



Memorandum

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Date: December 8, 2020

Project Name: Former YMCA Yarmouth, NS
Client: Town of Yarmouth
To: Marc Brophy, P.Eng.
Town Engineer

Project #: 10-20-105
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Attention:

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Distribution:

MCW and Root Architecture have been requested by the Town of Yarmouth to complete a review of the condition assessment and capital plan developed for the former Yarmouth YMCA building in the spring of 2020. This review seeks to reprioritize the capital plan in light of a new mandate for the building as the Town of Yarmouth has purchased the building. The Town hopes to address the immediate needs of the facility and to offer recreational services for the communities of southwestern Nova Scotia. The Town has requested we review the spring 2020 Report with the following focus:

Priority 1: Commentary on immediate needs of the facility, non-functional equipment or safety hazards that must be rectified prior to the building opening,

Priority 2: Highlight the items from the capital plan that would be required to extend the lifespan of the building as a recreational facility for 5 years while plans are made to construct a new facility to serve the community.

There are optional energy efficiency upgrades that should be considered when undertaking capital projects, please consult the energy audit report supplied as a companion document to the original condition assessment report.

It is important to note that this report isn't intended to supersede issues raised in our original report dated April 23, 2020. It is intended to highlight high priority items to allow the Town of Yarmouth to re-open the facility.

Summary of Recommended Investments	Amount
Architectural Systems	\$ 251,500
Mechanical Systems	\$ 237,250
Electrical Systems	\$ 10,700
Energy Upgrades (optional)	\$ 155,000
Total	\$ 654,450



1.1 ARCHITECTURE

1.1.1 General Description

Our original report outlined long and short-term issues and the purpose of this report is to address issues that may have an impact on a period of 1-5 years from this date. It is assumed that Barrier free access was in place prior to the closure earlier this year and that those systems and devices would remain as is unless noted otherwise within this report.

1.1.2 Building Interior

1.1.2.1 General Observations

In general, the finishes range from poor to good. In areas adjacent to the pool, the ceiling grid, diffusers, doors and steel structure have all corroded to some level over the life of the building. Although no major issues were observed these areas will need to be monitored once the facility opens.

1.1.2.2 Basement Floor Plan

The change rooms are in good condition for their age. The walls are all concrete block and appear to be in good condition. Doors and hardware appear to be in good condition. The steel lockers are showing signs of rust but do not pose any operational issues.

The Exercise room is in good condition. A skylight exists in the south west corner of this space. Although, water was not currently entering this area we understand it has been an issue in the past. We had highlighted some issues with regards to size of this space and exiting in our original report. As this is an existing building, we would assume that in the short term, and with current Social distancing issues affecting occupancies, the space can continue to function. Further review with the local Authorities having Jurisdiction may be prudent.

Along the back corridor that leads to the pool level there is major corrosion within the exterior wall along Main Street. The corrosion has impacted all structural elements, ceiling grids and corroded conduits. It is located below the main entry. Providing new sealant along the sidewalk area of the main entry would be an inexpensive solution to eliminate one possible source.

1.1.2.3 Probable Cost Estimate - Basement Level

Item Description	\$	Priority
Monitor water infiltration in Exercise room by skylight	\$5,000	2
Address water damage at back corridor	\$ 30,000	1
Sub Total	\$ 35,000	

1.1.2.4 Main Floor Plan

The original racquetball court adjacent to Cliff Street was transformed into a boardroom and administration area to serve a broader YMCA district. The second-floor windows have been leaking for some time and gypsum board is damaged at the sills. The doors leading to this area open up directly into an exit stair and are wood. The doors should be upgraded with a fire rating.

The original Gymnasium has been subdivided and is now about 2/3 fitness and 1/3 basketball court. Recent roofing repairs has taken care of roof leaks observed earlier this year.



The Multi-purpose room along main street has been sub-divided into three rooms. The flooring in this room appears to have a wood sub floor and the tiles are lifting and need to be replaced.

The washrooms on this level are in similar condition to the lower level. The kitchen is in reasonable condition.

The main office reception area was upgraded in 2011 but modified from the design drawings. Overall, this area is in good condition.

1.1.2.5 Probable Cost Estimate -Main Level

Item Description	\$	Priority
Change wood doors in Admin area	\$ 5,000	1
Water infiltration repairs at entry-leaking into basement	\$ 25,000	1
Modify stair handrails to be 1.5" diameter	\$24,000	2
Replace floor in MPR	\$ 30,000	3
Sub Total	\$ 84,000	

1.1.3 Building Exterior

1.1.3.1 General Description

The building envelope for 1982 addition is shown within the drawings and is a combination of masonry at the lower level with metal panel system above. Aluminum windows and doors are used at main entries with pressed steel doors at exits. For the pool area it has a brick veneer with metal above as well.

1.1.3.2 Observations/Comments

1982 Addition

The roof of the 1982 addition is an Inverted roofing membrane, and we assume it is the original system based on the number of leaks. Roofing repairs have recently taken place and leaks are currently under control. It is assumed that a roof of this age will require yearly reviews.

Around the sides and back of the 1982 building exposed concrete block was used. Concrete blocks that are severely corroded or broken should be repaired and mortar re-pointing should be done.

The main entry was intended to have a new barrier free ramp installed as per the 2011 drawings. Along the interface between the wall and sidewalk/ramp caulking should be replaced.

The existing windows in the admin area and associated panels have reached their life expectancy. In some areas they leak and are very faded requiring ongoing maintenance. It is recommended that they be replaced. All other windows should be reviewed annually.

Pool Building

Based on the current mortar issues and patches throughout the west facade we must assume that exfiltration/infiltration is an ongoing issue. An interior review of possible air/moisture leaks should be conducted along with some re-caulking and re-pointing of the exterior.

The roof of the pool area was replaced when the solar panels were installed. Although it is approaching its life expectancy, it is in reasonable condition and is not leaking.



1.1.3.3 Probable Cost Estimate

Based on the observed and reported condition of the **Building Exterior**, the following probable costs are estimated:

Item Description	\$	Priority
Roof Repairs - ongoing	\$ 20,000	1
Repair concrete block	\$ 20,000	2
Replace windows in admin area	\$30,000	2
Water infiltration repairs at entry-leaking into basement	\$ 25,000	1
Repair wall leak above basement loading doors	\$ 7,500	1
Repair wall leak in pool equipment room	\$ 5,000	1
Repoint and recaulk pool walls above grade	\$ 25,000	1
Total Building Exterior for the evaluation period	\$ 132,500	

1.2 MECHANICAL SYSTEMS

1.2.1 Boiler Systems

1.2.1.1 Observations

There is visible exterior rust on the oil tank; because of the age and condition of the tank it is recommended an inspection be undertaken by a licensed oil burner technician. Continued coverage for a tank of this age should be confirmed with the facility's insurance provider. The tank is recommend for replacement to maintain service for a 5 year time frame.

Both boilers are atmospherically vented through a common masonry chimney extending from the boiler room to the roof. Because of the age of the chimney, it is recommended that a deeper investigation of its interior be conducted by a qualified mason.

Boiler #1 (Volcano) is past its expected life, a budget should be reserved for its replacement.

1.2.1.2 Probable Cost Estimate – Boiler Systems

Item Description	\$	Priority
Oil Storage Tank Inspection	\$ 750	1
Chimney Inspection	\$ 2,500	1
Oil storage tank replacement	\$35,000	2
Replacement of boiler #1 - Volcano	\$75,000	2
Total Boiler Systems for the evaluation period	\$113,250	

1.2.2 Hydronic Heating System

1.2.2.1 Observations

The main heating water supply pumps are estimated to be more than 25 years old and soon due for replacement.

The piping on the heating coil serving AHU-2 is damaged and requires immediate repair.



1.2.2.2 Probable Cost Estimate – Hydronic System

Item Description	\$	Priority
AHU-2 heating coil repair	\$ 2,500	1
Heating Water Supply Pumps	\$ 7,000	2
Total Hydronic System for the evaluation period	\$9,500	

1.2.3 HVAC Equipment

1.2.3.1 Observations

HRV-1: This air handler is in good condition, but there was a noticeable squeak in the exhaust fan cabinet during the site visit. A visual inspection within the unit did not reveal any issues, a deeper investigation is required.

RTU-Dance: This air handler is in good condition with some slight damage to the exhaust screen on the exterior of the unit. Maintenance staff indicate that the heating coil is non-functional, service for this unit should be scheduled.

RTU-Court: This air handler is in good condition but was not running during the site visit. It was assumed to be off because there was no call for heating or cooling from the court below. Maintenance staff indicate that the heating coil is non-functional, service for this unit should be scheduled.

1.2.3.2 Probable Cost Estimate – HVAC Equipment

Item Description	\$	Priority
Repair of HRV-1 and Rooftop units	\$6,500	1
Removal of redundant exhaust fans	\$3,500	2
Refurbishment of the AHU serving the building core	\$45,000	2
Total HVAC Equipment for the evaluation period	\$55,000	

1.2.4 Building Automation

1.2.4.1 Observations

We recommend the repair and recommissioning of the following systems prior to reopening the facility.

- Repair or replacement of heating controls serving the upstairs locker room (youth locker rooms),
- Repair of the time clocks serving AHU's 1 through 3.

1.2.4.2 Probable Cost Estimate – Building Automation

Item Description	\$	Priority
Controls recommissioning and repair	\$4,500	1
Total Building Automation for the evaluation period	\$4,500	



1.2.5 Pool Equipment

1.2.5.1 Observations

The pool dehumidification system has undergone frequent breakdowns in the past few years. MCW recommends a deeper investigation into the issues plaguing this HVAC equipment. It may be helpful to engage the manufacturer's representative to review its current operation and installation.

The exhaust fan for the water treatment room is well beyond its expected lifetime and should be replaced immediately to ensure the space remains ventilated. Additionally, the fan guard is missing and presents a significant safety hazard.

When considering a potential life extension of 5-10 years it does not make sense to replace all of the skimmers, drains and inlets in the pool, or the piping serving the pool treatment system unless they have failed. We recommend that a budget of \$20,000 be carried for repairs to this equipment to maintain pool operation over the next 10 years.

We recommend that a strategy be developed to continue to provide heating to the pool for a period of 10 years, using a combination of existing and new equipment. The repair or replacement of the existing heating equipment is a costly endeavour, but the risks of equipment failure are high. The existing primary heat exchanger is well beyond its expected service life and appears to be in very poor condition. The secondary solar heating system is non-functional and requires significant investment to refurbish. Further engineering investigation may reveal a path to repurpose the heat exchanger from the solar system and use it as the primary heat source for the pool, but this would eliminate the option to collect solar energy to heat the pool.

1.2.5.2 Probable Cost Estimate – Pool Equipment

Item Description	\$	Priority
Pool dehumidifier investigation	\$2,500	1
Exhaust fan replacement	\$2,500	1
Piping, Skimmer Repairs	\$10,000	2
Engineering Options Analysis – Pool Heating (option)	\$5,000	2
Pool Heat Exchanger Replacement	\$35,000	2
Total Building Automation for the evaluation period	\$55,000	

1.3 ELECTRICAL SYSTEMS

1.3.1.1 Observations

Panel "D" is missing its lock/latch. Based on markings on the inside of Panel "D" it appears that three single-pole breakers may be being used together to feed a single three-phase AHU load (and the breakers are not even all the same size, with two 15A-1P breakers and one 20A-1P breaker). If these are not three separate single-phase loads and the marking is accurate, these breakers must be replaced with a single three-pole breaker sized appropriately for the MOCP rating of the AHU. This may just be a case of an older marking preceding the movement of breakers, as they panel schedule does differ – but the panel schedule is not fully up-to-date either. Realistically the recommendation below to replace this panel should be followed to remove these ambiguities.

Panel "F" is missing a breaker cover plate. Again, the recommendation below to replace this panel should be followed and this issue will be resolved.

There is a splitter feeding switches at the west side of the basement level Mechanical / Electrical room (Photo 23E), all of which have been leaked on and are rusted, and should be decommissioned and partially replaced – and the leak should be fixed (see Architectural). Conduit shall be terminated in junction boxes where it ceases to maintain its integrity and new conduit and wire shall be extended from those junction boxes to the replaced splitter.



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Emergency lights: The older style battery packs were semi-recently replaced with new battery packs and remote heads with LED lamps throughout, but some packs have been plugged into extension cords rather than permanent receptacles, particularly in the storage rooms and workshops adjacent to the gymnasium.

There is a live load centre, meter, and motor starters in the basement mechanical room associated with no longer existing hot tub area that needs to be decommissioned.

1.3.1.2 Probable Cost Estimate – Electrical Systems

Item Description	\$	Priority
Electrical Distribution Repairs	\$ 7,500	1
Emergency Lighting and Exit Signs	\$ 2,000	1
Decommission hot tub distribution equipment	\$1,200	1
Total Electrical Systems for the evaluation period	\$10,700	