR-13

# Event: Completed-Repair Floor Settlement

Concern:

Floor settlement in administration area leaving floors with noticeable slopes.

Recommendation:

Build-up existing flooring to alleviate sloped floors.

TypeYearCostPriorityRepair2010\$16,899High

Updated: MAR-13

Event: additional insurance charges for project

TypeYearCostPriorityRepair2012\$316Unassigned

Updated: OCT-12

#### B1010.01 Floor Structural Frame (Building Frame)\* - 1952 Section - Concrete

Concrete beams and columns located in main entry foyer/student general purpose area supporting portion of second floor.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

Report run on: March 15, 2013 1:33 PM Page 7 of 50

## B1010.01 Floor Structural Frame (Building Frame)\* - 1953 Section - Steel

Concrete slab on metal decking supported by OWSJ on load bearing concrete block.

RatingInstalledDesign LifeUpdated4 - Acceptable19530MAR-13

# B1010.01 Floor Structural Frame (Building Frame)\* - 1973 Section

Concrete slab on metal decking supported by OWSJ on load bearing concrete block.

RatingInstalledDesign LifeUpdated4 - Acceptable19730MAR-13

# B1010.02 Structural Interior Walls Supporting Floors (or Roof)\* - 1952/1953 Sections

Load bearing concrete block walls supporting floor structure and roof structure.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# B1010.02 Structural Interior Walls Supporting Floors (or Roof)\* - 1973 Section

Load bearing concrete block walls supporting floor structure and roof structure.

RatingInstalledDesign LifeUpdated4 - Acceptable19730MAR-13

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

Cast in place concrete floor over metal decking throughout main floor and second floor.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

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

Unable to view floor construction fireproofing or obtain any information. Unsure if it was a requirement when building was constructed. Floors are concrete and metal decking with concrete topping so there should be some level of fire proofing achieved.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### **B1010.10 Floor Construction Firestopping\***

Firestopping requirements and placement unknown. Unable to view.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### B1020.01 Roof Structural Frame\* - All Sections

38mm metal decking over OWSJ of various sizes supported on concrete block walls.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

**Event:** structural Tee investigation

TypeYearCostPriorityStudy2012\$839Unassigned

**Updated:** SEP-12

**Event:** wood truss investigation

TypeYearCostPriorityStudy2012\$420Unassigned

Updated: OCT-12

# B1020.04 Canopies\* - 1952 Section

Wood framed canopies over entrances supported by exterior walls.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# B1020.04 Canopies\* - 1973 Section

Metal framed canopies over entrances supported by exterior wall.

RatingInstalledDesign LifeUpdated4 - Acceptable19730MAR-13

# **S2 ENVELOPE**

## B2010.01.01 Precast Concrete: Exterior Wall Skin\* - 1952/1953 Sections

Precast concrete sills at windows and precast concrete parapet cap.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### B2010.01.01 Precast Concrete: Exterior Wall Skin\* - 1973 Section

Precast concrete fascia elements and wall panels at entry vestibule.

RatingInstalledDesign LifeUpdated4 - Acceptable19730MAR-13

#### B2010.01.02.01 Brick Masonry: Ext. Wall Skin\*

Full height face brick on all exterior walls.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# B2010.01.09 Expansion Control: Ext. Wall\*

Vertical control/construction joints at acceptable intervals in face brick cladding.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### B2010.01.11 Joint Sealers (caulking): Ext. Wall\*\* - 1952/1953 Section

Caulking around all exterior door and window openings. Total 1500m.

RatingInstalledDesign LifeUpdated4 - Acceptable195220MAR-13

#### **Event: Repair Joint Sealers (1500m)**

TypeYearCostPriorityLifecycle Replacement2016\$43,700Unassigned

Updated: MAR-13

# Edmonton - McKernan Elementary / Junior High School (B3213A)

## B2010.01.11 Joint Sealers (caulking): Ext. Wall\*\* - 1973 Section

Caulking around all exterior door and window openings. Total 200m.

RatingInstalledDesign LifeUpdated4 - Acceptable197320MAR-13

**Event:** Repair Joint Sealers (200m)

TypeYearCostPriorityLifecycle Replacement2016\$6,000Unassigned

**Updated:** MAR-13

# B2010.01.13 Paints (& Stains): Ext. Wall\*\* - 1952 Section

Painted wood plywood soffit at entrances. Total 100m2.

RatingInstalledDesign LifeUpdated4 - Acceptable195215MAR-13

**Event:** Repaint wood portion of canopy (100m2)

TypeYearCostPriorityLifecycle Replacement2016\$2,100Unassigned

Updated: MAR-13

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

Exterior wall insulation and air barrier unknown. Assumed loose fill insulation with tar paper air barrier. No visible effervescene viewed or reported during site visit.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### B2010.05 Parapets\* 1952/1953 Sections

Precast concrete parapet caps along perimeter of exterior walls. Galvanized flashing along roof side face of parapet wall.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# B2010.05 Parapets\* 1973 Section

Pre-finished metal cap flashing over small curb parapet surround the perimeter exterior walls.

RatingInstalledDesign LifeUpdated5 - Good20070MAR-13

Report run on: March 15, 2013 1:33 PM Page 11 of 50

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

Painted metal louvres for mechanical equipment throughout.

Painted metal grilel over north vestibule entry doors.

RatingInstalledDesign LifeUpdated4 - Acceptable19730MAR-13

# B2010.09 Exterior Soffits\* - 1952 Section

Painted plywood soffits at entrance canopies.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### B2010.09 Exterior Soffits\* - 1973 Section

Textured stucco on wire mesh over plywood soffit at entrance canopy.

RatingInstalledDesign LifeUpdated4 - Acceptable19730MAR-13

# B2020.01.01.02 Aluminum Windows (Glass & Frame)\*\* 1973 Section

Aluminum framed operable windows in classrooms and offices of 1974 section. Total 19 windows (57m2)

RatingInstalledDesign LifeUpdated4 - Acceptable197340MAR-13

Event: Replace 19 windows (57m2)

TypeYearCostPriorityLifecycle Replacement2016\$54,800Unassigned

Updated: MAR-13

#### B2020.01.01.06 Vinyl, Fibreglass & Plastic Windows\*\* 1952/1953 Sections

PVC operable windows installed on bottom portion of window openings. Total 210m2.

RatingInstalledDesign LifeUpdated4 - Acceptable198940MAR-13

**Event: Replace 210m2 PVC windows** 

TypeYearCostPriorityLifecycle Replacement2029\$192,500Unassigned

**Updated: MAR-13** 

#### B2020.04 Other Exterior Windows\* - 1952/1953 Sections

Original glass block windows located on upper portion of wall window openings. Total 212m2.

RatingInstalledDesign LifeUpdated3 - Marginal19520MAR-13

Event: Replace glass block with fixed aluminum windows (212m2)

<u>(= : = : : : )</u>

Concern:

Glass block seals have failed and allows water movement into building.

Recommendation:

Recommend removing all glass block and installing new

aluminum window units.

TypeYearCostPriorityFailure Replacement2012\$203,600Medium

**Updated:** MAR-13



IMG\_9725.jpg

# **B2030.01 Exterior Entrance Doors - All Sections**

Painted wood doors in painted metal frames.

To be deleted, replaced with steel doors in 2012. Could not reclassify or delete element because of locked in failure replacement. Exterior door element updated to B2030.01.11 Metal Entrance Door\*\* - All Sections.

RatingInstalledDesign LifeUpdatedN/A195230MAR-13

**Event: Completed-Replace 21 Exterior Entrance Doors &** 

**Hardware - All Sections** 

TypeYearCostPriorityLifecycle Replacement2012\$42,247Unassigned

**Updated:** MAR-13

Event: Failure Replacement

TypeYearCostPriorityFailure Replacement2012\$35,311Unassigned

**Updated:** MAR-13

# Edmonton - McKernan Elementary / Junior High School (B3213A)

#### B2030.01.02 Steel-Framed Storefronts: Doors\*\*

Insulated painted metal doors set in painted pressed steel frames with top and bottom glazing panels. Total 21 doors.

RatingInstalledDesign LifeUpdated6 - Excellent201230MAR-13

**Event:** Replace 21 exterior entrance doors.

TypeYearCostPriorityLifecycle Replacement2042\$50,500Unassigned

**Updated:** MAR-13

# B2030.02 Exterior Utility Doors\*\*

Painted wood doors in painted metal frames with original hardware. Total 5 doors.

RatingInstalledDesign LifeUpdated4 - Acceptable195240MAR-13

**Event:** Replace 5 Exterior Utility Doors and Hardware

TypeYearCostPriorityLifecycle Replacement2016\$4,300Unassigned

Updated: MAR-13

#### B3010.01 Deck Vapour Retarder and Insulation\* - 1952/1953 Section

Rigid insulation with 2 ply tar roof vapour retarder. Unable to view at time of inspection.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# B3010.01 Deck Vapour Retarder and Insulation\* - 1973 Section

Rigid insulation with 2 ply tar roof vapour retarder. Unable to view at time of inspection.

RatingInstalledDesign LifeUpdated5 - Good20070MAR-13

#### B3010.04.01 Built-up Bituminous Roofing (Asphalt & Gravel)\*\* 1952/1953 Sections

Built up roofing with gravel ballast installed over 1952 and 1953 sections. Install year unknown. Total 2970m2.

RatingInstalledDesign LifeUpdated3 - Marginal195225MAR-13

Event: Replace 2,970m2 roofing with new SBS 1952/1952

<u>section</u>

Concern:

Roofing membrane is showing various signs of failure including membrane bubbling, soft spots, insufficent gravel cover due to high slope. Roof edge flashings are worn and rusted.

Recommendation:

Recommend replacing roof with new SBS roofing system.

TypeYearCostPriorityFailure Replacement2012\$518,500Medium

Updated: MAR-13



Mckernan 007.jpg

# B3010.04.04 Modified Bituminous Membrane Roofing (SBS)\*\*- 1973 Section

2 ply SBS roofing membrane installed on 1973 section. Total 1145m2.

RatingInstalledDesign LifeUpdated4 - Acceptable200725MAR-13

**Event:** Replace 1145m2 SBS Membrane Roofing - 1973

**Section** 

TypeYearCostPriorityLifecycle Replacement2032\$199,900Unassigned

Updated: MAR-13

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

Plumbing vents, roof drains, brick chimney vents throughout roof.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# S3 INTERIOR

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

Painted concrete block walls throughout the school in all areas. Corridors, classrooms, gymnasium, etc.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# **Event:** Completed-Repair Wall cracks in 1952 and 1973

#### **Sections**

#### Concern:

Settlement cracks in concrete block walls in wash rooms spaces causing potential health concern as well safety issue. Wall cracks in 2nd floor classroom and computer room over administration spaces.

#### Recommendation:

Review condition of walls in all sections, repair and make good finishes

TypeYearCostPriorityRepair2010\$28,165High

**Updated:** MAR-13

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

Wood stud framing partitions with plaster finish on both sides located throughout the school.

RatingInstalledDesign LifeUpdated3 - Marginal19520MAR-13

**Event: Completed-Repair Gypsum Wallboard to Stud** 

Walls

Concern:

Wall cracks disconcerting to school occupants.

Recommendation:

Repair cracks and make good finishes.

TypeYearCostPriorityRepair2010\$5,633Medium

**Updated:** MAR-13

**Event:** Repair damaged walls, 50m2.

Concern:

Walls along walls in classrooms are damaged from chairs, tables and students.

Recommendation:

Recommend repairing the damaged wall finish and install a new

wood chair rail.

TypeYearCostPriorityRepair2012\$10,000Medium

Updated: MAR-13

IMG\_9735.jpg

#### C1010.05 Interior Windows\*

Sealed glazed unit in painted metal frame between Principals office and General Office.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

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

Clear finish solid core wood doors in pressed steel frames with original hardware in all sections.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

Report run on: March 15, 2013 1:33 PM Page 17 of 50

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

Interior metal fire doors located at mechanical rooms and storage rooms. Doors are labelled with proper ULC labels.

RatingInstalledDesign LifeUpdated4 - Acceptable19870MAR-13

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

46 (4x8) whiteboards, 97 (4x8) tackboards and 10 (4x8) chalkboards located in classrooms throughout all sections.

RatingInstalledDesign LifeUpdated4 - Acceptable200020MAR-13

**Event:** Replace (46WB, 97TB, 10CB) visual display boards.

TypeYearCostPriorityLifecycle Replacement2020\$202,900Unassigned

Updated: MAR-13

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

Prefinished metal toilet partitions located throughout in washrooms. Total 24 stalls.

RatingInstalledDesign LifeUpdated4 - Acceptable199330MAR-13

**Event:** Replace 24 Toilet stall partitions

TypeYearCostPriorityLifecycle Replacement2023\$28,200Unassigned

Updated: MAR-13

# C1030.08 Interior Identifying Devices\*

Room numbers located on doors to all rooms.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### C1030.10 Lockers\*\* - 1952/1953 Sections

Full height single tier metal lockers located in corridors. Most lockers located on second floor. Total 252 lockers.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-13

**Event: Replace 252 Lockers** 

TypeYearCostPriorityLifecycle Replacement2016\$121,000Unassigned

Updated: MAR-13

# C1030.10 Lockers\*\* 1973 Section

57 full height single tier metal lockers located in corridors. 16 4-tier and 4 2-tier lockers located in boys change room. 16 4-tier and 4 2-tier lockers located in girls change room. Total 97 lockers.

Total of Tookers.

RatingInstalledDesign LifeUpdated3 - Marginal197330MAR-13

## Event: Replace 20 lockers in boys change room

#### Concern:

Lockers in the boys change room are badly damaged and the doors have previsouly been removed.

#### Recommendation:

Recommend replacing the lockers in the boys change room.

TypeYearCostPriorityFailure Replacement2012\$9,700Low

Updated: MAR-13



IMG\_9774.jpg

# Event: Replace 57 lockers in corridor and 20 lockers in

girls change room (77 total)

TypeYearCostPriorityLifecycle Replacement2016\$37,000Unassigned

Updated: MAR-13

#### C1030.12 Storage Shelving\*

Painted plywood storage shelving in classrooms and clear finish wood shelving in storage rooms.

Rating	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1952	0	MAR-13

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

Toilet paper dispensers, hand dryers, mirrors and soap dispensers throughout all student and staff washrooms.

RatingInstalledDesign LifeUpdated4 - Acceptable19930MAR-13

#### C2010 Stair Construction\*

Concrete stairs between main and second floor and to storage room above stage of south gymnasium. Wood stair to stage from south gymnasium and corridor stair adjacent to south gymnasium of 1952 Section.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### C2020.02 Terrazzo Stair Finishes\*

Terrazzo finishes to stairs connecting main & second floor levels of the 1952/53 section. Total 150m2.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# C2020.05 Resilient Stair Finishes\*\*

Vinyl composite tile installed on the main to second floor stairs of the 1973 section and on the stage stair in the gym. Total 20m2.

RatingInstalledDesign LifeUpdated4 - Acceptable199320MAR-13

#### **Event: Replace VCT on stairs (20m2)**

TypeYearCostPriorityLifecycle Replacement2016\$1,800Unassigned

**Updated:** MAR-13

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

Painted metal railings and balustrades to interconnecting stairs.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

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

Ceramic wall tile installed floor to ceiling in all washrooms throughout the school. Total 440m2.

RatingInstalledDesign LifeUpdated4 - Acceptable199340MAR-13

**Event:** Replace 440m2 wall tile in washrooms.

TypeYearCostPriorityLifecycle Replacement2033\$108,900Unassigned

**Updated:** MAR-13

# C3010.09 Acoustical Wall Treatment\*\* - 1952 Section

Fabric wrapped acoustic panels installed along the walls of the 1952 gymnasium.

RatingInstalledDesign LifeUpdated5 - Good199320MAR-13



View of South Gymnasium.

# **Event: Replace 50m2 Acoustical Wall Treatment**

TypeYearCostPriorityLifecycle Replacement2016\$11,300Unassigned

**Updated:** MAR-13

#### C3010.09 Acoustical Wall Treatment\*\* 1973 Section

Fabric wrapped acoustic panels along top 3m of the north gymnasium in the 1973 section. Wood strips installed over the acoustic panels.

RatingInstalledDesign LifeUpdated4 - Acceptable197320MAR-13



IMG\_9769.jpg

## **Event:** Replace 280m2 of acoustic panels in 1973 gym

TypeYearCostPriorityLifecycle Replacement2016\$63,200Unassigned

Updated: MAR-13

# C3010.11 Interior Wall Painting\*

Painted gypsum board and concrete block throughout. Painting done as needed by maintenance every 10-15 years.

RatingInstalledDesign LifeUpdated4 - Acceptable19930MAR-13

# C3010.12 Wall Coverings\*

Vinyl wall covering located in administration area of 1952 Section.

RatingInstalledDesign LifeUpdated4 - Acceptable19930MAR-13

#### C3020.01.02 Painted Concrete Floor Finishes\*

Painted concrete floor in basement mechanical and storage rooms. 800m2.

RatingInstalledDesign LifeUpdated4 - Acceptable19930MAR-13

#### C3020.02 Tile Floor Finishes\*\* - 1973 Section

Ceramic tile located in boys and girls washrooms in the 1973 sections. Total 40m2.

RatingInstalledDesign LifeUpdated4 - Acceptable197350MAR-13

**Event:** Replace 40m2 of tile floor finishes in 1973

washrooms.

TypeYearCostPriorityLifecycle Replacement2023\$5,400Unassigned

Updated: MAR-13

#### C3020.03 Terrazzo Floor Finishes\* - 1952/1953 Sections

Located throughout corridors and washrooms in the 1952/53 sections. Total 1210m2.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### C3020.04 Wood Flooring\*\* 1993

Sports wood athletic flooring installed in the gymnasium of the 1952 section. Total 280m2.

RatingInstalledDesign LifeUpdated4 - Acceptable199330MAR-13

Event: Replace 280m2 wood flooring in 1952 gym.

TypeYearCostPriorityLifecycle Replacement2023\$71,300Unassigned

**Updated: MAR-13** 

#### C3020.04 Wood Flooring\*\* 1952

Original wood flooring installed in the stage & Industrial Arts room of 1952 Section. Total 300m2.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-13

Event: Replace 300m2 wood flooring in industrial arts and

stage

TypeYearCostPriorityLifecycle Replacement2016\$76,400Unassigned

**Updated:** MAR-13

Report run on: March 15, 2013 1:33 PM

Page 23 of 50

#### C3020.04 Wood Flooring\*\* 1999

Sports wood athletic flooring installed in the 1973 gymnasium. Total 372m2.

RatingInstalledDesign LifeUpdated4 - Acceptable199930MAR-13

Event: Replace 342m2 wood flooring in 1973 gym

TypeYearCostPriorityLifecycle Replacement2029\$87,100Unassigned

Updated: MAR-13

# C3020.07 Resilient Flooring\*\* VCT 1953 Section

Vinyl composite tile installed in staff room and corridors of administration area. Total 180m2.

RatingInstalledDesign LifeUpdated5 - Good201020MAR-13

Event: Replace 180m2 of VCT in admin areas

TypeYearCostPriorityLifecycle Replacement2030\$9,200Unassigned

Updated: MAR-13

#### C3020.07 Resilient Flooring\*\* VCT 1973 Section

Vinyl composite tile installed in 2 classrooms and the corridors of the 1973 section. Total 750m2.

RatingInstalledDesign LifeUpdated4 - Acceptable199320MAR-13

Event: Replace 750m2 of Vinyl composite tile 1973 section

TypeYearCostPriorityLifecycle Replacement2016\$38,200Unassigned

Updated: MAR-13

#### C3020.07 Resilient Flooring\*\* Vinyl Sheet

Resilient vinyl sheet flooring installed in classrooms and ancillary spaces throughout all sections. Total 2600m2.

RatingInstalledDesign LifeUpdated4 - Acceptable199320MAR-13

Event: Replace 2600m2 vinyl sheet flooring

TypeYearCostPriorityLifecycle Replacement2016\$208,100Unassigned

**Updated:** MAR-13

Report run on: March 15, 2013 1:33 PM Page 24 of 50

## C3020.08 Carpet Flooring\*\*

Carpet flooring laid down over vinyl sheet flooring in small area of classroom. 5 classrooms at 15m2 - 75m2 total.

RatingInstalledDesign LifeUpdated3 - Marginal199315MAR-13

Event: Replace 75m2 carpet flooring in 5 classrooms

(75m2)

Concern:

Carpet is worn, stained and ripped. Duct tape used to patch

some spots.

Recommendation:

Recommended to replace small portion of carpet in

classrooms.

TypeYearCostPriorityFailure Replacement2012\$5,500Low

**Updated: MAR-13** 



IMG\_9703.jpg

# C3020.08 Carpet Flooring\*\* 1993

Carpet flooring installed in library, music room and computer room. Total 500m2.

RatingInstalledDesign LifeUpdated3 - Marginal199315MAR-13

Event: Replace 500m2 carpet flooring.

Concern:

Carpet in these areas are worn, stained and ripped.

Recommendation:

Recommended to replace carpet in library, music room and

computer room.

TypeYearCostPriorityFailure Replacement2012\$36,400Low

**Updated:** MAR-13

# Edmonton - McKernan Elementary / Junior High School (B3213A)

#### C3020.08 Carpet Flooring\*\* 2010

Carpet flooring installed throughout administration area and offices. Total 100m2.

RatingInstalledDesign LifeUpdated5 - Good201015MAR-13

**Event:** Replace 100m2 carpet in admin areas

TypeYearCostPriorityLifecycle Replacement2025\$7,300Unassigned

**Updated:** MAR-13

# C3030.06 Acoustic Ceiling Treatment (1 x 1 tile)\*\*

Not viewed in school. Unable to delete element.

RatingInstalledDesign LifeUpdatedN/A025MAR-13

Event: gym tiles falling safety concern

TypeYearCostPriorityFailure Replacement2012\$26,255Unassigned

Updated: OCT-12

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

Located in classrooms, corridors, administration and ancillary spaces. Total 3020m2.

RatingInstalledDesign LifeUpdated4 - Acceptable199325MAR-13

**Event:** Replace 3,020m2 suspended acoustic ceilings.

TypeYearCostPriorityLifecycle Replacement2018\$226,500Unassigned

**Updated:** MAR-13

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

Located in washrooms, storage rooms and janitor rooms.

RatingInstalledDesign LifeUpdated4 - Acceptable19930MAR-13

# C3030.09 Other Ceiling Finishes\*

Tectum acoustic panels installed on the ceiling of the 1952 gymnasium. Total 176m2.

RatingInstalledDesign LifeUpdated4 - Acceptable19930MAR-13

# D1010.01.02 Hydraulic Passenger Elevators\*\*

One 1000lbs, 2 person max hydraulic elevator located in the 1952 Section outside of general office.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-13

**Event:** Replace 1 Hydraulic Passenger Elevator

TypeYearCostPriorityLifecycle Replacement2016\$75,700Unassigned

**Updated:** MAR-13

# **S4 MECHANICAL**

## D2010.04 Sinks\*\* 1952 Section Mop Slnks

There is 2 steel wall hung mop sinks. 1 is located in the Janitor room and the other in the Home Economics classroom.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-13

#### Event: Replace 2 mop sinks, 1952 section

TypeYearCostPriorityLifecycle Replacement2016\$7,600Unassigned

Updated: MAR-13

#### D2010.04 Sinks\*\* - 1993

There are a total of 24 sinks that were installed in the 1993 modernization:

- 14 single bowl, ledge back, stainless steel sinks complete with faucet to meter and mix hot and cold water and 6" swing spout serving classrooms.
- 4 Single bowl, ledge back, stainless steel sink complete with faucet to meter and mix hot and cold water 8" swing spout and vacuum breakers serving Science Classroom.
- 5 double compartment, ledge back, stainless steel with faucet to meter and mix hot and cold water with blade handles 1 trough style wall hung stainless steel with gooseneck spout.

Rating	<u>Installed</u>	Design Life	<u>Updated</u>
4 - Acceptable	1993	30	MAR-13

#### **Event: Replace 24 sinks**

TypeYearCostPriorityLifecycle Replacement2023\$34,600Unassigned

Updated: MAR-13

### D2010.04 Sinks\*\* 1993 Mop Sinks

There are three (3) mop sinks serving the school, two (2) are floor mounted Molded Stone one is 24"x24"x10" MSB-2424, one (1) is a 24"x36"x10" both are complete with 830AA valve breakers located in the Janitor Rooms and Custodial Rooms. There is also 1 molded plastic laundry tub with index lever handles with standard spout in the Home Economics classroom.

RatingInstalledDesign LifeUpdated4 - Acceptable199330MAR-13

#### Event: Replace 3 mops sinks and 1 laundry tub

TypeYearCostPriorityLifecycle Replacement2023\$9,200Unassigned

**Updated:** MAR-13

Report run on: March 15, 2013 1:33 PM Page 28 of 50

#### D2010.05 Showers\*\*

The school has 11 showers, five (5) for the Boy's, five (5) for the Girls Change Rooms and 1 for the instructor. They are standard shower heads complete with individual push button valves. The water is controlled by a Symmons temcontroller mixing valve model 5400 located in the instructor's office for both the change rooms.

RatingInstalledDesign LifeUpdated4 - Acceptable197330MAR-13

**Event: Replace 11 Showers** 

TypeYearCostPriorityLifecycle Replacement2016\$29,700Unassigned

**Updated: MAR-13** 

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

The school has 9 drinking fountains, they are wall hung, vitreous china, double sided water fountains installed in the corridors throughout.

RatingInstalledDesign LifeUpdated4 - Acceptable199335MAR-13

**Event: Replace 9 Drinking Fountains** 

TypeYearCostPriorityLifecycle Replacement2028\$16,200Unassigned

Updated: MAR-13

# D2010.09 Other Plumbing Fixtures\*

Non-Freeze Hose Bibs located around the permimeter of the school, provide access to domestic cold water to garden hoses.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### D2010.10 Washroom Fixtures (WC, Lav, UrnI)\*\* 1952 Section

Original washroom in the home economics room has a wall mounted lavatory with index handles and flush tank type, vitreous china water closet.

RatingInstalledDesign LifeUpdated4 - Acceptable195235MAR-13

Event: Replace 1 wall mounted lavatory, 1952 section

TypeYearCostPriorityLifecycle Replacement2016\$3,200Unassigned

Updated: MAR-13

Report run on: March 15, 2013 1:33 PM Page 29 of 50

#### D2010.10 Washroom Fixtures (WC, Lav, UrnI)\*\* - 1973 Addition

Washrooms in the north addition are serviced by four (4) Cranada, oval, vitreous china lavatories complete with push type, mixing valve. Two (2) American standard floor mounted, top inlet, timed flush tank, urinals. There are seven (7) water closets are American Standard, vitreous china, not elongated, flush valve, complete with open front seat.

There are three (3) lavatories in the Boy's and Girl's Dressing Rooms and the Instructors Room are vitreous china wall hung by American Standard, complete with mixing valve, and cold water fountain faucet. Three (3) water closets are American Standard, vitreous china, not elongated, flush valve, complete with open front seat.

RatingInstalledDesign LifeUpdated4 - Acceptable197335MAR-13

#### Event: Replace 10 WC, 2 UR and 7 Lavatories

TypeYearCostPriorityLifecycle Replacement2016\$22,800Unassigned

**Updated:** MAR-13

# D2010.10 Washroom Fixtures (WC, Lav, UrnI)\*\* - 1993 Modernization

Washrooms in the original building were replaced in the 1993 modernization:

26 flush valve, elongated, vitreous china water closets by Crane, complete with elongated open front seats.

11 urinals that are stall type, floor mounted, top inlet, flush valve, vitreous china complete with Cambridge Brass valves.

16 oval, stainless steel, lavatories complete with Symmons mixing valve.

1 wall mounted, stainless steel lavatory complete with Symmons metering faucet with bubbler.

RatingInstalledDesign LifeUpdated4 - Acceptable199335MAR-13

#### Event: Replace 26 WC, 11 UR and 16 Lavatories

TypeYearCostPriorityLifecycle Replacement2028\$63,800Unassigned

**Updated: MAR-13** 

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

Domestic Cold and Hot Water lines are steel construction.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

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

All plumbing fixtures are individually isolated. Approx 40 valves throughout.

RatingInstalledDesign LifeUpdated4 - Acceptable199340MAR-13

**Event:** Replace approx 40 domestic water valves

TypeYearCostPriorityLifecycle Replacement2033\$45,700Unassigned

Updated: MAR-13

# D2020.01.03 Piping Specialties (Backflow Preventers)\*\*

The school's main water line does not have a backflow preventor. There is 1 backflow preventer installed for the boiler feed system.

RatingInstalledDesign LifeUpdated4 - Acceptable195220MAR-13

## **Event:** Install 1 backflow preventor on main water line

#### Concern:

There is no backflow preventor installed on the main water supply to the school.

#### Recommendation:

Recommend installing a backflow preventor as per Epcor requirements.

TypeYearCostPriorityCode Upgrade2012\$5,000Medium

Updated: MAR-13

Event: Replace 1 backflow preventor on boiler feed

system

TypeYearCostPriorityLifecycle Replacement2016\$3,100Unassigned

**Updated:** MAR-13

# Edmonton - McKernan Elementary / Junior High School (B3213A)

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

Two (2) pumps serve the DHW recirculation, The South side of the school is circulated by a Armstrong circulating pump model ASTRO-30B. The North side of the school is circulated by a Grundfos Type UP 15-42SF circulating pump.

RatingInstalledDesign LifeUpdated4 - Acceptable199320MAR-13

Event: Replace Two (2) Domestic Water Circulating

<u>Pumps</u>

TypeYearCostPriorityLifecycle Replacement2016\$1,700Unassigned

Updated: MAR-13

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

Two (2) DWH provide the school with DHW. The DHW in South side of school is provided by a gas fired AO SmithBT80-300, 80 gallon, 300,000 BTU input with a heat recovery capacity of 90.76 Gal/hr. The DWH in the North side of the school is provided by a 2 element electric water heater by John Wood, model JW505-DE13W, with a 50 gallon capacity.

RatingInstalledDesign LifeUpdated4 - Acceptable199320MAR-13

**Event: Replace 2 Domestic Water Heaters** 

TypeYearCostPriorityLifecycle Replacement2016\$15,900Unassigned

Updated: MAR-13

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

Water lines are insulated and jacketed throughout.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# D2030.01 Waste and Vent Piping\*

Cast Iron piping mostly with some ABS piping throughout the school. Each fixture vented to atmosphere. Traps are provided where necessary. Sanitary drainage effluent is collected into common sanitary main. Flows by gravity @ 1% slope, leaving the building at the North.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

Report run on: March 15, 2013 1:33 PM Page 32 of 50

#### D2030.02.04 Floor Drains\*

Floor drains located in girls washrooms and in the mechanical room.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

## D2030.03 Waste Piping Equipment\*

A sump pit is present in the South Mechanical Room, it is complete with a sump pump, connected to a 2" pump out line. The pump is activated by a high level switch.

Rating	<u>Installed</u>	Design Life	<u>Updated</u>
3 - Marginal	1952	0	MAR-13

# **Event:** Replace 1 sump pump in south mechanical room.

#### Concern:

Sump pit is served with a single sump pump that was installed in 1952, this pump shows signs of corrosion, shows excessive vibrations and is in need of replacement.

#### Recommendation:

Replace existing sump pump with two new sump pumps in order to have back-up capabilities.

<u>Type</u>	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Failure Replacement	2012	\$4,000	High

Updated: MAR-13

# D2040.01 Rain Water Drainage Piping Systems\*

Roof drains are connected to the main storm line providing the school's storm drainage which connects to the municipal main.

Rating	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1952	0	MAR-13

#### D2040.02.04 Roof Drains\* 1952/1953 Section

4" roof drains on gravel roof connected to the storm system throughout. Total 12 drains.

RatingInstalledDesign LifeUpdated3 - Marginal19520MAR-13

**Event: Replace 12 roof drains on the 1952 and 1953** 

sections

Concern:

Roof Drain screens are destroyed, allow gravel to get into storm

system.

Recommendation:

Install new roof drains complete with screens.

TypeYearCostPriorityFailure Replacement2012\$9,200Medium

**Updated:** MAR-13



Mckernan 019.jpg

#### D2040.02.04 Roof Drains\* 1973 Section

80mm and 100mm roof drains are located throughout the roof area and drain into the buildings storm water piping.

RatingInstalledDesign LifeUpdated4 - Acceptable20070MAR-13

# D3010.02 Gas Supply Systems\*

The School is serviced by a 4" gas line entering the South Mechanical Room from the North.

Rating	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1952	0	MAR-13

#### D3020.01.01 Heating Boilers & Accessories: Steam\*\*

The School is serviced by two Vulcan Firetube steam boilers located that been in operation since 1952, complete with a steam to water Shell & Tube Heat exchanger serving the north side of the school, chemical pot feeder, expansion tanks and cold water make-up. The chemical pot feeders, valves, expansion tank, cold water tank and lines are all corroded. The South side of the school has perimeter finned tube radiation heating, in the Classrooms, Office Areas and the Gym. The North side of the school does not have perimeter heating.

<u>Rating</u>	<u>Installed</u>	<u>Design Life</u>	<u>Updated</u>
2 - Poor	1952	35	MAR-13

# **Event:** Replace 2 Steam Boilers and Entire Heating System

#### Concern:

The schools heating system is in poor condition. The present steam boilers have been in operation since 1952, they show signs of corrosion on valves, hot water lines, chemical feeders, all the equipment that is associated with the Heating Boilers. The boilers are often failing, need constant repair and maintenance, costs for maintenance and service are extensive and are incurred often, and operating costs are very high as this steam system is a very inefficient system. The controls on the system are pneumatic and outdated. The condition of this system is poorl and failure is imminent.

#### Recommendation:

Replace the whole school's heating system with a new hydronic boiler system, perimeter heating, chimneys and force flow heating system to serve the whole school (North and South) as the North side of the school is only heated through the AHU. The cost estimate in this section includes all perimeter heating, chimneys and force flow heating for the whole school.



IMG\_3547\_18\_1\_1.JPG

Type	<u>Year</u>	<u>Cost</u>	<u>Priority</u>
Failure Replacement	2012	\$1,007,700	High

**Updated:** MAR-13

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

The Chimney and combustion air vents are original brick chimneys from 1951.

Recommend replacing chimneys with new Heating System as per D3020.01.01 Heating Boilers & Accessories: Steam\*\*. Cost of chimney replacement is included in D3020.01.01 Heating Boilers & Accessories: Steam\*\*

Rating	<u>Installed</u>	Design Life	<u>Updated</u>
4 - Acceptable	1952	35	MAR-13

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

Chemical pot feeder, expansion tanks and cold water make-up installed on the water systems.

The water treatment systems for the steam boilers are corroded and in need of replacement. Total replacement is recommended, refer to section D3020.02.01 Heating Boilers and Accessories: H.W. for total pricing.

Rating	<u>Installed</u>	Design Life	<u>Updated</u>
3 - Marginal	1952	0	MAR-13

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

The school's ventilation is provided by three (3) Air Handling Units (AHU) serving the two floors of the school. Two (2) AHUs serving the Southern portion of the school are located in the South Mechanical Room. These units take in fresh air through the roof, they use steam to warm up the air in the heating coils, and are controlled by pneumatic Johnson Controls. A single AHU serves the North side of the school and is located in the North Mechanical Room, and is complete with Return and Supply Air Fans, a hot water heating coil and a PYR-A-LARM model DIA-6 air duct smoke detector. The AHU is the only form of heating to the North side of the school. The Supply Fan for this AHU is a Robbins & Myer 10 Hp @ 1,740 rpm Type N BOW1. Fan is connected to a 208V, 3 phase, 60 Hz power supply. Standard replaceable medium filters used in all AHUs.

Return Air Fan for the North AHU is a Centri Cook Vane CVBC-88 fan. Fan is connected to a 208V, 3 phase, 60 Hz power supply.

<u>Rating</u>	<u>Installed</u>	Design Life	<u>Updated</u>
3 - Marginal	1952	30	MAR-13

# **Event:** Replace 3 Air Handling Units and accessories

#### Concern:

The AHU have been in operation since 1952 serving the south side of the school and since 1973 serving the north side. All three (3) units have served their lifetime, they are noisy, inefficient, do not provided current standards of outdoor air, and cause poor circulation of air in the school.

#### Recommendation:

Replace the AHU with new AHUs along with the Heating Boiler system replacement. The Cost estimate is total cost for AHU and equipment.

<u>Type</u>	<u>Year</u>	Cost	<b>Priority</b>
Failure Replacement	2012	\$648,500	High

**Updated:** MAR-13

### D3040.01.03 Air Cleaning Devices: Air Distribution\*

3 ceiling mounted recirculating air cleaners are installed in the industrial arts classroom along with 2 portable shop dust collectors. All manufactured by Pioneer. Install year approximate.

Rating	<u>Installed</u>	Design Life	<u>Updated</u>
4 - Acceptable	1993	0	MAR-13

Report run on: March 15, 2013 1:33 PM Page 36 of 50

# D3040.01.04 Ducts: Air Distribution\*

All ducts are galvanized steel ducts that distribute air to the whole school. South end of the school there is a basement portion in the Industrial Arts Classroom, where there are 4 newly constructed rooms, none of which have a supply or return air ducts.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### **Event:** Provide supply and return air in basement rooms.

#### Concern:

Basement Rooms in Industrial Arts have no air supply or return. All Classrooms have original grilles that do not allow the air in the classroom to be dispersed equally.

#### Recommendation:

Provide supply and return air, as well as fire separation at walls in the basement rooms. In the estimate the Grilles in the Classrooms are also included.

TypeYearCostPriorityIndoor Air Quality Upgrade2012\$57,200Medium

**Updated:** MAR-13

Event: Repair damaged duct

TypeYearCostPriorityRepair2012\$30,274Unassigned

Updated: NOV-12

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

Wall mounted grilles and registers serving the perimeter finned tubed radiation.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

## D3040.02 Steam Distribution Systems: Piping/Pumps\*\*

The steam is circulated through the steam lines by two (2) Century 8-824662-07 pumps located in the south mechanical room. The system is controlled by a Westinghouse controller. All heating pipes are insulated. This distribution system is for the south building, 1952/1953 sections. Total area 5654m2.

The heating piping have signs of water leakage and are corroded. Recommend replacing with new hot water distribution system along with the steam boilers. Cost of pump and piping replacement included in D3020.01.01 Heating Boilers & Accessories: Steam\*\*

RatingInstalledDesign LifeUpdated3 - Marginal195240MAR-13

#### **Event:** Failure Replacement condensate return tank

TypeYearCostPriorityFailure Replacement2012\$5,109Unassigned

Updated: JUN-12

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

There are 3 exhaust fans serving the school's Washrooms and Locker Rooms. The South first and second floor washrooms are serviced by a Ventilating set MV 5 10G fans. There are two exhaust fans serving the Locker Rooms and washrooms on the North side of the building they are Canadian General Electric 3J522AX5 1/4 Hp.

Rating	<u>Installed</u>	Design Life	<u>Updated</u>
4 - Acceptable	1952	30	MAR-13

## Event: Install 2 new exhaust fans in 2 separate janitors

rooms.

#### Concern:

There are 2 janitors rooms on the second floor with cleaning chemical storage that dont have any exhaust outlets.

#### Recommendation:

Recommend installed a exhaust fan in each janitors room.

<u>Type</u>	<u>Year</u>	<u>Cos</u> t	<u>Priority</u>
Indoor Air Quality Upgrade	2012	\$7,200	Low

**Updated:** MAR-13

## **Event:** Replace 3 washroom exhaust fans.

<u>Type</u>	<u>Year</u>	<u>Cos</u> t	<u>Priority</u>
Lifecycle Replacement	2016	\$17,160	Unassigned

**Updated:** MAR-13

## **Event:** dust collector replacement

Type	<u>Year</u>	Cost	<u>Priority</u>
Failure Replacement	2012	\$4,691	Unassigned

**Updated:** DEC-12

# Edmonton - McKernan Elementary / Junior High School (B3213A)

## D3040.04.01 Fans: Exhaust\*\* Home Economics

The Home Economics Room is serviced by a Greenheck CUBE-141 roof exhaust fan that has an exhaust air capacity of 2,539 CFM at a static pressure of 1 inch.

RatingInstalledDesign LifeUpdated4 - Acceptable199330MAR-13

**Event:** Replace 1 exhaust fan in home economics

classroom

TypeYearCostPriorityLifecycle Replacement2023\$11,440Unassigned

**Updated: MAR-13** 

D3040.04.03 Ducts: Exhaust\*

Exhaust ducts are galvanized sheet steel, installed in the ceiling space.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

D3040.04.05 Air Outlets and Inlets: Exhaust\*

Exhaust air outlets are egg crate grilles in the ceiling throughout school.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

D3040.05 Heat Exchangers\*\*

Steam to water Shell & Tube Heat Exchanger serving the North side of the school.

RatingInstalledDesign LifeUpdated4 - Acceptable197330MAR-13

Event: Replace 1 heat exchanger

TypeYearCostPriorityLifecycle Replacement2016\$15,300Unassigned

**Updated:** MAR-13

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

The South side of the school has perimeter finned tube radiation heating, in the Classrooms, Office Areas and the Gym. Total approx. 350m.

RatingInstalledDesign LifeUpdated4 - Acceptable195240MAR-13

Event: Replace 350m finned tub radiation

TypeYearCostPriorityLifecycle Replacement2016\$157,900Unassigned

Updated: MAR-13

# D3060.01 Energy Management and Conservation System\*

To be deleted. Could not delete due to failure replacement completed event attached.

RatingInstalledDesign LifeUpdatedN/A00MAR-13

**Event:** replace emergy management system

TypeYearCostPriorityFailure Replacement2012\$65,671Unassigned

Updated: SEP-12

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

Pneumatic Johnson Controls control the school's Boiler and Ventilation system with a Devilbiss 22c air compressor that is driven with a 0.73 kW electric motor. Zones are individually controlled by line voltage thermostats.

RatingInstalledDesign LifeUpdated4 - Acceptable195240MAR-13

**Event:** Replace pneumatic control system.

TypeYearCostPriorityLifecycle Replacement2016\$190,800Unassigned

**Updated: MAR-13** 

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

There are two types of fire extinguishers in the school, 2-1/2 gallon pump tank extinguishers and 5 lbs ABC wall hung fire extinguishers. Installed throughout the school.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# S5 ELECTRICAL

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

The main distribution was installed in 1973 building addition. The system is 120/208V, 1200A, 3 phase and 4 wire. Panel manufacturer unknown.

RatingInstalledDesign LifeUpdated4 - Acceptable197340MAR-13

**Event: Replace 1 Main Electrical Switchboard** 

TypeYearCostPriorityLifecycle Replacement2016\$91,520Unassigned

**Updated:** MAR-13

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

8 new secondary 120V/208V, 3 phase, 4 wire panels were installed were installed during 1993 modernization in storage rooms.

RatingInstalledDesign LifeUpdated5 - Good199330MAR-13

**Event:** Replace 8 Electrical Branch Circuit Panelboards

TypeYearCostPriorityLifecycle Replacement2023\$41,200Unassigned

**Updated: MAR-13** 

#### D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)\*\* 1973

4 secondary 120V/208V, 3 phase, 4 wire panels were installed during 1973 building addition in storage rooms throughout.

RatingInstalledDesign LifeUpdated4 - Acceptable197330MAR-13

**Event: Replace 4 Electrical Branch Circuit Panelboards** 

TypeYearCostPriorityLifecycle Replacement2016\$20,600Unassigned

Updated: MAR-13

# Edmonton - McKernan Elementary / Junior High School (B3213A)

#### D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)\*\* 2001

2 new secondary 120V/208V, 3 phase, 4 wire panels were installed for computer lab upgrading.

RatingInstalledDesign LifeUpdated4 - Acceptable200130MAR-13

**Event: Replace 2 Electrical Branch Circuit Panelboards** 

TypeYearCostPriorityLifecycle Replacement2031\$10,300Unassigned

Updated: MAR-13

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

Magnetic start/stop stations for individual mechanical equipment controls located in the mechanical room. Total 14.

RatingInstalledDesign LifeUpdated5 - Good197330MAR-13

**Event: Replace 14 Motor Starters and Accessories** 

TypeYearCostPriorityLifecycle Replacement2016\$8,000Unassigned

Updated: MAR-13

# D5020.01 Electrical Branch Wiring\*

Wiring is copper wiring in conduit installed in ceiling spaces and surface mounted where exposed to view. Most 1951 wires were replaced during 1973 addition and 1993 modernization.

RatingInstalledDesign LifeUpdated5 - Good19730MAR-13

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

Lighting controls are line voltage switching. The lights in the classrooms and office are controlled locally and the hallway lights are centrally controlled in the administration office.

RatingInstalledDesign LifeUpdated5 - Good19730MAR-13

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

The school fluorescent light fixtures have been upgraded to T8 lamp fixtures. Total 1180 fixtures.

RatingInstalledDesign LifeUpdated5 - Good201130MAR-13

**Event: Replace 1180 Florescent Fixtures** 

TypeYearCostPriorityLifecycle Replacement2041\$295,000Unassigned

Updated: MAR-13

## D5020.02.02.05 Other Interior Fixtures\*

1973 entrance has recessed halogen light fixtures installed in ceiling.

RatingInstalledDesign LifeUpdated4 - Acceptable19730MAR-13

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

Lumacell emergency lighting battery pack with twin heads located throughout the school. Total 30 units.

RatingInstalledDesign LifeUpdated5 - Good198820MAR-13

**Event: Replace 30 Emergency Lighting Battery Packs** 

TypeYearCostPriorityLifecycle Replacement2016\$34,700Unassigned

Updated: MAR-13

## D5020.02.03.03 Exit Signs\*

The Exit signs were retrofit to LED type lamps.

RatingInstalledDesign LifeUpdated5 - Good20020MAR-13

#### D5020.02.10 Theatrical Lighting\*

7 spot lights are installed along the ceiling in the drama room. Install year unknown.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

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

Fixtures were installed in 1988 and have fair lighting level coverage. Located along perimeter of school for parking lot and site lighting.

Rating Installed Design Life Updated 1998 0 MAR-13

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

All exterior lighting is controlled by photoelectric cell.

RatingInstalledDesign LifeUpdated5 - Good19730MAR-13

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

Edwards 6632 hardwired zoned fire alarm system. The system includes heat and smoke detectors for detection, alarm pull stations at exterior doors and bells within the corridors for signaling. Total amount of devices unknown.

RatingInstalledDesign LifeUpdated5 - Good198725MAR-13

# **Event: Replace Fire Alarm System and devices**

TypeYearCostPriorityLifecycle Replacement2016\$86,900Unassigned

Updated: MAR-13

## D5030.02.02 Intrusion Detection\*\*

Magnum Alert 3000 system is installed for the security system and has motion sensors installed through entire building hallways. Total amount of motion sensors unknown.

RatingInstalledDesign LifeUpdated5 - Good200025MAR-13

#### **Event: Replace Intrusion Detection System**

TypeYearCostPriorityLifecycle Replacement2025\$22,880Unassigned

**Updated:** MAR-13

# Edmonton - McKernan Elementary / Junior High School (B3213A)

#### D5030.02.04 Video Surveillance\*\*

CCTV system installed to monitor the back outside area. Total amount of cameras unknown.

RatingInstalledDesign LifeUpdated5 - Good201225MAR-13

**Event: Replace CCTV system** 

TypeYearCostPriorityLifecycle Replacement2037\$24,500Unassigned

Updated: MAR-13

# D5030.03 Clock and Program Systems\*

Simplex timer and program system was used and connected to school PA system.

RatingInstalledDesign LifeUpdated5 - Good20030MAR-08

# D5030.04.01 Telephone Systems\*

Nortel Meridian is used for telephone system. Telephones located in offices and classrooms, located at teachers desk.

RatingInstalledDesign LifeUpdated5 - Good19970MAR-13

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

The major network cabling was installed in 1994; the new computer room was completed in 2001. There is data provided in each classroom.

RatingInstalledDesign LifeUpdated5 - Good19940MAR-13

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

The Bogen system is installed to perform PA and Music, call and paging functions through entire school.

RatingInstalledDesign LifeUpdated5 - Good199720MAR-13

**Event: Replace Public Address and Music Systems** 

TypeYearCostPriorityLifecycle Replacement2017\$40,000Unassigned

**Updated:** MAR-13

Report run on: March 15, 2013 1:33 PM

Page 45 of 50

# **S6 EQUIPMENT, FURNISHINGS AND SPECIAL CONSTRUCTION**

## E1020.02 Library Equipment\*

Painted wood shelving and stand alone shelving units.

RatingInstalledDesign LifeUpdated4 - Acceptable19930MAR-13

## E1020.03 Theatre and Stage Equipment\*

Stage curtains and theatrical lighting.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

## E1020.05 Audiovisual Equipment\*

Smart boards installed along teaching wall of classrooms. 1 per classroom with at total of 17.

RatingInstalledDesign LifeUpdated5 - Good20050MAR-13

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

4 wall mounted and 2 ceiling mounted basketball hoops, badminton equipment and floor mats in both gymnasiums.

RatingInstalledDesign LifeUpdated4 - Acceptable19930MAR-13

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

Painted and stained millwork with plastic laminated counter tops in all sections. Total 400m.

RatingInstalledDesign LifeUpdated3 - Marginal195235MAR-13

#### **Event: Replace 400 M Fixed Casework**

#### Concern:

Casework is worn, scratched and damaged. Plastic laminate tops are peeling away.

#### Recommendation:

Recommend replacing the casework throughout the school except in home economics room.

TypeYearCostPriorityFailure Replacement2012\$317,200Low

Updated: MAR-13



IMG\_9751.jpg

## E2010.02 Fixed Casework\*\* Home Economics

Clear finish plywood veneer with plastic laminate counter tops installed in home economics room. Total 25m.

RatingInstalledDesign LifeUpdated4 - Acceptable199335MAR-13

**Event:** Replace 25m casework in home economics

TypeYearCostPriorityLifecycle Replacement2028\$19,900Unassigned

**Updated:** MAR-13

# E2010.03.01 Blinds\*\*

Roll up blinds at all exterior windows that covers windows and glass block above. Total 479m2.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-13

**Event:** Replace 479m2 of exterior window blinds.

TypeYearCostPriorityLifecycle Replacement2016\$52,300Unassigned

**Updated:** MAR-13

# S8 SPECIAL ASSESSMENT

#### K3020.03 Air Conditioning/Cooling\*

The computer room and 2 printing offices has heat generation from the equipment.

RatingInstalledDesign LifeUpdated4 - Acceptable20120MAR-13

**Event: Install 3 air conditioners** 

Concern:

The server room and 2 printing offices have excessive heat generation from equipment.

Recommendation:

Recommend installing a ceiling mounted air conditioner with a condenser unit on the roof for each room.

TypeYearCostPriorityIndoor Air Quality Upgrade2012\$15,000Low

Updated: MAR-13

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

Direct access from parking area to east vestibule of 1952 Section.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# K4010.02 Barrier Free Entrances\*

East vestibule doors power equipped meeting BFA requirements.

RatingInstalledDesign LifeUpdated4 - Acceptable19930MAR-13

# K4010.03 Barrier Free Interior Circulation\*

Elevator provided and ramps in corridors between elevation changes.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

## K4010.04 Barrier Free Washrooms\*

Designated barrier free washrooms in 1952 section.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

#### K4030.01 Asbestos\*

Hazardous material management report of December 2000 identified various areas containing asbestos materials. With exception of hazardous materials stored in the crawl space and material covering mechanical fittings the facility was found to be in good condition.

Asbestos abatement has been undertaken in 1981, 1994, 1999, 2000, 2006 and 2010.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

# K4030.04 Mould\*

No mould was viewed or reported at the time of inspection. Previous mould remedial action was undertaken in 2001.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-13

## K5010.01 Site Documentation\*

Prime Consultant Name - N53 Architecture Inc. Date of Site Visit: December 11, 2012

Building and Portable Classrooms on Site:

**Buildings:** 

B3213A:

(1952) Original Building - 4890 square meters

(1953) Addition - 764 square meters

(1973) Addition - 1895 square meters

Total building area is 7549 square meters

Portable Classrooms:

None on site at time of inspection

Areas Evaluated in this Report:

B3213A (7549 square meters). The site is evaluated with the building B3213A

Drawing attached - Mckernan School Site Plan

Rating	Installed	Design Life	<u>Updated</u>
4 - Acceptable	2012	0	MAR-13



Mckernan School Site Plan

# K5010.02 Building Documentation\*

Prime Consultant Name - N53 Architecture Inc.

Date of Site Visit: December 11, 2012

Areas Evaluated in this Report:

(1952) Original Building - 4890 square meters

(1953) Addition - 764 square meters

(1973) Addition - 1895 square meters

Drawing attached - Mckernan School Main Floor Plan

Mckernan School Second Floor Plan

Rating Installed Design Life Updated

4 - Acceptable 2012 0 MAR-13

**Event: archibus** 

TypeYearCostPriorityStudy2012\$1,155Unassigned

Updated: OCT-12