Capital Management
Engineering Limited

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5531 Cornwallis Street,
Halifax, NS, Canada
B3K 1B3

Phone: 902 429 4412
Fax: 902 423 4945

HALIFAX
REGIONAL MUNICIPALITY

Final Report

Capital Plan
Building Condition and Energy Assessments
Fire Station 53 Terence Bay
80 Sandy Cove Road
Halifax, Nova Scotia

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Project Number 1201058 4 075

Prepared for:

Greg MacKay, MBA P. Eng.
Infrastructure & Asset Management
Facility Development – Buildings
Halifax Regional Municipality
PO Box 1749 Halifax, NS B3J 3A5

Prepared by:

Capital Management Engineering Limited
5531 Cornwallis Street
Halifax, NS, B3K 1B3
(902) 429-4412

Table of Contents

1 Introduction

Capital Management Engineering Limited (CMEL) was retained by the Buildings, Planning and Infrastructure Department of Halifax Regional Municipality (HRM), to complete a building condition assessment, twenty-five year capital plan and an energy assessment for the property know as Fire Station 53 Terence Bay located at 80 Sandy Cove Road, Halifax, Nova Scotia.

2 Purpose

Halifax Regional Municipality owns, operates and maintains Fire Station 53 Terence Bay. HRM has initiated a comprehensive review of the condition and utilization of Fire Station 53 Terence Bay in support of the Municipality`s long term asset management plan. The condition assessment, long range capital plan and energy assessment are intended to provide support to the long term asset management of the property known as Fire Station 53 Terence Bay.

3 Methodology

3.1 Project Approach

The project was broken down into the following phases:

- ***Phase I – Data Collection & Site Assessment***

  To start the assessments, background information was collected on the facility. The information included, when available, floor plan drawings, up to three years of past energy consumption records, list of recent capital expenditures, and current facility design requirements.

  Following the collection of background data, a site assessment was scheduled and completed. The site assessment was carried out to determine the makeup of the building(s), including type of construction, identification of major systems including:

  - architectural and structural,
  - roof construction and covering,
  - interior finishes,
  - mechanical and electrical and,
  - specialty systems.

  The systems and their respective components were visually assessed with respect to their rate of wear and observed condition to support the determination of their remaining useful life. During the site assessment, additional information was gathered from the site contact and site personnel, where possible, to further support the determination of the system and component conditions.

- ***Phase II - Capital Plan Calculations***

  Following site visit the building was modelled using industry data to provide an anticipated replacement schedule for the constituent major components

over the next twenty-five years with the objective of maintaining the current level of operations over the evaluation period. The remaining useful life of the major components was calculated by determining the year of installation, the expected useful life and providing adjustments where necessary based on the site observations.

In conjunction with the determination of the expected date for renewal of the major components, a corresponding cost estimate was developed. Estimates were based on the client's historical records, preferred client rates, local contractor pricing, and/or industry pricing guides such as RSMeans estimating guides.

- ***Phase III - Energy Assessment & Modelling***

  CMEL was provided with historical energy consumption data to support the energy assessment and modelling. A computer model of the building was developed using the information gathered from the site assessment. The modelling was completed using RETScreen (an industry accepted energy modelling tool developed by Natural Resources Canada). The baseline model was compared to the historical data to provide a level of confidence in the model. Upon successful completion of the baseline model, various energy efficiency measures were developed by substituting and/or adding various systems/components or implementing operational parameters that impact the energy usage while maintaining the current functionality of the building.

- ***Reporting and the EECP-T***

  The last phase of the project consisted of developing recommendations from the various calculations and modelling. In addition to the report, the findings were populated into the Energy Efficient Capital Planning Tool (EECP-T) which provides an effective means of managing the basic capital planning data and incorporates the analysis of energy efficiency projects into the overall capital and budgeting plan. The EECP-T also provides HRM with a tool to capture the recapitalization information on a going forward basis to support future capital investment and asset management strategies for the facility.

3.2 Expected Outcomes

The objective of the capital planning component of the Project was to produce a capital plan that identified the current building condition and anticipated capital investment requirement to sustain the facility over the next twenty-five years. The capital plan is based on using "*as like as kind*" component replacement. As a result, the capital plan for the facility will continue to be a respective baseline for comparative analysis of potential component refurbishments or substitutions.

The objective of the energy assessment component of the project was to identify specific alterations to the facility that would result in energy savings. The alterations are typically the result of component substitution, adding alternate technologies or changing building operations procedures while maintaining the same overall building use and objective. In some cases, where alternate technologies may produce a significant operational savings

but not necessarily an energy reduction, the alternate technologies were identified but not labelled as energy saving measures.

3.3 General Methodology

The analysis for the building(s) consisted of the following:

- Interviews with the Coordinator-Buildings, as well as with the on-site building managers and maintenance staff as made available;
- Review of available building drawings and equipment specifications;
- On-site assessments that each included a building walk-through, data collection, collection of operating schedules and observation of building, equipment and component conditions;
- Review of energy consumption and billing data;
- Identification of building component and equipment replacement requirements, estimated costs and schedule;
- Identification of potential operational procedure changes and feasible capital reinvestment initiatives to improve energy efficiency;
- Population of the EECP-T with building condition and energy efficiency measures data to produce a 25 year Capital Plan; and
- Responses to a review of a draft report by HRM.

3.4 Building Condition Assessment (BCA)

The BCA carried out by Capital Management Engineering Limited on the property is based on the ASTM Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process (ASTM E 2018-08) and consisted of the following:

- Interviews with building managers and maintenance staff and review of existing documentation including drawings, specifications and previous reports when available;
- A site visit to visually review the types and conditions of the building systems and elements;

- The identification of actions, with costs in present value dollars, to remediate health and safety issues, to mitigate code violations[1] and to repair major defects in materials or systems that may significantly affect the value of the building or continued operation of the site during the evaluation period;

- Recommendations, with cost estimates, for further investigations if required and an Opinion of Probable Costs for work that may be required as a result of these investigations; and,

- The preparation of a report, presented herein.

ASTM E 2018-08 defines a 'Physical Deficiency' as a conspicuous defect or significant deferred maintenance of a Site's material systems, components or equipment as observed during the site assessor's walk-through site visit. Included within this definition are material systems, components or equipment that are approaching, have reached, or have exceeded their typical Expected Useful Life (EUL) or whose Remaining Useful Life (RUL) should not be relied upon in view of actual or effective age, abuse, excessive wear and tear, exposure to the elements, lack of proper or routine maintenance, etc.. This definition specifically excludes deficiencies that may be remedied with routine maintenance, miscellaneous minor repairs, normal operating maintenance, etc., and excludes *de minimis* conditions that generally do not constitute a material physical deficiency of the Site.[2]

The assessment of the Site was based on a visual assessment of the visible and accessible components of the property, buildings and related structures. The site components, building exterior, roof membrane(s) and interior finishes of the on-site buildings and related structures were visually reviewed to check their condition and to identify if any obvious physical deficiencies were present. The review did not include an intrusive investigation of wall assemblies, ceiling cavities or any other enclosed spaces.

No physical tests were conducted and no samples of building materials were collected to confirm or support the findings presented unless otherwise noted in this report. Recommendations and estimates for additional testing or investigations may be presented as part of the report when, in the assessor's opinion, a condition may exist that would substantially alter the findings and cannot be adequately assessed by non-intrusive visual means.

The review of the mechanical and electrical systems at the property included discussions with the site contact(s). A visual review of the mechanical and electrical systems was conducted to determine the type of systems present, age and aesthetic condition. No physical tests were conducted on the mechanical and electrical operating systems.

[1] A code compliance review is beyond the scope of this project; however specific codes may be referenced during the discussion as a reference standard.
[2] ASTM E 2018 Section 2.3.22

A detailed evaluation of the property development's compliance with national and provincial building codes and/or fire codes is not part of the scope of this assessment. However, applicable codes may be used as a reference in determining appropriate recommendations. It is assumed that the existing building was reviewed and approved by local authorities at the time of construction.

The estimated costs outlined in this report are based on the conditions observed during the site assessment and the documents provided. Estimated costs are based on a combination of past experience, known contractor pricing and estimating guides such as RSMeans. The opinions of cost are intended for global budgeting purposes only. Actual costs for work recommended can only be determined after preparation of tender documents and/or soliciting quotations from qualified contractors. Costs associated with site and scheduling restrictions, and impacts to ongoing operations have not been taken into account in determining probable costs. The replacement, repair or maintenance recommendations in this report should be confirmed with a more detailed site investigation and project evaluation prior to implementation.

For the purpose of this report the following temporal units have been applied:

- Immediate - year zero to one;
- Short term - years one to five;
- Long term - years six to ten; and
- Extended term - years eleven to twenty-five.

3.5 Energy Assessment

The energy assessment commenced with an analysis of at least one full year of past energy usage data for the station. All energy sources were taken into account including, but not limited to, electricity, fuel oil, propane, natural gas, and solar, where applicable. An energy usage profile was developed to determine the usage by season and compared to benchmark data.

The initial analysis was followed by a site assessment to catalogue the energy consuming items associated with the facility and its operation. During the site assessment, interviews with the site contact were conducted to establish the general operating conditions to support an accurate modelling of the facility over a twelve month period.

A baseline computer model was developed to create an energy profile and total energy consumption data which were compared to the known historical data. The model was refined until the variance was within acceptable limits. Typically a variance of 15% or less is sufficient to have confidence in the model.

Once the model was deemed acceptable, various energy efficiency measures (EEM) were modelled to determine the impact on the energy usage and evaluate the potential operational savings that would result. The cost to implement each of the EEM was estimated, using the same methodology as utilized in developing the capital plan costing. The simple pay back was calculated and an opinion offered with respect to the recommended EEM for the facility. The data was entered into the EECP-T to establish the relationship between the potential EEM and the current recapitalization schedule, thus providing additional value by allowing HRM to concurrently incorporate EEM with a scheduled replacement event.

3.6 Supporting Documents

HRM has supplied an estimated replacement value for the building (Report Name: *Halifax Regional Municipality Property Book Values, Working Copy October 1, 2012*). In the case of this building the replacement value appeared to be significantly below (or above) industry values for a similar building. For the purposes of this report CMEL has used a replacement cost based on industry standard estimates to support the calculation and subsequent comparison of Facility Condition index (FCI) values.

HRM has supplied the following documents to support the assessments. A copy of the floor plans, when available, has been appended to the report.

Supporting Document	Type	Date Issued	Issuing Party
Aerial Photo	Picture	Unknown	HRM
Apparatus	Report	01/05/2012	HRM Fire
Building Calculations	Report	Unknown	HRM
Electrical Power Rate	Energy Data	Unknown	HRM
Electricity Bill-Exterior Parking	Energy Data	Unknown	Nova Scotia Power
Historical Electrical Consumption	Energy Data	05/15/2012	NSPI
Inspection Report	Report	15/10/2009	Unknown
Non IPECC Floor Plans	Drawing	Unknown	HRM
Roof Inspection/Cost	Report	10/10/2011	Unknown
Roof Pictures	Picture	10/10/2011	Unknown
Septic Tank Investigation	Report	15/06/2009	Unknown
Site Photos	Picture	Unknown	HRM

4 Building Condition Assessment & Capital Plan

4.1 Salient Property Information

Property Name	Fire Station 53 Terence Bay
Street Address	80 Sandy Cove Road
City, Province	Halifax, Nova Scotia
Primary Use	Fire Station and Community Hall
Number of Buildings on Site	One
Foundation	Standard concrete spread footings and foundation walls
Superstructure	Wood Frame
Cladding	Vertical Vinyl, Horizontal Vinyl, and Brick
Roof Membrane	Modified Bitumen
Reported Year Built	1957
Building Area	5,700 ft^2 (est.)
Evaluation Period	25 Years
Site Assessment Conducted By	Keith Estey, Matt Bordian, Michele Habrylo on February 20, 2013

Fire Station 53 Terence Bay is located at 80 Sandy Cove Road in Halifax, Nova Scotia. The property is bordered by Sandy Cove Road to the southwest, residential properties to the northwest, Back Road to the northeast and an open field to the southeast. The building is one storey and consists of a fire station and a community hall. The fire station consists of an apparatus bay, storage for the community hall, offices, mechanical room, and electric room. The community hall consists of an open area, washrooms, kitchen and bar.

It was reported the building was constructed in 1957 and it is assumed to be founded on concrete spread footings and foundation walls. The superstructure consists of a wood frame which supports wood roof trusses and wood roof decking. The roof structure supports a modified bitumen roof covering. The cladding consists of a mixture of brick veneer and horizontal vinyl siding with vertical vinyl siding on the gable ends. The building area is approximately 5,700 ft^2.

Mr. Keith Estey, Mr. Matt Bordian, and Ms Michele Habrylo of CMEL conducted the site visit on February 20, 2013. CMEL was accompanied by Mr. Calvin Smith of Halifax Regional Fire and Emergency (HRFE). All areas of the building were accessible during the site visit.

Selected photographs of the site are appended to the report.

4.2 Site Work (Category 1)

Description

The site is accessed from Sandy Cove Road via an asphalt paved apron at the front (southwest) elevation of the building. To the northeast of the building there is a gravel parking area which is accessed from the front of the building. Connecting the asphalt apron and the gravel parking area is asphalt pavement which runs along the northwest and southeast sides of the building.

Landscaping associated with the property consists of grass on the northwest and southeast sides of the building.

Site lighting consists of building mounted metal halide fixtures on the southwest and northeast elevations with compact fluorescent lighting (CFL) on the northwest and northeast elevation above the exterior doors.

On the southwest side of the building there are two portable sheds that are used for storage.

Observations/Comments

The asphalt apron and connections to the gravel parking area appeared to be in fair condition with signs of longitudinal cracking and alligatoring throughout the pavement. The age of the asphalt is unknown but it is starting to reach the end of its useful life. The expected useful life of asphalt paving is typically fifteen years but can be extended with localized repairs. Based on the observed condition and estimated remaining useful life repairs are anticipated in the short term with a replacement at the beginning of the long term of the evalution. Repairs are also anticipated in the extended term of the evaluation period. The estimated cost and timing of the repairs and the replacement have been included in the probable cost table.

The gravel parking area appeared to be in fair condition with potholes and sections without gravel. The expected useful life of gravel parking areas is indefinite with regular grading and the addition of gravel as required. Based on the observed condition and estimated remaining useful life, adding gravel and grading is recommended throughout the evaluation period. Typically this is completed as part of maintenance budget and no cost has been included in the probable cost table.

The landscaping appeared to be maintained and was in fair to good condition. The expected useful life of landscaping is typically indefinite with regular maintenance. Based on the observed condition, a significant replacement is not anticipated during the evaluation period. No costs have been included in the probable cost table.

The metal halide lighting site lighting appeared to be in fair to good condition with no signs of damage or reported problems. It is estimated that the fixtures were installed within the last ten years. The expected useful life of these fixtures is typically twenty years. Based on the observed condition and estimated remaining useful life a replacement is anticipated during the long term of the evaluation period. The estimated cost and timing of the replacement have been included in the probable cost table.

The CFL lighting appeared to be in fair to good condition with no signs of damage or reported problems. It is estimated that the fixtures were installed more than fifteen years old. The expected useful life of these fixtures is typically twenty years. Based on the observed condition and estimated remaining useful life a replacement is anticipated during the short term of the evaluation period. Due to the limited amount of these fixtures it is expected that the fixtures will be replaced as part of the maintenance budget. No cost has been included in the probable cost table.

The sheds appeared to be in fair condition with signs of damage and wear to the exterior sheathing. It is assumed that the sheds are reaching the end of their expected useful life. The expected useful life for this type of barn is typically twenty to twenty-five years. Based on the observed condition and estimated remaining useful life a replacement is anticipated during the short term of the evaluation period. The estimated cost and timing of the replacement have been included in the probable cost table.

Probable Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence
Asphalt Pavement - Repair	Repair 30% of surface area	2000	5	**2015**	2,972	$4.50	**$13,373**
Asphalt Pavement - Replacement	Replace at end of useful life	2000	15	**2019**	9,906	$4.50	**$44,577**
Asphalt Pavement - Repairs	Repair 25% of surface area	1957	5	**2034**	2,477	$4.50	**$11,144**
Gravel Parking Area	Maintain as part of the maintenance budget	1957	1	**2013**	-	-	**-**
Landscaping	Maintain as part of the maintenance budget	1957	1	**2013**	-	-	**-**
HID Lights	Replace at end of useful life	2003	20	**2023**	2	$870	**$1,740**
CFL Lights	Replace as part of the maintenance budget	1995	20	**2015**	-	-	**-**
Sheds	Replace at end of useful life	1990	20	**2014**	3	$2,500	**$7,500**

4.3 Architecture, Exterior (Category 2)

Description

The exterior cladding of the building consists of brick veneer and horizontal vinyl siding with vertical vinyl siding on the gables ends. Windows for the building consist of double pane horizontal sliders. The main entrance to the fire station and secondary door to the community hall are metal doors in metal frames. The entrance door to the community hall is a double storefront style door.

The apparatus bay has three over head doors, which are all 12’-0” x 10’-0” and have automatic openers.

Observations/Comments

The brick veneer siding appeared to be in fair condition with signs of deteriorating mortar in some areas and areas of past re-pointing. It is assumed that the brick is original to the

building. The expected useful life of brick is typically sixty years or more with re-pointing repairs after twenty-five years. Based on the condition of the brick and the age, re-pointing is anticipated in the short term of the evaluation period. Due to the limited amount of re-pointing required, it is assumed to be completed as part of the maintenance budget. No cost has been included in the probable cost table. Due to the age, and the condition (i.e. no failing brick), a replacement is not anticipated until the extended term of the evaluation period, but the condition should be reviewed regularly and may only require re-pointing and localized repairs. The estimated cost and timing of the replacement have been included in the probable cost table.

The horizontal and vertical vinyl siding appeared to be in fair to good condition with no evidence of damage or water ingress; however, it is estimated to have been installed more than fifteen years ago. The expected useful life of vinyl siding is typically thirty years. Based on the observed condition and estimated remaining useful life a replacement is anticipated during the extended term of the evaluation period. The estimated cost and timing of the replacement have been included in the probable cost table.

The exterior glazing appeared to be in fair to good condition with no reported problems; however, it is assumed that the windows were installed more than twenty years ago. The expected useful life of vinyl framed windows is typically thirty-five years. Based on the observed condition and estimated remaining useful life, a replacement of the windows is anticipated in the extended term of the evaluation period. The estimated cost and timing for replacement have been included in the probable cost table.

The main entrance to the fire station and secondary metal door for the community centre appeared to be in fair condition with signs of corrosion on the bottom of the doors. It appears that the doors are more than twenty years old. The expected useful life of exterior metal doors is typically twenty-five years with hardware replacement as required. Based on the observed condition and estimated remaining useful life a replacement is anticipated in the short term of the evaluation period. The estimated costs and timing of the replacement have been included in the probable cost table. As for the hardware, it is assumed that it will be replaced with the doors in the short term, and has included in the estimated replacement cost.

The storefront style doors appeared to be in good condition with no signs of damage or reported problems. It appears that the doors are more than twenty years old. The expected useful life of these doors is typically thirty-five years with hardware replacement as required. Based on the observed condition and estimated remaining useful life a replacement is anticipated in the extended term of the evaluation period. The estimated costs and timing of the replacement have been included in the probable cost table. As for the hardware, replacement is anticipated throughout the evaluation period. This is expected to be completed as part of regular maintenance activities and has not been included in the probable cost table.

The overhead doors appeared to be in fair condition with signs of damage to the exterior panels. It was reported that the doors were manufactured in 1992 and were installed shortly after. The expected usual life of these doors is typically fifteen years, which they

have surpassed. Based on the observed condition and remaining useful life of these doors, a replacement is anticipated in the short term of the evaluation period. The estimated costs and timing of the replacements have been included in the probable cost table.

Probable Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence
Brick Veneer - Re-point	Re-point damaged mortar as part of the maintenance budget	1957	25	**2013**	-	-	**-**
Brick Veneer - Replace	Replace at end of useful life	1957	60	**2024**	63	$47.00	**$2,961**
Vinyl Siding	Replace at end of useful life	1995	30	**2025**	3,960	$4.50	**$17,820**
Vinyl Glazing	Replace at end of useful life	1990	35	**2025**	96	$35.00	**$3,360**
Metal Doors	Replace at end of useful life	1990	25	**2015**	2	$1,450	**$2,900**
Storefront Style Doors	Replace at end of useful life	1990	35	**2025**	2	$1,870	**$3,740**
Overhead Doors	Replace at end of useful life	1992	15	**2014**	3	$5,000	**$15,000**

4.4 Roofing (Category 3)

Description

The roof covering for the building consists of modified bitumen which is supported by wood decking and wood trusses. Water is shed from the roof to metal eavestroughs and downspouts, which drain water away from the building.

Observations/Comments

The modified bitumen roof covering appeared and was reported to be in fair condition with no reported areas of active or recent water ingress; however, it is estimated to be at least fifteen years old. The expected useful life of a modified bitumen roof covering is typically twenty years with repairs after fifteen years. Based on the observed condition and age of the building, a replacement is anticipated in the short term with repairs to the new roof in the extended term of the evaluation period. The estimated costs and timing of the replacement and repair have been included in the probable cost table.

The eavestroughs and downspouts appeared to be in fair condition with signs of some damaged to the downspouts. It is estimated that the eavestroughs and downspouts are as old as the roof. The expected useful life of these items is typically fifteen to twenty years. Based on the observed condition and estimated remaining useful life a replacement is anticipated in the short term during the replacement of the roof. The estimated cost and timing of the replacement have been included in the probable cost table.

Probable Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence
Modified Bitumen - Replacement	Replacement at end of useful life	1998	20	**2018**	6,284	$12.00	**$75,408**
Modified Bitumen - Repairs	Repair 25% of roof covering	1998	15	**2033**	1,571	$12.00	**$18,852**
Eavestroughs and Downspouts	Replace at end of useful life	1998	20	**2018**	1	$1,500	**$1,500**

4.5 Structure (Category 4)

Description

It is assumed that the building is founded on concrete spread footings and foundation walls. The superstructure consists of a wood frame which supports wood roof trusses and wood roof decking. The floor construction consists of a concrete slab on grade.

Observations/Comments

The structural components appeared to be in good condition with no evidence of major structural faults or reported issues. The building's floors appeared to be level and stable; no significant signs of deflection or movement were observed or reported. The expected useful life of the structural components typically exceeds sixty years. Based on the observed condition, no significant repairs or replacements are expected during the evaluation period. No costs have been included in the probable cost tables.

Probable Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence
Structural Components	Replacement not anticipated	1957	60	**2039**	-	-	**-**

4.6 Architecture, Interior (Category 5)

Description

There are two main areas in the building:

- The fire station section of the building, which consists of the apparatus bay, storage, mechanical room, electrical room and offices.
- The community hall section of the building, which consists of the hall, bar, kitchen, and washrooms.

The ceiling and wall finishes for the fire station consist of drywall, whereas for the community centre, the ceiling finishes consists of suspended ceiling tile and the wall finishes consists of painted wood wall panels and ceramic wall tile in the washrooms. The interior doors for the building consist of wood doors in wood frames.

Floor finishes consist of a mixture of:

- Exposed concrete
- Vinyl composite tiles (VCT)

The community hall kitchen and bar consists of a residential fridge, commercial range with range hood, two bar fridges and wood cabinetry with laminate counter tops.

Observations/Comments

The drywall ceiling and walls in the fire station appeared to be in good condition with no areas of damage. It was reported that the ceiling and walls are original to the construction of the building. The expected useful life of drywall is typically sixty or more years. Based on the observed condition and estimated remaining useful life a replacement is not anticipated during the evaluation period. No costs have been included in the probable cost table.

The suspended ceiling tiles in the community hall appeared to be in fair to good condition and it is estimated to be no more than ten years old. The expected useful life for these tiles is typically twenty years. Based on the observed condition and estimated remaining useful life a replacement is anticipated during the long term of the evaluation period. The estimate cost and timing of the replacement have been included in the probable cost table.

The painted wood wall panels appeared to be in good condition with no signs of damage. It is estimated that the panels are original to the building. The expected useful life of this type of wall finish is typically sixty years or more. Based on the observed condition and estimated remaining useful life a replacement is not anticipated during the evaluation period. No cost has been included in the probable cost table. Minor repairs / replacement are expected to be completed as part of regular maintenance budget and have not been included in the probable cost table.

The ceramic wall tile in the washrooms appeared to be in fair to good condition with no signs of damage to the grout or to the tiles. The age of the tiles is unknown but it is estimated to have been installed more than twenty years old. The expected useful life of these tiles is typically sixty years. Based on the observed condition and estimated remaining useful life a replacement is not anticipated during the evaluation period. No cost has been included in the probable cost table.

The interior painting appeared to be in good condition with no evidence of peeling. The expected useful life of interior paint is typically eight to ten years. Based on the observed condition and estimated remaining useful life, recoating is anticipated in the short and extended terms of the evaluation period. Typically, painting is completed as part of maintenance budget and no cost has been included in the probable cost table.

The interior doors appeared to be in good condition with no evidence of wear or problems with the hardware. The doors were reported to be original to the building. The expected useful life for interior doors is in excess of sixty years with replacement of hardware as required. Based on the observed condition and estimated remaining useful life, complete door replacement is not anticipated during the evaluation period, but

replacement of hardware is expected. Typically, hardware replacement is covered as part of regular maintenance budgets. No costs have been included in the probable cost table.

The VCT flooring in the hall area of the community hall appeared to be in fair to good condition with no signs of damage; however, it is estimated that the tiles are more than ten years old. The expected useful life of VCT is typically twenty-five years. Based on the observed condition and estimated remaining useful life a replacement is anticipated in the extended term of the evaluation period. The estimated cost and timing of the replacement have been included in the probable cost table.

The VCT flooring in the kitchen, bar and washrooms areas of the community hall appeared to be in fair condition with signs of wear on the surface and minor cracking in localized areas. It is estimated that the tiles are more than twenty-five years old. The expected useful life of VCT is typically twenty-five years, which it has surpassed. Based on the observed condition and estimated remaining useful life a replacement is anticipated in the short term of the evaluation period. The estimated cost and timing of the replacement have been included in the probable cost table.

The kitchen equipment appeared to be in fair to good condition with no reported issues; however, most of the equipment is more than ten years old, except the bar fridges which are reaching the end of their useful life. The expected useful life for this equipment is typically twenty to twenty-five years. Based on the observed condition and estimated remaining useful life, a replacement of the bar fridges is anticipated during the short term of the evaluation period and the rest of the equipment in the extended term. The estimated costs and timing for these replacements have been included in the probable cost table.

The cabinetry and countertops appeared to be in fair to good condition with no evidence of damage to the cabinetry or the countertops; however, it is estimated that the cabinetry is original to the building and the countertops appear to be more than twenty years old. Typically the expected useful life of wood cabinetry and laminated countertops is twenty to twenty-five years, which the cabinetry has surpassed. Based on the observed condition and estimated remaining useful life a replacement of cabinetry and countertops is not anticipated until the beginning of the long term of the evaluation period. The estimated cost and timing of the replacement have been included the probable cost table.

Probable Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence
Fire Station Drywall Ceiling and Walls	Replacement not anticipated	1957	60	**2039**	-	-	**-**
Community Hall - Suspended Ceiling	Replace at end of useful life	2003	20	**2023**	854	$5.15	**$4,399**
Wood Panels	Replacement not anticipated	1957	60	**2039**	-	-	**-**
Ceramic Wall Tile	Replacement not anticipated	1990	60	**2050**	-	-	**-**

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence
Interior Painting	Re-coat as part of the maintenance budget	1957	10	**2018**	-	-	**-**
Interior Doors	Replacement not anticipated	1957	60	**2039**	-	-	**-**
VCT Flooring Community Hall - Hall	Replace at end of useful life	2000	25	**2025**	854	$8.11	**$6,928**
VCT Flooring Community Hall - Kitchen, Bar and washrooms	Replace at end of useful life	1985	25	**2016**	2,563	$8	**$20,784**
Kitchen Equipment - Bar Fridges	Replace at end of useful life	1990	25	**2015**	1	$3,000	**$3,000**
Kitchen Equipment - range, fridge, exhaust hood	Replace at end of useful life	2000	25	**2025**	1	$6,500	**$6,500**
Cabinetry and Countertops	Replace at end of useful life	1957	25	**2019**	1	$5,500	**$5,500**

4.7 Mechanical Systems (Category 6)

4.7.1 Plumbing

Description

Domestic water and sanitary services were reported to be provided by an on-site well and septic system. The well depth, casing and casing above ground were not available. Well water enters the building and goes into a pressurized holding tank. From the tank it then goes through a softener, filters, and a Trojan UV system. From the treatment system the water is distributed through the building in copper water lines that feed the washrooms and the kitchen. In addition there is a Vectapure reverse osmosis machine in the mechanical room, which has one faucet with potable water.

Wastewater piping is assumed to be cast iron piping which drains into a concrete septic tank with a reported rated capacity of 3000 gallons. The septic tank is located under the gravel parking area, with a concrete riser on the northeast side of the building and the septic field is on the northwest side of the septic tank.

The domestic hot water for the entire building is provided by an electric Rheem Professional 415 water heater with a rated capacity of 170 litres.

Observations/Comments

The water from the well was reported not to be potable and the age of the well was not reported, with signage reported to not drink the water. It is estimated that the well is not original, and is no more than twenty years old. Typically the expected useful life of a well system is forty-five to fifty years with a pump and pressure tank replacement after twenty to twenty-five years. Based on the current condition of the water, a study is recommended for the immediate term of the evaluation period to determine the issue with the water and provide recommendations to achieve potable water at the Station. The estimate cost for the study has been included in the probable cost table. Based on the age of the well, a replacement of the well is anticipated in the extended term; however, the replacement many be sooner depending on the results of the study. The

estimate cost and timing of the well replacement have been included in the probable cost table.

The treatment equipment was reported to be in fair condition and is not treating the water properly. The system was reported to have been installed in 2010. The expected useful life for this equipment is typically fifteen to twenty years. Based on the reported condition, it is expected that an early replacement is expected in the short term of the evaluation period, depending on the results of the water study. The estimated cost and timing of the replacement have been included in the probable cost table.

The Vectapure unit appeared to be in good condition with no reported issues providing potable water to the faucet in the mechanical room. It was reported that the system was installed at the same time as the treatment equipment. The expected useful life of this equipment is typically fifteen to twenty years. Based on the observed condition and estimated remaining useful life a replacement is anticipated in the extended term of the evaluation period. The estimated cost and timing of the replacement have been included in the probable cost table.

CMEL was provided with a report of the septic system dated June 15, 2010, which was prepared by an engineering consulting firm. The report had found no issues with the system and that it was last pumped in 2010. The age of the tank is unknown but it is assumed to be original to the building. The expected useful life of this septic system is sixty years with regular pumping every three to five years depending on the use of the building. Based on the reported condition, it is expected to exceed its expected useful life and a replacement is not anticipated during the evaluation period. No cost has been included in the probable cost table. Pumping is anticipated in the short, long and extended term of the evaluation period. Typically this is completed as part of regular maintenance activities and has not been included in the probable cost table.

The domestic water and sanitary piping were reported to be in good overall condition with no reported problems with any of the service lines. Typically, domestic and sanitary piping will have an expected useful life in excess of forty years with periodic repairs through its life cycle. Based on the observed condition, reported condition, and estimated remaining useful life of the piping, a replacement is not anticipated during the evaluation period. No cost has been included in the probable cost table. Minor repairs can be completed as part of the maintenance budget and have not been included in the probable cost table.

There are eleven plumbing fixtures in the facility which include toilet, sinks, and urinals. The fixtures appeared to be in fair to good condition with evidence of some staining in the toilets. It is assumed that these fixtures are more than twenty years old. The expected useful life of the sinks, toilet and urinals is typically thirty to thirty-five years with faucets having an expected useful life of twenty years. Based on the observed condition of the fixtures, a replacement is anticipated in the extended term of the evaluation period. The estimated cost and timing of the replacement of these fixtures have been included in the probable cost table. Replacement of the faucets is anticipated in the long term. Typically, faucets are replaced as part of regular maintenance and have not been included in the probable cost table.

The domestic water heater appeared to be in good condition with no reported problems of meeting the demand. It was reported that the heater was installed within the last few years. The expected useful life of these water heaters is fifteen years. Based on the observed condition, reported condition and estimated remaining useful life, a replacement is anticipated in the extended term of the evaluation period. The estimated cost and timing of replacement have been included in the probable cost table.

4.7.2 Heating, Ventilation and Air Conditioning

Description

Heating for the building is provided by electric baseboard heaters in both sections of the building. The controls for the heaters are by wall mounted analog thermostats. Ventilation for the building is provided by natural air infiltration and bathroom/kitchen exhaust fans.

There is a portable compressor located in a fire station, which provides compressed air for the rolling stock.

Observations/Comments

The electric baseboard heaters appeared to be in generally poor condition with corrosion on the exterior housing, except for a run of heaters on the northeast wall, which appears to have been replaced within the last few years. The expected useful life of these heaters is typically thirty years. Based on the observed condition of the old heaters, replacement is anticipated in the short term of the evaluation period and for the newer heaters, replacement is not anticipated during the evaluation period. The estimated cost and timing of the replacement have been included in the probable cost table.

The bathroom and kitchen exhaust fans appeared to be in fair to good condition and are aging as per their expected useful life. The expected useful life of exhaust fans is typically twenty years. Based on the observed condition and estimated remaining useful life, it is anticipated that the fans will require replacement in the short term of the evaluation period. Typically, these units are replaced as they fail and are generally covered under the maintenance budget. No cost for replacement has been included in the probable cost table.

The compressor appeared to be in good condition with no reported problems of meeting the demand of the trucks. The age of the compressor was not reported but it is estimated to be five years old. The expected useful life of this type of compressor is approximately twenty years. The useful service life can be extended depending on the use and maintenance. Based on the observed condition, use and age of the compressor it is expected that the compressor will not require replacement until the extended term of the evaluation period. Due to the minimal cost of replacing a compressor of this size, it is assumed that it will be replaced as part of the maintenance budget. No cost has been included in the probable cost table.

4.7.3 Vertical Conveyance

Description

There is no vertical conveyance at the facility.

Observations/Comments

No observations or comments

Probable Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence
Water Study	Conduct to determine issues with water and recommended solutions	1957	1	**2013**	1	$1,500	**$1,500**
Well	Replace at end of useful life	1990	50	**2038**	1	$10,000	**$10,000**
Treatment System	Replace at end of useful life	2010	15	**2014**	1	$3,500	**$3,500**
Vectapure Reverse Osmosis	Replace at end of useful life	2010	15	**2025**	1	$4,500	**$4,500**
Septic Tank	Replacement not anticipated	1957	60	**2039**	-	-	**-**
Domestic Water and Sanitary Lines	Replacement not anticipated	1957	40	**2039**	-	-	**-**
Sinks	Replace at end of useful life	1990	35	**2025**	5	$750	**$3,750**
Toilets	Replace at end of useful life	1990	35	**2025**	4	$1,000	**$4,000**
Urinals	Replace at end of useful life	1990	35	**2025**	2	$1,056	**$2,112**
Rheem Electric Water Heater	Replace at end of useful life	2011	15	**2026**	1	$1,500	**$1,500**
Electric Baseboard Heaters - Old	Replace at end of useful life	1980	30	**2016**	256	$15.50	**$3,968**
Electric Baseboard Heaters - New	Replacement not anticipated	2010	30	**2040**	-	-	**-**
Bathroom Exhaust Fans	Replacement not anticipated	1998	20	**2018**	-	-	**-**
Portable Compressor	Replace as part of the maintenance budget	2008	20	**2028**	-	-	**-**

4.8 Electrical System (Category 7)

Description

The site is supplied with power from the local power utility. The building is equipped with a Sylvania main disconnect rated at 400A, 120/240V, which services secondary panels, lights and receptacles. Lighting throughout the building is T8 fixtures.

Observations/Comments

The main disconnect appeared to be in good condition with no reported problems and is estimated to be more than fifteen years old. The expected useful life of a main panel is approximately forty years. Based on the observed condition and reported condition a replacement is anticipated in the extended term of the evaluation period. The estimated cost and timing of the replacement have been included in the probable cost table.

The branch wiring in the building was reported to be in good condition with no issues of servicing electrical components. The branch wiring is original to the construction of the building. Typically, the expected useful life of branch wiring is forty years. Based on the reported condition and estimated remaining useful life a replacement is not anticipated during the evaluation period. No cost has been included in the probable cost table. Minor repairs can be completed as part of the maintenance budget and have not been included in the probable cost table.

The light fixtures appeared to be in good condition with no reported problems with illuminating the space. The age of the lighting is unknown but it estimated to be no more than ten years old. The expected useful life of these fixtures is typically twenty years. Based on the observed condition and estimated remaining useful life a replacement of the fixtures is anticipated in the long term of the evaluation period. The estimated cost and timing of the replacement have been included in the probable cost table.

Probable Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence
Main Disconnect	Replace at end of useful life	1997	40	**2037**	1	$3,900	**$3,900**
Branch Wiring	Replacement not anticipated	1957	40	**2039**	-	-	**-**
Light Fixtures	Replace at end of useful life	2003	20	**2023**	1	$4,180	**$4,180**

4.9 Life Safety (Category 8)

Description

The building is equipped with a fire alarm, smoke detectors and emergency battery backup lights and LED exit signs. Fire extinguishers are mounted on the walls throughout the building and were last inspected in July, 2012, by Don Brenton's.

Observations/Comments

The fire alarm system does not appear to be annually inspected, which would typically be expected for life safety components. The unit appears to be more than thirty years old and has an expected useful life that is indefinite with replacement of batteries. Based on the observed condition of the unit, it is recommended that the unit be inspected annually by a company that specializes in fire safety equipment. Also, it is expected to be replaced in the long term of the evaluation period because it is a life safety component and will most likely be upgraded to a more modern system.

The smoke detectors appeared to be in fair to good condition with no reported problems. The age of the units is unknown but it is assumed that they are more than ten years old. The expected useful life of these units is typically ten years. Based on the observed and reported condition, a replacement of the detectors is anticipated in the short term of the evaluation period. Typically, these detectors are replaced as part of regular maintenance activities and have not been included in the probable cost table.

The emergency lighting and exit signs appeared to be in fair to good condition. It is estimated that these units are no more than a ten years old. The expected useful life of these units is typically twenty years. Based on the observed condition and estimated remaining useful life of these units, a replacement is anticipated during the extended term of the evaluation period. Due to the limited number of these units, it is expected that they will be replaced as part of regular maintenance budgets. No cost has been included in the probable cost table.

The fire extinguishers were observed to have been recently inspected in July, 2012. Other than yearly inspections and occasional replacements no significant capital renewal costs are expected to be required. No costs have been included in the probable cost table.

Probable Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence
Fire Alarm System	Replace at end of useful life	1980	50	**2023**	1	$1,500	**$1,500**
Emergency Lights and Exit Signs	Replace as part of the maintenance budget	2003	20	**2023**	-	-	**-**

4.10 Specialty Systems (Category 9)

Description

No Specialty Equipment Observed

Observations/Comments

Not Applicable

4.11 Opinion of Probable Costs

Priority Repair Recommendations

Priority repair costs are for deficiencies observed during the property condition assessment and energy review that require immediate action to prevent further deterioration to the element or to prevent possible injury due to unsafe conditions and/or code violations.

Major Component Repair and Replacement Project Costs

Probable costs for the major component replacements identified during the site assessment and energy audit were estimated. Major component replacements can be defined as components:

- That are the responsibility of the Property Owner;
- For which major repair or replacement costs are anticipated to be incurred during its useful life; and
- For which costs of repair or replacement will not be covered as part of the annual maintenance budgets.

Major component replacements and energy efficiency projects, and information for developing their estimated costs, are based on observations made during the site assessment on February 20, 2013. Quantities and areas are based on field observations, site interviews and/or client supplied drawings and equipment specifications. More precise quantity surveying or site measurements were beyond the scope of this assessment. Replacement and repair costs, and implementation of energy efficiency measures, are approximate and based on industry standards or CMEL experience. It is recommended that quotations from qualified contractors be obtained by HRM before any specific project is undertaken. HRM may also wish to seek advice on potential incentive programs that might assist in such replacements, particularly as they relate to energy efficiency upgrades.

Similarly, some of the identified projects may be undertaken without specific building or other permits. However, investigation of such needs, including detailed studies and engineering, was beyond the scope of this project and remains the responsibility of HRM.

Our opinion on the probable costs to remedy observed physical deficiencies, replace items that will exceed their expected useful life over the immediate term (0-1 years), short term (1-5 years), long term (6-10 years) and extended term (11-25 years) are summarized in the Cash Flow Report in ***Appendix A***.

5 Accessibility and Design Considerations

5.1 Accessibility and Code Compliance

Description

It was observed that the building is barrier free.

5.2 Code Compliance

Enquiries were made with HRM and the site contact to determine if there were any outstanding code compliance related issues or concerns associated with the building. HRM and the site contact reported that they were not aware of any outstanding code compliance violations at the time of the site visit.

5.3 HRM Design Criteria

HRM has supplied CMEL with a list of typical design criteria that they would expect to be included in a modern fire station. CMEL has reviewed the criteria and compared it to Fire Station 53 Terence Bay. A comparison has been included as an appendix.

6 Energy Assessment

An energy assessment was completed for Fire Station 53 Terence Bay. Spreadsheets developed by CMEL were used to analyze historic electricity consumption. *RETScreen 4*, a widely accepted building energy model, developed by NRCan, was used to analyze the building envelope, the heating and ventilation systems, the lighting and equipment. Climatological data from the Shearwater Airport was used.

6.1 Historical Energy Consumption and Demand

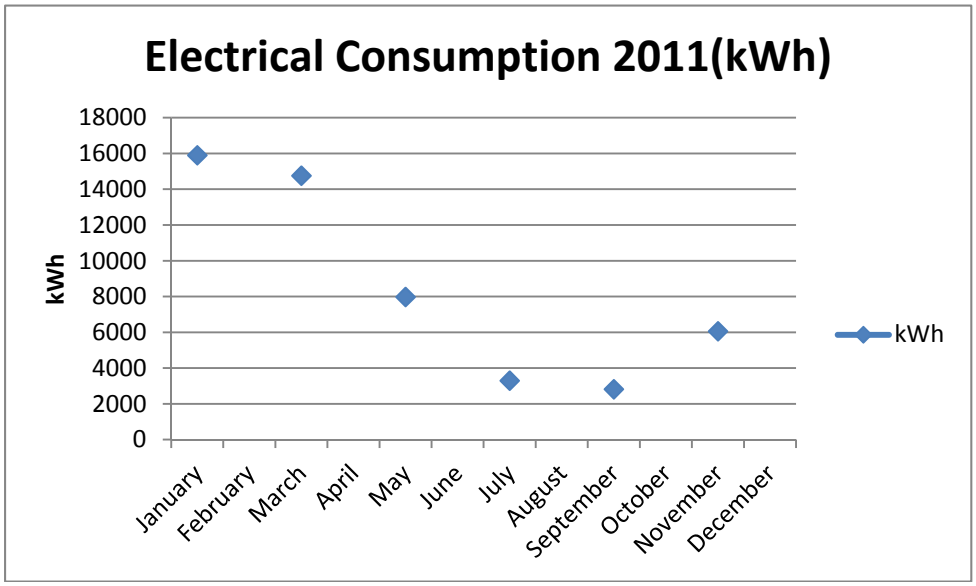
The Facility relies on electricity to meet its energy needs. Historical electricity consumption data were provided by the Halifax Regional Municipality. Electrical data was provided from January, 2009 to April, 2012. The consumption patterns for electricity were analyzed from 2009 to 2011. It appears from this data that electricity consumption patterns for this facility have decreased year over year. This is believed to be due to the decreased use of the building on the firefighting side.

A review of the past years of energy data, broken down by type of energy showed that 2010 and 2011 are fairly consistent and as a result 2011 data was chosen for the base model. .

Electricity is supplied by Nova Scotia Power and is charged at the General Tariff Rate Code 4. Electricity charged under rate code 4 is charged a base monthly fee and a usage fee. The facility is provided with oil purchased from Wilson Fuel. As with most commodities, fuel prices vary from month to month and year to year. For the purposes of the analysis an average price per liter was used. For the baseline analysis, energy costs were averaged over the twelve month period between January 1st, 2011 and December 31st, 2011. The following is a breakdown of the past energy consumption by energy source.

The electricity service for the facility which is subject to General Tariff Rate Code 4 is summarized below:

Electrical Consumption				
Year	**2009**	**2010**	**2011**	**2012**
Month	Electricity kWh	Electricity kWh	Electricity kWh	Electricity kWh
January	20580	18240	15900	13200
February				
March	17340	18060	14760	13800
April				
May	10140	7080	7980	
June				
July	4680	3720	3300	
August				
September	3060	4140	2820	
October				
November	9780	8520	6060	
December				
Total	**65580**	**59760**	**50820**	**27000**



From the data provided this facility consumed 50,820 kWh (182.95 GJ) of electricity in 2011. Electricity costs were $7,428.36 inclusive of taxes and miscellaneous service charges or an average of $0.1462 per kilowatt hour.

The electricity consumed by the facility under rate code 4 was purchased from Nova Scotia Power. The cost of energy and electricity demand is as follows:

- Service charge/month $10.83
- Energy Charge $0.12683/Kwh
- Demand Charge no applicable under Rate code 4

6.2 Historic Water Consumption

Water is provided by a drilled well and as a result no usage metering was available.

6.3 Baseline Assumptions

The facility operates as a satellite fire station with volunteers using a single pickup truck only for medical calls. The community centre was reported to be used on average once a week on the weekend for community events. Heating is controlled through wall mounted thermostats. Lights are controlled with wall mounted switches.

The building including the truck bays is heated by electric baseboards. Domestic hot water is supplied by an electric tank.

There is no cooling present in the building.

No mechanical ventilation was observed other than the washroom and kitchen exhaust fans.

It was observed and reported that the lighting is CFL, T8 fluorescent fixtures with electronic ballasts. Exterior lighting appears to be metal halide fixtures although fixtures were not turned on while conducting our site visit. Emergency lighting is reported to be LED fixtures.

A baseline energy model was developed using the foregoing information, observations during the site visit, and additional information supplied by the occupants of the building. In addition to the above the following assumption(s) were made to complete the baseline model, the assumptions included:

- In our model we have assumed that the buildings envelope is of medium tightness which indicates the occasional window or door being left open and/or some air infiltration around windows and doors and through the building envelope.

- It was further assumed that the asphalt shingled roofs are insulated to an R value of 12 and that the walls are insulated to an R value of 20.

The baseline model was compared to the known historical data. A variance of less than 9% was achieved which was within the industry standard of 15 % modelling variance typically accepted for this level of energy assessments. Once this balance was achieved, the model was considered suitable as a comparative baseline for quantifying various energy efficiency measures (EEM). EEM were identified by modelling component or

system changes and or incorporation of alternate technologies that would result in a change in energy consumption for the facility. Changes in operational procedures were also reviewed taking into account that the current facility operational parameters had to be maintained.

6.4 Energy and Demand Saving Measures

The buildings heating system is controlled by wall mounted thermostats. Temperatures were generally set at 15°C throughout the building during the site visit.

After using *RETScreen 4* to model a number of options, the following potential energy efficiency measures (EEM) were further considered and modelled for potential energy related cost savings:

1. Increase attic insulation;
2. Increase air sealing and insulation on exterior walls; and
3. Replace community centre door.

The results of the analyses of these measures are discussed further as follows, first addressing those initiatives that are viable EEM and followed by a number of other observations with respect to other initiatives that may be considered but would have longer payback periods.

6.4.1 Building Envelope - Insulation

It was reported and assumed that the roof is insulated to an R value of 20; however, there was no opportunity to confirm this information at the time of the site visit. We have considered, in the model, upgrading the roof insulation to R40. This EEM was calculated as an upgrade to the insulation with blown in insulation in the attic space. Increasing insulation was modelled at a cost of $7,500. Total energy savings are expected to be 14GJ for a cost savings of $541 resulting in a simple payback of 13.9 years.

The current vinyl sided exterior walls are poorly insulated. The old siding can be removed; new rigid insulation can be added then re clad with new siding. Increasing insulation was modelled at a cost of $40,000. Total energy savings are expected to be 8GJ for a cost savings of $309. This EEM is not recommended as the simple payback exceeds the life of the insulation.

Savings Summary-Building Envelope

Description	Estimated Energy Savings (GJ)	Energy Type	Estimated Cost	Estimated Annual Savings	Simple Payback (yrs)
Attic Insulation	14	Electric	$7,500	$541	13.9
Exterior Insulation	Not Recommended, payback period exceeds expected life of the equipment / component(s).				

6.4.2 Community Centre Door

The installation of a new exterior door in the community centre was modelled. The current door isn't properly sealed which is allowing a large amount of heat to escape the building. Installing an insulated metal door was modelled at a cost of $1,500. Total energy savings are expected to be 3GJ for a cost savings of $121, resulting in a simple payback of 12.4 years.

Savings Summary- Exterior Door

Description	Estimated Energy Savings (GJ)	Energy Type	Estimated Cost	Estimated Annual Savings	Simple Payback (yrs)
Community Centre Door	3	Electricity	$1,500	$121	12.4

6.5 Energy Efficiency Project Costs, Savings and Payback

The following table summarizes the energy saving projects recommended for the facility.

EEM Summary

Description	Estimated Energy Savings (GJ)	Energy Type	Estimated Cost	Estimated Annual Savings	Simple Payback (yrs)
Attic Insulation	14	Electric	$7,500	$541	13.9
Community Centre Door	3	Electricity	$1,500	$121	12.4

The implementation of all of the above energy efficiency initiatives will cost HRM approximately $9,000 and produce a combined estimated annual energy savings of 17GJ and $662 at 2012 energy prices and a simple payback of 13.5 years. These cost estimates are budget level costs only and assume that HRM would be hiring contractors to carry out the work.

It should be noted that the simple sum of the energy savings isn't always equal to the total savings when all the EEM are added together. Due to the interaction of systems on each other, energy savings results of combined EEM are often less than the simple sum of the individual EEM.

6.5.1 Discussion of Finding

The facility currently has an energy utilization index (EUI) of 0.34 GJ/m^2 (equivalent gigajoules of annual energy consumption per square meter of conditioned space). This is well below average for comparable fire stations. Implementation of the recommended EEM has the potential to reduce building energy consumption by as much as 17 gigajoules for a EUI of 0.29 GJ/m^2, which is significantly below the average of 0.60 GJ/m^2 for similar fire stations[3].

These analyses are carried out assuming that the building's utilization will continue at the current level. Savings are based on the 2012 NS Power electricity rates, and the 2012 average annual fuel oil cost per liter. Additional savings and reduced paybacks will be realized as and when energy prices increase, and/or as building utilization increases, and/or as some of the following miscellaneous potential initiatives are undertaken.

6.6 Other Observations

The energy assessment process identified a number of more minor energy conservation items that can be addressed through normal maintenance activities. These include a regular check and repair of the weather stripping and caulking around all doors and windows, ensuring that all water pipes (hot and cold) are insulated, and ensuring that all plugs and light switches on exterior walls are fitted with insulated gaskets. These, as well as better management of water consumption and plug loads discussed below, had too long a simple payback and are not considered feasible.

6.6.1 Equipment Management

The facility contains typical office and general building equipment including computers, printers, copiers, facsimile machines, refrigerators, coffee makers and other miscellaneous smaller equipment. The facility, because of its nature, also contains considerable specialized equipment including a washer; vehicle exhaust control etc, some of which create high electricity demand when placed in use. It is recognized that in many instances, it is not possible or desirable to schedule the operation of such equipment with a view to solely minimizing electricity consumption.

However, it may be possible to reduce both energy consumption and demand even operating in these demanding situations, to further reduce costs to HRM. Staff should be engaged to identify potential savings through scheduling of equipment use, retirement of redundant equipment, and replacement of inefficient models. Over time, equipment should be replaced with Energy Star® rated units, and it should also be sized to closely meet the precise needs of the users.

[3] Information provided by Energy Smart Data for New Brunswick Buildings Energy Utilization Index

It is recommended that the inventory of energy consuming equipment be reviewed with a view to removing unused equipment from the building, replacing little used equipment (copiers, for example) with fewer and more energy efficient models to reduce standby power consumption, and replacing older, inefficient equipment with more efficient models as and when replacement is required.

It is noted that all of this equipment has an effect on the heating and cooling of the building. Energy savings from reducing equipment energy consumption (as with the lighting) usually produces less net energy saving than might often be anticipated.

7 Opinion of Probable Costs and FCI

7.1 Capital Plan

Probable costs are for the major component replacement identified in the Capital Plan and Probable Cost Estimate and can be defined as:

- Components that are the responsibility of the Property Owner,
- For which major repair or replacement costs are anticipated to be incurred during the evaluation period, and
- For which costs of repair or replacement will not be covered as part of the annual maintenance budgets.

The estimated costs are based on observations made during the day of the site assessment on February 20, 2013. Quantities and areas are based on field observations and or site interviews. Quantity surveying or site measurements were beyond the scope of this assessment. Replacement and repair costs are approximate and based on industry standards. It is recommended that quotations from qualified contractors be obtained before any specific item identified for replacement is repaired or replaced.

The probable costs have been entered into the EECP-T which provides a list of major components by system. The EECP-T also provides a probable cost table identifying the anticipated cost by year and calculates the corresponding Facility Condition index, (FCI).

The EECP-T takes into consideration the hard costs as well as incorporates soft costs on an annual basis. The EECP-T also incorporates the energy assessment findings and incorporates those EEM which are recommended and compares the traditional *"as like as kind"* component replacement building condition with the incorporation of EEM over the evaluation term.

The basic EECP-T input and output sheets are presented in **Appendix A.**

The populated version of this base Capital Plan has been provided, along with additional instruction and advice, to HRM separately. It forms the main product of this project and is supported by this document which discusses the facilities' condition at a specific time.

7.2 Capital Plan Recommendations

The assessment of Fire Station 53 Terence Bay property and building were completed on February 20, 2013. At the time of the assessment the site appeared to be in fair overall condition and the buildings appeared to be maintained in operable condition. It is recommended that asphalt pavement, Interior finishes, mechanical equipment, lighting, life safety components and specialty equipment be closely monitored and replaced as indicated in the probable cost tables.

7.3 Energy Audit Recommendations (EEM)

The following table summarizes the energy saving projects recommended for the facility.

EEM Summary

Description	Estimated Energy Savings (GJ)	Energy Type	Estimated Cost	Estimated Annual Savings	Simple Payback (yrs)
Attic Insulation	14	Electric	$7,500	$541	13.9
Community Centre Door	3	Electricity	$1,500	$121	12.4

The implementation of all of the above energy efficiency initiatives will cost HRM approximately $9,000 and produce a combined estimated annual energy savings of 17GJ and $662 at 2012 energy prices and a simple payback of 13.5 years. These cost estimates are budget level costs only and assume that HRM would be hiring contractors to carry out the work.

It should be noted that the simple sum of the energy savings isn't always equal to the total savings when all the EEM are added together. Due to the interaction of systems on each other, energy savings results of combined EEM are often less than the simple sum of the individual EEM.

7.4 Facility Condition Index (FCI) Definition

The Facility Condition Index (FCI) is a metric often used for benchmarking in the real estate industry. It is used to assess the current and projected condition of a building asset. By definition, the FCI is defined as the ratio of the Accumulated Deferred Maintenance (ADM) costs to the Current Building Replacement Value (CRV). The FCI can be defined in terms of the following equation:

$$\text{Facility Condition Index (FCI)} = \frac{\text{Accumulated Deferred Maintenance (ADM)}}{\text{Current Building Replacement Value (CRV)}}$$

Building condition is often defined in terms of the FCI. Generally accepted industry standards for FCI's are as follows:

FCI	Remark
0-5%	excellent to good condition
5-10%	good to fair condition
>10%	fair to poor condition

Overall the lower the FCI the better the condition of the building and the lower the risk that an unexpected recapitalization issue will arise which could result in a specific building shutdown or restricted operation. As an FCI increases, the building is in increasingly poor condition as the backlog of poorly operating or inoperable

components in need of replacement rises. An increasing FCI or backlog of deferred maintenance, impacts not only the capital requirement but leads to increased operation costs especially through emergency maintenance costs.

7.5 Anticipated FCI graph

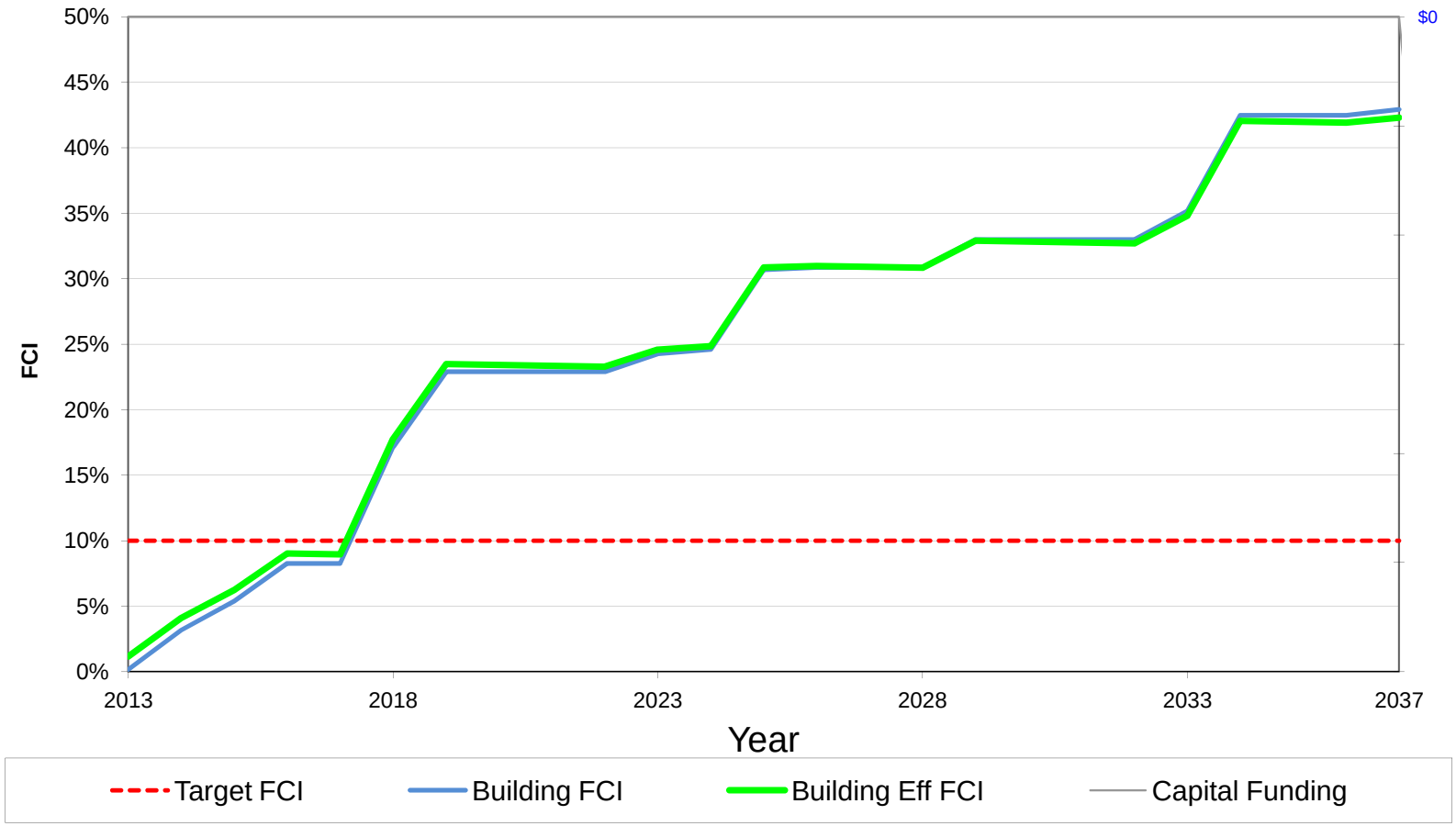
The EECP-T has the ability to project an FCI for a given building taking into account the anticipated probable costs by year over the evaluation period and offsetting the requirement by a proposed funding allowance. Multiple funding streams can be modelled. Typically a target FCI would be determined and the funding requirement calculated to meet the preferred FCI value.

The EECP-T also graphs the outcomes of incorporating energy efficiency projects and overlays the finding on the FCI graph to allow for easy comparison of the two recapitalization strategies. Incorporating energy efficiencies allows HRM to potentially reinvest the operation savings gained from energy efficiency measures back into capital projects to better the building's condition without increasing the overall cost of ownership.

In the event that more than one energy efficiency project is recommended, each individual project has been entered into the EECP-T. The individual savings for each EEM has been identified however the percentage to apply to future capital projects has been discounted to avoid overstating the net effect of combined savings. The discount percentage is based on the net combined savings in comparison to the sum total savings.

Projected Facility Condition Index of Fire Station 53 Terence Bay

March-26-13



Capital Management Engineering Limited

8 Limitations

This report may not be relied upon by any other person or entity without the expressed written consent of Capital Management Engineering Limited and Halifax Regional Municipality. Any other parties that rely or make decisions based on this report do so solely at their own risk.

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Capital Management Engineering's cumulative liability for all claims relating to this report or the services provided shall not exceed the total amount of all fees actually paid for this report.

The opinions of cost are intended for global budgeting purposes only. Actual costs for recommended work can only be determined after preparation of tender documents, detailing the site restrictions, effects and or restrictions on ongoing operations of the building and requirements associated with the construction schedule.

The recommendations made in this report are based on the visual observations made by the assessor during the site assessment and are limited to the areas of the site and building that were observed and accessible during the assessment. Concealed, inaccessible and un-observed areas may be in a different condition than what is reported herein. During the site assessment the assessor will attempt to verify any additional information provided by the site contact. However, in many cases the information will be relied upon and presented without field verification.

9 Closure

Capital Management Engineering Limited is pleased to present this report and the accompanying electronic version of the base capital plan to HRM. The findings presented suggest a strategic long term view to managing municipal assets and will provide HRM with the tools to support the development and definition of a strategy for the constituents of HRM and Fire Station 53 Terence Bay.

FS 53 Terence Bay and CC FINAL

Appendix A - Capital Plan

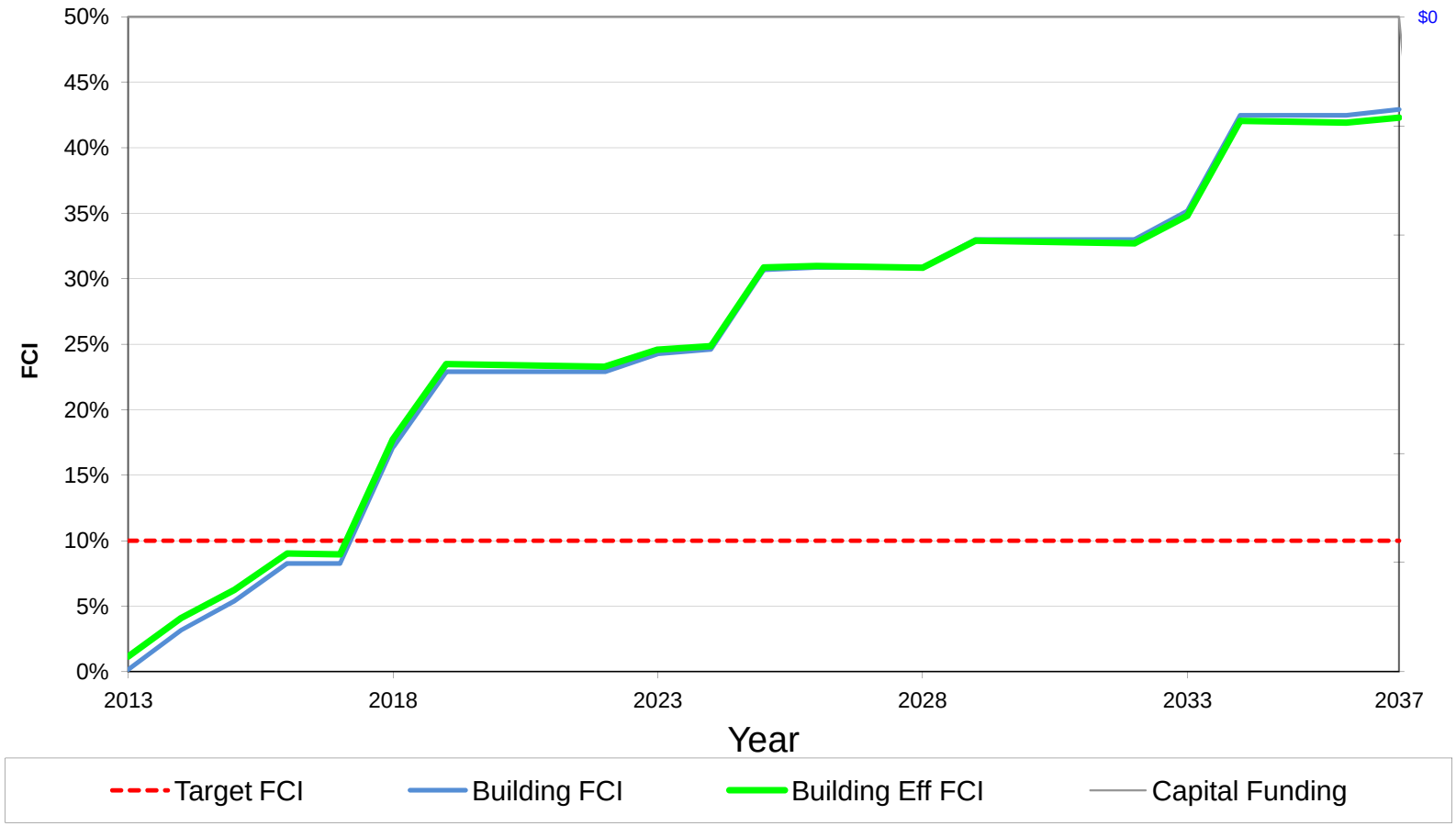
General Building Information Worksheet

Building Name	Fire Station 53 Terence Bay
Civic Address	80 Sandy Cove Road
Municipality, City	Halifax, Nova Scotia
Primary Use / Building Type	Fire Station and Community Hall
Primary Units	Square Foot
Building Area Square Foot	5,695
Replacement Cost per Square Foot	$ 175
Building Replacement Cost	$ 996,625
Year of Construction or Major Renovation	1957
Start Year	2013
Current Year	2013
Target FCI	10%
Soft Costs (%)	15%
Interest Rate	3.50%
Inflation Rate	2.50%

Asset Definition Columns	
1	Site Work (Category 1)
2	Architecture, Exterior (Category 2)
3	Roof (Category 3)
4	Structure (Category 4)
5	Architecture, Interior (Category 5)
6	Mechanical (Category 6)
7	Electrical (Category 7)
8	Life Safety / Fire Suppression (Category 8)
9	Specialty Systems (Category 9)

Projected Facility Condition Index of Fire Station 53 Terence Bay

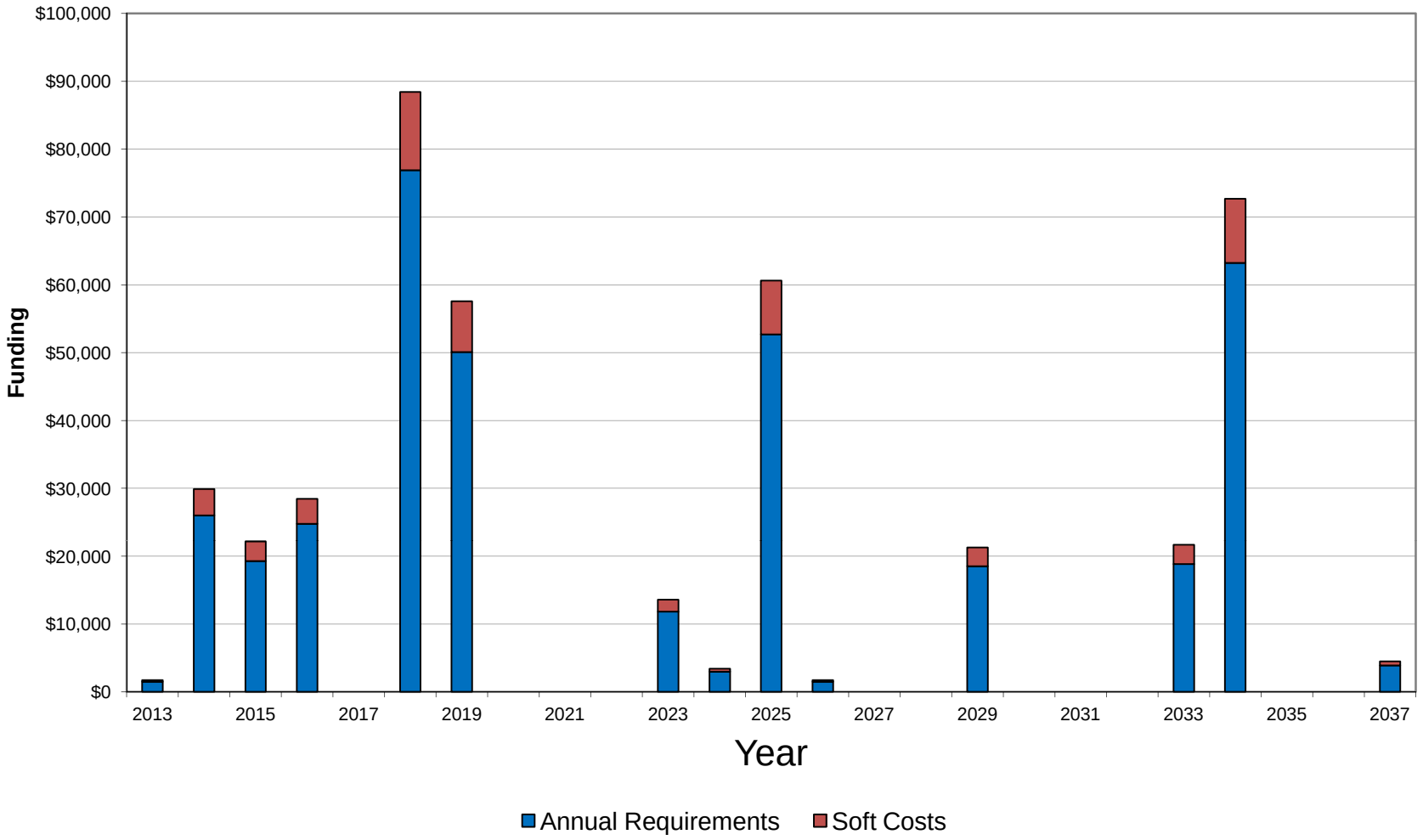
March-26-13



Capital Management Engineering Limited

Recapitalization Costs by Year for Fire Station 53 Terence Bay

March-26-13



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Fire Station 53 Terence Bay
Energy Audit Worksheet

Project	Year to Complete Energy Project	Expected Useful Life (EUL)	Capital Plan Item	Cost of Project	Payback Years	Savings Realized Per Year Based on Project Completion	% to Apply to Capital Projects Going forward	Total $ Available Per Year	Year Funding from Savings Becomes Available
Attic Insulation	2013	60		$ 7,500	13.9	$ 541	100%	$ 541	2014
Community Centre Door	2013	25		$ 1,500	12.4	$ 121	100%	$ 121	2014

Fire Station 53 Terence Bay
Project Output Sheet for Period from 2013 to 2018

					Decision Parameters						
Component	**Recapitalization Detail**	**Year of Replacement**	**Expected Useful Life (EUL)**	**Current Age**	**Life Safety**	**O&M Impact**	**Impact to Business**	**Utility**	**Vision**	**Total**	**Total Cost**
Attic Insulation	as per recommendations from Energy Audit	2013	60	NA	No	Yes	NA	High	NA	2	$ 7,500
Community Centre Door	as per recommendations from Energy Audit	2013	25	NA	No	Yes	NA	High	NA	2	$ 1,500
Asphalt Pavement - Repair	Repair 30% of surface area	2015	5	13	No	No	Yes	Normal	No	1	$ 13,373
Gravel Parking Area	Maintain as part of the maintenance budget	2013	1	56	No	No	Yes	Normal	No	1	$ -
Landscaping	Maintain as part of the maintenance budget	2013	1	56	No	No	Yes	Normal	No	1	$ -
CFL Lights	Replace as part of the maintenance budget	2015	20	18	No	No	Yes	Normal	No	1	$ -
Sheds	Replace at end of useful life	2014	20	23	No	No	Yes	Normal	No	1	$ 7,500
Brick Veneer - Re-point	Re-point damaged mortar as part of the maintenance budget	2013	25	56	No	No	Yes	Normal	No	1	$ -
Metal Doors	Replace at end of useful life	2015	25	23	No	No	Yes	Normal	No	1	$ 2,900
Overhead Doors	Replace at end of useful life	2014	15	21	No	No	Yes	Normal	No	1	$ 15,000
Modified Bitumen - Replacement	Replacement at end of useful life	2018	20	15	No	No	Yes	Normal	No	1	$ 75,408
Eavestroughs and Downspouts	Replace at end of useful life	2018	20	15	No	No	Yes	Normal	No	1	$ 1,500
Interior Painting	Re-coat as part of the maintenance budget	2018	10	56	No	No	Yes	Normal	No	1	$ -
VCT Flooring Community Hall - Kitchen, Bar and washrooms	Replace at end of useful life	2016	25	28	No	No	Yes	Normal	No	1	$ 20,784
Kitchen Equipment - Bar Fridges	Replace at end of useful life	2015	25	23	No	No	Yes	Normal	No	1	$ 3,000
Water Study	Conduct to determine issues with water and recommended solutions	2013	1	56	No	No	Yes	Normal	No	1	$ 1,500
Treatment System	Replace at end of useful life	2014	15	3	No	No	Yes	Normal	No	1	$ 3,500
Electric Baseboard Heaters - Old	Replace at end of useful life	2016	30	33	No	No	Yes	Normal	No	1	$ 3,968
Bathroom Exhaust Fans	Replacement not anticipated	2018	20	15	No	No	Yes	Normal	No	1	$ -

Building Component Summary Worksheet

Fire Station 53 Terence Bay

Component	Recapitalization Detail	Year of Installation or Repair	Expected Useful Life (EUL)	Current Age	Theoretical Remaining Useful Life (RUL)	Useful Life Corrected For Observations	Year of Replacement	Decision Parameters: Life Safety	O&M Impact	Impact to Business	Utility	Vision	Total	Type of event (Cyclic/Single)	Unit	Quantity	Unit Cost	Total Cost
Site Work (Category 1)																		
Asphalt Pavement - Repair	Repair 30% of surface area	2000	5	13	-8	2	2015	No	No	Yes	Normal	No	1	Single	ft²	2,972	$ 4.50	$ 13,373
Asphalt Pavement - Replacement	Replace at end of useful life	2000	15	13	2	6	2019	No	No	Yes	Normal	No	1	Cyclical	ft²	9,906	$ 4.50	$ 44,577
Asphalt Pavement - Repairs	Repair 25% of surface area	1957	5	56	-51	21	2034	No	No	Yes	Normal	No	1	Cyclical	ft²	2,477	$ 4.50	$ 11,144
Gravel Parking Area	Maintain as part of the maintenance budget	1957	1	56	-55	0	2013	No	No	Yes	Normal	No	1	Cyclical	ft²			$ -
Landscaping	Maintain as part of the maintenance budget	1957	1	56	-55	0	2013	No	No	Yes	Normal	No	1	Cyclical	ft²			$ -
HID Lights	Replace at end of useful life	2003	20	10	10	10	2023	No	No	Yes	Normal	No	1	Cyclical	Ea	2	$ 870	$ 1,740
CFL Lights	Replace as part of the maintenance budget	1995	20	18	2	2	2015	No	No	Yes	Normal	No	1	Cyclical	Ea			$ -
Sheds	Replace at end of useful life	1990	20	23	-3	1	2014	No	No	Yes	Normal	No	1	Cyclical	Ea	3	$ 2,500	$ 7,500
Architecture, Exterior (Category 2)																		
Brick Veneer - Re-point	Re-point damaged mortar as part of the maintenance budget	1957	25	56	-31	0	2013	No	No	Yes	Normal	No	1	Cyclical	ft²			$ -
Brick Veneer - Replace	Replace at end of useful life	1957	60	56	4	11	2024	No	No	Yes	Normal	No	1	Cyclical	ft²	63	$ 47.00	$ 2,961
Vinyl Siding	Replace at end of useful life	1995	30	18	12	12	2025	No	No	Yes	Normal	No	1	Cyclical	ft²	3,960	$ 4.50	$ 17,820
Vinyl Glazing	Replace at end of useful life	1990	35	23	12	12	2025	No	No	Yes	Normal	No	1	Cyclical	ft²	96	$ 35.00	$ 3,360
Metal Doors	Replace at end of useful life	1990	25	23	2	2	2015	No	No	Yes	Normal	No	1	Cyclical	Ea	2	$ 1,450	$ 2,900
Storefront Style Doors	Replace at end of useful life	1990	35	23	12	12	2025	No	No	Yes	Normal	No	1	Cyclical	Ea	2	$ 1,870	$ 3,740
Overhead Doors	Replace at end of useful life	1992	15	21	-6	1	2014	No	No	Yes	Normal	No	1	Cyclical	Ea	3	$ 5,000	$ 15,000
Roof (Category 3)																		
Modified Bitumen - Replacement	Replacement at end of useful life	1998	20	15	5	5	2018	No	No	Yes	Normal	No	1	Cyclical	ft²	6,284	$ 12.00	$ 75,408
Modified Bitumen - Repairs	Repair 25% of roof covering	1998	15	15	0	20	2033	No	No	Yes	Normal	No	1	Cyclical	ft²	1,571	$ 12.00	$ 18,852
Eavestroughs and Downspouts	Replace at end of useful life	1998	20	15	5	5	2018	No	No	Yes	Normal	No	1	Cyclical	LS	1	$ 1,500	$ 1,500
Structure (Category 4)																		
Structural Components	Replacement not anticipated	1957	60	56	4	26	2039	No	No	Yes	Normal	No	1	Cyclical	ft²			$ -

Capital Management Engineering Limited

Building Component Summary Worksheet

Fire Station 53 Terence Bay

Component	Recapitalization Detail	Year of Installation or Repair	Expected Useful Life (EUL)	Current Age	Theoretical Remaining Useful Life (RUL)	Useful Life Corrected For Observations	Year of Replacement	Decision Parameters						Type of event (Cyclic/Single)	Unit	Quantity	Unit Cost	Total Cost
								Life Safety	O&M Impact	Impact to Business	Utility	Vision	Total					
Architecture, Interior (Category 5)																		
Fire Station Drywall Ceiling and Walls	Replacement not anticipated	1957	60	56	4	26	2039	No	No	Yes	Normal	No	1	Cyclical	ft²			$ -
Community Hall - Suspended Ceiling	Replace at end of useful life	2003	20	10	10	10	2023	No	No	Yes	Normal	No	1	Cyclical	ft²	854	$ 5.15	$ 4,399
Wood Panels	Replacement not anticipated	1957	60	56	4	26	2039	No	No	Yes	Normal	No	1	Cyclical	ft²			$ -
Ceramic Wall Tile	Replacement not anticipated	1990	60	23	37	37	2050	No	No	Yes	Normal	No	1	Cyclical	ft²			$ -
Interior Painting	Re-coat as part of the maintenance budget	1957	10	56	-46	5	2018	No	No	Yes	Normal	No	1	Cyclical	ft²			$ -
Interior Doors	Replacement not anticipated	1957	60	56	4	26	2039	No	No	Yes	Normal	No	1	Cyclical	Ea			$ -
VCT Flooring Community Hall - Hall	Replace at end fo useful life	2000	25	13	12	12	2025	No	No	Yes	Normal	No	1	Cyclical	ft²	854	$ 8.11	$ 6,928
VCT Flooring Community Hall - Kitchen, Bar and washrooms	Replace at end of useful life	1985	25	28	-3	3	2016	No	No	Yes	Normal	No	1	Cyclical	ft²	2,563	$ 8.11	$ 20,784
Kitchen Equipment - Bar Fridges	Replace at end of useful life	1990	25	23	2	2	2015	No	No	Yes	Normal	No	1	Cyclical	LS	1	$ 3,000	$ 3,000
Kitchen Equipment - range, fridge, exhaust hood	Replace at end of useful life	2000	25	13	12	12	2025	No	No	Yes	Normal	No	1	Cyclical	LS	1	$ 6,500	$ 6,500
Cabinetry and Countertops	Replace at end of useful life	1957	25	56	-31	6	2019	No	No	Yes	Normal	No	1	Cyclical	LS	1	$ 5,500	$ 5,500
Mechanical (Category 6)																		
Water Study	Conduct to determine issues with water and recommended solutions	1957	1	56	-55	0	2013	No	No	Yes	Normal	No	1	Single	LS	1	$ 1,500	$ 1,500
Well	Replace at end of useful life	1990	50	23	27	25	2038	No	No	Yes	Normal	No	1	Cyclical	Ea	1	$ 10,000	$ 10,000
Treatment System	Replace at end of useful life	2010	15	3	12	1	2014	No	No	Yes	Normal	No	1	Cyclical	Ea	1	$ 3,500	$ 3,500
Vectapure Reverse Osmosis	Replace at end of useful life	2010	15	3	12	12	2025	No	No	Yes	Normal	No	1	Cyclical	Ea	1	$ 4,500	$ 4,500
Septic Tank	Replacement not anticipated	1957	60	56	4	26	2039	No	No	Yes	Normal	No	1	Cyclical	Ea			$ -
Domestic Water and Sanitary Lines	Replacement not anticipated	1957	40	56	-16	26	2039	No	No	Yes	Normal	No	1	Cyclical	Ea			$ -
Sinks	Replace at end of useful life	1990	35	23	12	12	2025	No	No	Yes	Normal	No	1	Cyclical	Ea	5	$ 750	$ 3,750
Toilets	Replace at end of useful life	1990	35	23	12	12	2025	No	No	Yes	Normal	No	1	Cyclical	Ea	4	$ 1,000	$ 4,000
Urinals	Replace at end of useful life	1990	35	23	12	12	2025	No	No	Yes	Normal	No	1	Cyclical	Ea	2	$ 1,056	$ 2,112
Rheem Electric Water Heater	Replace at end of useful life	2011	15	2	13	13	2026	No	No	Yes	Normal	No	1	Cyclical	Ea	1	$ 1,500	$ 1,500
Electric Baseboard Heaters - Old	Replace at end of useful life	1980	30	33	-3	3	2016	No	No	Yes	Normal	No	1	Cyclical	Lft	256	$ 15.50	$ 3,968
Electric Baseboard Heaters - New	Replacement not anticipated	2010	30	3	27	27	2040	No	No	Yes	Normal	No	1	Cyclical	Lft			$ -
Bathroom Exhaust Fans	Replacement not anticipated	1998	20	15	5	5	2018	No	No	Yes	Normal	No	1	Cyclical	Ea			$ -
Portable Compressor	Replace as part of the maintenance budget	2008	20	5	15	15	2028	No	No	Yes	Normal	No	1	Cyclical	Ea			$ -

Building Component Summary Worksheet

Fire Station 53 Terence Bay

Component	Recapitalization Detail	Year of Installation or Repair	Expected Useful Life (EUL)	Current Age	Theoretical Remaining Useful Life (RUL)	Useful Life Corrected For Observations	Year of Replacement	Decision Parameters						Type of event (Cyclic/Single)	Unit	Quantity	Unit Cost	Total Cost
								Life Safety	O&M Impact	Impact to Business	Utility	Vision	Total					
Electrical (Category 7)																		
Main Disconnect	Replace at end of useful life	1997	40	16	24	24	2037	No	No	Yes	Normal	No	1	Cyclical	Ea	1	$ 3,900	$ 3,900
Branch Wiring	Replacement not anticipated	1957	40	56	-16	26	2039	No	No	Yes	Normal	No	1	Cyclical	ft²			$ -
Light Fixtures	Replace at end of useful life	2003	20	10	10	10	2023	No	No	Yes	Normal	No	1	Cyclical	LS	1	$ 4,180	$ 4,180
Life Safety / Fire Suppression (Category 8)																		
Fire Alarm System	Replace at end of useful life	1980	50	33	17	10	2023	No	No	Yes	Normal	No	1	Cyclical	Ea	1	$ 1,500	$ 1,500
Emergency Lights and Exit Signs	Replace as part of the maintenance budget	2003	20	10	10	10	2023	No	No	Yes	Normal	No	1	Cyclical	LS			$ -
Specialty Systems (Category 9)																		
Energy Capital Replacements																		
Attic Insulation	as per recommendations from Energy Audit	NA	60	NA	NA	NA	2013	No	Yes	NA	High	NA	2	Cyclical	LS	1	$ 7,500.00	$ 7,500
Community Centre Door	as per recommendations from Energy Audit	NA	25	NA	NA	NA	2013	No	Yes	NA	High	NA	2	Cyclical	LS	1	$ 1,500.00	$ 1,500

Fire Station 53 Terence Bay
Cash Flow Analysis Output Sheet

Component	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Replacement	Unit Cost	Total Cost	Year 1 2013	Year 2 2014	Year 3 2015	Year 4 2016	Year 5 2017	Year 6 2018	Year 7 2019	Year 8 2020	Year 9 2021	Year 10 2022
Site Work (Category 1)																		
Asphalt Pavement - Repair	Repair 30% of surface area	Single	2000	5	2	2015	$ 5	$ 13,373	$ -	$ -	$ 13,373	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Asphalt Pavement - Replacement	Replace at end of useful life	Cyclical	2000	15	6	2019	$ 5	$ 44,577	$ -	$ -	$ -	$ -	$ -	$ -	$ 44,577	$ -	$ -	$ -
Asphalt Pavement - Repairs	Repair 25% of surface area	Cyclical	1957	5	21	2034	$ 5	$ 11,144	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Gravel Parking Area	Maintain as part of the maintenance budget	Cyclical	1957	1	0	2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Landscaping	Maintain as part of the maintenance budget	Cyclical	1957	1	0	2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
HID Lights	Replace at end of useful life	Cyclical	2003	20	10	2023	$ 870	$ 1,740	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CFL Lights	Replace as part of the maintenance budget	Cyclical	1995	20	2	2015	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sheds	Replace at end of useful life	Cyclical	1990	20	1	2014	$ 2,500	$ 7,500	$ -	$ 7,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Site Work (Category 1) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ 7,500	$ 13,373	$ -	$ -	$ -	$ 44,577	$ -	$ -	$ -
Site Work (Category 1) Summary									$ -	$ 7,500	$ 13,373	$ -	$ -	$ -	$ 44,577	$ -	$ -	$ -
Architecture, Exterior (Category 2)																		
Brick Veneer - Re-point	Re-point damaged mortar as part of the maintenance budget	Cyclical	1957	25	0	2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Brick Veneer - Replace	Replace at end of useful life	Cyclical	1957	60	11	2024	$ 47	$ 2,961	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vinyl Siding	Replace at end of useful life	Cyclical	1995	30	12	2025	$ 5	$ 17,820	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vinyl Glazing	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 35	$ 3,360	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Metal Doors	Replace at end of useful life	Cyclical	1990	25	2	2015	$ 1,450	$ 2,900	$ -	$ -	$ 2,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storefront Style Doors	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 1,870	$ 3,740	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Overhead Doors	Replace at end of useful life	Cyclical	1992	15	1	2014	$ 5,000	$ 15,000	$ -	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Architecture, Exterior (Category 2) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ 15,000	$ 2,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Architecture, Exterior (Category 2) Summary									$ -	$ 15,000	$ 2,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Roof (Category 3)																		
Modified Bitumen - Replacement	Replacement at end of useful life	Cyclical	1998	20	5	2018	$ 12	$ 75,408	$ -	$ -	$ -	$ -	$ -	$ 75,408	$ -	$ -	$ -	$ -
Modified Bitumen - Repairs	Repair 25% of roof covering	Cyclical	1998	15	20	2033	$ 12	$ 18,852	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Eavestroughs and Downspouts	Replace at end of useful life	Cyclical	1998	20	5	2018	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ 1,500	$ -	$ -	$ -	$ -
Roof (Category 3) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -	$ 76,908	$ -	$ -	$ -	$ -
Roof (Category 3) Summary									$ -	$ -	$ -	$ -	$ -	$ 76,908	$ -	$ -	$ -	$ -
Structure (Category 4)																		
Structural Components	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Structure (Category 4) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Structure (Category 4) Summary									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Fire Station 53 Terence Bay
Cash Flow Analysis Output Sheet

Component	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Replacement	Unit Cost	Total Cost	Year 11 2023	Year 12 2024	Year 13 2025	Year 14 2026	Year 15 2027	Year 16 2028	Year 17 2029	Year 18 2030	Year 19 2031	Year 20 2032
Site Work (Category 1)																		
Asphalt Pavement - Repair	Repair 30% of surface area	Single	2000	5	2	2015	$ 5	$ 13,373	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Asphalt Pavement - Replacement	Replace at end of useful life	Cyclical	2000	15	6	2019	$ 5	$ 44,577	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Asphalt Pavement - Repairs	Repair 25% of surface area	Cyclical	1957	5	21	2034	$ 5	$ 11,144	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Gravel Parking Area	Maintain as part of the maintenance budget	Cyclical	1957	1	0	2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Landscaping	Maintain as part of the maintenance budget	Cyclical	1957	1	0	2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
HID Lights	Replace at end of useful life	Cyclical	2003	20	10	2023	$ 870	$ 1,740	$ 1,740	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CFL Lights	Replace as part of the maintenance budget	Cyclical	1995	20	2	2015	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sheds	Replace at end of useful life	Cyclical	1990	20	1	2014	$ 2,500	$ 7,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Site Work (Category 1) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ 1,740	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Site Work (Category 1) Summary									$ 1,740	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Architecture, Exterior (Category 2)																		
Brick Veneer - Re-point	Re-point damaged mortar as part of the maintenance budget	Cyclical	1957	25	0	2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Brick Veneer - Replace	Replace at end of useful life	Cyclical	1957	60	11	2024	$ 47	$ 2,961	$ -	$ 2,961	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vinyl Siding	Replace at end of useful life	Cyclical	1995	30	12	2025	$ 5	$ 17,820	$ -	$ -	$ 17,820	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vinyl Glazing	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 35	$ 3,360	$ -	$ -	$ 3,360	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Metal Doors	Replace at end of useful life	Cyclical	1990	25	2	2015	$ 1,450	$ 2,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storefront Style Doors	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 1,870	$ 3,740	$ -	$ -	$ 3,740	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Overhead Doors	Replace at end of useful life	Cyclical	1992	15	1	2014	$ 5,000	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,000	$ -	$ -	$ -
Architecture, Exterior (Category 2) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ 2,961	$ 24,920	$ -	$ -	$ -	$ 15,000	$ -	$ -	$ -
Architecture, Exterior (Category 2) Summary									$ -	$ 2,961	$ 24,920	$ -	$ -	$ -	$ 15,000	$ -	$ -	$ -
Roof (Category 3)																		
Modified Bitumen - Replacement	Replacement at end of useful life	Cyclical	1998	20	5	2018	$ 12	$ 75,408	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Modified Bitumen - Repairs	Repair 25% of roof covering	Cyclical	1998	15	20	2033	$ 12	$ 18,852	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Eavestroughs and Downspouts	Replace at end of useful life	Cyclical	1998	20	5	2018	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Roof (Category 3) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Roof (Category 3) Summary									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Structure (Category 4)																		
Structural Components	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Structure (Category 4) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Structure (Category 4) Summary									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Fire Station 53 Terence Bay
Cash Flow Analysis Output Sheet

Component	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Replacement	Unit Cost	Total Cost	Year 21 2033	Year 22 2034	Year 23 2035	Year 24 2036	Year 25 2037
Site Work (Category 1)													
Asphalt Pavement - Repair	Repair 30% of surface area	Single	2000	5	2	2015	$ 5	$ 13,373	$ -	$ -	$ -	$ -	$ -
Asphalt Pavement - Replacement	Replace at end of useful life	Cyclical	2000	15	6	2019	$ 5	$ 44,577	$ -	$ 44,577	$ -	$ -	$ -
Asphalt Pavement - Repairs	Repair 25% of surface area	Cyclical	1957	5	21	2034	$ 5	$ 11,144	$ -	$ 11,144	$ -	$ -	$ -
Gravel Parking Area	Maintain as part of the maintenance budget	Cyclical	1957	1	0	2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Landscaping	Maintain as part of the maintenance budget	Cyclical	1957	1	0	2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -
HID Lights	Replace at end of useful life	Cyclical	2003	20	10	2023	$ 870	$ 1,740	$ -	$ -	$ -	$ -	$ -
CFL Lights	Replace as part of the maintenance budget	Cyclical	1995	20	2	2015	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sheds	Replace at end of useful life	Cyclical	1990	20	1	2014	$ 2,500	$ 7,500	$ -	$ 7,500	$ -	$ -	$ -
Site Work (Category 1) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ 63,221	$ -	$ -	$ -
Site Work (Category 1) Summary									$ -	$ 63,221	$ -	$ -	$ -
Architecture, Exterior (Category 2)													
Brick Veneer - Re-point	Re-point damaged mortar as part of the maintenance budget	Cyclical	1957	25	0	2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Brick Veneer - Replace	Replace at end of useful life	Cyclical	1957	60	11	2024	$ 47	$ 2,961	$ -	$ -	$ -	$ -	$ -
Vinyl Siding	Replace at end of useful life	Cyclical	1995	30	12	2025	$ 5	$ 17,820	$ -	$ -	$ -	$ -	$ -
Vinyl Glazing	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 35	$ 3,360	$ -	$ -	$ -	$ -	$ -
Metal Doors	Replace at end of useful life	Cyclical	1990	25	2	2015	$ 1,450	$ 2,900	$ -	$ -	$ -	$ -	$ -
Storefront Style Doors	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 1,870	$ 3,740	$ -	$ -	$ -	$ -	$ -
Overhead Doors	Replace at end of useful life	Cyclical	1992	15	1	2014	$ 5,000	$ 15,000	$ -	$ -	$ -	$ -	$ -
Architecture, Exterior (Category 2) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -
Architecture, Exterior (Category 2) Summary									$ -	$ -	$ -	$ -	$ -
Roof (Category 3)													
Modified Bitumen - Replacement	Replacement at end of useful life	Cyclical	1998	20	5	2018	$ 12	$ 75,408	$ -	$ -	$ -	$ -	$ -
Modified Bitumen - Repairs	Repair 25% of roof covering	Cyclical	1998	15	20	2033	$ 12	$ 18,852	$ 18,852	$ -	$ -	$ -	$ -
Eavestroughs and Downspouts	Replace at end of useful life	Cyclical	1998	20	5	2018	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -
Roof (Category 3) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ 18,852	$ -	$ -	$ -	$ -
Roof (Category 3) Summary									$ 18,852	$ -	$ -	$ -	$ -
Structure (Category 4)													
Structural Components	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Structure (Category 4) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -
Structure (Category 4) Summary									$ -	$ -	$ -	$ -	$ -

Fire Station 53 Terence Bay
Cash Flow Analysis Output Sheet

Component	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Replacement	Unit Cost	Total Cost	Year 1 2013	Year 2 2014	Year 3 2015	Year 4 2016	Year 5 2017	Year 6 2018	Year 7 2019	Year 8 2020	Year 9 2021	Year 10 2022
Architecture, Interior (Category 5)																		
Fire Station Drywall Ceiling and Walls	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Community Hall - Suspended Ceiling	Replace at end of useful life	Cyclical	2003	20	10	2023	$ 5	$ 4,399	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wood Panels	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ceramic Wall Tile	Replacement not anticipated	Cyclical	1990	60	37	2050	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interior Painting	Re-coat as part of the maintenance budget	Cyclical	1957	10	5	2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interior Doors	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
VCT Flooring Community Hall - Hall	Replace at end fo useful life	Cyclical	2000	25	12	2025	$ 8	$ 6,928	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
VCT Flooring Community Hall - Kitchen, Bar and washrooms	Replace at end of useful life	Cyclical	1985	25	3	2016	$ 8	$ 20,784	$ -	$ -	$ -	$ 20,784	$ -	$ -	$ -	$ -	$ -	$ -
Kitchen Equipment - Bar Fridges	Replace at end of useful life	Cyclical	1990	25	2	2015	$ 3,000	$ 3,000	$ -	$ -	$ 3,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Kitchen Equipment - range, fridge, exhaust hood	Replace at end of useful life	Cyclical	2000	25	12	2025	$ 6,500	$ 6,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cabinetry and Countertops	Replace at end of useful life	Cyclical	1957	25	6	2019	$ 5,500	$ 5,500	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,500	$ -	$ -	$ -
Architecture, Interior (Category 5) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ 3,000	$ 20,784	$ -	$ -	$ 5,500	$ -	$ -	$ -
Architecture, Interior (Category 5) Summary									$ -	$ -	$ 3,000	$ 20,784	$ -	$ -	$ 5,500	$ -	$ -	$ -
Mechanical (Category 6)																		
Water Study	Conduct to determine issues with water and recommended solutions	Single	1957	1	0	2013	$ 1,500	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Well	Replace at end of useful life	Cyclical	1990	50	25	2038	$ 10,000	$ 10,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Treatment System	Replace at end of useful life	Cyclical	2010	15	1	2014	$ 3,500	$ 3,500	$ -	$ 3,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vectapure Reverse Osmosis	Replace at end of useful life	Cyclical	2010	15	12	2025	$ 4,500	$ 4,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Septic Tank	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Domestic Water and Sanitary Lines	Replacement not anticipated	Cyclical	1957	40	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sinks	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 750	$ 3,750	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Toilets	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 1,000	$ 4,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Urinals	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 1,056	$ 2,112	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Rheem Electric Water Heater	Replace at end of useful life	Cyclical	2011	15	13	2026	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electric Baseboard Heaters - Old	Replace at end of useful life	Cyclical	1980	30	3	2016	$ 16	$ 3,968	$ -	$ -	$ -	$ 3,968	$ -	$ -	$ -	$ -	$ -	$ -
Electric Baseboard Heaters - New	Replacement not anticipated	Cyclical	2010	30	27	2040	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bathroom Exhaust Fans	Replacement not anticipated	Cyclical	1998	20	5	2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Portable Compressor	Replace as part of the maintenance budget	Cyclical	2008	20	15	2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Mechanical (Category 6) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ 1,500	$ 3,500	$ -	$ 3,968	$ -	$ -	$ -	$ -	$ -	$ -
Mechanical (Category 6) Summary									$ 1,500	$ 3,500	$ -	$ 3,968	$ -	$ -	$ -	$ -	$ -	$ -
Electrical (Category 7)																		
Main Disconnect	Replace at end of useful life	Cyclical	1997	40	24	2037	$ 3,900	$ 3,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Branch Wiring	Replacement not anticipated	Cyclical	1957	40	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Light Fixtures	Replace at end of useful life	Cyclical	2003	20	10	2023	$ 4,180	$ 4,180	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electrical (Category 7) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electrical (Category 7) Summary									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Life Safety / Fire Suppression (Category 8)																		
Fire Alarm System	Replace at end of useful life	Cyclical	1980	50	10	2023	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Emergency Lights and Exit Signs	Replace as part of the maintenance budget	Cyclical	2003	20	10	2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Life Safety / Fire Suppression (Category 8) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Life Safety / Fire Suppression (Category 8) Summary									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Capital Replacements																		
<<Attic Insulation>>	as per recommendations from Energy Audit	Cyclical	NA	60	NA	2013	$ 7,500	$ 7,500	$ 7,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
<<Community Centre Door>>	as per recommendations from Energy Audit	Cyclical	NA	25	NA	2013	$ 1,500	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Capital Replacements Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Capital Replacements Summary									$ 9,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Fire Station 53 Terence Bay
Cash Flow Analysis Output Sheet

Component	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Replacement	Unit Cost	Total Cost	Year 11 2023	Year 12 2024	Year 13 2025	Year 14 2026	Year 15 2027	Year 16 2028	Year 17 2029	Year 18 2030	Year 19 2031	Year 20 2032
Architecture, Interior (Category 5)																		
Fire Station Drywall Ceiling and Walls	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Community Hall - Suspended Ceiling	Replace at end of useful life	Cyclical	2003	20	10	2023	$ 5	$ 4,399	$ 4,399	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wood Panels	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ceramic Wall Tile	Replacement not anticipated	Cyclical	1990	60	37	2050	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interior Painting	Re-coat as part of the maintenance budget	Cyclical	1957	10	5	2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interior Doors	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
VCT Flooring Community Hall - Hall	Replace at end fo useful life	Cyclical	2000	25	12	2025	$ 8	$ 6,928	$ -	$ -	$ 6,928	$ -	$ -	$ -	$ -	$ -	$ -	$ -
VCT Flooring Community Hall - Kitchen, Bar and washrooms	Replace at end of useful life	Cyclical	1985	25	3	2016	$ 8	$ 20,784	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Kitchen Equipment - Bar Fridges	Replace at end of useful life	Cyclical	1990	25	2	2015	$ 3,000	$ 3,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Kitchen Equipment - range, fridge, exhaust hood	Replace at end of useful life	Cyclical	2000	25	12	2025	$ 6,500	$ 6,500	$ -	$ -	$ 6,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cabinetry and Countertops	Replace at end of useful life	Cyclical	1957	25	6	2019	$ 5,500	$ 5,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Architecture, Interior (Category 5) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ 4,399	$ -	$ 13,428	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Architecture, Interior (Category 5) Summary									$ 4,399	$ -	$ 13,428	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Mechanical (Category 6)																		
Water Study	Conduct to determine issues with water and recommended solutions	Single	1957	1	0	2013	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Well	Replace at end of useful life	Cyclical	1990	50	25	2038	$ 10,000	$ 10,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Treatment System	Replace at end of useful life	Cyclical	2010	15	1	2014	$ 3,500	$ 3,500	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,500	$ -	$ -	$ -
Vectapure Reverse Osmosis	Replace at end of useful life	Cyclical	2010	15	12	2025	$ 4,500	$ 4,500	$ -	$ -	$ 4,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Septic Tank	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Domestic Water and Sanitary Lines	Replacement not anticipated	Cyclical	1957	40	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sinks	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 750	$ 3,750	$ -	$ -	$ 3,750	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Toilets	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 1,000	$ 4,000	$ -	$ -	$ 4,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Urinals	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 1,056	$ 2,112	$ -	$ -	$ 2,112	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Rheem Electric Water Heater	Replace at end of useful life	Cyclical	2011	15	13	2026	$ 1,500	$ 1,500	$ -	$ -	$ -	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -
Electric Baseboard Heaters - Old	Replace at end of useful life	Cyclical	1980	30	3	2016	$ 16	$ 3,968	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electric Baseboard Heaters - New	Replacement not anticipated	Cyclical	2010	30	27	2040	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bathroom Exhaust Fans	Replacement not anticipated	Cyclical	1998	20	5	2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Portable Compressor	Replace as part of the maintenance budget	Cyclical	2008	20	15	2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Mechanical (Category 6) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ 14,362	$ 1,500	$ -	$ -	$ 3,500	$ -	$ -	$ -
Mechanical (Category 6) Summary									$ -	$ -	$ 14,362	$ 1,500	$ -	$ -	$ 3,500	$ -	$ -	$ -
Electrical (Category 7)																		
Main Disconnect	Replace at end of useful life	Cyclical	1997	40	24	2037	$ 3,900	$ 3,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Branch Wiring	Replacement not anticipated	Cyclical	1957	40	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Light Fixtures	Replace at end of useful life	Cyclical	2003	20	10	2023	$ 4,180	$ 4,180	$ 4,180	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electrical (Category 7) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ 4,180	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electrical (Category 7) Summary									$ 4,180	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Life Safety / Fire Suppression (Category 8)																		
Fire Alarm System	Replace at end of useful life	Cyclical	1980	50	10	2023	$ 1,500	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Emergency Lights and Exit Signs	Replace as part of the maintenance budget	Cyclical	2003	20	10	2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Life Safety / Fire Suppression (Category 8) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Life Safety / Fire Suppression (Category 8) Summary									$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Capital Replacements																		
<<Attic Insulation>>	as per recommendations from Energy Audit	Cyclical	NA	60	NA	2013	$ 7,500	$ 7,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
<<Community Centre Door>>	as per recommendations from Energy Audit	Cyclical	NA	25	NA	2013	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Capital Replacements Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Capital Replacements Summary									$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Fire Station 53 Terence Bay
Cash Flow Analysis Output Sheet

Component	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Replacement	Unit Cost	Total Cost	Year 21 2033	Year 22 2034	Year 23 2035	Year 24 2036	Year 25 2037
Architecture, Interior (Category 5)													
Fire Station Drywall Ceiling and Walls	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Community Hall - Suspended Ceiling	Replace at end of useful life	Cyclical	2003	20	10	2023	$ 5	$ 4,399	$ -	$ -	$ -	$ -	$ -
Wood Panels	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ceramic Wall Tile	Replacement not anticipated	Cyclical	1990	60	37	2050	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interior Painting	Re-coat as part of the maintenance budget	Cyclical	1957	10	5	2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interior Doors	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -
VCT Flooring Community Hall - Hall	Replace at end fo useful life	Cyclical	2000	25	12	2025	$ 8	$ 6,928	$ -	$ -	$ -	$ -	$ -
VCT Flooring Community Hall - Kitchen, Bar and washrooms	Replace at end of useful life	Cyclical	1985	25	3	2016	$ 8	$ 20,784	$ -	$ -	$ -	$ -	$ -
Kitchen Equipment - Bar Fridges	Replace at end of useful life	Cyclical	1990	25	2	2015	$ 3,000	$ 3,000	$ -	$ -	$ -	$ -	$ -
Kitchen Equipment - range, fridge, exhaust hood	Replace at end of useful life	Cyclical	2000	25	12	2025	$ 6,500	$ 6,500	$ -	$ -	$ -	$ -	$ -
Cabinetry and Countertops	Replace at end of useful life	Cyclical	1957	25	6	2019	$ 5,500	$ 5,500	$ -	$ -	$ -	$ -	$ -
Architecture, Interior (Category 5) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -
Architecture, Interior (Category 5) Summary									$ -	$ -	$ -	$ -	$ -
Mechanical (Category 6)													
Water Study	Conduct to determine issues with water and recommended solutions	Single	1957	1	0	2013	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -
Well	Replace at end of useful life	Cyclical	1990	50	25	2038	$ 10,000	$ 10,000	$ -	$ -	$ -	$ -	$ -
Treatment System	Replace at end of useful life	Cyclical	2010	15	1	2014	$ 3,500	$ 3,500	$ -	$ -	$ -	$ -	$ -
Vectapure Reverse Osmosis	Replace at end of useful life	Cyclical	2010	15	12	2025	$ 4,500	$ 4,500	$ -	$ -	$ -	$ -	$ -
Septic Tank	Replacement not anticipated	Cyclical	1957	60	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Domestic Water and Sanitary Lines	Replacement not anticipated	Cyclical	1957	40	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sinks	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 750	$ 3,750	$ -	$ -	$ -	$ -	$ -
Toilets	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 1,000	$ 4,000	$ -	$ -	$ -	$ -	$ -
Urinals	Replace at end of useful life	Cyclical	1990	35	12	2025	$ 1,056	$ 2,112	$ -	$ -	$ -	$ -	$ -
Rheem Electric Water Heater	Replace at end of useful life	Cyclical	2011	15	13	2026	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -
Electric Baseboard Heaters - Old	Replace at end of useful life	Cyclical	1980	30	3	2016	$ 16	$ 3,968	$ -	$ -	$ -	$ -	$ -
Electric Baseboard Heaters - New	Replacement not anticipated	Cyclical	2010	30	27	2040	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bathroom Exhaust Fans	Replacement not anticipated	Cyclical	1998	20	5	2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Portable Compressor	Replace as part of the maintenance budget	Cyclical	2008	20	15	2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Mechanical (Category 6) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -
Mechanical (Category 6) Summary									$ -	$ -	$ -	$ -	$ -
Electrical (Category 7)													
Main Disconnect	Replace at end of useful life	Cyclical	1997	40	24	2037	$ 3,900	$ 3,900	$ -	$ -	$ -	$ -	$ 3,900
Branch Wiring	Replacement not anticipated	Cyclical	1957	40	26	2039	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Light Fixtures	Replace at end of useful life	Cyclical	2003	20	10	2023	$ 4,180	$ 4,180	$ -	$ -	$ -	$ -	$ -
Electrical (Category 7) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ 3,900
Electrical (Category 7) Summary									$ -	$ -	$ -	$ -	$ 3,900
Life Safety / Fire Suppression (Category 8)													
Fire Alarm System	Replace at end of useful life	Cyclical	1980	50	10	2023	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -
Emergency Lights and Exit Signs	Replace as part of the maintenance budget	Cyclical	2003	20	10	2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Life Safety / Fire Suppression (Category 8) Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -
Life Safety / Fire Suppression (Category 8) Summary									$ -	$ -	$ -	$ -	$ -
Energy Capital Replacements													
<<Attic Insulation>>	as per recommendations from Energy Audit	Cyclical	NA	60	NA	2013	$ 7,500	$ 7,500	$ -	$ -	$ -	$ -	$ -
<<Community Centre Door>>	as per recommendations from Energy Audit	Cyclical	NA	25	NA	2013	$ 1,500	$ 1,500	$ -	$ -	$ -	$ -	$ -
Energy Capital Replacements Summary Excluding Projects Replaced by Energy Efficiency Improvements									$ -	$ -	$ -	$ -	$ -
Energy Capital Replacements Summary									$ -	$ -	$ -	$ -	$ -

Fire Station 53 Terence Bay
Cash Flow Summary Output Sheet

Fire Station 53 Terence Bay	Year 1 2013	Year 2 2014	Year 3 2015	Year 4 2016	Year 5 2017	Year 6 2018	Year 7 2019	Year 8 2020	Year 9 2021	Year 10 2022
Site Work (Category 1)	$ -	$ 7,500	$ 13,373	$ -	$ -	$ -	$ 44,577	$ -	$ -	$ -
Architecture, Exterior (Category 2)	$ -	$ 15,000	$ 2,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Roof (Category 3)	$ -	$ -	$ -	$ -	$ -	$ 76,908	$ -	$ -	$ -	$ -
Structure (Category 4)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Architecture, Interior (Category 5)	$ -	$ -	$ 3,000	$ 20,784	$ -	$ -	$ 5,500	$ -	$ -	$ -
Mechanical (Category 6)	$ 1,500	$ 3,500	$ -	$ 3,968	$ -	$ -	$ -	$ -	$ -	$ -
Electrical (Category 7)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Life Safety / Fire Suppression (Category 8)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Specialty Systems (Category 9)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL for Fire Station 53 Terence Bay	$ 1,500	$ 26,000	$ 19,273	$ 24,752	$ -	$ 76,908	$ 50,077	$ -	$ -	$ -

Facility Condition Calculation Output Sheet

Fire Station 53 Terence Bay	Year 1 2013	Year 2 2014	Year 3 2015	Year 4 2016	Year 5 2017	Year 6 2018	Year 7 2019	Year 8 2020	Year 9 2021	Year 10 2022
Balance Carried from Previous Year	$ -	$ 1,725	$ 31,625	$ 53,789	$ 82,254	$ 82,254	$ 170,698	$ 228,287	$ 228,287	$ 228,287
Anticipated Annual Recap Requirement	$ 1,500	$ 26,000	$ 19,273	$ 24,752	$ -	$ 76,908	$ 50,077	$ -	$ -	$ -
Soft Costs	$ 225	$ 3,900	$ 2,891	$ 3,713	$ -	$ 11,536	$ 7,512	$ -	$ -	$ -
Total Anticipated Requirements	$ 1,725	$ 31,625	$ 53,789	$ 82,254	$ 82,254	$ 170,698	$ 228,287	$ 228,287	$ 228,287	$ 228,287
Capital Funding	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Operational Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Loan Payments	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Building Replacement Value	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625
Amount of Deferred Maintenance	$ 1,725	$ 31,625	$ 53,789	$ 82,254	$ 82,254	$ 170,698	$ 228,287	$ 228,287	$ 228,287	$ 228,287
Annual Cost of Ownership	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FCI	0.17%	3.17%	5.40%	8.25%	8.25%	17.13%	22.91%	22.91%	22.91%	22.91%

Capital Management Engineering Limited

Fire Station 53 Terence Bay
Cash Flow Summary Output Sheet

Fire Station 53 Terence Bay	Year 11 2023	Year 12 2024	Year 13 2025	Year 14 2026	Year 15 2027	Year 16 2028	Year 17 2029	Year 18 2030	Year 19 2031	Year 20 2032	Year 21 2033	Year 22 2034	Year 23 2035	Year 24 2036	Year 25 2037
Site Work (Category 1)	$ 1,740	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 63,221	$ -	$ -	$ -
Architecture, Exterior (Category 2)	$ -	$ 2,961	$ 24,920	$ -	$ -	$ -	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Roof (Category 3)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,852	$ -	$ -	$ -	$ -
Structure (Category 4)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Architecture, Interior (Category 5)	$ 4,399	$ -	$ 13,428	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Mechanical (Category 6)	$ -	$ -	$ 14,362	$ 1,500	$ -	$ -	$ 3,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electrical (Category 7)	$ 4,180	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,900
Life Safety / Fire Suppression (Category 8)	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Specialty Systems (Category 9)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL for Fire Station 53 Terence Bay	$ 11,820	$ 2,961	$ 52,710	$ 1,500	$ -	$ -	$ 18,500	$ -	$ -	$ -	$ 18,852	$ 63,221	$ -	$ -	$ 3,900

Facility Condition Calculation Output Sheet

Fire Station 53 Terence Bay	Year 11 2023	Year 12 2024	Year 13 2025	Year 14 2026	Year 15 2027	Year 16 2028	Year 17 2029	Year 18 2030	Year 19 2031	Year 20 2032	Year 21 2033	Year 22 2034	Year 23 2035	Year 24 2036	Year 25 2037
Balance Carried from Previous Year	$ 228,287	$ 241,879	$ 245,284	$ 305,901	$ 307,626	$ 307,626	$ 307,626	$ 328,901	$ 328,901	$ 328,901	$ 328,901	$ 350,580	$ 423,285	$ 423,285	$ 423,285
Anticipated Annual Recap Requirement	$ 11,820	$ 2,961	$ 52,710	$ 1,500	$ -	$ -	$ 18,500	$ -	$ -	$ -	$ 18,852	$ 63,221	$ -	$ -	$ 3,900
Soft Costs	$ 1,773	$ 444	$ 7,906	$ 225	$ -	$ -	$ 2,775	$ -	$ -	$ -	$ 2,828	$ 9,483	$ -	$ -	$ 585
Total Anticipated Requirements	$ 241,879	$ 245,284	$ 305,901	$ 307,626	$ 307,626	$ 307,626	$ 328,901	$ 328,901	$ 328,901	$ 328,901	$ 350,580	$ 423,285	$ 423,285	$ 423,285	$ 427,770
Capital Funding	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Operational Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Loan Payments	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Building Replacement Value	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625
Amount of Deferred Maintenance	$ 241,879	$ 245,284	$ 305,901	$ 307,626	$ 307,626	$ 307,626	$ 328,901	$ 328,901	$ 328,901	$ 328,901	$ 350,580	$ 423,285	$ 423,285	$ 423,285	$ 427,770
Annual Cost of Ownership	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FCI	24.27%	24.61%	30.69%	30.87%	30.87%	30.87%	33.00%	33.00%	33.00%	33.00%	35.18%	42.47%	42.47%	42.47%	42.92%

Capital Management Engineering Limited

Fire Station 53 Terence Bay
Cash Flow Summary Output Sheet - Including Efficiency Projects

Fire Station 53 Terence Bay	Year 1 2013	Year 2 2014	Year 3 2015	Year 4 2016	Year 5 2017	Year 6 2018	Year 7 2019	Year 8 2020	Year 9 2021	Year 10 2022
Site Work (Category 1)	$ -	$ 7,500	$ 13,373	$ -	$ -	$ -	$ 44,577	$ -	$ -	$ -
Architecture, Exterior (Category 2)	$ -	$ 15,000	$ 2,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Roof (Category 3)	$ -	$ -	$ -	$ -	$ -	$ 76,908	$ -	$ -	$ -	$ -
Structure (Category 4)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Architecture, Interior (Category 5)	$ -	$ -	$ 3,000	$ 20,784	$ -	$ -	$ 5,500	$ -	$ -	$ -
Mechanical (Category 6)	$ 1,500	$ 3,500	$ -	$ 3,968	$ -	$ -	$ -	$ -	$ -	$ -
Electrical (Category 7)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Life Safety / Fire Suppression (Category 8)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Specialty Systems (Category 9)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Capital Replacements	$ 9,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL for Fire Station 53 Terence Bay	$ 10,500	$ 26,000	$ 19,273	$ 24,752	$ -	$ 76,908	$ 50,077	$ -	$ -	$ -

Facility Condition Calculation Output Sheet - Including Efficiency Projects

Fire Station 53 Terence Bay	Year 1 2013	Year 2 2014	Year 3 2015	Year 4 2016	Year 5 2017	Year 6 2018	Year 7 2019	Year 8 2020	Year 9 2021	Year 10 2022
Balance Carried from Previous Year	$ -	$ 11,413	$ 40,651	$ 62,153	$ 89,956	$ 89,294	$ 177,076	$ 234,003	$ 233,341	$ 232,679
Anticipated Annual Recap Requirement	$ 10,500	$ 26,000	$ 19,273	$ 24,752	$ -	$ 76,908	$ 50,077	$ -	$ -	$ -
Soft Costs	$ 1,575	$ 3,900	$ 2,891	$ 3,713	$ -	$ 11,536	$ 7,512	$ -	$ -	$ -
Total Anticipated Requirements	$ 12,075	$ 41,313	$ 62,815	$ 90,618	$ 89,956	$ 177,738	$ 234,665	$ 234,003	$ 233,341	$ 232,679
Capital Funding	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Operations Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Operational Savings	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662
Loan Payments	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Building Replacement Value	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625
Amount of Deferred Maintenance	$ 11,413	$ 40,651	$ 62,153	$ 89,956	$ 89,294	$ 177,076	$ 234,003	$ 233,341	$ 232,679	$ 232,017
Annual Cost of Ownership	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)
FCI	1.15%	4.08%	6.24%	9.03%	8.96%	17.77%	23.48%	23.41%	23.35%	23.28%

Fire Station 53 Terence Bay
Cash Flow Summary Output Sheet - Including Efficiency Projects

Fire Station 53 Terence Bay	Year 11 2023	Year 12 2024	Year 13 2025	Year 14 2026	Year 15 2027	Year 16 2028	Year 17 2029	Year 18 2030	Year 19 2031	Year 20 2032	Year 21 2033	Year 22 2034	Year 23 2035	Year 24 2036	Year 25 2037
Site Work (Category 1)	$ 1,740	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 63,221	$ -	$ -	$ -
Architecture, Exterior (Category 2)	$ -	$ 2,961	$ 24,920	$ -	$ -	$ -	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Roof (Category 3)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,852	$ -	$ -	$ -	$ -
Structure (Category 4)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Architecture, Interior (Category 5)	$ 4,399	$ -	$ 13,428	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Mechanical (Category 6)	$ -	$ -	$ 14,362	$ 1,500	$ -	$ -	$ 3,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electrical (Category 7)	$ 4,180	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,900
Life Safety / Fire Suppression (Category 8)	$ 1,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Specialty Systems (Category 9)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Capital Replacements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL for Fire Station 53 Terence Bay	$ 11,820	$ 2,961	$ 52,710	$ 1,500	$ -	$ -	$ 18,500	$ -	$ -	$ -	$ 18,852	$ 63,221	$ -	$ -	$ 3,900

Fac Facility Condition Calculation Output Sheet - Including Efficiency Projects

Fire Station 53 Terence Bay	Year 11 2023	Year 12 2024	Year 13 2025	Year 14 2026	Year 15 2027	Year 16 2028	Year 17 2029	Year 18 2030	Year 19 2031	Year 20 2032	Year 21 2033	Year 22 2034	Year 23 2035	Year 24 2036	Year 25 2037
Balance Carried from Previous Year	$ 232,017	$ 244,947	$ 247,690	$ 307,645	$ 308,708	$ 308,046	$ 307,384	$ 327,997	$ 327,335	$ 326,673	$ 326,011	$ 347,029	$ 419,072	$ 418,410	$ 417,748
Anticipated Annual Recap Requirement	$ 11,820	$ 2,961	$ 52,710	$ 1,500	$ -	$ -	$ 18,500	$ -	$ -	$ -	$ 18,852	$ 63,221	$ -	$ -	$ 3,900
Soft Costs	$ 1,773	$ 444	$ 7,906	$ 225	$ -	$ -	$ 2,775	$ -	$ -	$ -	$ 2,828	$ 9,483	$ -	$ -	$ 585
Total Anticipated Requirements	$ 245,609	$ 248,352	$ 308,307	$ 309,370	$ 308,708	$ 308,046	$ 328,659	$ 327,997	$ 327,335	$ 326,673	$ 347,691	$ 419,733	$ 419,072	$ 418,410	$ 422,233
Capital Funding	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Operations Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Operational Savings	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662	$ 662
Loan Payments	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Building Replacement Value	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625	$ 996,625
Amount of Deferred Maintenance	$ 244,947	$ 247,690	$ 307,645	$ 308,708	$ 308,046	$ 307,384	$ 327,997	$ 327,335	$ 326,673	$ 326,011	$ 347,029	$ 419,072	$ 418,410	$ 417,748	$ 421,571
Annual Cost of Ownership	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)	$ (662)
FCI	24.58%	24.85%	30.87%	30.98%	30.91%	30.84%	32.91%	32.84%	32.78%	32.71%	34.82%	42.05%	41.98%	41.92%	42.30%

Appendix B - Photo Log

Photo 1: Fire Station 53, Halifax, Nova Scotia, South-West (Front) Elevation

Photo 2: North-West Elevation

Photo 3: Patched Asphalt Access Area and Surrounding Landscape at Front of Building

Photo 4: Asphalt to Gravel Transition to Rear Building Gravel Parking and Storage Sheds

Photo 5: Storage Sheds located South-East of Building

Photo 6: Gravel Parking at Rear of Building

Photo 7: Sloped Rolled Bitumen Roof

Photo 8: Apparatus Bay Finishes

Photo 9: Community Centre Meeting Room Finishes

Photo 10: Typical Kitchen Finishes

Photo 11: Typical Washroom Finishes

Photo 12: Sample of Electric Baseboard Heater

Photo 13: Domestic Water Service Equipment (Pressure Tank)

Photo 14: Sampling of Domestic Water Treatment Equipment

Photo 15: Sampling of Domestic Water Treatment Equipment

Photo 16: Domestic Water Heater

Photo 17: Sampling of Domestic Plumbing Fixtures

Photo 18: Sampling of Domestic Water and Sanitary Drainage Piping

Photo 19: Electrical Transfer Switch for Plug In Portable Generator

Photo 20: Sylvania Main Disconnect Rated for 200A 120/240V

Photo 21: Portable Air Compressor

Photo 22: Fire Alarm Bell

Photo 23: Exit Lighting With Emergency Battery Pack Backup Lighting

Photo 24: Fire Extinguisher

Appendix C – HRM Building Forms

BUILDING - SITE CONDITION ASSESSMENT (PAGE 1)

HRM Building ID: 127

Building of Interest:

Building Name: Fire Station #53 Terrence Bay / Prospect #2 with Community Centre

Also Known As: PID: 00481259

Civic #: 80 Street: Sandy Cove Road

Community: Terrence Bay Postal Code:

Urban ☐ Suburban ☐ Rural ☐

Trees:

Hardwood: 0 Good ☐ Okay ☐ Poor ☐

Softwood: 0 Good ☐ Okay ☐ Poor ☐

Shrubs/Bushes: Good ☐ Okay ☐ Poor ☐

Flowers & Plantings: Approximate SqFt: Condition: Good ☐ Okay ☐ Poor ☐

Landscaping: Description: Asphalt Paving, Gravel Areas, Grass and Scrub Grass Areas Condition: Good ☐ Okay ☐ Poor ■

Parking Lot / Driveway:

Section	Location	Area (SqFt)	# Catch Basins	Curb Material	Deficiency	Priority	Notes
1	West Apron	6400	0	None	1, 3		Asphalt Paving
2	North Driveway	1200	0	None	4		Gravel
3	East Parking	9000	0	Partial Boulders	4		Gravel Area
4	South Driveway	1200	0	None	4		Gravel
5							
6							

Deficiencies: 1. Heavily Patched 2. Aligatoring 3. Fissures 4. Bumps & Pot Holes 5. Broken / Missing Curbs

Parking Spots: 30+/- Condition of Pavement Markings: Good ☐ Okay ☐ Poor ☐

Sidewalks:

Section	Location	Area (SqFt)	Material	Deficiency	Priority	Notes
1						
2						
3						

BUILDING - SITE CONDITION ASSESSMENT (PAGE 2)

HRM Building ID: 127

Lighting: # Poles: 0 | # Lights: 5 | Notes: 5 Building Mounted Lights

Fencing:

Section	Length	Type				Notes
1		Wood ☐	Chain Link ☐	Other		
2		Wood ☐	Chain Link ☐	Other		
3		Wood ☐	Chain Link ☐	Other		

Sheds:

Shed	Size	Material	Notes
1	8'x12'	Wood	South of Building
2	8'x12'	Wood	South of Building
3			

Other Features: (Check Applicable)

- Skate Park ☐ | Basketball ☐ | Playground ☐
- Playground Equipment: Play Structure ☐ | Basic Equipment ☐ | Estimated Value:
- Sports Field ☐ | Bleachers ☐ | Dugouts ☐
- Pond ☐ | River/Lake ☐ | Swimming Pool ☐
- Other: Horseshoe Pits | Other: | Other:

Site Exposures: (Provide photos for each)

North Side	Neighbouring Property	Distance Away	20'
South Side	Field	Distance Away	20'
East Side	Back Road	Distance Away	135'
West Side	Sandy Cove Road	Distance Away	85'

Notes & Observations:

Assessed By: CMEL

Date: 20 February 2013

BUILDING - GENERAL ASSESSMENT (PAGE 1)

HRM Building ID: 127

Building of Interest:

Building Name: Fire Station #53 Terrence Bay / Prospect #2 with Community Centre
Also Known As:
PID: 00481259
Civic #: 80
Street: Sandy Cove Road
Community: Terrence Bay
Postal Code:

Replacement Cost:

Building Cost: $ 996,625
Additional Fixed Improvement Cost: $
Total Replacement Cost: $ 996,625

Basic Characteristics:

Year of Construction: 1957
(or) Estimated Age:
Floors Above Ground: 1
Floors Below Ground: 0
Total # Floors: 1

Floor	SqFt	Notes
5+		
4		
3		
2		
1 (Ground Level)	4720+/-	Apparatus Bay, Offices, Utility, Community Centre
B1		
B2+		

Total SqFt: 4720+/-

Elevators: 0
Are Certificates Up To Date? Yes ☐ No ☐
Notes:
Heritage Property? Yes ☐ No ■
Heritage #:

Construction:

Roof: *(see Roofing Assessment Form)*

Foundation:	Slab ■	Pile ☐	Crawl Space ☐	T-Shaped ■	Other		Notes	Assumed
Material:	Wood ☐	Concrete ■	Cement Block ☐	Stone ☐	Other		Notes	
Interior Walls:	Wood ■	Metal ☐	Concrete ☐	Stone ☐	Other		Notes	Assumed
Insulation:	Fibreglass ☐	Plastic (polystyrene) ☐		Unknown ■	Other		Notes	
Exterior Walls:	Wood ■	Metal ☐	Concrete ☐	Stone ☐	Other		Notes	Assumed; Brick and Vi
Insulation:	Fibreglass ☐	Plastic (polystyrene) ☐		Unknown ■	Other		Notes	
Floors:	Wood ☐	Metal ☐	Concrete ■	Stone ☐	Other		Notes	
Windows:	Single Glazed ☐		Double Glazed ■		Other		Notes	Horiz. Sliders

BUILDING - GENERAL ASSESSMENT (PAGE 2)

HRM Building ID: 127

Building Additions:

Addition	Location	Area (SqFt)	Date of Addition	Description of Space
1				
2				
3				
4				

Estimated Value of Additions

Occupancy:

Ownership / Usage: HRM Owned/HRM Occupied ☐ HRM Owned/Rented or Leased ☐ Rented or Leased ☐

☐ Correctional		%	☐ Museum		%	☐ Residential		%
■ Fire Station	50	%	☐ Art Gallery		%	☐ Retail		%
☐ Police Station		%	☐ Bus Terminal		%	☐ Offices		%
☐ Library		%	☐ Ferry Terminal		%	☐ Manufacturing		%
☐ School		%	☐ Maintenance Depot		%	☐ Salt Dome		%
■ Community Centre	50	%	☐ Recycling Facility		%	☐ Storage		%
☐ Event Centre		%	☐ Composting Facility		%	☐ Parking Structure		%
☐ Recreation Facility		%	☐ Waste Facility		%	☐ Vacant		%
☐		%	☐		%	☐		%

Are there flammable liquids used on site? Yes ■ No ☐ Notes: Fuel for Portable Generator

Is smoking permitted inside the building? Yes ☐ No ☐

Are there any sleeping quarters? Yes ☐ No ■ Are they used? Yes ☐ No ☐ By whom?

Does the building include: Daycare ☐ Eldercare ☐ Before/After School Program ☐

Bar - Full Time ☐ Bar - Occasional ■ Arena ☐

Protection:

Water Supply: Well ☐ City ☐ Cistern (non P) ☐

Are Automatic Sprinklers Present? Yes ☐ No ■ Percentage of Building: %

Are Heat/Smoke Detectors Present? Yes ☐ No ☐ Wired ☐ Battery ☐ Percentage of Building: %

Are the Sprinkler/Heat/Smoke Alarms Monitored? Yes ☐ No ☐ By Whom?

Distance to Nearest Fire Station/Hall: 0 Is it a Volunteer Dept? Yes ☐ No ☐

Is there a Fire Hydrant(s) Within 250 feet of Building? Yes ☐ No ■

Are Fire Extinguishers Present Throughout? Yes ■ No ☐ How Many? Certificates Up To Date? Yes ■ No ☐

Is there a Burglary Alarm? Yes ☐ No ☐ Monitored? Yes ☐ No ☐ By Whom?

Burglary Alarm Is: Wired ☐ Battery ☐

Is there a Generator? Yes ■ No ☐ Is the Generator: Wired ☐ On Site ☐

Are there Security Cameras? Yes ☐ No ☐ Monitored? Yes ☐ No ☐ By Whom?

Is there a Watchman Service? Yes ☐ No ☐ Monitored? Yes ☐ No ☐ By Whom?

BUILDING - GENERAL ASSESSMENT (PAGE 3)

HRM Building ID: 127

Septic/Sewer: Underground Septic Storage ☐ Septic Field/Bed ☐ Municipal Service ☐ Notes

UST Info:

Does the Property Operate Underground Storage Tanks (USTs)? Yes ☐ No ■

Has the Property Operated USTs in the Past? Yes ☐ No ☐

Tank	Size	Is the Tank:		Contents	Age	Material
1		Active ☐	Inactive ☐			
2		Active ☐	Inactive ☐			
3		Active ☐	Inactive ☐			

Are UST Inventory Records Maintained? Yes ☐ No ☐ Where are they Stored?

Is Tank Upgrade/Testing Info Available? Yes ☐ No ☐ Where is it Stored?

Do Tank Removal Reports Exist? Yes ☐ No ☐ Where are they Stored?

Was Remediation ever Required at these Tanks? Yes ☐ No ☐

Have there been any Reports of Leaks or Spills? Yes ☐ No ☐

Any Leaks or Spills When the Tank was Removed? Yes ☐ No ☐

AST Info:

Does the Property Operate Above Ground Storage Tanks (ASTs) Yes ☐ No ■

Has the Property Operated ASTs in the Past? Yes ■ No ☐

Is the AST Located Inside or Outside the Building? Inside ☐ Outside ☐

Tank	Size	Is the Tank:		Contents	Age	Material
1		Active ☐	Inactive ☐			
2		Active ☐	Inactive ☐			
3		Active ☐	Inactive ☐			

Are AST Inventory Records Maintained? Yes ☐ No ☐ Where are they Stored?

Is Tank Upgrade/Testing Info Available? Yes ☐ No ☐ Where is it Stored?

Are there any Reported or Documented Records of Release, Spills or Remedial History Yes ■ No ☐

Are there any Signs of Spillage Related to the AST? Yes ☐ No ☐

Are ASTs Protected from Vehicular Impact? Yes ☐ No ☐

Notes & Observations:

Assessed By: CMEL

Date: 20 February 2013

BUILDING - MECHANICAL EQUIPMENT ASSESSMENT (PAGE 1)

HRM Building ID: 127

Building of Interest:

Building Name: Fire Station #53 Terrence Bay / Prospect #2 with Community Centre
Also Known As:
PID: 00481259
Civic #: 80
Street:
Community: Terrence Bay
Postal Code:

Energy Source:

Furnace Oil ☐ Heavy Oil ☐ Propane ☐ Electric ■ Natural Gas ☐ Geothermal ☐
Other:
Notes:

Heating Units:

Unit	HP	Fuel	Manufacturer	Age	Notes
1					
2					
3					
4					

% Building Served By:

HW Radiators	%	Steam Radiators	%	Electric	100 %
HW Baseboard Radiators	%	In-Floor Heat	%	Hot Air	%
Geothermal	%		%		%

Cooling Units:

Unit	Tons	Manufacturer	VFD	Model	Year	DX	CW	Tower
1			☐			☐	☐	☐
2			☐			☐	☐	☐
3			☐			☐	☐	☐
4			☐			☐	☐	☐

Window Units #:

Ventilation - Central, Exhaust, Kitchen Units:

AHU#	Manufacturer	VFD	Cooling?	Heating?	Model	Year	Cfm @ Pressure	Heat Recovery	Humidity
1		☐	☐	☐					☐
2		☐	☐	☐					☐
3		☐	☐	☐					☐
4		☐	☐	☐					☐
5		☐	☐	☐					☐
6		☐	☐	☐					☐

BUILDING - MECHANICAL EQUIPMENT ASSESSMENT (PAGE 2)

HRM Building ID: 127

Exterior Grills/Louvers:

#	Condition
1	
2	
3	
4	

Water:

Domestic HW Tank 1: Age: 2009 Size: 170Litres
Source of Heat: Electric

Domestic HW Tank 2: Age: Size:
Source of Heat:

Domestic HW Tank 3: Age: Size:
Source of Heat:

Domestic HW Tank 4: Age: Size:
Source of Heat:

Number of Heat Pumps: Notes

Number of Washrooms: Male 1 Female 1 Unisex
Toilets Urinals Waterless WC Showers Sinks

Kitchen:

Are there Kitchen Facilities? Yes ■ No ☐

Does it Contain a Fryer? Yes ☐ No ☑ Stove? Yes ☑ No ☐

Major Equipment:

#	Equipment	Fuel Source	#	Equipment	Fuel Source
1	Range Stove	Electric	11		
2	Fridge	Electric	12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

BUILDING - MECHANICAL EQUIPMENT ASSESSMENT (PAGE 3)

HRM Building ID: 127

Air Compressors:

#	Manufacturer	Notes
1		
2		
3		
4		

Sprinkler Pumps: Number: HP:

Sprinkler: Wet ☐ Dry ☐ Stand Pipes:

Specialized Equipment (Fire Dept, Rink, Pool, Etc):

Notes & Observations:

Assessed By: CMEL **Date:** 20 February 2013

BUILDING - ROOFING ASSESSMENT (PAGE 1)

HRM Building ID: 127

Building of Interest:

Building Name: Fire Station #53 Terrence Bay / Prospect #2 with Community Centre

Also Known As: | PID: 00481259

Civic #: 80 | Street: Sandy Cove Road

Community: Terrence Bay | Postal Code:

Access: Roof Access: Ladder ☐ Stairs ☐ Others: No On Site Access

Roof Sections:

Section	Slope	SqFt	Age	Type	Condition (Good/Okay/Poor)	Repairs (None/Some/Many)	Parapet Height	Parapet Condition (Good/Okay/Poor)
1	4:12	1820+/-		Sloped Asphalt Shingles	G ☐ O ☐ P ☐			G ☐ O ☐ P ☐
2	4:12	3060+/-		Sloped Asphalt Shingles	G ☐ O ☐ P ☐			G ☐ O ☐ P ☐
3					G ☐ O ☐ P ☐			G ☐ O ☐ P ☐
4					G ☐ O ☐ P ☐			G ☐ O ☐ P ☐
5					G ☐ O ☐ P ☐			G ☐ O ☐ P ☐
6					G ☐ O ☐ P ☐			G ☐ O ☐ P ☐
7					G ☐ O ☐ P ☐			G ☐ O ☐ P ☐
8					G ☐ O ☐ P ☐			G ☐ O ☐ P ☐
9					G ☐ O ☐ P ☐			G ☐ O ☐ P ☐
10					G ☐ O ☐ P ☐			G ☐ O ☐ P ☐

Penetrations & Accessories:

Section	Plumbing Vent Stacks	HVAC	Drains	Curbs	Electrical	Scuppers	Ladders	Other
1		2						
2	2	2			1			
3								
4								
5								
6								
7								
8								
9								
10								

Notes:

BUILDING - ROOFING ASSESSMENT (PAGE 2)

HRM Building ID: 127

Deficiencies:

Section	SqFt	Deficiencies	Notes
1		Shingles Missing ☐ Cracks ☐ Bad Flashing ☐ Bubbles/Blisters ☐ Delamination ☐	
2		Shingles Missing ☐ Cracks ☐ Bad Flashing ☐ Bubbles/Blisters ☐ Delamination ☐	
3		Shingles Missing ☐ Cracks ☐ Bad Flashing ☐ Bubbles/Blisters ☐ Delamination ☐	
4		Shingles Missing ☐ Cracks ☐ Bad Flashing ☐ Bubbles/Blisters ☐ Delamination ☐	
5		Shingles Missing ☐ Cracks ☐ Bad Flashing ☐ Bubbles/Blisters ☐ Delamination ☐	
6		Shingles Missing ☐ Cracks ☐ Bad Flashing ☐ Bubbles/Blisters ☐ Delamination ☐	
7		Shingles Missing ☐ Cracks ☐ Bad Flashing ☐ Bubbles/Blisters ☐ Delamination ☐	
8		Shingles Missing ☐ Cracks ☐ Bad Flashing ☐ Bubbles/Blisters ☐ Delamination ☐	
9		Shingles Missing ☐ Cracks ☐ Bad Flashing ☐ Bubbles/Blisters ☐ Delamination ☐	
10		Shingles Missing ☐ Cracks ☐ Bad Flashing ☐ Bubbles/Blisters ☐ Delamination ☐	

Skylights:

Roof Section	Size	Notes	Roof Section	Size	Notes

Gutters:

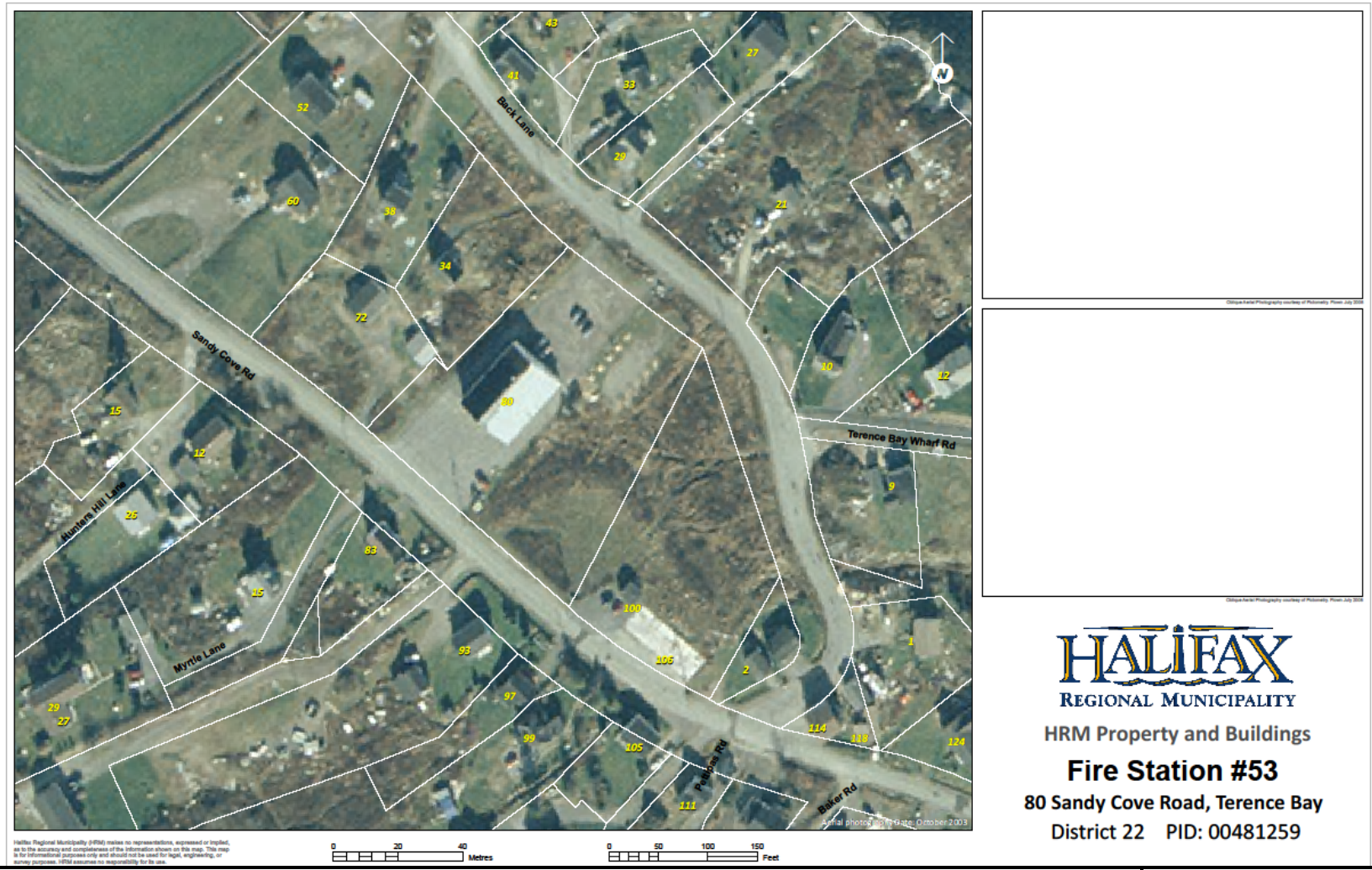
Notes: Both Sloped Sections of Roof Have Gutters and Downspouts

Notes & Observations:

Assessed By: CMEL

Date: 20 February 2013

Appendix D – Aerial & Elevation Photos



HALIFAX
REGIONAL MUNICIPALITY

HRM Property and Buildings

Fire Station #53

80 Sandy Cove Road, Terence Bay

District 22 PID: 00481259

Aerial Photo. Provided by HRM	Date: Nov. 2013

North-West Elevation	Date: Nov. 2013

South-West Elevation	Date: Nov. 2013

South-East Elevation	Date: Nov. 2013

North-East Elevation

Date: Nov. 2013

Appendix E – HRM Design Criteria Check Sheet

The Halifax Regional Municipality has recently implemented a minimum set of design criteria to be incorporated into any future HRM fire stations construction. As part of this Capital Planning and Energy Assessment project it was requested by HRM that the fire stations be reviewed for compliance with respect to the design criteria. The criteria was provided to Capital Management for review prior to completing the site visits and was completed on a best effort basis by the assessors during the site visit. A table of the findings is presented below:

System	Item	Comments
General		
	LEED Silver	No
	Post disaster buildings in accordance with the National Building Code. An effective life cycle of 50 years minimum is expected	Unknown
	All components must be of medium to high standard quality	No
	Apparatus Bay of each facility will accommodate one each of the following	
	Pumper	
	Tanker	
	Tactical Support Unit	
	Utility/Brush Unit	Yes
	Tandem Tanker 36' long x 8'-6" wide x 11'-0" high or if not can the bay support the Tanker	No
	Bay has a 16' free height	No
	Apparatus Bay to have a clear height to underside roof structure of 16'-0" minimum.	No
	The fire stations will **not** be sprinklered	No Sprinkler
Site		
	Building, concrete paved, asphalt paved, graveled areas, landscaped areas & wooded areas.	Building, asphalt paved, graveled areas, grass and scrub grass areas, horseshoe pits.
	Minimum of 30 car parking	Yes

System	Item	Comments
	The face of the building is to be set back a minimum of 45 feet from the property line.	Yes
	Across each fire apparatus bay door is to be a structurally reinforced concrete slab, minimum 45'-0" deep, suitable for fire apparatus loading with a maximum load of 60,000 lbs.	No
	Emergency Generator Concrete Pad and Generator	No
	Flagpole: 30'-0" high in front of the building	No
Windows and Doors		
	Windows, vinyl construction, double glazed	Windows, vinyl construction, double glazed
	Roller blinds on all windows	No
	Exterior Doors, Frames and Hardware, insulated 16 ga. face panel hollow metal doors in thermally broken 16 ga. pressed steel door frames	Unknown
	Interior Doors, Frames and Hardware: All interior doors are to be hollow metal 16 ga. face panel doors in 16 ga. pressed steel frames, primed and painted	Unknown
	Overhead doors Min of 14'x14'	No
	Overhead doors 2" thick panels	
	Bay door is to have a standard heavy duty open / stop / close pushbutton station located on the driver's side of the door,	
	A remote control for each O/H door is to be provided.	
	Solar energy collection panels	No
	Apparatus Bay and PPE Storage is to be heated with in-floor radiant heat	No
	Supplemental heating will be required at entrances and at the Apparatus Bay overhead doors	No
Ventilation		
	Exhaust fan and duct systems are to be provided for washrooms, locker rooms, janitor closet, residential style kitchen hood	
	Fire truck exhaust extraction system (overhead rail system) for all apparatus bays, four (4) total	0

System	Item	Comments
	Air Conditioning all living/working areas	No
Plumbing		
	Wastewater separator trench drains to be provided under each apparatus,	No
	Plumbing fixtures are to be water conserving, commercial grade. Water closets are to be conserving low volume flush. Urinals are to be ultra low flush valve (0.5 litre) type	No
Electrical		
	Main electrical service, in separate electrical room with a 25% overcapacity for future use	
	Underground Service from street to main electrical room	No
	Lighting activated by motion sensor	
	Apparatus Bay - Multiple light levels and controllers	
	Watch Desk - 3 light levels	
	Training Room - two light levels	
	Exterior Lighting - HID Metal Halide wall mounted lighting at each man and overhead door	Yes
Security		
	CCTV	
	Security Alarms	
	Public Address System	
Furniture, Fittings & Equipment		
	Loose office furniture, file cabinets, work stations, tables and chairs.	Yes
	Bedroom furniture	No
	Fridges, stove and microwaves	Yes

System	Item	Comments
	Clothes washer and dryer	No
	Televisions	Yes
	Fitness Equipment	No
	Computers, servers and IT equipment	
	Overhead projector	
	Radio equipment	
	Compressor & Cascade Air System	
	BA fill station	No
	Storage racks for Fire-fighter gear in PPE Storage	

Appendix F – Floor Plans