RECAPP Facility Evaluation Report

Alberta Health Services-Edmonton



Facilities And Maintenance B1022I Edmonton

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Edmonton - Facilities And Maintenance (B1022I)

Facility Details		Evaluation Details		
Building Name:	Facilities And Maintenance	Evaluation Company:	Bacz Engineering Ltd.	
	17480 Fort Road, P. O. Box	Evaluation Date:	November 7 2013	
Location:	Edmonton	Evaluator Name:	Eric Lumley	
Building Id:	B1022I		·	
Gross Area (sq. m):	1,605.00			
Replacement Cost:	\$2,843,177			
Construction Year:	1962	Total Maintenand	ce Events Next 5 years:	\$1,161,870
General Summary:		5 year Facility Co	ondition Index (FCI):	40.87%

Building # 19 is a single storey structure, constructed in two phases. The original building was constructed in 1962, with the addition added to the north end of the building in 1974. The east section of the building is primarily occupied by administration office areas. The west side has workshops, which include a wood-shop, paint-shop, upholstery shop & general maintenance shops. The building has a total gross area of 1605 Square Metres.

Structural Summary:

The foundations consist of cast-in-place concrete grade beams on concrete piles. The building has a reinforced concrete slab on grade. The superstructure is made of OWSJ joists with wood and /or steel roof decking. The exterior concrete block walls are load-bearing.

Overall, the structural elements are in acceptable condition.

Envelope Summary:

The exterior walls of the facilities management building have a concrete block wall assembly with a paint finish. The roof has a built-up roof assembly on either a wood or steel deck. The windows are a combination of wood and/or sealed double glazed anodized aluminum fixed & awning units. The main entrance door is framed in anodized aluminum with full glazed panels. The warehouse exit doors are painted steel doors with hollow metal frames c/w hardware. The warehouse area has three insulated overhead metal panel doors and one original sectional overhead wood door in the wood-shop.

Overall, the building envelope is in acceptable condition.

Recommendations:

- -Replace original sectional overhead wood door in the wood-shop
- -Replace Built-up roof assembly.

Interior Summary:

Vinyl tile flooring is located throughout the majority of the main office corridors, staff room, women's washroom and selected offices. Carpet flooring is located throughout the majority of the offices and boardrooms. The men's washroom has a ceramic tile floor finish. The concrete floor in the warehouse & mechanical room is exposed & sealed. The gypsum board partitions in the offices have a paint finish. The concrete block walls throughout the corridors and warehouse area are painted. The ceilings in the office area consist of a suspended 2'x4' acoustical tile ceiling and/or gypsum board ceiling tiles. The steel structure, steel & wood deck are exposed or painted in the warehouse area. The interior swing doors in the offices & corridor have a painted wood door and steel frame assembly. The interior doors in the warehouse are hollow metal doors in pressed steel frames.

Overall, the interior finishes are in acceptable condition.

Recommendations:

- -Modify male and female washrooms.
- -Install power operator to main entrance door.

Mechanical Summary:

Heating in the building is provided by steam which is supplied from the central power plant.

Steam piping distribution in the building to glycol heat exchanger and heating terminal units (unit heaters and finned tube radiation cabinets). Cooling for the office area of the building is provided by a direct expansion type cooling system which is part of the office area air handling unit. The cooling system consists of an evaporator coil and two refrigeration compressors in the packaged air handling unit and an associated rooftop condenser unit.

Building ventilation is provided by the office area air handling unit, and two gas fired make-up air units serving

carpentry and paint booth. Make-up air units are interlocked with designated exhaust fans and dust collection system. Plumbing fixtures in the building include a janitor mop sink, emergency eyewash stations, drinking fountains, general purpose stainless steel sinks, lavatories, toilets, urinals and showers.

Domestic hot water is generated by tank type water heater with internal electric heating elements. Fire protection is provided by standard fire hose cabinets in the 1974 building addition and by wall mounted fire extinguishers.

Overall mechanical system components are in acceptable condition.

Electrical Summary:

The Facilities and Maintenance Building (building No. 19) has an incoming 120/208V service from three 75kVA, 2400-120/240V pad-mounted transformers, located adjacent to the building. The main distribution panel has an 800A main breaker and molded case branch breakers. The mechanical loads within the building are fed from individual motor starters. There is no emergency or illuminated exit lighting for the building.

The wiring in the building is typically standard wiring in conduit.

The lighting is typically 120V fluorescent lighting fixtures with T12 lamps and magnetic ballasts. Some T8 fluorescent lighting has been provided.

The building has a Simplex 2100, zoned fire alarm system. Detection and end devices include, heat detectors, bells and pull stations.

The various communications and security systems within the building include structured wiring systems for the telephone and data systems. The building has a security access system.

It is recommended, as routine maintenance, that a program for annual examination of major electrical components be instituted. Maintenance should include thermographic scans for hot spots and power shut down to allow examination of interior components for accumulated debris and signs of corrosion.

The following are recommendations for the building:

- Replace the main distribution transformers
- Replace the aged branch circuit panelboards
- Replace flourescent fixtures
- Replace the aged motor starters
- Provide exit lights with LED lamps
- Provide emergency lighting coverage to meet code requirements
- Replace the fire alarm system with a new addressable system

Overall the electrical elements for the Facilities and Maintenance Building (building No. 19), other than the exit and emergency lighting, are in acceptable condition.

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* The foundations consist of a cast-in-place concrete grade beams and concrete piles. Rating Installed Design Life Updated 4 - Acceptable 1962 **MAR-14** 0 A1030 Slab on Grade* The building has a reinforced concrete slab on grade Rating Installed Design Life Updated 4 - Acceptable 1962 0 **MAR-14**

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

The interior concrete block walls are load-bearing supporting the OWSJ structure & wood and/or steel roof deck.

<u>Rating</u>	Installed	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1962	0	MAR-14

B1020.01 Roof Structural Frame*

The roof structure consists of OWSJ with a wood and/or metal roof deck supported by exterior and interior loadbearing concrete block walls.

Rating	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1962	0	MAR-14

S2 ENVELOPE

JZ ENVELOPE
B2010.01.02.02 Concrete Block: Ext. Wall Skin*
Reinforced concrete loadbearing block walls with loose fill insulation in the block cores
RatingInstalledDesign LifeUpdated4 - Acceptable19620MAR-14
B2010.01.09 Expansion Control: Ext. Wall*
Vertical control joint where the original building and the addition join.
RatingInstalledDesign LifeUpdated4 - Acceptable19740MAR-14
B2010.01.11 Joint Sealers (caulking): Ext. Wall**
Caulking to windows & exterior doors.
RatingInstalledDesign LifeUpdated4 - Acceptable196220MAR-14
Event: Replace caulking (B.O.E. 334m.)
TypeYearCostPriorityLifecycle Replacement2017\$10,000Unassigned
Updated: MAR-14
B2010.01.13 Paints (& Stains): Ext. Wall**
The exterior concrete block walls have a paint finish.
RatingInstalledDesign LifeUpdated4 - Acceptable200815MAR-14
Event: Paint exterior walls (B.O.E. 789 sq.m.)
Type Lifecycle ReplacementYear 2023Cost \$17,200Priority UnassignedUpdated:MAR-14
TypeYearCostPriorityLifecycle Replacement2023\$17,200Unassigned

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

The windows in the 1974 section are aluminum framed double glazed sealed units with operable awning units.

Rating	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1974	40	MAR-14

Event: Replace aluminum windows.- (B.O.E. 32 sq.m.)

TypeYearCostPriorityLifecycle Replacement2017\$32,000Unassigned

Updated: MAR-14

B2020.01.01.05 Wood Windows (Glass & Frame)**

Windows in the 1962 section are wood framed double glazed sealed units with operable awning units.

Rating	Installed	Design Life	Updated
4 - Acceptable	1962	35	MAR-14

Event: Replace wood windows.- (B.O.E. 18 sq.m.)

Туре	Year	Cost	Priority
Lifecycle Replacement	2017	\$15,000	Unassigned

Updated: MAR-14

B2030.01.01 Aluminum-Framed Storefronts: Doors**

Aluminum framed door with full glazed panels & commercial grade hardware is located at the main entrance.

<u>Rating</u>	Installed	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	2007	30	MAR-14

Event: Replace door.- (B.O.E. 1 door)

Туре	Year	Cost	Priority
Lifecycle Replacement	2037	\$3,500	Unassigned

Updated: MAR-14

B2030.02 Exterior Utility Doors**

The secondary entrances & exits in the shop areas have insulated metal doors and pressed steel frames, painted.

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1962	40	MAR-14

Event: Replace exterior utility doors.- (B.O.E. 14 doors.)

<u>Type</u>	Year	Cost	Priority
Lifecycle Replacement	2017	\$12,000	Unassigned

B2030.03 Large Exterior Special Doors (Overhead)*

The shop areas have four insulated overhead metal panel doors.

<u>Rating</u>	Installed	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	2008	0	MAR-14

B3010.04.01 Built-up Bituminous Roofing (Asphalt & Gravel)**

The roofs on both sections have a 4-ply built up roofing system with gravel ballast.

Rating	Installed	Design Life	Updated
2 - Poor	1962	25	MAR-14

Event: Replace B.U.R. - (B.O.E. 1598 sq.m.)

Concern:

The existing roofing deteriorates. On-going roof patching is no longer effective. **Recommendation:** Replace the roofing over the entire building. **Consequences of Deferral:** Roof leaks have the potential to damage interior finishes and equipment.

Туре	Year	Cost	Priority
Failure Replacement	2014	\$291,000	Medium

Updated: MAR-14

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

Inside vertical wall mounted ladder and roof hatch located in the 1962 section.

Rating	Installed	Design Life	Updated
4 - Acceptable	1962	0	MAR-14

S3 INTERIOR

C1010.01 Interior Fixed Partitions*

Gypsum board partitions are located throughout the offices area. Concrete block walls are located in the main corridors and between the shop areas.

<u>Rating</u>	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1962	0	MAR-14

C1010.05 Interior Windows*

The interior window in the offices area single glazed with wood frames.

Rating	Installed	Design Life	Updated
4 - Acceptable	1962	0	MAR-14

C1010.07 Interior Partition Firestopping*

Firestopping appears to have been provided for all pipe and conduit penetrations in fire rated walls..

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1962	0	MAR-14

C1020.01 Interior Swinging Doors (& Hardware)*

The interior doors in the offices & corridor are painted wood doors in pressed steel frames.

Rating	Installed	Design Life	Updated
4 - Acceptable	2000	0	MAR-14

C1020.03 Interior Fire Doors*

The interior doors in the shops are ULC labelled hollow metal doors in pressed steel frames.

Rating	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1962	0	MAR-14

C1020.05 Interior Large Doors*

Oversized steel slider doors with heavy duty track are located in the painting shop.

<u>Rating</u>	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1962	0	MAR-14

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

The men's washrooms have prefinished steel cubicles, floor mounted with top rails. The doors in the women's washroom have plastic laminate panels.

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	30	MAR-14

Event: Replace washroom cubicles.- (B.O.E. 4 cubicles.)

Туре	Year	Cost	Priority
Lifecycle Replacement	2017	\$7,000	Unassigned

Updated: MAR-14

C1030.10 Lockers**

Full height steel lockers are provided in the men's change room.

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	30	MAR-14

Event: Replace Lockers.- (B.O.E. 10 lockers.)

Туре	Year	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2017	\$4,870	Unassigned

Updated: MAR-14

C1030.12 Storage Shelving*

Metal storage shelving is located throughout the shop storage areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	1962	0	MAR-14

C1030.14 Toilet, Bath, and Laundry Accessories*

The washrooms are equipped with paper towel dispensers, toilet paper dispensers, hand-soap dispensers, waste bins and mirrors.

Rating	Installed	Design Life	Updated
4 - Acceptable	2000	0	MAR-14

C3010.06 Tile Wall Finishes**

Ceramic wall tile is located in the men's & women's washrooms

Rating	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1974	40	MAR-14

Event: Replace ceramic wall tile.- (B.O.E. 209 sq.m.)

Туре	Year	Cost	Priority
Lifecycle Replacement	2017	\$54,000	Unassigned

Updated: MAR-14

C3010.11 Interior Wall Painting*

Painted concrete block & gypsum board walls throughout offices and shops.

Rating	Installed	Design Life	Updated
4 - Acceptable	2000	0	MAR-14

C3020.01.01 Epoxy Concrete Floor Finishes*

An epoxy floor finish is located in the general maintenance shop area.

Rating	Installed	<u>Design Life</u>	Updated
4 - Acceptable	2000	0	MAR-14

C3020.01.02 Painted Concrete Floor Finishes*

The concrete floors in the shops and utility rooms are painted.

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	0	MAR-14

C3020.02 Tile Floor Finishes**

Ceramic floor tile is located in the men's washroom area.

Rating	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1974	50	MAR-14

Event: Replace ceramic tile floor.- (B.O.E. 39 sq.m.)

Туре	Year	Cost	Priority
Lifecycle Replacement	2024	\$9,000	Unassigned

C3020.07.01 Resilient Tile Flooring**

Vinyl tile flooring is located throughout the majority of the main office corridors, staff room, women's washroom and selected offices.

Rating	Installed	Design Life	Updated
4 - Acceptable	2007	20	MAR-14

Event: Replace VCT flooring.- (B.O.E. 336 sq.m.)

Туре	Year	Cost	Priority
Lifecycle Replacement	2027	\$18,000	Unassigned

Updated: MAR-14

C3020.07.02 Resilient Sheet Flooring**

Sheet vinyl flooring in room 133.

Rating	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1974	0	MAR-14

Event: Replace sheet vinyl flooring.- (B.O.E. 61 sq.m.)

Туре	Year	<u>Cost</u>	Priority
Lifecycle Replacement	2017	\$5,000	Unassigned

Updated: MAR-14

C3020.08 Carpet Flooring**

Carpeting is located throughout the majority of the offices and meeting rooms.

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
4 - Acceptable	2000	15	MAR-14

Event: Replace carpeting.- (B.O.E. 262 sq.m.)

Туре	Year	Cost	Priority
Lifecycle Replacement	2017	\$14,000	Unassigned

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

T-bar ceilings in the office areas.

<u>Rating</u>	Installed	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	2000	25	MAR-14

Event: Replace T-bar ceiling tiles.- (B.O.E. 278 sq.m.)

Туре	<u>Year</u>	Cost	Priority
Lifecycle Replacement	2025	\$13,000	Unassigned

Updated: MAR-14

C3030.07 Interior Ceiling Painting*

Painted gypsum board ceilings in the washrooms, corridors and the exposed steel deck in the shop areas..

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	0	MAR-14

C3030.09.04 Linear Wood Ceilings

Varnished wood decking in shop areas in 1962 section.

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1962	0	MAR-14

S4 MECHANICAL

D2010.04 Sinks** - 1962

General purpose single bowl stainless steel sinks and a janitor mop sink (1962). General purpose stainless steel sinks serving south end of the building (1974).

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1962	30	MAR-14

Event: Replace 6 Sinks.

Туре	Year	Cost	Priority
Lifecycle Replacement	2017	\$11,000	Unassigned

Updated: MAR-14

D2010.04 Sinks** - 2008

General purpose single bowl stainless steel sinks serving lunch room and office area.

<u>Rating</u>	Installed	<u>Design Life</u>	<u>Updated</u>
5 - Good	2008	30	MAR-14

Event: Replace 2 Sinks.

Type	Year	<u>Cost</u>	Priority
Lifecycle Replacement	2038	\$3,000	Unassigned

Updated: MAR-14

D2010.05 Showers** - 1962

Shower stall in the male washroom with architectural finishes (ceramic tiles), valve and shower head.

Rating	Installed	Design Life	Updated
4 - Acceptable	1962	30	MAR-14

Event: Replace 1 Shower.

Туре	Year	Cost	Priority
Lifecycle Replacement	2017	\$4,000	Unassigned

D2010.05 Showers** - 2008

Shower stall in the female washroom with prefabricated formed plastic structure, valve and shower head.

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
5 - Good	2008	30	MAR-14

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Туре	<u>Year</u> Cos	t <u>Priority</u>
Lifecycle Replacement	2038 \$4,0	00 Unassigned

Updated: MAR-14

D2010.08 Drinking Fountains/Coolers**

Floor mounted refrigerated drinking fountain in the main corridor of the 1962 original building. Wall mounted refrigerated drinking fountain in the main corridor of the1974 building addition.

<u>Rating</u>	Installed	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1962	35	MAR-14

Event: Replace 2 Drinking Fountains.

Туре	Year	<u>Cost</u>	<u>Priority</u>
Lifecycle Replacement	2017	\$6,000	Unassigned

Updated: MAR-14

D2010.09 Other Plumbing Fixtures*

Emergency eyewash stations.

Rating	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1995	0	MAR-14

D2010.10 Washroom Fixtures (WC, Lav, Urnl)** - 2008

WC - floor mounted, vitreous china, flush valve. LAV - counter mounted vitreous china.

Rating	Installed	Design Life	Updated
5 - Good	2008	35	MAR-14

Event: Replace 4 Washroom Fixtures.

Туре	<u>Year</u> Cos	<u>st</u> <u>Priority</u>
Lifecycle Replacement	2043 \$7,	000 Unassigned

D2010.10 Washroom Fixtures (WC, Lav, Urnl)** -1962

WC - floor mounted, vitreous china, flush valve.LAV - counter mounted enameled steel, wall mounted vitreous china.UR - floor mounted vitreous china flush valve.

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1962	35	MAR-14

Event: Replace 11 Washroom Fixtures.

Туре	<u>Year</u>	<u>Cost</u>	Priority
Lifecycle Replacement	2017	\$17,000	Unassigned

Updated: MAR-14

D2020.01.01 Pipes and Tubes: Domestic Water*

50 mm diameter domestic supply which is equipped with a 50 mm diameter water meter. The building domestic water pressure piping is copper.

Rating	Installed	Design Life	Updated
4 - Acceptable	1962	0	MAR-14

D2020.01.02 Valves: Domestic Water**

Domestic water distribution system piping includes isolation valves for fixtures and piping branches. Domestic water distribution system isolation valves include brass or bronze gate, globe and ball type valves.

<u>Rating</u>	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1962	40	MAR-14

Event: Replace 80 domestic water distribution system valves.

Туре	<u>Year</u>	<u>Cost</u>	Priority
Lifecycle Replacement	2017	\$16,000	Unassigned

D2020.01.03 Piping Specialties (Backflow Preventers)**

Backflow prevention device for the make-up water supply to the paint spray booth water wall system (19 mm diameter).

Rating	Installed	<u>Design Life</u>	Updated
4 - Acceptable	2000	20	MAR-14

Event: Install 2 backflow preventors.

Concern:

Domestic water supply to the building is not protected from potential contamination caused by backflow from the building, and the building domestic water distribution system is not protected from potential contamination caused by backflow from the building fire protection system (fire hose cabinet water supply lines).

Recommendation:

Install a backflow prevention device on the domestic water supply to the building and install a backflow prevention device on the fire hose cabinet water supply (this may require piping changes to isolate the fire hose cabinet water supply, since there does not appear to be a standpipe system and the fire hose cabinets are fed from the domestic water distribution system).

Туре	<u>Year</u>	<u>Cost</u>	Priority
Code Upgrade	2014	\$10,000	Low

Updated: MAR-14

Event: Replace 1 backflow preventor.

Туре	Year	Cost	Priority
Lifecycle Replacement	2020	\$2,000	Unassigned

Updated: MAR-14

D2020.02.06 Domestic Water Heaters**

"Giant" electric domestic hot water heater for the building located in the mechanical room, storage volume: 175 L

<u>Rating</u>	Installed	Design Life	Updated
4 - Acceptable	2007	20	MAR-14

Event: Replace 1 electric domestic hot water heater.

<u>Type</u> Lifecycle Replacement

<u>Year</u> <u>Cost</u> 2027 \$3,000 <u>Priority</u> Unassigned

D2020.03 Water Supply Insulation: Domestic*

Domestic water feed line into the building is insulated from the main shut off valve to the water meter, but the domestic water lines in the building are generally not insulated.

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	0	MAR-14

D2030.01 Waste and Vent Piping*

Visible sanitary vent and drainage piping is generally copper. Most of the building sanitary drainage piping is below grade and is probably cast iron.

<u>Rating</u>	Installed	Design Life	Updated
4 - Acceptable	1962	0	MAR-14

D2030.02.04 Floor Drains*

General purpose floor drains are located throughout the building. Trench and area drains in the shop.

<u>Rating</u>	Installed	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1962	0	MAR-14

D2040.01 Rain Water Drainage Piping Systems*

Storm water drainage from the flat roof areas is discharged into cast iron drainage piping which carries the storm water to the site storm sewer system.

<u>Rating</u>	Installed	Design Life	Updated
4 - Acceptable	1962	0	MAR-14

D2040.02.04 Roof Drains*

Standard roof drains collect storm water drainage from the flat roof areas for discharge into the cast iron rain water leaders. The roof drains are equipped with plastic strainers.

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1962	0	MAR-14

D2090.01 Compressed Air Systems (Non Controls)**

Two air compressors are located at the northwest corner of the building. One air compressor is a stand alone unit and one air compressor is tied into a compressed air distribution system for the shops.

Rating	Installed	Design Life	Updated
4 - Acceptable	1962	30	MAR-14

Event: Replace 2 air compressors.

Туре	Year	Cost	Priority
Lifecycle Replacement	2017	\$19,000	Unassigned

Updated: MAR-14

D3010.02 Gas Supply Systems*

Natural gas is supplied to the building for use in the two gas fired make-up air units. The natural gas piping is black steel.

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1962	0	MAR-14

D3040.01.01 Air Handling Units: Air Distribution** -1974

Packaged Trane air handling unit which serves the office area on the east side of the 1974 building addition. Unit is located in the mechanical room and includes filters, supply fan, and direct expansion type air conditioning system. The packaged unit contains the compressors and the evaporator coil of the direct expansion air conditioning system and the associated condenser is mounted on the roof. R22 refrigerant.

Rating	Installed	Design Life	Updated
3 - Marginal	1974	30	MAR-14

Event: Replace the Trane air handling unit including the direct expansion air conditioning system evaporator coil and refrigeration compressors. -BOE: 1605 sq. m. GFA)

Concern: Air handling system deteriorates, no replacement parts available. **Recommendation:** Replace air handling unit (including direct expansion air

conditioning system evaporator coil and refrigeration compressors).

Туре	Year	<u>Cost</u>	Priority
Failure Replacement	2014	\$55,000	Low

D3040.01.03 Air Cleaning Devices: Air Distribution* - Dust Collector

Dust collection system for the shop area at the southwest corner of the building (carpenter shop). Dust collector is located outside the building on the south side, and discharges to atmosphere (no circulation).

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	0	MAR-14

D3040.01.04 Ducts: Air Distribution*

Galvanized steel ductwork serving air handling unit and make-up air systems.

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	0	MAR-14

D3040.01.06 Air Terminal Units: Air Distribution (VAV/CV Box)**

VAV box serving S/A duct to South East offices.

<u>Rating</u>	Installed	Design Life	Updated
4 - Acceptable	2002	30	MAR-14

Event: Replace 1 VAV Box.

Туре	Year	Cost	Priority
Lifecycle Replacement	2032	\$4,000	Unassigned

Updated: MAR-14

D3040.01.07 Air Outlets & Inlets: Air Distribution*

Air outlets and inlets include supply air diffusers and return air grilles. Supply air outlets are generally square ceiling mounted diffusers and return air grilles are generally ceiling mounted.

Rating	Installed	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1974	0	MAR-14

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

Steam is supplied to the building from the central power plant on the site. Steam is used in the steam to hot glycol heat exchanger to produce hot glycol for the office area radiant panel heating system, and steam is also used for heating directly in the steam terminal units (unit heaters and finned tube radiation cabinets). This element includes the steam distribution piping, condensate collection piping, piping insulation, traps, valves, piping specialties, and condensate tanks and pumps. Steam condensate return systems include a return system in the mechanical room 115 (a packaged system including a tank and duplex pumps - replaced in 2010), and a return system in the closet in the male washroom (a packaged system including a tank and a single pump).

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1974	40	MAR-14

Event:	Replace Steam Piping Distribution System (BOE:
	<u>1605 sq.m. GFA.)</u>

Туре	Year	<u>Cost</u>	Priority
Lifecycle Replacement	2017	\$135,000	Unassigned

Updated: MAR-14

D3040.03.01 Hot Water Distribution Systems**

The office area at the southeast corner of the building is heated with radiant ceiling panels and has a hot glycol loop which supplies the radiant panels. The hot glycol loop includes one steam to hot glycol heat exchanger, two glycol circulation pumps, and an expansion tank (all located in the adjacent carpentry shop). The glycol heating loop also includes the glycol distribution piping, piping insulation, valves, and piping specialties.

Rating	Installed	Design Life	Updated
5 - Good	2002	40	MAR-14

Event: Replace glycol heating system.- (BOE: 200 sq.m. GFA.)

Туре	Year	Cost	<u>Priority</u>
Lifecycle Replacement	2042	\$25,000	Unassigned

D3040.04.01 Fans: Exhaust**

Variety of rooftop exhaust fans, one exterior wall mounted exhaust fan, and one interior exhaust fan which discharges through the north wall. The roof mounted exhaust fans include the spray paint booth exhaust fan. Most of the exhaust fans are of 1962 and 1974 vintage.

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
3 - Marginal	1962	30	MAR-14

Event: Replace 9 Exhaust Fans.

Туре	<u>Year</u>	Cost	Priority
Lifecycle Replacement	2017	\$35,000	Unassigned

Updated: MAR-14

Event: Replace the rooftop. - (2)

Concern:

Rooftop exhaust fan at the northwest corner of the building and the paint spray booth exhaust fan are worn out and corroded.

Recommendation:

Replace rooftop exhaust fan at the northwest corner of the building and the paint spray booth exhaust fan.

Туре	Year	Cost	Priority
Failure Replacement	2014	\$15,000	Low

Updated: MAR-14

D3040.04.03 Ducts: Exhaust*

The building exhaust fans have associated duct systems for the collection of air from single or multiple source locations, and/or discharge ducts for the conveyance of air to the exhaust louvres or stacks.

Rating	Installed	Design Life	Updated
4 - Acceptable	1962	0	MAR-14

D3040.04.05 Air Outlets and Inlets: Exhaust*

Exhaust outlets and inlets include the exhaust system collection grilles and hoods, and the exhaust louvres where applicable.

Rating	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1962	0	MAR-14

D3040.05 Heat Exchangers**

Steam to glycol heat exchanger which provides hot glycol for the radiant ceiling panels in the office area at the southeast corner of the building. The heat exchanger is located in the adjacent carpentry shop.

Rating	Installed	Design Life	Updated
5 - Good	2002	30	MAR-14

Event: Replace 1 Heat Exchanger.

Туре	Year	<u>Cost</u>	Priority
Lifecycle Replacement	2032	\$5,000	Unassigned

Updated: MAR-14

D3050.01.02 Packaged Rooftop Air Conditioning Units (& Heating Units)** - 1974

Natural gas fired make-up air unit which provides make-up air to the paint spray booth to balance the spray booth exhaust air flow. The make-up air unit is located inside the building near the paint spray booth (suspended from the roof).

Rating	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1974	30	MAR-14

Event: Replace 1 make-up air unit.

Туре	Year	Cost	Priority
Lifecycle Replacement	2017	\$25,000	Unassigned

Updated: MAR-14

D3050.01.02 Packaged Rooftop Air Conditioning Units (& Heating Units)** - 1990

Rroof mounted natural gas fired make-up air unit which provides make-up air to the carpentry shop to balance the dust collector exhaust air flow.

Engineered Air model HE-40, 1600 lps supply air flow.

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1990	30	MAR-14

Event: Replace 1 Make-up air unit.

Туре	Year	Cost	Priority
Lifecycle Replacement	2020	\$16,000	Unassigned

D3050.05.03 Finned Tube Radiation**

In the original office area on the east side of the 1974 addition, steam fed finned tube radiation cabinets provide perimeter heating.

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	40	MAR-14

Event: Replace finned tube radiation.- (BOE: 260 sq.m. GFA.)

Туре	<u>Year</u>	<u>Cost</u>	Priority
Lifecycle Replacement	2017	\$14,000	Unassigned

Updated: MAR-14

D3050.05.06 Unit Heaters** - 1962

Steam unit heaters provide space heating in the 1962 and 1974 shop areas, as well as washrooms and common areas.

Rating	Installed	<u>Design Life</u>	Updated
3 - Marginal	1962	30	MAR-14

Event: Replace 15 unit heaters.

Concern: Original unit heaters are deteriorating due to corrosion. **Recommendation:** Replace the remaining original steam unit heaters.

Туре	Year	Cost	Priority
Failure Replacement	2014	\$70,000	Low

Updated: MAR-14

D3050.05.06 Unit Heaters** - 2004

Engineered Air model H-1 steam unit heaters provide space heating at the northeast corner of the building.

Rating	Installed	Design Life	Updated
5 - Good	2004	30	MAR-14

Event: Replace 3 unit heaters.

Туре	Year	Cost	Priority
Lifecycle Replacement	2034	\$15,000	Unassigned

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

Radiant ceiling panels serving offices, 610mm width aluminum linear type, mounted in the T-bar.

Rating	Installed	<u>Design Life</u>	<u>Updated</u>
5 - Good	2002	35	MAR-14

Event: Replace radiant ceiling panels.- (BOE: 200 sq.m.

<u>G</u>	F	1	١.)

Туре	Year	Cost	<u>Priority</u>
Lifecycle Replacement	2037	\$10,000	Unassigned

Updated: MAR-14

D3060.02.01 Electric and Electronic Controls**

Electric controls are used for the steam unit heaters (the electric thermostats operate the unit heater fans), and for the Trane air handling/air conditioning unit.

<u>Rating</u>	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1962	30	MAR-14

Event: Replace 20 T-stats.

Туре	Year	Cost	Priority
Lifecycle Replacement	2017	\$7,000	Unassigned

Updated: MAR-14

D3060.02.02 Pneumatic Controls**

Pneumatic controls are used for the radiant ceiling panel heating system and for the domestic hot water heating system (pneumatic thermostats and control valves). Compressed air for controls use comes from the building process compressed air system.

<u>Rating</u>	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1974	40	MAR-14

Event: Replace pneumatic controls.- (BOE: 1605 sq.m. GFA.)

Туре	Year	Cost	Priority
Lifecycle Replacement	2017	\$20,000	Unassigned

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

The building is not equipped with a building management and control system (BMCS), although there are a few monitored parameters which are reported to the central monitoring and control system at the power plant (status and temperatures for the building domestic hot water system and for the glycol heating loop, as well as some room temperatures and some steam supply parameters). CPU-4 and CPU-13 located in the mechanical room are connected to the EBI server in the central plant.

Rating	Installed	Design Life	Updated
4 - Acceptable	2002	20	MAR-14

Event: Replace building monitoring system.- (BOE: 1605 sq.m. GFA.)

<u>Type</u>	Year	Cost	Priority
Lifecycle Replacement	2022	\$50,000	Unassigned

Updated: MAR-14

D4020 Standpipes*

Fire hose cabinets in the 1974 building addition. The fire hose cabinets are fed from the domestic water distribution system and there is no separate standpipe system.

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	0	MAR-14

D4030.01 Fire Extinguisher, Cabinets and Accessories*

Wall mounted fire extinguishers are located throughout the facility (ABC and BC types).

Rating	Installed	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1962	0	MAR-14

S5 ELECTRICAL

D5010.01.01 Main Electrical Transformers (Facility Owned)**

The Facilities building (Building No. 19) is fed from a 4160V overhead pole line originating in the power plant (cells 7). There are three single phase exterior transformers rated at 25kVA, 2400-120/240V, that feed the facilities building. The transformers are Pioneer Electric oil filled transformers.

<u>Rating</u>	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1962	40	MAR-14

Event: Replace 3 Main Electrical Transformers (Facility Owned)

vv	ie	u,		

Туре	<u>Year</u>	Cost	Priority
Lifecycle Replacement	2017	\$45,000	Unassigned

Updated: MAR-14

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

The main 120/208V switchboard for Building No. 19 is located in the N.W. corner of the building. The main switchboard is a Westinghouse 800A, 120/208V, 3 phase, 4 wire switchboard with an 800A main breaker and eight moulded case branch breakers feeding electrical loads in the building. The branch breakers (most are rated 100A or 150A) are not labeled as to what equipment they feed.

<u>Rating</u>	Installed	Design Life	Updated
4 - Acceptable	1974	40	MAR-14

Event: Replace 1 Main Electrical Switchboard

Туре	Year	Cost	<u>Priority</u>
Lifecycle Replacement	2017	\$32,000	Unassigned

Updated: MAR-14

D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)** - 1962

The original Westinghouse panelboards were installed in 1962. Distribution panel M and branch circuit panel A are original panels, located in the S.W. corner of the building. It is hard to find spare parts.

Rating	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1962	30	MAR-14

Event: Replace 2 Electrical Branch Circuit Panelboards (Secondary Distribution)

Туре	<u>Year</u>	Cost	Priority
Lifecycle Replacement	2017	\$24,000	Unassigned

D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)** - 1974

There are three Westinghouse branch circuit panels and one newer Federal Pioneer panel that is located on the North wall of the building.

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	30	MAR-14

Event: Replace 4 Electrical Branch Circuit Panelboards (Secondary Distribution)

Туре	<u>Year</u>	Cost	Priority
Lifecycle Replacement	2017	\$48,000	Unassigned

Updated: MAR-14

D5010.07.02 Motor Starters and Accessories** - 1962

Westinghouse, CGE and Allen Bradley individual motor starters and load switches are used major mechanical ventilation units and some small water pumps. Starters are complete pilot lights and hand-off-auto selector switches. The starters are typically provided where the motor loads are located. Replacement parts are no longer readily available.

Rating	Installed	Design Life	<u>Updated</u>
4 - Acceptable	1962	30	MAR-14

Event: Replace 2 Motor Starters and Accessories

Туре	Year	<u>Cost</u>	Priority
Lifecycle Replacement	2017	\$30,000	Unassigned

Updated: MAR-14

D5010.07.02 Motor Starters and Accessories** - 2000

Newer Square D motor starters have been provided for some of the mechanical loads.

Rating	Installed	Design Life	Updated
5 - Good	2000	30	MAR-14

Event: Replace 5 Motor Starters and Accessories

Туре	<u>Year</u>	Cost	Priority
Lifecycle Replacement	2030	\$7,500	Unassigned

Updated: MAR-14

D5020.01 Electrical Branch Wiring*

The majority of the cabling is standard building wire installed in EMT or rigid conduit. BX cable has been used for some of the branch wiring.

<u>Rating</u>	Installed	Design Life	Updated
4 - Acceptable	1962	0	MAR-14

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

Lighting control within the building is typically line voltage switches. There are some occupancy switches installed in the building.

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	0	MAR-14

D5020.02.02.01 Interior Incandescent Fixtures*

There are recessed incandescent downlights in the meeting room at the North end of the building. Some lamp surface mounted fixtures are retrofitted to compact fluorescent bulbs in the building.

Rating	Installed	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1974	0	MAR-14

D5020.02.02.02 Interior Fluorescent Fixtures** - T12

Lighting is predominantly (90%) fluorescent, surface and recessed mounted T12 fixtures. Many of the fixtures are missing lenses

Rating	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1974	30	MAR-14

Event: Replace 255 Interior Fluorescent Fixtures

Туре	<u>Year</u> Cost	Priority
Lifecycle Replacement	2017 \$83,000	Unassigned

Updated: MAR-14

D5020.02.02.02 Interior Fluorescent Fixtures** - T8

Suspended and surface mounted T8 fluorescent wrap-around fixtures have been provided in selected areas of the building. The T8 fluorescent fixtures have electronic ballasts.

Rating	Installed	<u>Design Life</u>	<u>Updated</u>
5 - Good	2002	30	MAR-14

Event: Replace 65 Interior Fluorescent Fixtures

Туре	<u>Year</u>	Cost	Priority
Lifecycle Replacement	2032	\$32,500	Unassigned

Updated: MAR-14

D5020.02.03.03 Exit Signs*

Non-illuminated photo-luminescent exit signs have been provided in some areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	1974	0	MAR-14

D5020.03.01.04 Exterior H.P. Sodium Fixtures*

High Pressure Sodium wallpack fixtures have been provided around the perimeter of the building.

<u>Rating</u>	Installed	<u>Design Life</u>	<u>Updated</u>
4 - Acceptable	1995	0	FEB-09

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

The exterior lighting is controlled by a photocell.

Rating	Installed	Design Life	Updated
4 - Acceptable	1995	0	FEB-09

D5030.01 Detection and Fire Alarm**

The fire alarm system for the Facilities building (Building No. 19) is an Edwards EST. The main fire alarm panel is located in the N.E. entrance corridor. System consists of manual pull stations, detectors and bells located throughout the facility.

Rating	Installed	Design Life	Updated
6 - Excellent	2013	25	MAR-14

Event:	Replace Detection and Fire Alarm (BOE: 1605
	square meter.)

Туре	<u>Year</u>	Cost	Priority
Lifecycle Replacement	2038	\$57,500	Unassigned

Updated: MAR-14

D5030.02.03 Security Access**

A Simplex access system has been provided with maglocks and proximity card readers at selected doors. An Altronix power supply provides 24VDC for the system. Lenel system installation is planned in 2014.

<u>Rating</u>	Installed	Design Life	Updated
5 - Good	2003	25	MAR-14

Event: Replace Security Access System.- BOE: 1605 square meter.)

Туре	Year	<u>Cost</u>	Priority
Lifecycle Replacement	2028	\$28,000	Unassigned

Updated: MAR-14

D5030.04.01 Telephone Systems*

Telephone backboards and termination blocks are located in the general office and in the main entrance corridor.

Rating	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1990	0	FEB-09

D5030.04.04 Data Systems*

Cat 5 or Cat 5E network cabling has been run to the data outlets. A wireless router was installed in 2008.

Rating	Installed	<u>Design Life</u>	<u>Updated</u>
5 - Good	2000	0	MAR-14

D5030.04.05 Local Area Network Systems*

The rack mounted network server is located in the room adjacent to the new central meeting room.

Rating	Installed	Design Life	Updated
5 - Good	0	0	MAR-14

D5030.06 Television Systems*

A Shaw cable service has been brought into the building (general office - tel. closet) and coaxial cable has been run to selected rooms.

Rating	Installed	<u>Design Life</u>	Updated
4 - Acceptable	1990	0	FEB-09

D5090.01 Uninterruptible Power Supply Systems**

An APC 1500VA UPS has been provided for the network server.

Rating	Installed	Design Life	<u>Updated</u>
4 - Acceptable	2000	30	MAR-14

Event: Replace 1 Uninterruptible Power Supply System

Туре	Year	Cost	Priority
Lifecycle Replacement	2030	\$4,000	Unassigned

S6 EQUIPMENT, FURNISHINGS AND SPECIAL CONSTRUCTION

E1090.04 Residential Equipment* Refrigerator, stove and microwave in the staff kitchen area. Rating Installed Design Life Updated 4 - Acceptable 2004 **MAR-14** 0 E2010.02 Fixed Casework** Upper and lower cupboards & storage cabinets with plastic laminate counter-tops in the kitchen areas. The vanities in the washrooms have plastic laminate counter-tops. Installed Design Life Updated Rating 4 - Acceptable 2004 **MAR-14** 35 Event: Replace casework.- (B.O.E. 11m.) Туре Year Cost Priority Lifecycle Replacement 2039 \$12,100 Unassigned Updated: MAR-14 E2010.03.01 Blinds** Venetian & horizontal blinds are located in staff and office areas. Rating Installed Design Life Updated 4 - Acceptable **MAR-14** 1974 30 Event: Replace blinds.- (B.O.E. 50 sq.m.) Type Year Cost Priority Lifecycle Replacement \$6,000 Unassigned 2017 Updated: MAR-14 F1020.02 Special Purpose Rooms A paint booth is located in the paint shop area. (disused) Rating Installed Design Life Updated **MAR-14** 4 - Acceptable 1962 50

S8 SPECIAL ASSESSMENT

S8 SPECIAL ASSE	22MEN	1	
K4010.01 Barrier Free Rou	te: Parking	to Entrance*	
Sidewalk does not have a h	andicap acc	ess ramp. (ori	ginal construction).
Rating 4 - Acceptable	Installed 1962	Design Life 0	Updated MAR-14
K4010.02 Barrier Free Entr	ances*		
Main entrance does not hav	e a power a	ssist door.	
Rating 4 - Acceptable	Installed 1962	Design Life 0	Updated MAR-14
K4010.03 Barrier Free Inte	rior Circula	tion*	
Interior circulation is on one	level.		
Rating 4 - Acceptable	Installed 1962	Design Life 0	Updated MAR-14
K4010.04 Barrier Free Was	shrooms*		
Barrier free washrooms not	provided.		
Rating 4 - Acceptable	Installed 1962	Design Life 0	<u>Updated</u> MAR-14
K4030.01 Asbestos*			
Asbestos not noted or repor	ted.		
Rating 4 - Acceptable	Installed 1962	Design Life 0	Updated MAR-14
K4030.04 Mould*			
Mould not noted or reported			
Rating 4 - Acceptable	Installed 1962	Design Life 0	Updated MAR-14

K5010.01 Site Documentation*

Prime Consultant: Bacz Engineering Ltd. Year of Evaluation: 2013 Building Area Evaluated: 1605 m2

Rating 4 - Acceptable	Installed 2013	Design Life 0	<u>Updated</u> MAR-14	×
				Facilities Management
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				Alberta
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Site Plan

K5010.02 Building Documentation*

Single storey structure, constructed in two phases. The east section of the building is primarily occupied by administration office areas. The west side has workshops, which include a wood-shop, paint-shop, upholstery shop & general maintenance shops.

Rating	Installed	Design Life	Updated
4 - Acceptable	2013	0	MAR-14



Hospital Edmonton (AHE) ND SYMBOLS

Main Floor.