RECAPP Facility Evaluation Report

East Central Health

St. Joseph's General Hospital

B1175A

Vegreville

Report run on: April 4, 2012 10:57 AM

Facility Details

Building Name: St. Joseph's General Hospita
Address: 5241 - 43 Street
Location: Vegreville

Building Id: B1175A
Gross Area (sq. m): 6,782.00
Replacement Cost: $48,708,324
Construction Year: 0

Evaluation Details

Evaluation Company: PBK Architects
Evaluation Date: October 26 2011
Evaluator Name: Len O'Connor

Total Maintenance Events Next 5 years: **$6,314,952**
5 year Facility Condition Index (FCI): **12.96%**

General Summary:

The St. Joseph's General Hospital, Covenant Health in Vegreville is an acute care facility offering services in emergency, medicine, laboratory, X-Ray, dialysis, diabetic education, respiratory therapy, and day support, PCN network & specialty clinics.

Hospital St. Joseph's General Hospital is a 25 bed active treatment hospital with Diagnostic Services (laboratory, imaging, ultrasound), Rehab Services (physiotherapy, occupational therapy, respiratory), Pastoral Care, Cardiac Stress Testing, Dialysis unit, Lifeline, and Specialist Clinics. ?? PCN network & specialty clinics.

Stories: This facility is both 3 stories and single storey without a basement.

Upgrading Required:
Kitchen receiving, general storage and receiving, envelope upgrade, barrier-free washroom upgrades, ceiling tile upgrade, firestopping, and sprinklers.

Other Upgrading Required - Not itemized in the report:
Main Entrance: Wind activates automatic doors. (Suggest a full enclosure or a wind screen.)
Roof Drain @ Main Entrance: Discharge causes constant icing for main entrance area; resulting in high maintenance costs. (Suggest direct discharge to catch basin and discharge to municipal system.)
Crawlspace: Limited service space 600-1200 mm, there is no lighting, and there is no ventilation.
Key Control: Re-keying all locks for security.

Construction and Renovations Reported:
1965-2008
Nurse Residence 1963-2008

1965-2008
90 bed Long-term Care Centre immediately adjacent to St. Joseph's General. ?

1965 Original Construction
1965 Sister's residence upgrade
1984 Renovations to Administration, physiotherapy, medical records and staff rooms
1988 Addition and Upgrade (Emergency, ambulance, x-ray) 640m2
1988 Chapel Alterations
1989 Medical Gas Upgrade
1990 Building Envelope Upgrade
1990 Childcare Centre - Addition and Renovation
1995 Handrail Upgrade - 2nd & 3rd Floors
1996 Link Reno - Sewer Upgrade
2000 2nd Floor Nursing Renovation
2001 Renal - Mechanical Retrofit
2001 HVAC Upgrade
2004 Fluoroscopy Room
2005 Fire Damper
2005 Heliport Upgrade
2005 Ambulance Bay Upgrade - Add 15 feet to length
2007 Roofing Area 1 and partial area 9
2009 Auto tops projects
2009 Diatary Renovation - partial kitchen upgrade
2010 OR Air-conditioning compressor replacement
2010 Diatary air condition replacement
2010 OPD air condition replacement

2010 Decontamination Room Project
2011 Fuel Containment Project
2011 PCN Network Project

Total Floor Area = 6,782 m2

Structural Summary:

Structural Summary: The foundations consist of concrete pad and strip footings, pile, grade beams, slabs on grade, and structural slabs. Assemblies supporting floors and roofs include precast columns, beams and T-shape floor and roof components and steel assemblies; columns, beams and OWSJs. There is a concrete topping over the precast floors. The roof structural frames are include precast assemblies, steel assemblies and wood assemblies. Structural interior supporting assemblies include concrete and masonry. Roof decking is precast, wood sheathing and decking, and steel decking.

Structural Events: Kitchen receiving enclosure has separated from the building.

Structural Condition: Overall, the structural is in good condition.

Envelope Summary:

Envelope Summary: Exterior wall veneers include brick, concrete block, EIFS, paint, and metal. Back-up wall assemblies include brick, concrete block, wood and metal studs. The vapour retarders and insulation are both interior and exterior applied. Other elements include low parapets, louvers, and metal soffits. The openings are infilled with aluminum and wood window assemblies and aluminum or wood doors. The roof membranes are built-up BUR, SBS, inverted and metal. There are skylights and a roof hatch.

Envelope Events: Brick repair, block repairs, and joint sealant replacement.

Envelope Lifecycles This Period: Painting, aluminum windows, wood windows, utility doors, overhead door, BUR roofing, inverted roofing, metal roofing, and skylights

Envelope Condition: The envelope is in acceptable condition for the envelope upgraded areas and marginal condition or original construction areas.

Interior Summary:

Interior Summary: Interior components include interior fixed partitions, operable partition, interior screens, interior windows and glazed partitions, interior swing doors and fire doors, and large doors. Other elements include visual display boards, fabricated compartments, corner guards, handrails, identifying devices, lockers, and storage shelving. There are washroom accessories. The stairs are of concrete or wood constructions with resilient or carpet finishing, and metal hand railings. The interior wall finishes include ceramic tile, clay tile, wall covering and paint. Floor finishes include, resilient flooring ceramic and quarry tile, and carpeting. The ceilings are painted gypsum board, acoustic tile or painted structure. Other interior elements include elevators, lift, casework, and blinds. The equipment is included for services in laundry, kitchen, medical, laboratory, therapy, and residential areas.

Interior Events: Resilient flooring repair, and fixed casework repairs

Interior Lifecycles This Period: Visual display boards, fabricated compartments lockers, resilient and carpet floor finishes, tile wall finishes, painted concrete floors, tile flooring, resilient flooring, acoustic ceilings, elevators, lift, fixed casework

Interior Condition: Overall, the interior condition is acceptable.

Mechanical Summary:

All ventilation systems are 100% outdoor air with constant volume systems, except outpatient AHU which used mixed air from return fan. Outpatient TRANE AHU is complete with Armstrong heating coil pump, and ALFA-LAVAL water/glycol plate heat exchanger. Boiler room TRANE AHU provides combustion air. Operating Room, Dietary, Chapel and Laundry RECOLD AHUs and controls are original to building. Roof mounted condensing unit for operating room AHU. Administration wing currently has no ventilation. Three GREENHECK centrifugal roof mounted exhaust fans for lab area and three inline AEROFOIL exhaust fans for kitchen, operating room and main and second floors. Main and second floor TRANE AHU is complete with ARMSTRONG vertical in-line pump and ARMSTRONG plate heat exchanger, EXTROL expansion tank, AXIOM glycol make-up system. Three CARRIER RTU's service the Administration area and one separate RTU for the server room. Heating system consists of 3 VOLCANO boilers with a

primary and secondary loop including a SANDFORD PEARCE NORTH shell and tube heat exchanger, all original to building. Floors are heated with radiant heaters and reheat coils on all three floors. Medical air uses a DeVilbiss Hankison model compressor with obsolete parts. Entire HVAC system is run by pneumatic zone controls original to the building. All cast iron and copper sanitary and domestic water piping is original to building. Domestic hot water is softened. Currently there are no sinks in patient washrooms.

Overall, the mechanical systems are in marginal condition.

Electrical Summary:

Upgrade to 2500A 120/208V Cutler Hammer main distribution in 2004; original 800A 120/208V Westinghouse main distribution panel now used as a CDP. Emergency generator is undersized for Hospital's requirements. Lighting is primarily T12 fluorescent or incandescent. Partial nurse call upgrade in 2005. Perimeter security is original to building. CCTV system is mid-1980's. Electrical equipment is typically in fair to poor 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*

1963: Pad and strip footings with reinforcing supporting grade beams and concrete piers.
1988: Cast-in-place concrete piles, 300-600 mm diameter, 3600-10600 mm length, with and without bell bottom, with 4-15M vertical and 10M ties at 300 o.c. Reinforcement for full or partial length.
1988: Retaining walls, strip footings, 250x660 mm, 10M top and bottom, continuous.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

A1030 Slab on Grade*

1963: Cast-in-place concrete floor slabs, 125mm. with reinforcement on vapour retarder and 150 mm compacted aggregate base.
1988: Cast-in-place concrete floor slabs, 114 mm. With 152 welded wire mesh, reinforcement on vapour retarder and 200 mm compacted aggregate base

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

A2020 Basement Walls (& Crawl Space)*

1963: Cast-in-place concrete grade beams, 200 mm with reinforcing on strip footings.
1988: 200 mm x 760 mm concrete grade beam, 2-20M top and bottom, 10M stirrups at 600 mm o.c.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

B1010.01 Floor Structural Frame (Building Frame)*

Cast-in-place strip and pad footing with concrete piers in crawlspace areas.
Precast assemblies; columns, beams, T-shapes floor plates.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

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

Cast-in-place concrete piers and beams, with reinforcing.
Load-bearing masonry assemblies with reinforcement.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

B1010.03 Floor Decks, Slabs, and Toppings*

Precast T-shapes with cast-in-place concrete topping
Structural floor assemblies with reinforcing and thickened areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

B1010.05 Mezzanine Construction*

Cast-in-place concrete structural slab with reinforcement, to partial area in mechanical boiler room area.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

B1010.09 Floor Construction Fireproofing*

No Floor Construction Fireproofing viewed.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	50	APR-12

B1010.10 Floor Construction Firestopping*

No Floor Construction Firestopping viewed.
K4020.03 Other Codes* - Firestopping

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	50	APR-12

B1020.01 Roof Structural Frame*

1963:
Precast assemblies; columns, beams, T-shapes floor plates.
Structural steel beams on load-bearing masonry.
Glulam assemblies on masonry walls.
Wood assemblies: dimensional lumber, laminated beams and posts.

1988:
Steel columns, steel W-beams, OWSJ.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

B1020.02 Structural Interior Walls Supporting Roofs*

Cast-in-place concrete piers and beams, with reinforcing.
Load-bearing masonry assemblies with reinforcement.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

B1020.03 Roof Decks, Slabs, and Sheathing*

1965: Structural T-shapes with concrete topping.
1988: Metal Deck on steel assemblies.
1965: Wood lumber decking, T&G

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

B1020.04 Canopies*

Entrance Canopy: Structural steel and columns, beams, with metal decking.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	50	APR-12

B1020.06 Roof Construction Fireproofing*

Rated ceiling assemblies with gypsum board and steel furring.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	50	APR-12

S2 ENVELOPE

B2010.01.02.01 Brick Masonry: Ext. Wall Skin*

Brick veneer, common and norman module, two tone champagne-red, smooth and heavy face textured, to hospital.
Brick veneer, norman brick module, champagne, smooth face textured, to chapel.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	75	APR-12

Event: Repoint 11 m2 Brick Masonry: Ext. Wall Skin

Concern:
Some mortar joints are loose of cracked.
Recommendation:
Remove loose mortar joints.
Repoint as required.
Consequences of Deferral:
Increased maintenance costs.

Type	Year	Cost	Priority
Repair	2013	$1,000	Medium

Updated: APR-12

B2010.01.02.02 Concrete Block: Ext. Wall Skin*

Standard concrete masonry units, reinforced, painted finish, old kitchen loading lock.

Rating	Installed	Design Life	Updated
2 - Poor	1965	75	APR-12

Event: Remove 30 m2 Concrete Block: Ext. Wall Skin

Concern:
Significant unit cracking.
Gap 38 mm between building and some units
Recommendation:
Remove masonry assembly.
Remove roof.
Remove foundations.
Make repairs to enclose envelope.
Refer to K2030.02 Program Spaces* - Kitchen Receiving for new construction.
Consequences of Deferral:
Deferred Safety.

Type	Year	Cost	Priority
Failure Replacement	2013	$5,000	Medium

Updated: APR-12

B2010.01.05 Exterior Insulation and Finish Systems (EIFS)*

1988, 1990, 2005: EIFS assembly, exterior applied vapour retarder, 50-64 mm rigid insulation, acrylic stucco finish, base colour and accent colour, control joints, to 2nd and 3rd floors and partial 1st floor areas.

Rating	Installed	Design Life	Updated
3 - Marginal	1990	75	APR-12

Event: Repair 20 m2 Exterior Insulation and Finish Systems (EIFS)

Concern:

1988 Addition, SW corner, large cracks, 13mm, in EIFS system below window line.
1990: Some areas or EIFS have bubbled.

Recommendation:

Remove the failed areas.
Excavate below grade where required.
Provide patching and repairing to substrates, membrane and rigid insulation as required.
Install new finish. Panelize into manageable areas. Match to the existing finish.

Provide new parging to the perimeter of the Chapel building.

Consequences of Deferral:

Higher Maintenance Costs.

Type	Year	Cost	Priority
Repair	2015	$10,000	Medium

Updated: APR-12

B2010.01.09 Expansion Control: Ext. Wall*

Sealant with rod backing in masonry assemblies.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	75	APR-12

B2010.01.11 Joint Sealers (caulking): Ext. Wall** - 1965

Joint sealant with backing rod at perimeter of openings and at control joints, colours vary.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	20	APR-12

Event: Replace 500 m Joint Sealers (caulking): Ext. Wall - 1965

Concern:
Sealant is hard, dry, cracked or missing.
Recommendation:
Remove existing sealant.
Repair or replace backing rods.
Clean and prepare adjacent surfaces to receive new sealant.
Install new sealant. Colour match to adjacent surfaces.
Consequences of Deferral:
Higher maintenance costs.

Type	Year	Cost	Priority
Failure Replacement	2013	$16,100	Medium

Updated: APR-12

B2010.01.11 Joint Sealers (caulking): Ext. Wall** - 1990

Joint sealant with backing rod at perimeter of openings and at control joints, colours vary.

Rating	Installed	Design Life	Updated
3 - Marginal	1990	20	APR-12

Event: Replace 350m Joint Sealers (caulking): Ext. Wall - 1990

Concern:
Sealant is hard, dry, cracked or missing.
Recommendation:
Remove existing sealant.
Repair or replace backing rods.
Clean and prepare adjacent surfaces to receive new sealant.
Install new sealant. Colour match to adjacent surfaces.
Consequences of Deferral:
Higher maintenance costs.

Type	Year	Cost	Priority
Failure Replacement	2013	$11,300	Medium

Updated: APR-12

B2010.01.13 Paints (& Stains): Ext. Wall**

Painted masonry and exposed precast concrete elements, off white colour.

Rating	Installed	Design Life	Updated
4 - Acceptable	2000	15	APR-12

Event: Replace 660 m2 Paints (& Stains): Ext. Wall

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$12,700	Unassigned

Updated: APR-12

B2010.01.99 Other Exterior Wall Skin*

Precast element (columns and beams).

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	50	APR-12

B2010.02.01 Cast-in-place Concrete: Ext. Wall Const*

Cast-in-place concrete for stairwells.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

B2010.02.02 Precast Concrete: Ext. Wall Const.*

Precast columns and beams, exposed and covered.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

B2010.02.03 Masonry Units: Ext. Wall Const.*

1965: Masonry walls, hollow brick assembly, to chapel.
1965: Masonry assembly, concrete masonry units, kitchen loading.
1988: Masonry assembly, concrete masonry units, reinforced, ambulance bay

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

B2010.02.04 Load-Bearing-Metal Studs: Ext. Wall*

Load-bearing metal stud assemblies with gypsum board sheathing.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	100	APR-12

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

Dimensionally framed wall assemblies, with laminated beams over openings and plywood sheathing.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

B2010.03 Exterior Wall Vapour Retarders, Air Barriers, and Insulation* - 1965

1965 Construction: Interior applied vapour retarder and insulation.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

B2010.03 Exterior Wall Vapour Retarders, Air Barriers, and Insulation* 1990

Exterior applied vapour retarder and board insulation; EIFS assembly.
1990 Envelope Upgrade
1990 Childcare Centre
1988 Emergency Addition.
2005 Ambulance Bay addition.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	0	APR-12

B2010.05 Parapets*

Low profile, wood framed and wood sheathing.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	50	APR-12

B2010.06 Exterior Louvers, Grilles, and Screens*

Aluminum assemblies, clear anodized, with screens.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	50	APR-12

B2010.09 Exterior Soffits*

Prefinished linear metal assembly, colour red, under entrance canopy.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	50	APR-12

B2020.01.01.02 Aluminum Windows (Glass & Frame)** - 1965

Aluminum assemblies, clear anodized, fixed, double glazed sealed unit, with lower insulated panel.
Refer to K3020.09 Building Envelope

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	40	APR-12

Event: Replace 140 m2 Aluminum Windows (Glass & Frame)

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$131,100	Unassigned

Updated: APR-12

B2020.01.01.02 Aluminum Windows (Glass & Frame)** - 1990

Aluminum assemblies, clear anodized, fixed and operable, thermally broken, double glazed sealed units.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	40	APR-12

Event: Replace 220 m2 Aluminum Windows (Glass & Frame) - 1990

Type	Year	Cost	Priority
Lifecycle Replacement	2030	$206,000	Unassigned

Updated: APR-12

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

Wood frame assembles, painted finish, translucent coloured glass and clear glass.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	35	APR-12

Event: Replace 30 m2 Wood Windows

Concern:
Interior Assembly: Painted finish, interior, is pealing and stained and the frame soft in locations.
Exterior Assembly: aluminum is tarnished and has lost it's finish.

Recommendation:
Replace with aluminum assembly, thermally broken, sealed glass, with architectural coloured glass to the interior face.

Consequences of Deferral:
Higher maintenance costs.

Type	Year	Cost	Priority
Failure Replacement	2012	$28,100	Low

Updated: APR-12

B2020.03 Glazed Curtain Wall**

Aluminum Assemblies, thermally broken, double insulating glass, sloped glazing, over exterior windows, in Childcare area.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	40	APR-12

Event: Replacement 15 m2 Glazed Curtain Wall

Type	Year	Cost	Priority
Lifecycle Replacement	2030	$18,100	Unassigned

Updated: APR-12

B2030.01.01 Aluminum-Framed Storefronts: Doors**

Aluminum door and frame assembly, clear anodized finish, thermally broken, insulated glass units, with hardware to suit the condition.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	30	APR-12

Event: Replace 4 Aluminum-Framed Storefronts: Doors

Type	Year	Cost	Priority
Lifecycle Replacement	2020	$14,100	Unassigned

Updated: APR-12

B2030.01.06 Automatic Entrance Doors**

Auto entrance assembly, aluminum construction, clear anodized finish, bi-parting with fixed side panels or side parting with fixed single panel, clear tempered glass, at main entrance.
Besam manufacturer.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	30	APR-12

Event: Replace 2 sets Automatic Entrance Doors

Type	Year	Cost	Priority
Lifecycle Replacement	2018	$28,500	Unassigned

Updated: APR-12

B2030.02 Exterior Utility Doors** - 1965

Solid wood doors with painted finish in wood or aluminum frame with hardware to suite condition.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	40	APR-12

Event: Replace 10 Exterior Utility Doors - 1965

Concern:
Some doors have paint peeling. Frames have surface damage.

Recommendation:
Replace with welded metal frames, insulated metal doors and new hardware to suit condition.

Consequences of Deferral:
Higher maintenance costs.

Type	Year	Cost	Priority
Failure Replacement	2015	$18,500	Medium

Updated: APR-12

B2030.02 Exterior Utility Doors** - 1990

Welded metal construction, insulated door, painted finish.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	40	APR-12

Event: Replacement 3 Utility Doors

Type	Year	Cost	Priority
Lifecycle Replacement	2030	$2,700	Unassigned

Updated: APR-12

B2030.03 Large Exterior Special Doors (Overhead)* - 1965

Overhead door, 3000 x 2400 solid wood panel construction, manual operation, painted.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

Event: Upgrade 1 Large Exterior Special Doors (Overhead) - 1965 for Energy Efficiency Upgrade

Concern:
Poor thermal performance of exterior large door.

Recommendation:
Install new overhead large door, prefinished metal skin with insulated core.

Consequences of Deferral:
High energy costs.

Type	Year	Cost	Priority
Energy Efficiency Upgrade	2015	$6,700	Low

Updated: APR-12

B2030.03 Large Exterior Special Doors (Overhead)* - 1988

Insulated metal panel assembly, colour white, vision glass, electric operation, driveway sensor controllers.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	30	APR-12

B3010.01 Deck Vapour Retarder and Insulation*

Exterior applied vapour retarder with rigid board insulation.
Vapour Retarders: 2-ply #15 felts in asphalt.
Insulation: 50 mm EPS, tapered EPS; 63 mm polyiso.

At lifecycle replacement periods, slope insulation to drains. Roof areas are presently flat.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	25	APR-12

B3010.04.01 Built-up Bituminous Roofing (Asphalt & Gravel)** - 1988

Built-up roofing assembly on rigid insulation and vapour retarder with pea gravel cover.
At lifecycle replacement, replace with 2 ply SBS membrane and add sloped insulation.
Add additional roof drains at lifecycle replacement.

Rating	Installed	Design Life	Updated
3 - Marginal	1988	25	APR-12

Event: Replace 853 m2 Built-up Bituminous Roofing (Asphalt & Gravel) - 1988

Concern:

The roof assembly is at its life expectancy.
Numerous areas of ponding water in the BUR roof areas.
Alberta Infrastructure roofing report (2010) recommends replacement within 5 years.
A.D. Williams 2009 report recommends repairs an/or replacement in a 5-year plan.

Recommendation:

Replace roof assemblies with SBS membranes over rigid board insulation..
Add sloped insulation to reduce ponding water as recommended in the reports.
Add roof drains as recommended in the reports.

Consequences of Deferral:

Higher maintenance costs.

Type	Year	Cost	Priority
Failure Replacement	2015	$157,000	Medium

Updated: APR-12

B3010.04.01 Built-up Bituminous Roofing (Asphalt & Gravel)** - 2008

Built-up roofing assembly on rigid insulation and vapour retarder with pea gravel cover.

Rating	Installed	Design Life	Updated
5 - Good	2008	25	APR-12

Event: Replace 610 m2 Built-up Bituminous Roofing (Asphalt & Gravel) - 2008

Type	Year	Cost	Priority
Lifecycle Replacement	2033	$112,300	Unassigned

Updated: APR-12

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

Modified Bituminous Membrane Roofing (SBS): 2-ply membrane with granules, on fibreboard, on tapered insulation.

Rating	Installed	Design Life	Updated
4 - Acceptable	2000	25	APR-12

Event: Replace 144m2 Modified Bituminous Membrane Roofing (SBS)

Type	Year	Cost	Priority
Lifecycle Replacement	2025	$26,500	Unassigned

Updated: APR-12

B3010.04.08 Membrane Roofing (Inverted/Protected)**

Membrane Roofing (Inverted/Protected): Washed rock ballast, 50 mm extruded polystyrene, 2-ply membrane, 13 fibre board.

Rating	Installed	Design Life	Updated
4 - Acceptable	1985	30	APR-12

Event: Replace 1936 m2 Membrane Roofing (Inverted/Protected)

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$396,600	Unassigned

Updated: APR-12

B3010.07 Sheet Metal Roofing** - 1965

Standing seam metal roof (low slope) with flashings, on rigid insulation and vapour retarder on wood deck, colour white. Over kitchen receiving enclosure.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	40	APR-12

Event: Replace 15 m2 Sheet Metal Roofing - 1965

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$3,700	Unassigned

Updated: APR-12

B3010.07 Sheet Metal Roofing** - 1990

Standing seam metal roof with flashings, (high slope) on rigid insulation and vapour retarder on wood deck, colour red.
Over Childcare entrance.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	40	APR-12

Event: Replace 20 M2 Sheet Metal Roofing - 1990

Type	Year	Cost	Priority
Lifecycle Replacement	2030	$5,000	Unassigned

Updated: APR-12

B3010.08.02 Metal Gutters and Downspouts**

Roof scupper connected to leader discharging to concrete splash pad at grade.
Prefinished metal, custom gutter and rain water leader discharging to concrete splash pad at grade.
Internal rain water leaders, exiting exterior wall assemblies, and discharging to concrete splash pad at grade.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	30	APR-12

Event: Replace 50 m Metal Gutters and Downspouts

Type	Year	Cost	Priority
Lifecycle Replacement	2020	$1,300	Unassigned

Updated: APR-12

B3020.01 Skylights**

Skylights: Bubble style, double acrylic lens, aluminum frame, on roof curb.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	20	APR-12

Event: Replace 6 ea Skylights

Concern:
Units are old, heavily resealed with joint sealant and have clouded lenses.
Recommendation:
Replace with new units.
Consequences of Deferral:
Higher maintenance costs.

Type	Year	Cost	Priority
Failure Replacement	2015	$7,300	Medium

Updated: APR-12

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

Fabricated metal roof hatch assembly, painted finish, insulated, on roof curb, with exterior safety railings and interior steel ladder..

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	25	APR-12

S3 INTERIOR

C1010.01 Interior Fixed Partitions* - General

Masonry wall assemblies, clay and concrete masonry units.
Wood assemblies with gypsum board.
Metal studs assemblies with gypsum board.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

C1010.01 Interior Fixed Partitions* - Glass Block

Glass block assembly, clear hollow units, emergency waiting area.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	0	APR-12

C1010.03 Interior Operable Folding Panel Partitions**

Folding acoustic partition, vinyl covering, bi-parting and stacking into enclosed pockets, top hung.
Chapel room.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	30	APR-12

Event: Replace 30 m2 Interior Operable Folding Panel Partitions

Type	Year	Cost	Priority
Lifecycle Replacement	2018	$36,100	Unassigned

Updated: APR-12

C1010.04 Interior Balustrades and Screens, Interior Railings*

Plaster assembly acting as screen, wood construction, plastic laminate with hardwood finish, emergency waiting area.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	40	APR-12

C1010.05 Interior Windows*

Wood window assemblies with clear tempered glass, painted finish. (1965)
Metal assemblies, rated and non-rated, with clear tempered glass or wire glass, painted finish. (1988-1990)
Aluminum assemblies, clear anodized, with clear tempered glass. (1988-1990)

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	80	APR-12

C1010.06 Interior Glazed Partitions and Storefronts*

Aluminum assemblies, clear anodized, with clear tempered glass.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	80	APR-12

C1010.07 Interior Partition Firestopping*

No firestopping observed; 1965, 1988, 1990.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	50	APR-12

Event: Evaluate Facility Firestopping

Concern:
No firestopping system observed at floor and wall penetrations.
Recommendation:
Provide facility study to identify locations where firestopping is required by the current ABC code.
Recommend systems appropriate for each condition.
Provide estimate of probable costs.
Consequences of Deferral:
Deferred fire safety.

Type	Year	Cost	Priority
Study	2012	$21,800	High

Updated: APR-12

Event: Install Firestoping (6742 m2)

Concern:
No firestopping observed
Recommendation:
Install firestopping systems to locations indicated in the study.
Provide seminar for maintenance staff for future firestopping installations.
Consequences of Deferral:
Deferred fire safety.

Type	Year	Cost	Priority
Code Upgrade	2012	$65,200	High

Updated: APR-12

C1020.01 Interior Swinging Doors (& Hardware)* - 1965

Wood door and frame assemblies, clear finish over stain or painted, with and without glazing.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	40	APR-12

C1020.01 Interior Swinging Doors (& Hardware)* - 1988

Wood door with metal frame assemblies, clear finish over stain or painted door, painted frame, with and without glazing.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	0	APR-12

C1020.03 Interior Fire Doors* - 1965

Wood door and frame assemblies, rating varies, with and without glass lites.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

C1020.03 Interior Fire Doors* - 1988

Metal door and frame assemblies, rating varies, with and without glass lites.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	50	APR-12

C1020.05 Interior Large Doors*

Kitchen: Roll shutter door, overhead, aluminum screen and shutter enclosure, manual operation. Richard Wilcox manufacturer.
Concession: Roll shutter door, overhead, aluminum screen and shutter enclosure, manual operation.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	40	APR-12

C1030.01 Visual Display Boards**

White boards and tackboards with aluminum trim, sizes vary.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	20	APR-12

Event: Replace 36ea Visual Display Boards

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$24,500	Unassigned

Updated: APR-12

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

Fabricated Compartments -toilets: prefinished metal assemblies, floor mounted, stainless hardware.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

Event: Replace 16 ea Fabricated Compartments (Toilets/Showers)

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$20,400	Unassigned

Updated: APR-12

C1030.05 Wall and Corner Guards*

Stainless steel corner guards.
Premoulded plastic corner assemblies.
PVC wall protection, 2nd and 3rd floors, corridor spaces.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	15	APR-12

C1030.06 Handrails*

Premoulded plastic corner assemblies; 2nd and 3rd floors, corridor spaces.

Rating	Installed	Design Life	Updated
4 - Acceptable	1995	40	APR-12

C1030.08 Interior Identifying Devices*

1965: Cast metal, black back ground, with silver lettering.
1990: Plastic assemblies; black background, with silver lettering.
1990: Plastic assemblies; pink and white background, with white over pink lettering.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	20	APR-12

C1030.10 Lockers** - 1965

Prefinished metal lockers, single tier, flat top, single colour frame and door, vented.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

Event: Replace 40 Lockers - 1965

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$20,900	Unassigned

Updated: APR-12

C1030.10 Lockers** - 1990

Prefinished metal lockers, single tier, flat top, two tone frame and door, vented.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	30	APR-12

Event: Replace 130 Lockers - 1988

Type	Year	Cost	Priority
Lifecycle Replacement	2020	$67,700	Unassigned

Updated: APR-12

C1030.12 Storage Shelving*

1965-1990:
Wood assemblies with clear and painted finishes.
Modular steel shelving assemblies, painted, adjustable.
Stainless steel assemblies, wire and sheet, kitchen area.
Mobile Storage: Prefinished metal, manual operation, to purchasing and records areas.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	30	APR-12

Event: Replace 60 m2 Storage Shelving - Mobile

Concern:
Purchasing Room: The existing assembly
Recommendation:
Replace with new high density storage assembly.
Consequences of Deferral:
Higher maintenance costs.

Type	Year	Cost	Priority
Failure Replacement	2015	$60,000	Low

Updated: APR-12

C1030.14 Toilet, Bath, and Laundry Accessories*

Dispensers: Soap, paper towels, toilet tissue, hand sanitizers.
Mirrors, grab bars.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	20	APR-12

C2010 Stair Construction*

Cast-in-place concrete with reinforcement for stairs and landings.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	100	APR-12

C2020.05 Resilient Stair Finishes**

Resilient stair treads and nosings, rubber and vinyl, colours vary,

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	20	APR-12

Event: Replace 160m2 Resilient Stair Finishes

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$14,100	Unassigned

Updated: APR-12

C2020.06 Carpet Stair Finishes**

Carpeted stairs over wood platform.
Chapel area.

Rating	Installed	Design Life	Updated
4 - Acceptable	1988	10	APR-12

Event: Replace 45m2 Carpet Stair Finishes

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$4,500	Unassigned

Updated: APR-12

C2020.08 Stair Railings and Balustrades*

Steel balustrade assemblies with vinyl cap.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	40	APR-12

C3010.06 Tile Wall Finishes** - 1965 Ceramic

Ceramic wall tile, 100 x 100 mm modules, colour green.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	40	APR-12

Event: Replacement 420 m2 Tile Wall Finishes - 1965 Ceramic

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$110,900	Unassigned

Updated: APR-12

C3010.06 Tile Wall Finishes** - 1965 Glazed Clay

Glazed clay wall tile, colour green, main floor operating room areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	40	APR-12

Event: Replace 300 m2 Tile Wall Finishes - 1965 Glazed Clay

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$79,300	Unassigned

Updated: APR-12

C3010.06 Tile Wall Finishes** - 1990 Ceramic

Ceramic wall tile, 100 x 100 mm modules, colour white.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	40	APR-12

Event: Replace 115 m2 Tile Wall Finishes - 1990 Ceramic

Type	Year	Cost	Priority
Lifecycle Replacement	2030	$30,400	Unassigned

Updated: APR-12

C3010.11 Interior Wall Painting*

Painted wall surfaces, medium to high sheen, colours vary. On-going painting program.

Rating	Installed	Design Life	Updated
4 - Acceptable	2000	10	APR-12

C3010.12 Wall Coverings*

Paper wallcovering above ceramic tile, with colour banding, 3rd floor nurse prep area.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	15	APR-12

C3020.01.02 Painted Concrete Floor Finishes*

Painted concrete floor finish, grey colour.

Rating	Installed	Design Life	Updated
3 - Marginal	1988	0	APR-12

Event: Replace 450 Painted Concrete Floor Finishes

Concern:
Painted finish is worn off of concrete substrate.
Recommendation:
Prepare surfaces to receive new finish.
Install new painted finish.
Consequences of Deferral:
Higher maintenance costs.

Type	Year	Cost	Priority
Failure Replacement	2015	$18,100	Low

Updated: APR-12

C3020.02 Tile Floor Finishes** - 1965 Ceramic

Ceramic floor tile, mosaic and 50x50 mm, colours vary, wet areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	50	APR-12

Event: Replace 130 m2 Tile Floor Finishes - 1965 Ceramic

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$22,900	Unassigned

Updated: APR-12

C3020.02 Tile Floor Finishes** - 1965 Quarry

Quarry tile, 184 x 184 mm, colour red, with tile base, kitchen areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	50	APR-12

Event: Replace 180 m2 Tile Floor Finishes - 1965 Quarry

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$50,500	Unassigned

Updated: APR-12

C3020.07 Resilient Flooring** - 1965 VAT

Vinyl asbestos tile, 228 x 228 mm, colours vary, locations vary, with rubber base.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	20	APR-12

Event: Replace 780 m2 Resilient Flooring - 1965 VAT

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$43,700	Unassigned

Updated: APR-12

C3020.07 Resilient Flooring** - 1990 RSF

Resilient sheet flooring, integral base, colour match seaming, colours and locations vary.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	20	APR-12

Event: Repair 10 m2 Resilient Flooring

Concern:
Resilient flooring has cracks and tears.
Location: Main floor lab.
Suspected movement along 1965-1990 construction joint in slab-in grade.
Recommendation:
Cut back flooring to expose substrate.
Repair concrete substrate if required.
Install premoulded expandion joint.
Install new flooring to affected areas.
Consequences of Deferral:
Deferred infection control.
Deferred safety.

Type	Year	Cost	Priority
Repair	2013	$10,000	High

Updated: APR-12

Event: Replace 2200 m2 Resilient Flooring - 1990 RSF

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$193,700	Unassigned

Updated: APR-12

C3020.07 Resilient Flooring** - 1990 VCT

Vinyl composite tile, 305 x 305 mm, colours vary, locations vary, with rubber base.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	20	APR-12

Event: Replace 1295 m2 Resilient Flooring - 1990 VCT

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$72,600	Unassigned

Updated: APR-12

C3020.07 Resilient Flooring** - 2002 RSF

Resilient sheet flooring, integral base, colour match seaming, colours vary.
Second floor nurse station and corridor areas; Third floor dialysis unit.

Rating	Installed	Design Life	Updated
4 - Acceptable	2002	20	APR-12

Event: Replace 500 m2 Resilient Flooring - 2002 RSF

Type	Year	Cost	Priority
Lifecycle Replacement	2022	$44,100	Unassigned

Updated: APR-12

C3020.08 Carpet Flooring** - 1965

Sheet carpeting, commercial grade, low pile, colours vary, with rubber base.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	15	APR-12

Event: Replace 140 m2 Carpet Flooring - 1965

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$10,100	Unassigned

Updated: APR-12

C3020.08 Carpet Flooring** - 1990

Sheet carpeting, commercial grade, low pile, colours vary, with rubber base.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	15	APR-12

Event: Replace 100 Carpet Flooring - 1990

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$7,300	Unassigned

Updated: APR-12

C3030.06 Acoustic Ceiling Treatment (Susp. T-Bar)** - 1965

Suspended T-bar assembly, 610 x 1220 mm, white colour, fissured pattern and washable, colour white.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	25	APR-12

Event: Replace 1270 m2 Acoustic Ceiling Treatment (Susp. T-Bar) - 1965

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$61,000	Unassigned

Updated: APR-12

C3030.06 Acoustic Ceiling Treatment (Susp. T-Bar)** - 1990

Suspended T-bar assembly, 610x1220 mm and 610x610 mm, white colour, fissured pattern and washable surfaces, colour white.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	25	APR-12

Event: Replace 1150 m2 Acoustic Ceiling Treatment (Susp. T-Bar) - 1990

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$55,300	Unassigned

Updated: APR-12

C3030.06 Acoustic Ceiling Treatment (Susp. T-Bar)** - 2002

Suspended T-bar assembly, 610 x 1220 mm, white colour, fissured pattern, colour white.

Rating	Installed	Design Life	Updated
5 - Good	2002	25	APR-12

Event: Replace 300 m2 Acoustic Ceiling Treatment (Susp. T-Bar) - 2002

Type	Year	Cost	Priority
Lifecycle Replacement	2027	$14,500	Unassigned

Updated: APR-12

C3030.07 Interior Ceiling Painting*

Painted ceilings, concrete and gypsum board, low to high sheen, colour white. On-going painting program.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	20	APR-12

C3030.09 Other Ceiling Finishes*

Acoustic ceiling tiles, 305x305 mm, combustible, white colour.
K4020.03 Other Codes* - Ceiling Tile

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

Event: Replace 170 m2 Acoustic Ceiling Tile

Concern:
Acoustic ceiling tile in corridor space, combustible.
Recommendation:
Remove tile.
Replace with rated T-Bar Acoustic Ceiling Treatment.
Consequences of Deferral:
Deferred fire safety

Type	Year	Cost	Priority
Code Upgrade	2012	$13,700	Medium

Updated: APR-12

D1010.01.02 Hydraulic Passenger Elevators**

Hydraulic passenger elevators (2), 1600 kg, stretcher size, plastic laminate interior, stainless steel rails and trims, resilient flooring.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

Event: Refurbish 2 Hydraulic Passenger Elevators

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$287,400	Unassigned

Updated: APR-12

D1010.02 Lifts**

Surgical lift, stainless steel assemble, electric, serving 3 floors. Out of service for 5 years.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	25	APR-12

Event: Replace 1 Lift - Surgical

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$15,000	Unassigned

Updated: APR-12

S4 MECHANICAL

D2010.04 Sinks**

Counter sinks are stainless steel with single lever handles. Janitor sink is molded stone.
Currently no sinks in patient washrooms.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

Event: Replace 10 Sinks

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$8,500	Unassigned

Updated: APR-12

D2010.05 Showers**

Fiberglass Showers

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

Event: Rebuild Patient Shower Room

Concern:
Metal bases are corroded out and leak.
Recommendation:
Upgrade two (2) shower rooms.

Type	Year	Cost	Priority
Repair	2013	$2,000	High

Updated: APR-12

Event: Replace 8 Showers

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$10,000	Unassigned

Updated: APR-12

D2010.06 Bathtubs**

Fiberglass Bathtubs.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

Event: Replace 2 Bathtubs

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$22,000	Unassigned

Updated: APR-12

D2010.09 Other Plumbing Fixtures*

Bradley eyewash station in laboratory.
Turbine type Elster water meter.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	0	APR-12

Event: Replace 15 Failed Faucets

Concern:
Most plumbing faucets on second and third floors are corroding.
Recommendation:
Replace corroded faucets from 2nd and 3rd floors.
Consequences of Deferral:
Potential for leaking faucets, water contamination. Users health may be at risk.

Type	Year	Cost	Priority
Failure Replacement	2013	$6,500	Medium

Updated: APR-12

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

Vitreous China water closets with flush valves and flush tanks. Vitreous china lavatories with DELTA electronic faucets.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	35	APR-12

Event: Replace Washroom Fixtures (23) WC, (23) Lav, (22) Urnl

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$108,000	Unassigned

Updated: APR-12

D2020.01.01 Pipes and Tubes: Domestic Water*

Copper domestic water piping throughout building.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	40	APR-12

D2020.01.02 Valves: Domestic Water**

All plumbing fixtures isolated.

Rating	Installed	Design Life	Updated
3 - Marginal	2009	40	APR-12

Event: Replace 10 Domestic Hot Water Mixing Valves

Concern:
Domestic hot water mixing valves have failed.
Recommendation:
Replace Valves.
Consequences of Deferral:
Inadequate hot water supply for operations of hospital.

Type	Year	Cost	Priority
Failure Replacement	2013	$10,000	High

Updated: APR-12

Event: Replace 60 Domestic Water Valves

Type	Year	Cost	Priority
Lifecycle Replacement	2049	$35,000	Unassigned

Updated: APR-12

D2020.01.03 Piping Specialties (Backflow Preventers)**

Incoming domestic water line contains reduced pressure backflow preventer.

Rating	Installed	Design Life	Updated
5 - Good	1965	20	APR-12

Event: Replace Backflow Preventer

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$10,000	Unassigned

Updated: APR-12

D2020.02.02 Plumbing Pumps: Domestic Water**

TACO domestic water booster pump.

Rating	Installed	Design Life	Updated
5 - Good	1965	20	APR-12

Event: Replace Plumbing Pumps: Domestic Water

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$8,000	Unassigned

Updated: APR-12

D2020.02.04 Domestic Water Conditioning Equipment**

Domestic Hot Water is Softened.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	20	APR-12

Event: Replace Domestic Water Conditioning Equipment

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$14,000	Unassigned

Updated: APR-12

D2020.02.06 Domestic Water Heaters**

Domestic hot water heating system consists of two hot water heaters located in the mechanical room.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	20	APR-12

Event: Replace Domestic Water Heaters (2)

Concern:
Domestic hot water tanks are original and at the end of their life expectancy.
Recommendation:
Replace Hot Water Tanks.
Consequences of Deferral:
Inadequate hot water supply for operations of hospital.

Type	Year	Cost	Priority
Failure Replacement	2013	$20,000	Medium

Updated: APR-12

D2020.03 Water Supply Insulation: Domestic*

Water piping insulated throughout.

Rating	Installed	Design Life	Updated
5 - Good	1965	40	APR-12

D2030.01 Waste and Vent Piping*

Copper and cast iron sanitary piping.

Rating	Installed	Design Life	Updated
2 - Poor	1965	50	APR-12

Event: Replacement Sanitary Piping (6782m2/gfa)

Concern:

Existing Copper and cast iron sanitary piping are corroded due to hydrogen peroxide based products not neutralized prior to pouring down the drain.
Sewer lines in laundry room are not of adequate size and flooding is occuring.

Recommendation:

New Sanitary Piping needs to replace existing.
Sewer line in laundry room needs to be upgraded to accommodate volumes of water from washers.

Consequences of Deferral:

Continual leakage, water damage and possible ground contamination.

Type	Year	Cost	Priority
Failure Replacement	2013	$150,000	High

Updated: APR-12

D2030.02.04 Floor Drains*

Floor drains located where required.

Rating	Installed	Design Life	Updated
5 - Good	1965	50	APR-12

D2040.01 Rain Water Drainage Piping Systems*

Rain water collection via roof drains to storm water lines.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	50	APR-12

Event: Relocate Roof Drain Piping at Front Entrance

Concern:
Present location of roof drain at front entrance creates major ice conditions in the spring and fall.
Recommendation:
Move existing roof drain at front entrance to more suitable location, where ice buildup is not an issue or concern.
Consequences of Deferral:
Safety hazard. Slip and fall. Injury to person.

Type	Year	Cost	Priority
Repair	2013	$3,000	Medium

Updated: APR-12

D2040.02.04 Roof Drains*

Roof drains are located where necessary.

Rating	Installed	Design Life	Updated
5 - Good	1965	40	APR-12

D2090.16 Medical Air System*

Medical Air Compressor: DeVilbiss Hankison Model.
Air controls: Devair Model.
Medical air valve: Ohmeda Model.
Medical gas alarm: Ohio Model.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	0	APR-12

Event: Replace Medical Air System (6782m2/gfa)

Concern:
Medical Air Compressor's parts are obsolete.
Recommendation:
Requires replacement.
Consequences of Deferral:
No medical air for patients.

Type	Year	Cost	Priority
Failure Replacement	2013	$200,000	Medium

Updated: APR-12

D3010.02 Gas Supply Systems*

GALVANIC APPLIED SCIENCE INC. GAS MICRO Digital Meter.
ROOTS gas meter.
FISHER CONTROLS Regulators.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	60	APR-12

D3020.01.01 Heating Boilers & Accessories: Steam**

One VOLCANO steam boiler. Obsolete. Has been replaced with Heating Boilers. See Section 3020.02.01.03 Heating Boilers and Accessories: H.W.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	35	APR-12

Event: Replace (1) Steam Boiler

Concern:
One obsolete VOLCANO steam boiler. Has been replaced with Heating Boilers and needs to be removed.
Recommendation:
Remove abandoned steam boiler.

Type	Year	Cost	Priority
Preventative Maintenance	2012	$40,000	Low

Updated: APR-12

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

Heating water LEESON pump
Primary heating water ARMSTRONG pumps
Secondary heating water INGERSOLL RAND pumps

Rating	Installed	Design Life	Updated
3 - Marginal	1965	35	APR-12

Event: Replace Leeson Pump

Concern:
Heating water Leeson pump is original and not in good working condition.
All 3 Volcano heating boilers are original and have exceeded their life expectancy and require replacement.
Recommendation:
Requires replacement.
Consequences of Deferral:
Pump failure - No hot water for the facility.

Type	Year	Cost	Priority
Failure Replacement	2013	$450,000	Medium

Updated: APR-12

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

Galvanized Steel Combustion air and Chimney.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

Event: Replace Chimneys (& Comb. Air) for H.W. Boiler (20m)

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$15,000	Unassigned

Updated: APR-12

D3020.04.03 Fuel-Fired Unit Heaters**

Vertical and Horizontal Fuel Fired Unit Heaters Ranging from 24-80MBHs

Rating	Installed	Design Life	Updated
5 - Good	1965	30	APR-12

Event: Replace 12 Fuel Fired Unit Heaters

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$36,000	Unassigned

Updated: APR-12

D3020.04.04 Chimney (& Comb. Air): Fuel-Fired Heater*

Galvanized steel exhaust ducting from fuel fired heaters.

Rating	Installed	Design Life	Updated
5 - Good	1965	30	APR-12

D3030.02 Centrifugal Water Chillers**

TRANE Chiller, complete with Armstrong vertical in-line pump, 2 way control valve.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	25	APR-12

Event: Replace Centrifugal Water Chillers

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$550,000	Unassigned

Updated: APR-12

D3030.06.01 Refrigeration Compressors**

Dietary department has A/C unit.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	25	APR-12

Event: Larger Capacity A/C Unit Required

Concern:

A/C unit for Dietary department does not provide adequate cooling.
Shop area does not have adequate cooling to accommodate heat rejection off of electrical transformers.
Laboratory in Emergency/OPD wing requires auxiliary cooling due to heat rejection off of new equipment. Additional exhaust is recommended to suit.

Recommendation:

Dietary department requires new A/C unit.
Install new A/C unit to accommodate heat rejection loads.
Install auxiliary cooling to meet heat rejection requirements.

Consequences of Deferral:

Overheating. Occupant Discomfort.

Type	Year	Cost	Priority
Indoor Air Quality Upgrade	2013	$9,500	Medium

Updated: APR-12

Event: Replace Refrigeration Compressor

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$50,000	Unassigned

Updated: APR-12

D3040.01.01 Air Handling Units: Air Distribution**

All ventilation systems are 100% outdoor air with constant volume systems, except outpatient AHU with mixed air from return fan.
Operating Room RECOLD AHU
Dietary RECOLD AHU
Laundry RECOLD AHU
Chapel RECOLD AHU
Three CARRIER RTU's for Administration area.
One RTU for server room.
Main and second floor TRANE AHU, complete with ARMSTRONG vertical in-line pumps and ARMSTRONG plate heat exchanger, EXTROL expansion tank, AXIOM glycol make-up system.

Rating	Installed	Design Life	Updated
2 - Poor	1965	30	APR-12

Event: Provide Air Handling Unit for admin wing (1) and Crawl Space (1)

Concern:
Currently no ventilation provided in administration wing.
No ventilation in crawl space. Humidity levels are high.
Recommendation:
Provide ventilation as required by code.
Consequences of Deferral:
Possible molding in crawl space. Inadequate ventilation in administration wing.

Type	Year	Cost	Priority
Code Upgrade	2014	$60,000	Medium

Updated: APR-12

Event: Replace 4 AHUs

Concern:
Recold AHU's servicing Operating Room, Dietary area, Laundry area, and Chapel are in poor condition and at the end of their lifecycle.
Recommendation:
Replace each AHU.
Consequences of Deferral:
No ventilation for Hospital.

Type	Year	Cost	Priority
Failure Replacement	2012	$160,000	High

Updated: APR-12

D3040.01.04 Ducts: Air Distribution*

Overhead galvanized steel ducting throughout building.

Rating	Installed	Design Life	Updated
5 - Good	2009	50	APR-12

D3040.01.07 Air Outlets & Inlets: Air Distribution*

Overhead square plaque diffuser distributed throughout and egg-crate return air grilles.

Rating	Installed	Design Life	Updated
2 - Poor	1965	30	APR-12

Event: Replace Louvers to Boiler Room

Concern:
Exterior louvers to boiler room are worn.
Recommendation:
Exterior louvers require replacement.
Consequences of Deferral:
Inadequate airflow.

Type	Year	Cost	Priority
Failure Replacement	2015	$464,302	Medium

Updated: APR-12

D3040.03.01 Hot Water Distribution Systems**

Armstrong heating pumps and controls in the mezzanine.

Rating	Installed	Design Life	Updated
2 - Poor	1965	40	APR-12

Event: Install Secondary Backflow Preventer

Concern:
Original backflow preventer not serviceable.
Recommendation:
Install secondary backflow preventer.
Consequences of Deferral:
No redundancy. If failure, heating system could be down.

Type	Year	Cost	Priority
Preventative Maintenance	2013	$6,000	Medium

Updated: APR-12

Event: Replace 2 Heating Pumps

Concern:
Heating pumps are worn out and could fail at any time.
Recommendation:
Replace heating pumps.
Consequences of Deferral:
Heating system failure.

Type	Year	Cost	Priority
Failure Replacement	2013	$7,500	Medium

Updated: APR-12

D3040.04.01 Fans: Exhaust**

Roof mounted centrifugal GREENHECK exhaust fans EF-6, EF-7, EF-8, and EF-9 for outpatient area.
Roof mounted centrifugal GREENHECK exhaust fans EF-1, EF-4, and EF-5 for Lab area.
Three inline AEROFOIL exhaust fans for kitchen, operating room, and main & second floors.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	30	APR-12

Event: Remove 3 inline duct exhaust fans and install roof mounted exhaust fans.

Concern:
Inline exhaust fans are 1963 original to building. Access to fans is very poor and are an OH&S issue.

Recommendation:
Remove three inline exhaust fans (washroom and kitchen exhaust located within a duct shaft with poor access). Remove inline exhaust fans and install roof mounted exhaust fans.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2013	$60,000	High

Updated: APR-12

Event: Replace 3 Exhaust Fans

Concern:
Laundry room currently does not have sufficient exhaust air due to the operating condition of the existing wall mounted exhaust fan.
Current exhaust fans from dietary and paediatric area are original and not accessible.

Recommendation:
Recommend replacing the existing exhaust fan in laundry room with a new fan type to attenuate the noise.
Require roof mounted exhaust fans for main building exhaust to replace dietary and paediatric area exhaust.

Consequences of Deferral:
Inadequate exhaust of areas. Poor indoor air quality.

Type	Year	Cost	Priority
Failure Replacement	2015	$15,000	Medium

Updated: APR-12

D3040.04.03 Ducts: Exhaust*

Galvanized steel exhaust ducting in ceiling space.

Rating	Installed	Design Life	Updated
5 - Good	1965	50	APR-12

D3040.04.05 Air Outlets and Inlets: Exhaust*

Egg crate exhaust air grilles.

Rating	Installed	Design Life	Updated
5 - Good	1965	30	APR-12

D3040.05 Heat Exchangers**

A.S. Leitch Co. Heat exchanger installed in 1987 for building domestic hot water with temperature of 140F.
A.S. Leitch Co. Heat exchanger installed in 1987 for dishwasher and laundry domestic hot water with temperature of 180F.
Sandford Pearce North Tube and Shell heat exchanger for main heating system.

Rating	Installed	Design Life	Updated
3 - Marginal	1987	30	APR-12

Event: Replace 2 Heat Exchangers

Type	Year	Cost	Priority
Lifecycle Replacement	2017	$23,000	Unassigned

Updated: APR-12

Event: Replace Sandford Pearce North Heat Exchanger

Concern:
Sandford Pearce North Tube and Shell heat exchanger is original to the building and has reached the end of its lifecycle.
Recommendation:
Replace heat exchanger.
Consequences of Deferral:
Failure of heating system.

Type	Year	Cost	Priority
Failure Replacement	2013	$15,000	Medium

Updated: APR-12

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

Mark Vector Series Radiant Heaters

Rating	Installed	Design Life	Updated
3 - Marginal	1965	35	APR-12

Event: Provide Acess to Control Valves

Concern:
Currently no access to reheat coils on all three floors.
Recommendation:
Coils require cleaning and installation of new isolation valves and control valves. Access is required.
Consequences of Deferral:
Inability to provide adequate maintenance for increased lifespan of reheat coils.

Type	Year	Cost	Priority
Preventative Maintenance	2013	$10,000	Medium

Updated: APR-12

Event: Replace 3 Entrance Radiant Heaters

Concern:
All wall radiant heaters located at entrances to the building are inadequate.
Recommendation:
Replace all wall radiant heaters located at entrances to the building.
Consequences of Deferral:
Inadequate heating. Minimal occupant comfort.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2013	$15,000	Medium

Updated: APR-12

Event: Replace 30 Isolation and Shut off Valves for Radiant Heating System

Concern:
All radiant heat systems isolation and shut off valves require replacement.
Recommendation:
Replace all radiant heat systems isolation and shut off valves
Consequences of Deferral:
Failure of all radiant heating systems.

Type	Year	Cost	Priority
Failure Replacement	2015	$24,000	Medium

Updated: APR-12

Event: Replace all Radiant Heaters in Building (60)

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$60,000	Unassigned

Updated: APR-12

D3060.02.01 Electric and Electronic Controls**

Room Thermostats: Johnson Controls

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

Event: Replace Electric and Electronic Controls (6782m2/gfa)

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$148,000	Unassigned

Updated: APR-12

Event: Upgrade Electric and Electronic Controls

Concern:
Radiant heat systems for patient rooms on second and third floors currently controlled by one thermostat for 3 rooms.
Recommendation:
Recommended to put separate controls in each room with new thermostats.
Consequences of Deferral:
Occupant Discomfort.

Type	Year	Cost	Priority
Indoor Air Quality Upgrade	2013	$5,000	Low

Updated: APR-12

D3060.02.02 Pneumatic Controls**

Entire HVAC system is run by pneumatic zone controls original to the building.

Rating	Installed	Design Life	Updated
2 - Poor	1965	40	APR-12

Event: Replace Pneumatic Controls (6782 m2/gfa)

Concern:
System could fail. Parts are difficult to find.
Recommendation:
Requires and upgrade to a DDC computerized system.
Consequences of Deferral:
Obsolete parts. No control over airflows.

Type	Year	Cost	Priority
Failure Replacement	2013	$150,000	Medium

Updated: APR-12

D4030.01 Fire Extinguisher, Cabinets and Accessories*

Dry chemical fire extinguishers on hooks and fire hose cabinet mounted in recess wall.

Rating	Installed	Design Life	Updated
5 - Good	1965	30	APR-12

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

Dry chemical fire extinguishing system in kitchen.

Rating	Installed	Design Life	Updated
5 - Good	1965	40	APR-12

Event: Replace Dry Chemical Fire Extinguishing Systems (Kitchen Hood)

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$30,000	Unassigned

Updated: APR-12

S5 ELECTRICAL

D5010.01.02 Main Electrical Transformers (Utility Owned)*

Utility owned.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	40	APR-12

D5010.02 Secondary Electrical Transformers (Interior)**

Transformers for specialized equipment (x-ray, fluoroscopy, etc.). Install dates unknown. No distribution transformers (service is 120/208V).

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	40	APR-12

Event: Replace Secondary Electrical Transformers (Interior)

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$80,000	Unassigned

Updated: APR-12

D5010.03 Main Electrical Switchboards (Main Distribution)** - 1965

800A 120/208V Westinghouse main distribution panel, now used as a CDP.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	40	APR-12

Capacity Size	Capacity Unit
800	amps

Event: Replace Main Distribution Panel

Concern:
Original distribution is well beyond lifecycle, replacement parts are no longer manufactured. Failure could leave than 50% of the Hospital without power.
Recommendation:
Replace main distribution panel
Consequences of Deferral:
Significant interruption of essential hospital services.

Type	Year	Cost	Priority
Failure Replacement	2013	$86,000	Medium

Updated: APR-12

D5010.03 Main Electrical Switchboards (Main Distribution)** - 2004

Upgrade to 2500A 120/208V Cutler Hammer main distribution in 2004.

Rating	Installed	Design Life	Updated
4 - Acceptable	2004	40	APR-12

Event: Replace Main Electrical Switchboards (Main Distribution)

Type	Year	Cost	Priority
Lifecycle Replacement	2044	$86,000	Unassigned

Updated: APR-12

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

Original panelboards are Westinghouse. Federal Pioneer and Square D panelboards have also been installed.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	30	APR-12

Event: Replace 31 Branch Circuit Panelboards

Concern:
Majority of panelboards are well past their serviceable life expectancy, and replacement parts are no longer available for most.

Recommendation:
Replace branch circuit panelboards with new.

Consequences of Deferral:
Breaker or panel failure could leave disrupt hospital services.

Type	Year	Cost	Priority
Failure Replacement	2015	$77,500	Low

Updated: APR-12

D5010.07.01 Switchboards, Panelboards, and (Motor) Control Centers**

No motor control centres (MCC) -- pumps and motors each have a local starter or contactor c/w overload protection. Westinghouse and Square D.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

Event: Replace motor starters with new MCC

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$85,000	Unassigned

Updated: APR-12

D5010.07.02 Motor Starters and Accessories**

Westinghouse or Square D pumps starter or contactor c/w overload protection.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

Event: Replace motor starters [20]

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$70,000	Unassigned

Updated: APR-12

D5020.01 Electrical Branch Wiring*

EMT and flexible metal conduit with wire types TW and RW-90. AC-90 BX used for some newer installations.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	50	APR-12

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

Line voltage switches - no low voltage control.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

D5020.02.02.01 Interior Incandescent Fixtures*

Surface mounted wall sconces with glass cover, pendant Swedish ball style, ceiling mounted with class cover. Typically 60 or 100W A19 lamps.

Rating	Installed	Design Life	Updated
2 - Poor	1965	30	APR-12

Event: Replace 20 incandescent fixtures

Concern:
Several incandescent fixtures are broken and/or missing lense. Bare lamps can shatter and/or burn.
Recommendation:
Replace approximately 20 incandescent fixtures.
Consequences of Deferral:
Building appears poorly maintained; infection control issues.

Type	Year	Cost	Priority
Failure Replacement	2013	$3,750	Low

Updated: APR-12

D5020.02.02.02 Interior Fluorescent Fixtures**

Inefficient T12 fluorescent fixtures - primarily surface mounted wrap fixtures. Many have cracked, broken, or missing lenses -- unprotected lamps. T12 lamps are ballasts are obsolete and difficult to source.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	30	APR-12

Event: Replace 6782 m2 of Interior Fluorescent Fixtures

Concern:

Inefficient T12 fluorescent fixtures are costly to operate, Many have cracked, broken, or missing lenses -- unprotected lamps. T12 lamps are ballasts are obsolete and difficult to source.

Recommendation:

Replace all fluorescent lighting with new energy efficient lighting.

Consequences of Deferral:

Higher than necessary utility costs. Infection control issues. Replacement parts are difficult to source and are costly.

Type	Year	Cost	Priority
Failure Replacement	2015	$592,000	Low

Updated: APR-12

D5020.02.03.01 Emergency Lighting Built-in*

Emergency lighting is fed from panels fed from standby generator.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	35	APR-12

D5020.02.03.03 Exit Signs*

Incandescent exit signs.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

D5020.02.11 Operating Room Lighting*

Incandescent / halogen lamps.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

D5020.03.01.01 Exterior Incandescent Fixtures*

Keyless lampholders with bare 100W A19 lamps at north east entrance. No globe or lens. Single lamp fixture with globe at one other exterior door.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	0	APR-12

Event: Replace two incandescent fixtures

Concern:
Unprotected lamps are unsightly and easily vandalized.
Recommendation:
Replace fixtures with new.
Consequences of Deferral:
Higher maintenance and utility costs.

Type	Year	Cost	Priority
Failure Replacement	2013	$1,000	Low

Updated: APR-12

D5020.03.01.04 Exterior H.P. Sodium Fixtures*

175W HPS wallpacks above most exit doors

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

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

Mechanical (analogue) time clock.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

D5030.01 Detection and Fire Alarm**

Edwards EST3 system installed in 2006. System is addressable, but primarily utilizes existing conventional zones and devices. Three nodes networked together, with LCD annunciators at strategic locations throughout the Hospital. Mechanical door holders release upon fire alarm.
It was observed that in several locations that existing fire detectors are not installed per the requirements of CAN/ULC S524-01 and it is recommended that a complete review of the fire alarm system be performed by an electrical engineer or qualified installer.

Rating	Installed	Design Life	Updated
4 - Acceptable	2006	25	APR-12

Event: Bring Fire Alarm System to Code [10% lifecycle replacement]

Concern:
It was observed that in several locations that existing fire detectors are not installed per the requirements of CAN/ULC S524-01. The fire alarm system as installed may not adequately protect life and property.
Recommendation:
Bring all areas to minimum code requirements.
Consequences of Deferral:
Inadequate fire protection and enunciation.

Type	Year	Cost	Priority
Code Repair	2012	$18,000	Medium

Updated: APR-12

Event: Code Review of Fire Alarm System

Concern:
It was observed that in several locations that existing fire detectors are not installed per the requirements of CAN/ULC S524-01. The fire alarm system as installed may not adequately protect life and property.
Recommendation:
Retain services of consulting electrical engineer to review entire fire alarm system.
Consequences of Deferral:
The fire alarm system as installed may not adequately protect life and property.

Type	Year	Cost	Priority
Study	2012	$6,000	Medium

Updated: APR-12

Event: Replace Fire Alarm Sytem [6782 m2]

Type	Year	Cost	Priority
Lifecycle Replacement	2031	$180,000	Unassigned

Updated: APR-12

D5030.02.03 Security Access**

Keypad access, electric strikes. System does not monitor doors. Cables are run unprotected in the surface of walls and doors. Operator claims significant issues.

Rating	Installed	Design Life	Updated
2 - Poor	1965	25	APR-12

Event: Replace Building Security System [6782 m2]

Concern:
Existing security system is obsolete and unreliable. Staff is concerned about their safety.

Recommendation:
Install new security and access control systems.

Consequences of Deferral:
Unauthorized access, theft, vandalism.

Type	Year	Cost	Priority
Failure Replacement	2012	$140,000	High

Updated: APR-12

D5030.02.04 Video Surveillance**

Black and white analogue system, no recording capability. Eight camera switcher, 12" monitor at Main floor and 2nd floor Nurses Station.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	25	APR-12

Event: Replace Video Surveillance [16 cameras, Monitor, DVR]

Concern:
System is obsolete and operator claims system has been giving lots of trouble. OH&S staff safety issues.

Recommendation:
Replace CCTV system with new digital system with recording capabilities.

Consequences of Deferral:
Inadequate security.

Type	Year	Cost	Priority
Failure Replacement	2013	$105,000	Low

Updated: APR-12

D5030.04.01 Telephone Systems*

Original analogue system.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	25	APR-12

Event: Upgrade Telephone System Phase [6782 m2]

Concern:
System cannot handle hall waiting, call transfer, or voicemail capabilities.
Recommendation:
Install new systems with VOIP capability

Type	Year	Cost	Priority
Failure Replacement	2014	$18,000	Low

Updated: APR-12

D5030.04.03 Call Systems**

Nurse call on 2nd Floor and in Outpatient areas replaced in 2005 with a Rauland Responder system. Original nurse call on 3rd floor is no longer used.

Rating	Installed	Design Life	Updated
4 - Acceptable	2005	25	APR-12

Event: Replace Nurse Call Systems [2000 m2]

Type	Year	Cost	Priority
Lifecycle Replacement	2030	$35,000	Unassigned

Updated: APR-12

D5030.04.04 Data Systems*

Primarily CAT5 wiring, some CAT5e and CAT6. Patch panels located in electrical rooms throughout Hospital.

Rating	Installed	Design Life	Updated
4 - Acceptable	2000	25	APR-12

D5030.04.05 Local Area Network Systems*

Network switches located in electrical rooms throughout Hospital.

Rating	Installed	Design Life	Updated
5 - Good	2000	15	APR-12

D5030.05 Public Address and Music Systems**

Hospital wide paging system. Primarily 10" speakers. Some renovated areas have surface mounted speakers with surface raceway.

Rating	Installed	Design Life	Updated
2 - Poor	1965	25	APR-12

Event: Replace Public Address and Music Systems [6783 m2]

Concern:

Some speakers appear damaged. Operator complains that in many areas paging is inaudible, some areas do not have volume controls.

Recommendation:

Replace PA system.

Consequences of Deferral:

Safety concerns, operational inefficiencies.

Type	Year	Cost	Priority
Failure Replacement	2015	$15,000	Medium

Updated: APR-12

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

200kW Cummins Generator installed in 1987. Transfer switch replaced in 2006. Undersized for required load -- hospital would like to add Diagnostic Imaging to emergency power.Operator has been experiencing problems with transfer switch and generator reliability.

Rating	Installed	Design Life	Updated
4 - Acceptable	1987	35	APR-12

Event: Install New 350kW or Larger, Generator

Concern:
200kW Cummins Generator is undersized for required load -- hospital would like to add Diagnostic Imaging to emergency power.
Recommendation:
Install new 350kW or larger Generator

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2014	$238,000	Medium

Updated: APR-12

Event: Replace Packaged Generator (1)

Type	Year	Cost	Priority
Lifecycle Replacement	2022	$186,000	Unassigned

Updated: APR-12

Event: Replace Transfer Switch

Concern:
Operator has been experiencing problems with transfer switch and generator reliability.
Recommendation:
Repair or replace transfer switch.
Consequences of Deferral:
Hospital could be without emergency power.

Type	Year	Cost	Priority
Failure Replacement	2012	$9,000	High

Updated: APR-12

S6 EQUIPMENT, FURNISHINGS AND SPECIAL CONSTRUCTION

E1010.06 Commercial Laundry and Dry Cleaning Equipment*

Commercial washers and drying equipment: 25-35 years old; 1 unit 7 years ols
Continental Washers (2)
Brun Washer (1)
Milnor Washer (1)

Commercial Dryers: All 25+ years old.
Cissell Dryers (1)
Ajax Dryer (1)
Huebsch (1)

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	0	APR-12

E1020.07 Laboratory Equipment*

Lab equipment is present in lab areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	25	APR-12

E1020.08 Medical Equipment*

Assorted metical equipment throughout the facility.

Rating	Installed	Design Life	Updated
4 - Acceptable	2000	25	APR-12

E1090.02 Solid Waste Handling Equipment

Waste handling at exterior garbage bins on site.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	25	APR-12

E1090.03 Food Service Equipment*

Food Service Equipment:
Storage Equipment: Walk-in coolers and freezers, dry storage room areas, reach in coolers.
Preparation Equipment: Stainless steel counters, cutting and prep equipment.
Cooking Equipment: stoves, ovens, steamers
Serving Equipment: Mobile racks, stainless steel servery, with coolers
Cleaning Equipment: High temperature commercial washers, stainless steel wash trays and sinks.

Rating	Installed	Design Life	Updated
3 - Marginal	1990	25	APR-12

Event: Replace 4m Servery Counter

Concern:
Bottom of servery counter is rusting out.
Recommendation:
Replace with new servery. Match to the existing.
Consequences of Deferral:
Higher maintenance costs.

Type	Year	Cost	Priority
Failure Replacement	2015	$10,000	Medium

Updated: APR-12

Event: Upgrade 2 Freezer & 2 Cooler Program for Functional Upgrade

Concern:
Coolers are original block wall construction and do not meet IPC standards.
Recommendation:
Remove the existing construction.
Replace the existing with new cooler and freezer assemblies.
Patch and repair to match the existing finishes.
Modify the electrical and mechanical as required.
Consequences of Deferral:
Deferred IPC standards.

Type	Year	Cost	Priority
Program Functional Upgrade	2015	$30,000	Medium

Updated: APR-12

E1090.04 Residential Equipment*

Fridges, stoves and microwaves.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	10	APR-12

E1090.07 Athletic, Recreational, and Therapeutic Equipment*

Physiotherapy equipment include beds, parallel bars, over-head racks, and exercise equipment.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	15	APR-12

E2010.02 Fixed Casework** - 1965

Casework: wood veneer core with painted finish.
Countertops: Plywood cores with plastic laminate finish.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	35	APR-12

Event: Replacement 164 m Fixed Casework - 1965

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$136,500	Unassigned

Updated: APR-12

E2010.02 Fixed Casework** - 1990

Casework: Plywood and particle wood core, plastic laminate exterior and countertops
Countertops: Plywood cores with plastic laminate finish.
Face Panels: Particle board core with hardwood nosings and plastic laminate finish.

Rating	Installed	Design Life	Updated
3 - Marginal	1990	35	APR-12

Event: Replace 274 m Fixed Casework - 1990

Type	Year	Cost	Priority
Lifecycle Replacement	2025	$228,100	Unassigned

Updated: APR-12

Event: Replace 78 m Countertops

Concern:
Countertop plastic laminate is chipped, broken or missing.
Hardwood bullnose edge has finish worn or or deteriorated.
Recommendation:
Replace countertops with new as follows.
High infection control areas: Use solid surfacing with integral nosing and splash.
Low infection control areas: Use plastic laminate with integral nosing and splash.
Consequences of Deferral:
Deferred infection control.

Type	Year	Cost	Priority
Failure Replacement	2013	$64,900	High

Updated: APR-12

E2010.03.01 Blinds** - 1965

Horizontal and vertical blinds, prefinished metal finish, with and without valances, colours vary.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	30	APR-12

Event: Replace 177 m2 Blinds - 1965

Type	Year	Cost	Priority
Lifecycle Replacement	2015	$19,900	Unassigned

Updated: APR-12

E2010.03.01 Blinds** - 1990

Horizontal and vertical blinds, prefinished metal, vinyl and wood finishes, with and without valances, colours vary.

Rating	Installed	Design Life	Updated
4 - Acceptable	1990	30	APR-12

Event: Replace 217 m2 Blinds - 1990

Type	Year	Cost	Priority
Lifecycle Replacement	2020	$24,400	Unassigned

Updated: APR-12

F1040.05 Liquid and Gas Storage Tanks*

Emergency generator diesel tank installed outside of the mechanical room.
Oxygen tank is installed south of the facility.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	20	APR-12

S8 SPECIAL ASSESSMENT

K2030.02 Program Spaces* - Kitchen Receiving

No loading dock equipment.

Rating	Installed	Design Life	Updated
3 - Marginal	2012	0	APR-12

Event: Add 100 m2 Kitchen Receiving - Program Functional Upgrade

Concern:

Shipping/Receiving area for kitchen is not usable.
Cart was area is small.

Recommendation:

Remove old receiving enclosure.
Add cart was area.
Add new receiving enclosure, with exterior brick veneer to match the existing.
Excavate for ramp addition for grade unloading.
Add mechanized dock lift assembly
Add dock bumpers, and unloading canopy.
Add overhead and man doors.
Renovate 30 m2 of interior space.
Add heating and electrical services.

Consequences of Deferral:

Deferred program spaces.
Safety concern with exterior unloading.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2012	$100,000	Medium

Updated: APR-12

K2030.02 Program Spaces* - Storage + General Shipping/Receiving

Facility has no general shipping and receiving area. Materials are shipped and received at grade outside the facility exposed to the environment. Materials are moved through double exterior door and down a corridor to and interior shipping/receiving room area. There is no exterior dock leveler nor enclosed receiving area.

Rating	Installed	Design Life	Updated
3 - Marginal	2012	0	APR-12

Event: Add 500 m2 General Shipping/Receiving Storage - Program Functional Upgrade

Concern:

Since the demolition of the Old Nurse's residence there is no storage.
No Shipping/Receiving for facility.

Recommendation:

Add new receiving enclosure, with exterior brick veneer to match the existing. Construct south of existing maintenance shop.
Utilize existing exterior brick veneer as interior finish.
Excavate for ramp addition for dock unloading.
Add mechanized dock lift assembly
Add dock bumpers, and unloading canopy.
Add overhead and man doors.
Connect to interior corridor space.
Add heating and electrical services.
Add interior automatic doors to ease movement of goods.

Consequences of Deferral:

Deferred operation efficiency.
Deferred safety.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2012	$500,000	Medium

Updated: APR-12

K2030.02 Program Spaces*- Laundry

Laundry, clean and soiled, contained on one work space.

Rating	Installed	Design Life	Updated
3 - Marginal	2012	0	APR-12

Event: Add 50 m2 Laundry Wall - Program Functional Upgrade

Concern:
No separation between soiled and clean utility areas.
Recommendation:
Add new wall to separate laundry soiled and clean spaces.
Consequences of Deferral:
Potential contamination.

Type	Year	Cost	Priority
Program Functional Upgrade	2012	$20,000	Medium

Updated: APR-12

K3010.01 Plumbing for Program Equipment* - Sprinklers

No sprinkler systems in required areas. Install sprinkler system in the Hospital.

Rating	Installed	Design Life	Updated
2 - Poor	1965	0	APR-12

Event: Install Sprinkler System in 3391m2/gfa

Concern:
Currently no sprinkler protection in Administration Area and many areas of hospital. Upgrade to meet current code requirements.
Recommendation:
Require installation of sprinkler systems to all areas except Emergency Department to meet code requirements.
Consequences of Deferral:
Building loss in its entirety and possible death.

Type	Year	Cost	Priority
Code Upgrade	2012	$150,000	High

Updated: APR-12

K3020.09 Building Envelope*

Low envelope performance.
Owner reports perimeter spaces are cool.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	0	APR-12

Event: Upgrade 1700 m2 Building Envelope - Energy Efficiency Upgrade

Concern:

1990 Envelope Upgrade: 2nd and 3rd floors with partial main floor upgrades
1965 Main Floor: Original envelope areas requires upgrading.
System: EIFS over the existing veneers.
Window Replacement: Refer to B2020.01.01.02 Aluminum Windows (Glass & Frame)** - 1965

Recommendation:

Upgrade existing envelope with:
Demolition.
New exterior vapour retarder.
New Low brick banding veneer.
Upper EIFS system.
New windows refer to B2020.01.01.02 Aluminum Windows (Glass & Frame)** - 1965
New utility door refer to B2030.02 Exterior Utility Doors** - 1965

Type	Year	Cost	Priority
Energy Efficiency Upgrade	2015	$1,000,000	Medium

Updated: APR-12

K4010.01 Barrier Free Route: Parking to Entrance*

Level surfaces from parking areas to entrances.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

K4010.02 Barrier Free Entrances*

Main entrance has automatic doors.
No other doors have operators.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

K4010.03 Barrier Free Interior Circulation*

Horizontal movement is generally barrier-free.
Vertical movement is via 2 elevators serving 3 floors.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

K4010.04 Barrier Free Washrooms*

Facility washrooms are not all barrier-free.

Rating	Installed	Design Life	Updated
3 - Marginal	1965	0	APR-12

Event: Upgrade 30 Washrooms (barrier free & sinks)

Concern:
Washrooms are not handicap accessible and do not have sinks in them.

Recommendation:
Upgrade washrooms to handicap compliant.
Patient rooms = 18
Public and staff washrooms = 12

Consequences of Deferral:
Deferred accessibility.

Type	Year	Cost	Priority
Barrier Free Access Upgrade	2015	$900,000	Medium

Updated: APR-12

K4030.01 Asbestos*

Asbestos Report PHH Environmental 2003: Asbestos containing materials were identified in: pip insulation, vessel insulation, boiler breeching, duct parging, reflective light shields, ceiling texture coating, cast iron spigots, and floor tile. Vermiculite is suspected to be in wall cavities.

Rating	Installed	Design Life	Updated
4 - Acceptable	2003	0	APR-12

K4030.02 PCBs*

No PCB reported.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

K4030.04 Mould*

No mould reported.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

K4030.06 Radioactive Compounds*

No radioactive compounds reported.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

K4030.07 Ozone Depleting Substances (CFC's, HCFC's, Halon)*

No Ozone Depleting Substances (CFC's, HCFC's, Halon) reported.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

K4030.08 Biohazardous Materials*

Biohazard materials are contained in separate waste management container on site.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

K4030.09 Other Hazardous Materials*

No Other Hazardous Materials reported.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

K5010.01 Site Documentation*

Prime Consultant: PBK Architects.
Evaluation Year: 2011
Site Summary: This building site has both hard and soft landscaping, The hard surfaces include concrete sidewalks, and gravel and asphalt paved parking and roadway areas. The soft areas are covered with grass, landscaping beds and shale transition areas. There are mature trees, and shrubs.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12

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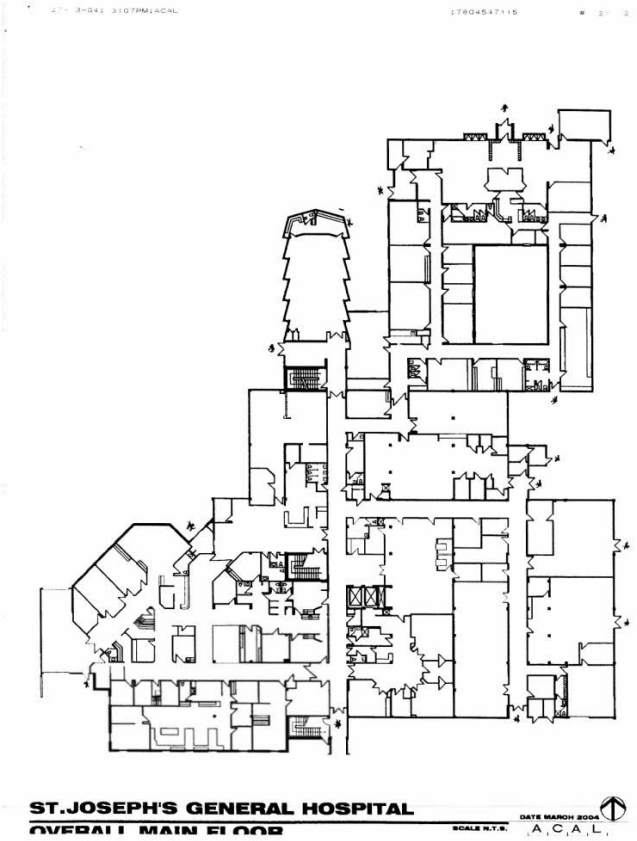
K5010.02 Building Documentation*

Prime Consultant: PBK Architects.
Evaluation Year: 2011
Area Evaluated: Main floor, 2nd floor, 3rd floor, and roof areas.
Not Evaluated: None.

The St. Joseph's General Hospital, Covenant Health in Vegreville is an acute care facility offering services in emergency, medicine, laboratory, X-Ray, dialysis, diabetic education, respiratory therapy, and day support, PCN network & specialty clinics.

Rating	Installed	Design Life	Updated
4 - Acceptable	1965	0	APR-12



Main Floor