
Carleton Condominium Corporation

No.498

Property Manager:

Anne Makuch, Capital Integral Property Management

Phone: (613) 722-1232 Fax: (613) 651-0306

Email: amakuch@cimanagement.ca

MANAGEMENT REPORT

prepared for the MEETING OF THE BOARD OF DIRECTORS

Board Room - 40 Landry - March 18, 2019 - 6:30 p.m.

- ▶ AGENDA
- ▶ MANAGEMENT REPORT/ACTION ITEM LIST
- ▶ ANNUAL SCHEDULE
- ▶ MINUTES OF PREVIOUS MEETING
- ▶ FINANCIAL STATEMENTS
- ▶ STATUS CERTIFICATE
- ▶ CORRESPONDENCE

AGENDA

- 1. Call to order**
- 2. Depreciating Asset Study**
 - Presentation from Maurice Quinn, Capacity Engineering Limited
- 3. Acceptance of Financial Statements (February Statements will be available March 20)**
- 4. Management Report**
- 5. Approval of Previous Minutes (February 25, 2019)**
- 6. Ratification of Decisions Made Between Meetings**
- 7. New business**
 - a) Bicycle storage - resident request
- 8. Review of Latest Status Certificate**
- 9. Garage Column repair Project**
- 10. Other Business**
- 11. Adjournment**

2019 ANNUAL SCHEDULE

JANUARY

Audit Prep

FEBRUARY

Audit FYE December 31st

MARCH

Secure Landscaping Contract

Secure Insurance Renewal (Atrens-Counsel Insurance Broker - May 20, 2019)

APRIL

Inspect Winter Damage

Pre-AGM Notice mailed/AGM Package mailed

MAY

AGM

Spring Inspection/Commence Spring Repairs

Sweep Parking / Garage Cleaning

Carpet Cleaning

Window Cleaning

JUNE/JULY

Continue Spring/Summer Repairs

AUGUST

Secure Winter Snow Removal Contract

SEPTEMBER

Budget discussion

Window Cleaning

OCTOBER

Garage Cleaning

Winterize Property

NOVEMBER

Create Draft Budget/approve/mail

DECEMBER

Decorations

Holiday Event

C.C.C. 498

MANAGEMENT REPORT

March 14, 2019

Maintenance issues:

- Toronto-based Rismat representative at building to assess winter mats needs - awaiting quote.
- Leak on 17th floor is coming from roof - met with Roof Maintenance Solutions and reviewed roof however, must be further assessed in warmer weather when roof is clear - complicated roofing system to repair.
- We have requested quotes for the repair/replacement of the defective hydro vault switch but have not yet received them. Additional electrical contractor has been approached for a quote.
- The second handrail for the pool was installed.
- Annual fire inspection deficiency repairs to begin March 15.
- Quote for EMF quoting and one other possible solution (see attachment)
- Looking for new contractor for fob system
- Cleaning-up of Enterphone data information by end of March
- Notice placed in back of building for lockbox clean-up with warning that removal will take place March 31.
- Duron contract signed and sent to WSP March 8th.
- OMS attended after-hours for a reported leak in bathroom of 104 and found that water was coming from the shower of unit - poor caulking. OMS advised owner to have a handyman repair the shower. While handyman was onsite, with Joe, he discovered an additional leak from the cold water pipe junction.
- Hallway HVAC unit requires repair again as drain has been stuck by debris. Repair approved however management is looking for additional contractor for future maintenance and repair.
- P.O. for refueling of generator has been sent.
- Old leak stain at ceiling of 16th floor to be repaired (work order sent)

Administrative issues:

- Accounting confirmed most parking reimbursement payments have been paid however a couple were held back due to missing EFT information in order to deposit.
- Asbestos Management Plan and Designated Substance Survey - Two quotes obtained from Kanellos Consulting and Pinchin Environmental. Awaiting 1 more from DST Consulting.
- Quotes obtained for Reserve Fund Study. Capacity Engineering will present proposal on Depreciating Asset Study at the March Board meeting.

- Discrepancy issue with Budget notice sent by previous management company, the fee schedule and the 1.94% condo fee increase stated - Reimbursements to be subtracted from April 1 condo fees due. Notice to owners will be sent prior.
- Owner with advertised AirBnB was notified that ad must be removed. Ad was removed.
- Owner with non-resident car parked in garage was advised by email and hard copy notice that car must be removed by March 31 or will be towed.
- Coinamatic contract is up for renewal and they are asking if any changes are requested (more info available at Board meeting.)
- Searching for replacement for Poolworks and once this has been determined, contract can be terminated with notice.
- Financial Audit commenced March 8 and all information provided to the auditor who conducted the audit at CIPM offices.
- Contacted Flo and Envari for electric vehicle and charging station information and site evaluation - further information to come for April meeting. Also contacted Ainger.
- Capital Systems approached regarding additional monitoring of garage parking - awaiting proposal.
- Debbie Grant is away unexpectedly from March 18 to the 29 due to family matters. Arranging for a replacement through Allen Maintenance.
- Locker fee: Locker fee: 103, 104 & 911 not paying. 104 & 911 have both given reasons and both were approved by Axia before

CCC 498

Reserve Fund Study Update with Site Review - Bids

Company	RFS Cost	Meeting w/Board	Notes
WSP	\$8,500+ HST	1 Included	Completed the RFS Update without site review in 2016. WSP was involved in recent garage repairs and upcoming repairs. The final RFS would be submitted with a Form 15
Keller	\$6,600+ HST	1 Included	Would do a detailed examination of elevators for an additional \$1050 and would include the findings and recommendations in the RFS. The final RFS would be submitted including a Form 15
Exp	\$8,200 + HST	2 Included	Would do a detailed examination of elevators for additional \$1200. Preparation of a Form 15 would be an additional \$300
Capacity Engineering	\$7,800 + HST \$27,480 + HST	2 included	This is for a regular Reserve Fund Study with site review. Would provide detailed examination of elevators for an extra \$1250. Disbursements are extra. This is for a Depreciating Asset Study inclusive of a RFS. Disbursements are extra.



904 Lady Ellen Pl.
Ottawa, ON
K1Z 5L5
T. 1-613-722-1232
F. 1-613-651-0306

www.cimangement.ca

CCC 498

February 20, 2019

Reason for Documentation:

To examine bids and recommend an engineering firm to complete a Reserve Fund Study Update with site review for the condo corporation.

Scope of Work:

To review the Reserve Fund Study complete by WSP in 2016 in order to produce a Reserve Fund Study Update (with site review) for the corporation as required by the Condominium Act.

Summary of Findings:

We had four engineering firms provide bids. They are: WSP, the firm that completed the Reserve Fund Study (without site review) in 2016; Keller Engineering; Exp; and Capacity Engineering which is mainly providing a proposal for a Depreciating Asset Study (inclusive of an RFS). All quotes included provide the issuance of a draft report, meeting with the Board, the issuance of the final Reserve Fund Study Update. Keller was the lowest quoted at \$6600 and WSP was the highest quoted at \$8500 for a regular RFS with site review. The property manager has worked with both Keller Engineering and is familiar with their RFS format which is quite detailed and well done. The property manager has not had experience with the other firms except management has had experience with Capacity Engineering who did a depreciating asset study on a property it manages and found it to be extremely thorough and detailed.

Summary of Pricing and Details:

Please see Quotes Sheet.

Recommendation:

If the Board simply wants to undertake a regular reserve fund study as mandated by the Condominium Act, management recommends accepting Keller Engineering's quote as the RFS they produce is of good quality for a standard RFS. If the Board has the appetite, funds and willing to undertake a Depreciating Asset Study, management believes it is good value, with the understanding that it is a fair amount more in cost to undertake such a study as there would also be disbursement costs as indicated and outlined in the CEL proposal.



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www.celottawa.ca

**148 Wharhol Private
Ottawa, ON K2H 1G5
613-325-7735**

Capital Integral Property Management
904 Lady Ellen Pl.,
Ottawa, ON K1Z 5L5

13 February 2019

Attn: Condo Board, 40 Landry c/o Anne Makuch, Property Manager

**Re: Depreciating Asset Study inclusive of Class 1 Reserve Fund Study –
Comprehensive with Site Visit**

Location: 40 Landry Street, Ottawa

Executive Summary

We are pleased to offer our services in respect to the condition assessment and ongoing maintenance of your condominium. This document outlines various details regarding our services, and should assist you in making the decision to hire our firm. Please note that what we are proposing is not simply the production of a legal minimum Comprehensive Reserve Fund Study (RFS), but rather a full maintenance and condition assessment report for your structure. We call this report a Depreciating Asset Study with RFS (DAS-RFS). The resulting report will include pertinent information about your full asset; a list of elements specified and installed during construction and renovation, their age, their condition, life expectancy, maintenance and/or replacement costs, best practices for maintaining them in serviceable condition, and a detailed accounting of costs to maintain your facility.

We propose to send several teams to your site for between one and two days of on site verification at a time, several times over the course of three months. Thereafter our report will take two to three months to coordinate and prepare. We use a combination of Professional Engineers, Licensed Technicians, and Technologists in order to carry out an RFS engagement, and in the case of DAS-RFS we partner with other specialists (including Electrical Engineers, Mechanical Engineers, Fire Engineers, Electricians, Building Technicians and Technologists as appropriate and a Building Envelope Specialist, or an Architect).



Proposal & Discussion

Purpose:

Our team will begin with a full review of all construction documentation in order to plan a comprehensive site assessment approach. Thereafter we will produce a detailed schedule (refer to model schedule in the Appendix), attend to site as is convenient for and agreed with the client, review all accessible areas and assess all equipment for condition and age in an effort to predict the remaining reliable service life. This culminates in the production of a document to facilitate your maintenance and operations, as well as enabling you to better engage in planning and develop appropriate financial reserves.

Scope:

All equipment, the building envelope, mechanical, electrical, plumbing, operational and functional equipment as well as grounds and hard surfaces will be assessed and included. *Rather than limiting our component inventory to items with replacement costs not less than \$500 (the legal RFS minimum), our inventory is determined based on the impact that a loss would have, which can include small and inexpensive components such as schrader valves. Adjusted construction and maintenance costs will be used in the preparation of a master maintenance budget going forward, inclusive of a risk analysis and probabilistic approach with respect to the required contributions to the reserve fund versus future special assessments (used to address low-risk, high-impact costs only, such as early after-warranty failure of major stationary equipment).*

Codes and Standards:

We will undertake our work to a standard of care which should be expected of a Professional Engineering team faced with a facility of a similar type and condition. We will apply the best practice of the industry, and innovate where we feel this is in your best interest as our client. In our work, we apply many resources. Most important amongst these are:

- [Ontario] Condominium Act, 1998, S.O. 1998, c. 19
- Part IV, Section 29 of O.Reg. 48/01
- "The Building Code " - OBC 2012 && CAN/CSA S478-95 (2007)
- Whole Building Design Guide
- ACI, ATC, and CISC Guidelines for Inspection of Existing Structures



Fundamental Approach; The CEL DAS-RFS Model:

Our fundamental approach to developing a DAS-RFS is to test, witness, investigate and explore in order to *determine* a condition and not to *assume* a condition. Our use of standard values for costs and planned replacement is at a minimum, with the people who actually specify and replace equipment being used to provide the projected maintenance and replacement costs. Where possible, our investigative works also provide best practice maintenance, i.e. we will flush sewer lines and scope them to record condition rather than comment on them by age and a cursory external visual (minimum legal RFS practice).

Maintenance is a matter of balancing two competing interests: Current budget versus Long-Term Durability and Cost. Our approach to this issue is to apply statistical methodology reflecting the client's risk tolerance. We weigh your willingness to risk a future special assessment and tolerance for mechanical breakdown (such as elevators being non-functional for a time, etc) against the cost of maintaining the facility to bring all disruption to an absolute minimum.

Our basic model can be stated as the classic risk formula:

$$\text{Risk} = \text{Impact} \times \text{Likelihood}$$

At no time can the level of risk be allowed to rise above the legal minimum required by law, i.e. with respect to the provincial regulations protecting condominium owners and binding condominium boards to a minimum standard of maintenance. However, such a minimum legal test approach typically does not result in the lowest overall impact. Instead, a minimum contributions model maximizes the probability of the board needing to levy Special Assessments.

Risk Tolerance (RT):

RT is assessed by category:

- A) Mechanical & Electrical
- B) Structural
- C) Architectural/Building Science
- D) Landscaping
- E) Aesthetic

RT is rated as one of five levels:

- 1) Lowest
- 2) Low
- 3) Modest
- 4) High
- 5) Maximum (as permitted by law)

NOTE: Aesthetic risk is used primarily to inform the cost of lifecycle renovations; i.e. where Aesthetic is very low, paint and other finishes are to be of the highest quality, thus increasing the cost and frequency of renovations.



Condition table:

* As-Built/New

9 Exceptional

8 Excellent

7 Very Good

6 Good

5 Serviceable (the lowest rating not requiring immediate maintenance)

4 Functional

3 Poor

2 Very Poor (level at which replacement is likeliest option, but not only option)

1 Replace

0 Absent (ie: Equipment required by law or for best practice, but not present)

Formulae:

$$AC \cdot U = \frac{CoR \times PoF}{YoLR \times RT \times Con} - C \cdot RFS / (YoLR)$$

$$AC \cdot BM = AC \cdot U \times (YoLR/EL)/PoAE + (AC \cdot BM)$$

Recommendation = Lowest Total Cost of Ownership Option

Contribution = Lowest (AC·U | AC·BM)

Note:

A = Actual Age (Years)

AC·BM = Annualized Cost (Best Maintenance)

AC·U = Annualized Cost (Unavoidable Minimum)

AL = Average Life

C·RFS = Current Reserve Fund Earmarked Dollars

CoR = Cost of Replacement

Con = Condition

EL = Extended Life (with Best Maintenance)

PoAA = Probability of Achieving Average Life

PoAE = Probability of Achieving Extended Life

PoF = Probability of Failure = $PoAA^{-1}$

RT = Risk Tolerance

YoLR = Years of Life Remaining = AL-A



Simplified Examples

1 - Stationary Mechanical Equipment:

Type: Mechanical

Client RT: Low (0.75)

Item: Hot Water Tank

Ownership: Corporation

Age: 5 years

Maintenance to Date: None.

Condition: 5-Serviceable (0.8).

Average Life: 13 Years

Probability of Achieving Average Life: 90%

Extended Life (best maintenance): 20 Years

Annualized cost of Best Maintenance: \$150

Probability of Achieving Extended Life: 50%

Efficiency Replacement: 15 Years

Cost of Replacement: \$2500 (including labour, excluding tax)

Depreciated Value: \$1538

Current RFS Earmarked Amount = \$1250

Contribution to RFS for Replacement:

$$AC \cdot U = \frac{\$2500 \times (0.9)^{-1}}{(13-5) \times 0.75 \times 0.8} - \$1250 / (13-5) = \$422.45$$

$$AC \cdot BM = AC \cdot U \times (13-5/20)/0.5 + (\$150) = \$487.96$$

Thus Recommendation = Minimal Maintenance

Annual RFS Contribution = \$422.45

2 - Underground Parking Garage:

Type: Structural

Client RT: Medium

Item: Tall Structure Two Storey Underground Parking Garage

Ownership: Corporation



Age: 12 years

Maintenance to Date: Minimum.

Condition: 5-Serviceable.

Average Life: 30 Years

Probability of Achieving Average Life: 95%

Extended Life (best maintenance): 50 Years

Annualized cost of Best Maintenance: \$15000

Probability of Achieving Extended Life: 70%

Efficiency Replacement: Never

Cost of Replacement: \$7,500,000 (including labour, excluding tax)

Depreciated Value: \$4,250,000

Contribution to RFS for Replacement:

$$AC \cdot U = \frac{\$7,500,000 \times (0.95)^{-1}}{18 \times 0.8 \times 0.8} - \$500,000/(18) = \$657,529.24$$

$$AC \cdot BM = AC \cdot U \times (18/38)/.7 + (\$15,000) = \$459,944.60$$

Thus Recommendation = Best Maintenance possible

Annual RFS Contribution = \$459,944.60

Outcome: Detailed Maintenance Recommendation Produced

Background/Information To be Provided by Owner:

Following our engagement and prior to beginning work we will require:

- Operating Budget
- Past investigation reports
- Maintenance manuals
- Condo Board Minutes
- Reciprocal easements
- Lease agreements
- Construction Drawings
- Insurance certificate and appraisals
- Fire inspection reports
- Maintenance logs
- Bylaws
- Service agreements
- Previous three Reserve Fund Studies
- As-built Drawings

NB: Where construction drawings and/or as-builts are not available, our firm will look to obtain copies from the City of Ottawa archives. A form will be provided for the Owner's (read: Condo Board President) signature to permit access to the building records, should this become necessary.



Support & Access To be Provided by Owner:

The team must be escorted at all times or, alternatively, the Owner may sign a waiver of liability for any missing or damaged property. A minimum of two escorts are required in order to permit the team to operate as two groups (Structure & Building Envelope, Mechanical & Electrical) on all visits not specifically indicated as being a single team visit.

The Owner shall provide access through all locked doors on the property. Any area not accessible shall be excluded from the report and equipment in those areas will not be evaluated.

Proposed Course of Works:

- Review of the original documentation.
- Meet with the Condo Board to discuss areas of potential concern.
- Meet with the Property Manager on site for initial review and field work planning session.
- Organize field team, give notice as to three possible dates from which the client shall pick a suitable date.
- Attend to site, photograph, evaluate and otherwise assess all accessible and visible equipment and conditions.
- Produce draft report for the client's review.
- Discussion of findings with Property Manager and the Condominium board as well as Owners.
- Produce final report.

Please note that the final report is produced only after our discussions.

Cost of Consultant Team's Studies and Report:

The base cost of our services shall be **\$27,480.00 plus tax and disbursements** for the production of the report. Due to the difficulty of determining the number and duration of site visits required, this base price excludes site visit efforts. Support work by allied professionals, technicians and technologists are hourly disbursements. **Hourly rate work includes all site visits and data input.** Disbursements are billed at cost plus ten percent for DAS-RFS engagements.



Cost of ALTERNATIVE Report – Traditional RFS

Should the client prefer, we are prepared to produce an industry standard Class 1 RFS with site visit (ie: which meets the Condominium Act's minimum legal standard) as an option at as cost of \$7,800.00 plus disbursements and HST. This alternative report will not discuss how best to extend the life of the structure, nor provide any maintenance or operations guidelines and information. Note that in such a case our report is prepared with a small team of Structural or Civil Engineers only and does not have the advantages of a multidisciplinary team. Critically a traditional RFS would not include a specialist Elevator Consultant, which we consider key for a building of your age. We would strongly recommend that where the board considers a traditional RFS, this be inclusive of an additional \$1250.00 plus disbursements, HST, and markup in order to include an Elevator Consultant in our team.

CEL HOURLY RATE TABLE

	Design & Consultation	Site Work	Maintenance Engineering	Fire Engineering	Heritage Works
Principal ¹	\$250.00	\$265.00	\$280.00	\$280.00	\$325.00
Senior Eng	\$200.00	\$220.00	\$240.00	\$240.00	\$290.00
Staff Eng	\$130.00	\$150.00	\$175.00	\$175.00	\$190.00
Technologist	\$115.00	\$125.00	\$150.00	\$150.00	\$165.00

Admin Staff =	\$80.00
Survey Field Team =	\$190.00
Drafter =	\$85.00
Senior Drafter =	\$115.00

· Greyed out portions are not applicable to the engagement.

¹ The bulk of work on most projects is normally carried out by our more junior staff. For example our Principal would usually only be involved in policy decisions; project assessments; report reviews; etc.

Note that the following rates are Disbursements:

Hourly rates for Mechanical and Electrical Engineering are:

Senior Eng \$140.00
Junior Eng \$105.00
Sr. Designer \$105.00

Hourly rate for HVAC Technician (Two to three person team) is \$200.00

Hourly rates for a diagnostic Electrician is \$85.00

Hourly rates for Building Science (Engineers or Architects, as appropriate) are similar to our own rates.



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**148 Wharhol Private
Ottawa, ON K2H 1G5
613-325-7735**

Known Disbursements:

At minimum, we will require the following disbursements:

- Site visits and testing by Consultant Team
- Emergency and/or Backup Generator Test (may avoid w/ recent test record)
- Fire Alarm Test (can avoid w/ recent test records)
- Hi-Resolution Remote Drone Filming of Building Envelope: \$1200
- Plumbing Camera & Triple Cleaning: \$1800 (per main sewer line, typical cost is \$4000 to \$5000 for a multi-storey residential condominium tower with parking structure).

As a matter of course:

- Make no assumptions in your interpretation of this proposal and any site instruction(s) contained herein. Our engineers are happy to assist you with the proper dispatch of work. Direct all queries to the undersigned.
- Our work on the project to date has not been sufficient to be able to offer a client or any other party a professional opinion as to the issues at hand. As such the engineering content and all discussions within this document are offered entirely without responsibility. They are provided solely in an effort to move the project forward and enable our firm to obtain sufficient information with which to be able to provide a professional opinion.



Sincerely,

M.W.Quinn, P.Eng., MIPENZ(Structural), PMP

Note:

- This proposal was prepared for the account of Capital Integral and represents the best judgment of Capacity Engineering Limited given the information available at the time of writing. Any use which a third party makes of this report, or any reliance upon, decisions made in response to or in any way influenced by this report are the responsibility of such third party.
- This document is both confidential and copyright. Should you have received this in error, please return to Capacity Engineering Limited.

2019 02 13

PROPOSAL

Carleton Condominium Corporation No. 498
% Capital Integral Property Management
904 Lady Ellen Place
Ottawa, Ontario
K1Z 5L5

Attention: Ms. Anne Makuch, Condominium Manager

CLASS 2 RESERVE FUND STUDY FOR CARLETON CONDOMINIUM CORPORATION No. 498
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Dear Ms. Makuch:

Following your recent request, Keller Engineering is pleased to submit its quotation of **\$6,600 + HST** for the preparation of a **Class 2 Comprehensive Reserve Fund Study with Site Visit** for **Carleton Condominium Corporation No. 498**.

A detailed examination of the elevator can be performed at an additional cost of **\$1,050 + HST**. The findings and recommendations of this assessment would be included in our Reserve Fund Study.

SCOPE OF THE RESERVE FUND STUDY

The Reserve Fund Study will address all common property elements as per the declaration to be supplied, excluding underground services. The study will deal with architectural, structural, mechanical and electrical elements.

Methodology

Your Reserve Fund Study will be carried out in four phases and in accordance with Section 94 of the Condominium Act, 1998 and associated Regulations. First, our engineers review the building and financial history of your condominium. To do this Keller Engineering will require architectural drawings, past consultants' reports, auditors' reports, and any other pertinent information regarding the condition of the common elements and repairs thereof.

Second, our engineers conduct a detailed visual examination of the common elements to evaluate their current condition and to determine the nature, extent and scheduling of future repair/replacement work. Please note there will be no exploratory testing as part of this Reserve Fund Study. Our proposal is based on the assumption that access will be arranged, and coordinated by the Property Manager to meet the consultants' site inspection schedule.

The third phase is the preparation of a draft spreadsheet that covers a 30 year period. This spreadsheet clearly indicates the recommended reserve fund contributions, what work is needed, when it will be

needed, and most importantly for your planning, how much every item is estimated to cost in the year in which it should be repaired or replaced.

Upon review of the draft spreadsheet by the Board, we will meet with the Board to discuss our findings and preliminary recommendations. This meeting will enable the Board to ensure that all common element expenditures are fully addressed. Subsequent to this meeting, we will make any required adjustments and then submit our Final Report, including Form 15 (Regulation 48/01).

Organization of Report

1. Executive Summary

The Executive Summary outlines the general condition of the complex and recommends Reserve Fund contribution levels to cover all upcoming replacement work.

2. Introduction

The Introduction contains a detailed description of the complex including an up-to-date Key Plan.

3. Scope, Limitations and Assumption

This section describes in detail the scope of Keller Engineering's work, and the Reserve Fund Study's methodology, including its limitations, financial assumptions (e.g. inflation), costing, forecasting, and spreadsheet procedures.

4. Physical Analysis (Technical Audit)

To make the report easy to read and information simple to find, each common element is discussed in a separate section of the report. The discussion in each section describes the general condition of the common elements as well as the maintenance and repair/replacement requirements, in terms of both costs and timing.

To aid the Board in its future dealings with contractors and/or other consultants, this section provides the quantities of the common elements (e.g. area of roofs, area of parking lots) as they exist at the time of the audit. This feature is unique to the Reserve Fund Studies prepared by Keller Engineering.

5. Major Capital Expenditures

Major capital expenditures that are likely to be incurred beyond the time period covered by the spreadsheet are accounted for in our calculations of the funding requirements.

6. Spreadsheet Format

Our spreadsheet is presented in a format that is easy to follow while still accounting for inflation and earned interest thus optimizing the accuracy of the forecasting.

7. Photo Review

Where appropriate, Keller Engineering provides photographic documentation to illustrate key observations.

PERSONNEL

Reserve Fund Studies completed by Keller Engineering are carried out under the direction of Professional Engineers with several years of experience in this type of work. **Specific personnel will be assigned upon award of contract.**

TIME ALLOCATION

The time allocated for this Reserve Fund Study will be approximately as follows:

Document Review	½ day
Field Work	1 day
Quantity Take-off	2 days
Costing	1 day
Report Preparation	5 days
Meeting with Board	¼ day

FEE PAYMENT SCHEDULE

The Fees for your Reserve Fund Study will be charged as follows:

- 90% upon delivery of the Draft Spreadsheet
- 10% upon delivery of the Final Report

The payment terms: Due upon receipt of invoice.

Final Report delivery upon receipt of 90% invoice payment.

BACKGROUND INFORMATION AND REFERENCES

Please find enclosed our company brochure which will give you an overview of the services provided by Keller Engineering. Listed below are property managers who have used the services of Keller Engineering and who may be contacted as references.

<u>Company</u>	<u>Contact Person</u>	<u>Telephone No.</u>
Axia Property Management	Jodie Marion	613-738-9700
The Regional Group of Companies	Nadia Freeman	613-230-2100
Condominium Management Group	Paul Sweeney	613-237-9519
Eastern Ontario Property Management Group	Anne Burgoon	613-918-0145

I trust that the above satisfies your current requirements. If you have any questions regarding our proposal, please feel free to contact me. Notification of contract award would be appreciated.

Sincerely,



Andrée Ball
Director of Client Relations

ABA/kg

Notes:

1. The proposed fees include expenses but do not include applicable taxes.
2. This proposal is based on the assumption that architectural drawings and a site plan for the complex will be made available. If drawings are not available, extra fees of \$900 will be charged to measure quantities on site.
3. This proposal is valid for a period of two months and is subject to re-evaluation after this time period.
4. Upon contract award, the schedule will be determined.
5. The proposed fees include 1 bound copy and 1 electronic copy (in PDF Format) of our report. Extra hard copies will be supplied at \$100.00 each.



January 30, 2019

CCC No. 498
c/o Anne Makuch, Property Manager
Capital Integral Property Management

Via Email:
amakuch@cimanagement.ca

Re: P68733BE-1 Class 2 Reserve Fund Study
CCC No. 498, 40 Landry Street, Ottawa, Ontario

Dear Ms. Makuch:

EXP Services Inc. (EXP) is pleased to respond to your request for a proposal for a Class 2 Reserve Fund Study for CCC No. 498. The scope of services that we have presented in this proposal meets the requirements of the Condominium Act of Ontario R.S.O. 1998 for a Reserve Fund Study.

1.0 BACKGROUND

CCC No. 498, located at 40 Landry Street in Ottawa, Ontario, consists of 218 condominium suites in a 16-storey residential building. The building includes 3 levels of underground parking and 3 elevators. There is one commercial unit on the ground floor and amenities include a party room, indoor pool with a whirlpool, changerooms with saunas, exercise room, laundry room, library and workshop. The building is approximately 35 years old.

As per the requirements of the Condominium Act of Ontario R.S.O. 1998, EXP carries General Liability Insurance of \$1,000,000.

1.1 EXP Services Inc.

At EXP we provide professional, technical and strategic services to the world's built and natural environments in six key practice areas: Buildings; Earth & Environment; Energy; Industrial; Infrastructure; and Sustainability.

With thousands of people in more than 100 offices across North America and around the world, EXP can provide the experience and expertise needed to deliver successful project outcomes for our clients and add value to their organization. Whether the project is big or small, we can deliver global expertise from a local presence - for any project - anywhere in the world.

We service a wide variety of client needs, both in the public and private sector. EXP is one of the industry leaders in building engineering services, and has extensive experience in feasibility studies, facility condition assessments, technical audits, reserve fund studies, third party design reviews, and quality assurance during construction. We provide multi-disciplinary engineering and problem-solving services to the highest professional standard and meet our clients' needs through workable solutions and responsive communication. EXP's success is achieved through a balance of technical excellence, individual growth and creativity, and corporate leadership.

2.0 METHODOLOGY AND SCOPE OF SERVICES

The scope of services that are presented below meet the requirements of the Condominium Act of Ontario R.S.O. 1998 as it relates to Reserve Fund Studies.

2.1 *Comprehensive Reserve Fund Study*

The Condominium Act 1998 defines a Reserve Fund, as a fund set up by the Corporation in a special account for major repair and replacement of common elements and assets of the Corporation, calculated on the basis of expected repair and replacement costs and life expectancy.

We propose the following scope of services for the Comprehensive Reserve Fund Study.

1. Review available drawings and other documents including recent investigations and records of recent work.
2. We will meet with the Board of Directors (Board) to identify items that should be included in the reserve fund plan and to discuss the philosophy of the Board as it relates to reserve fund planning. All members of the EXP review team will be present for this meeting and will also discuss the status of all capital elements with regard to their status, maintenance, operation and any quotations from contractors on planned work
3. We will conduct a visual review of the major common element components including architectural, building envelope, structural, mechanical, electrical and site elements. The elevator will be reviewed by a sub-consultant. To better assess some of the common elements we request access to a sampling of suites. We have assumed 4 suites will be provided for review. The review is limited to accessible areas and to those areas made available. EXP cannot be responsible for areas where access is not possible or provided.
4. Recent repairs will be listed where information is available. Comments will also be provided on current preventive maintenance procedures. The Client could assist us in this regard, by providing records of past maintenance/repair programs.
5. A description of each major element will be provided including location, condition, deficiencies and life expectancy.
6. The expected future cost and recommended time frame for repair and replacement will be documented in a spreadsheet format. The life cycle costing analysis and determination of replacement costs is based on our experience, and general trends in the manufacturing and construction industries. This information, along with current interest and inflation rates and supplied information on current reserve fund balance and contribution levels will be used to develop a recommended contribution strategy. The contribution strategy will be presented in the main report as well as in a spreadsheet format.
7. Submit a draft Reserve Fund Study Report, which summarizes the above.
8. Following the review of the draft report by the Board a meeting will be held to present and discuss our findings and to obtain feedback.
9. Submit the final Reserve Fund Study Report. A maximum of one (1) further submission of revisions to the report and tables is included in this scope of work. Any additional iterations of the Reserve Fund Study or additional meetings not described in the Scope of Work will be billed at a time-and-expense basis.

3.0 PROPOSED PROJECT TEAM

The team members presented below have extensive experience in the consulting engineering and construction industries. EXP has considerable expertise in Building Engineering (encompassing structural, building envelope, and structural rehabilitation) design and consulting.

Ms. Chantal Wegner, M.A.Sc., P.Eng. – Division Manager, Building Engineering Services –

Ms. Wegner with over 19 years of building engineering experience, will be the main contact and will meet with the Board representatives and the Property Manager and will review the building envelope and structural elements and prepare the reports. She has been routinely involved in building condition reviews for both high rise and low-rise construction including Due Diligence Reports, Reserve Fund Studies and Performance Audits. She is also involved in building performance testing, design, and construction review.

Site Elements, Architectural and Structural Field Review and Reporting – Karen McKenzie,

B.Arch.Sc. – Ms. McKenzie is an Intermediate Building Science Project Manager in our Building Engineering Department. She provides building science and facility management consulting professional services. Her responsibilities include Condominium services such as Reserve Fund Studies and Performance Audits, Building Condition Assessments, project management and construction review on a wide range of building engineering projects.

Mechanical Systems Review and Reporting – Garnet Coglon, P.Eng. -

Mr. Coglon is a Professional Mechanical Engineer with five years of experience in project management and engineering design development. Work-related experience includes managing the design of large-scale HVAC, piping, and plumbing systems, detailed building analysis and load calculations, and meeting and coordinating with stakeholders to ensure project standards are met. Garnet has frequently assisted clients with the assessment of existing mechanical systems, providing technical review and engineering recommendations to efficiently and effectively resolve issues.

Electrical Systems Review and Reporting – Milinca Sablici, P.Eng. -

Ms. Sablici has over 20 years of experience in the design, tendering, FRQ/RFP process, value engineering, and project management support throughout construction, commissioning and handover, including final closeout. Her responsibilities include the coordination with project management team for QA/QC process, providing in-house peer review and peer-reviewing projects by other teams or consultants.

The elevator review will be completed by a specialist elevator consultant Rooney Irving and Associates (Rooney).

4.0 PROFESSIONAL FEES

The professional fees to complete the Comprehensive Reserve Fund Study as described in the Methodology and Scope of Services would be as follows:

Reserve Fund Study	\$ 8,200
Elevator Review (3 elevators)	\$ 1,200
Total	\$ 9,400

Please note that all above quoted fee does not include Applicable Taxes and the cost to review the elevator. Any additional site visits or meetings to address special concerns will be billed at a time and expense in accordance with the following Unit rates:

Senior Involvement – Chantal Wegner, P.Eng	\$ 175
Project Manger – Karen McKenzie, B.Arch.Sc.	\$ 100
Mechanical or Electrical Engineers	\$ 140

Disbursements are included in the professional fees, and include direct out-of-pocket expenses, such as mileage for meeting to review draft report, printing, courier, etc. to an upset limit of \$200.00.

Please note that the quoted fees do not include the preparation of a Form 15 document, which would be an additional service for \$300.00 plus Applicable Taxes.

We trust this information is sufficient for your requirements. If you have any questions, please do not hesitate to contact this office.

4.1 Invoicing

All invoices are payable upon receipt. All invoices will be set up according to the authorized budget, percentage complete, and include all disbursements.

The first invoice will be sent out once 50% of the work has been completed (site visits). An invoice for 80% of the work will be sent after the draft reports have been prepared for your review.

The final reports will only be sent, once payment of this invoice has been received and cleared. A final invoice will be sent along with the final report, due upon receipt.

Interest of 13.8% annually (1% per month compounded monthly) is payable by the client on any amounts not paid within 30 days; payment thereafter is applied first to accrued interest and then to the unpaid principal.

5.0 SCHEDULE

EXP Services Inc. is prepared to commence this study within three weeks of the signed work authorization and documentation from the Corporation. (Please see attached checklist)

The draft Reserve Fund Study will be completed within the four weeks following our site review.

EXP Services Inc.

Client: CCC No. 498

Proposal Name: Class 2 Reserve Fund Study

40 Landry Street, Ottawa, Ontario

Proposal Number: P68733BE-1

Date: January 30, 2019

6.0 CLOSURE

The attached Work Authorization is an integral part of EXP Services Inc.'s proposal. Should you find our proposal acceptable, please indicate your acceptance of this proposal by signing the attached Work Authorization and returning it to EXP Services Inc.'s office for final execution.

Should you have any questions or require additional information regarding this proposal, please do not hesitate to contact the undersigned. We thank you for the opportunity to be of service.

Yours truly,

EXP Services Inc.

A handwritten signature in black ink, appearing to read 'C. Wegner', with a stylized flourish at the end.

Chantal Wegner, M.A.Sc., P.Eng.
Division Manager
Building Engineering Services

Enclosures: Check List of Required Documents and Information
 Work Authorization
 Terms and Conditions



**Check List of Required Documents and Information
Needed to Complete the Reserve Fund Study***

The Statutory Declaration and Description	Yes <input type="checkbox"/> No <input type="checkbox"/>
Date of registration	_____
List of Common Elements	Yes <input type="checkbox"/> No <input type="checkbox"/>
Financial statements of the corporation	Yes <input type="checkbox"/> No <input type="checkbox"/>
Current annual contribution to the Reserve Fund (as of date?).	\$ _____ As of:
Starting Reserve Fund balance for current fiscal year (as of date?)	\$ _____ As of:
Include a list and/or description of repairs or replacement to the common elements completed and paid-for out of the Reserve Fund (i.e., new roofs, asphalt, etc.).	Yes <input type="checkbox"/> No <input type="checkbox"/>
Include a list and/or description of repairs or replacement planned for the current year (and next several years, if available) paid for out of the Reserve Fund (i.e., roofs, asphalt, etc.).	Yes <input type="checkbox"/> No <input type="checkbox"/>
As-built drawings and specifications (architectural, structural, mechanical & electrical etc.).	Yes <input type="checkbox"/> No <input type="checkbox"/>
Plans for underground site services, site grading, drainage and landscaping, etc.	Yes <input type="checkbox"/> No <input type="checkbox"/>
All existing warranties, guarantees and service contracts for the Common Elements.	Yes <input type="checkbox"/> No <input type="checkbox"/>
A summary of unexpected problems/issues being encountered by the Corporation.	Yes <input type="checkbox"/> No <input type="checkbox"/>
Other reserve fund studies, engineering studies and costing estimates / projections	Yes <input type="checkbox"/> No <input type="checkbox"/>

*Please return this check list, signed work authorization, and all required information to the **EXP** office for prompt project start-up.*

** This is a generic list and we understand that, in some cases, some of the listed items are not applicable, are not available or may already be in the possession of EXP Services Inc.*



EXP Services Inc.
2650 Queensview Drive, Suite 100
Ottawa, Ontario K2B 8H6

Telephone: 613-688-1899
Facsimile: 613-225-7337

WORK AUTHORIZATION

Client Name: ("CLIENT")	CCC No. 498 c/o Condominium Mananagement Group		
Address:	335 Catherine Street, Ottawa Ontario		
Attention:	Ms. Melody Brown, Property Manager		
Contact Email:	mbrown@condogroup.ca	Client ID Number:	
Contact Phone:	613-237-9519	Contact Fax:	
EXP Services Inc. ("CONSULTANT") is authorized to provide services at:			
Project Name:	Class 2 Reserve Fund Study		
Project Location:	CCC No. 498, 40 Landry Street, Ottawa, Ontario		
The services to be performed are limited to the description as defined in Proposal No. P68733BE			
Project Manager:	Chantal Wegner		
Charges for the services:	\$9,400 + HST, plus time and expense for any additional site visits or meetings.		
Extended Scope of Services:	\$300 for Form 15 (Please check <input type="checkbox"/> if this is required)		
Report Distribution:	Client - 1 PDF EXP Services Inc. – PDF		
Please return one signed copy of this work authorization as confirmation of your requirement and as your authorization for EXP Services Inc. to proceed.			
TERMS AND CONDITIONS			
Services to be provided in accordance with the Terms and Conditions and Proposal attached.			
EXP SERVICES INC.		Carleton Condominium Corporation No. 498	
			
Signature:	_____	Signature:	_____
Print Name:	Chantal Wegner, M.A.Sc., P.Eng.	Print Name:	_____
Signature:	_____	Project No.:	_____
Print Name:	_____		
Proposal #	P68733BE-1		
Date:	January 30, 2019	Date:	_____

All invoices are Payable upon receipt. Interest will be charged at 1.5% per month (18% per annum) on any balance after 30 days.

The CLIENT acknowledges and agrees that EXP Services Inc. may, at its sole discretion, hold back issuance of final reports and Certification of Completion Letters (including Schedule C's) until payment of all past due amounts has been received by EXP Services Inc..



TERMS AND CONDITIONS

1. **AUTHORIZATION TO PROCEED.** The signing of this Agreement by the CLIENT and CONSULTANT will serve as written authorization for CONSULTANT to proceed with the services called for in this Agreement.
2. **EXTENT OF AGREEMENT.** This Agreement, including attachments incorporated herein by reference, represents the entire agreement between CONSULTANT and CLIENT and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may be altered only by written instrument signed by authorized representatives of both CLIENT and CONSULTANT.
3. **CHANGES.** Work beyond the scope of Services or redoing any part of the Services through no fault of CONSULTANT, shall constitute extra work and shall be paid for on a time and material basis in addition to any other payment provided for in this Agreement. In the event, CONSULTANT's work is interrupted due to delays other than delays caused by CONSULTANT, CONSULTANT shall be compensated based on CONSULTANT's current Fee Schedule for the additional labour or other charges associated with maintaining its work force for CLIENT's benefit during the delay, or at the option of the CLIENT, for charges incurred by CONSULTANT for demobilization and subsequent remobilization. If, during the course of performance of this agreement, conditions or circumstances are discovered which were not contemplated by CONSULTANT at the commencement of this Agreement, CONSULTANT shall notify CLIENT in writing of the newly discovered conditions or circumstances and the impact on the Agreement. CLIENT and CONSULTANT agree to negotiate in good faith any changes to the price, terms and conditions, or schedule of this Agreement. Written notice of changes will be provided by CONSULTANT to the CLIENT by Change Order for the CLIENT's approval.
4. **PAYMENT.** CONSULTANT shall invoice CLIENT periodically for the services performed under this Agreement. CLIENT shall pay such invoice upon receipt. Invoices not paid within thirty (30) days of the invoice date shall be subject to a late payment charge of 1.5% per month (18% per year) from the date of billing until paid. The invoice amounts shall be presumed to be correct unless CLIENT notifies CONSULTANT in writing within fourteen (14) days of receipt. Progress billings, when paid, represent acceptance by CLIENT of the invoiced services performed by CONSULTANT. The CLIENT agrees to pay legal fees and costs necessary to collect on past due accounts. If CLIENT fails to pay an invoice when due, CONSULTANT may suspend all services until such invoice is paid in full.
5. **PERMITS, UTILITIES AND ACCESS.** Unless otherwise provided, the CLIENT shall apply for and obtain all required permits and licenses. The CLIENT warrants that it has made all necessary arrangements for right to entry to provide CONSULTANT access to the site for all equipment and personnel at no charge to CONSULTANT. The CLIENT shall also provide CONSULTANT with the location of all underground utilities and structures in the vicinity of the work area, unless otherwise agreed in writing. While CONSULTANT will take all reasonable precautions to minimize any damage to the property, the CLIENT agrees to hold CONSULTANT harmless for any damages to any underground subsurface structures or any damage required for right of entry.
6. **COST ESTIMATES.** If CONSULTANT provides an estimate of probable costs or a budget for the Work that is developed by CONSULTANT during the performance of the Scope of Services, the CLIENT hereby acknowledges that neither CONSULTANT nor CLIENT has control over other professional fees, land development, or other costs related to the entire Project. Therefore CONSULTANT does not warrant or represent the Project costs will not vary from the Project Budget. Neither CONSULTANT nor the CLIENT has control over the cost of labour, materials or equipment, over the contractor's methods of determining bid prices, or over competitive bidding, market, or negotiating conditions. CONSULTANT therefore does not warrant or represent that bids or negotiated prices will not vary from the estimate of probable construction cost.
7. **DISPUTES.** Any dispute arising under this Agreement shall first be resolved by taking the following steps. A successive step shall be taken if the issue is not resolved at the preceding step: 1) by the technical and contractual personnel for each Party, 2) by executive management of each Party, 3) by mediation, 4) by arbitration if both Parties agree or 5) through the court system in the Province of Ontario. .
8. **STANDARD OF CARE.** CONSULTANT shall perform its services in a manner consistent with the standard of care and skill ordinarily exercised by members of the profession practicing under similar conditions in the geographic vicinity and at the time the services are performed. This Agreement neither makes nor intends a warranty or guarantee, express or implied.
9. **INDEMNITY.** Notwithstanding any other provision of this Agreement, the CLIENT agrees to indemnify, defend and hold harmless CONSULTANT, its officers, directors, employees and subconsultants (collectively "CONSULTANT") against all damages, liabilities or costs including reasonable legal fees and defense costs arising out of or in any way connected with this Project or the performance of the services under this Agreement, excepting those damages, liabilities or costs attributable to the negligent acts or omissions by CONSULTANT.

10. **LIMITATION OF LIABILITY.** Notwithstanding any other provision of this Agreement, the total liability of CONSULTANT, its officers, directors and employees, to the CLIENT and anyone claiming by or through the CLIENT, for any and all claims, losses, costs or damages from any cause in any way related to the project or the Agreement, shall not exceed the fees paid to the CONSULTANT. CONSULTANT shall not be liable for any incidental, indirect or consequential damages arising out of or connected in any way to the Project or this Agreement.
11. **RESPONSIBILITY.** CONSULTANT is not responsible for the completion or quality of work that is dependent upon information provided by or services performed by the CLIENT or third parties not under the direct control of CONSULTANT. CONSULTANT is not responsible for the acts or omissions or for any damages resulting from the actions of such parties. CONSULTANT does not assert control or assume responsibility for a Contractor not retained directly by CONSULTANT or over a CLIENT's employees, work site, work methods or property.
12. **OWNERSHIP AND CONFIDENTIALITY.** Unless otherwise agreed to by the parties in writing, all documents (including reports, drawings and specifications, and electronic or digital copies) required to be prepared by or on behalf of CONSULTANT in connection with the Services will become the property of the CLIENT upon full and final payment of the Compensation. The copyright and all intellectual property in the documents and designs shall be retained by CONSULTANT. CONSULTANT hereby grants to CLIENT a non-exclusive right and royalty-free license to use, disclose and reproduce the documents solely for the purpose of the project. CLIENT will not distribute or convey CONSULTANT's reports or recommendations to any person or organization other than those identified in the project description without CONSULTANT's written authorization. CLIENT releases CONSULTANT from liability and agrees to defend, indemnify, protect and hold harmless CONSULTANT from any and all claims, liability, damages or expenses arising, in whole or in part, from unauthorized use. Information provided by either party with respect to the project's design, supplies, management, costs, description or other pertinent information are confidential. The parties agree not to disclose such information to third parties unless necessary to the project's execution or already a matter of public knowledge.
13. **FIELD REPRESENTATION.** The presence of CONSULTANT's or its subcontractors' field personnel, may be required for the purpose of providing project administration, assessment, observation and/or field testing. Should a contractor(s) not retained by CONSULTANT be involved in the project, CLIENT will advise such contractor(s) that CONSULTANT's services do not include supervision or direction of the means, methods or actual work of the contractor(s), its employees or agents. CLIENT will also inform contractor that the presence of CONSULTANT's field representative for project administration, assessment, observation or testing, will not relieve the Contractor of its responsibilities for performing the work in accordance with applicable regulations, or in accordance with project plans and specifications. If a contractor is involved on the project, CLIENT agrees CONSULTANT shall not be responsible for working conditions on the job site including the safety and security of persons or property.
14. **ENVIRONMENTAL CONDITIONS.** CLIENT shall have responsibility and liability for the environmental conditions on the site. CLIENT shall be responsible for and promptly pay for the removal and lawful disposal of contaminants, hazardous materials, asbestos, samples and cuttings unless otherwise agreed in writing. The discovery of such conditions on the site shall result in the issuance of a Change Order to the extent that the services of CONSULTANT are impacted.
15. **TERMINATION.** This Agreement may be terminated by either party upon ten (10) days written notice to the other. In the event of termination, CLIENT shall pay for all charges for work performed and demobilization by CONSULTANT. The limitation of liability and indemnity obligations of this Agreement shall be binding notwithstanding any termination of this Agreement.
16. **SOLICITATION.** Neither Party will, directly or indirectly, for a period of two years from the expiration date of this Agreement, solicit for employment or any other engagement the services of any person who is now employed by the other Party or any affiliate, except in the course of general recruitment efforts.
17. **ASSIGNMENT.** Neither CLIENT nor CONSULTANT shall assign its interest in this Agreement without the written consent of the other.
18. **GOVERNING LAW.** This Agreement is governed by the laws of the Province of Ontario.

KELLER ENGINEERING

CORPORATE PROFILE



ABOUT US

Keller Engineering is a multi-disciplinary engineering firm that provides building and systems assessment and associated repair and renewal consulting services. Since the company's formation in 1982, Keller Engineering has worked with a diverse range of clients in the condominium, commercial, residential and public sectors. Specializing in post-construction engineering, our team has the experience and integrity to safeguard your investment.

HOW WE WORK

Relationships are key to the success of any project. Our project leaders work directly with our clients to ensure an open line of communication, accurate information flow and attention to detail. Our team is approachable and connected, ensuring quick response and turn-around times. We have proven experience in designing projects for occupied buildings to minimize disruption and maximize efficiency. We are committed to our clients and are proud to assist them in the upkeep and upgrade of their infrastructure projects.



ASSOCIATIONS

- Professional Engineers Ontario
- Canadian Condominium Institute – Eastern Ontario
- Canadian Condominium Institute – South Alberta
- Canadian Condominium Institute – North Alberta
- The Association of Professional Engineers and Geoscientists of Alberta
- Ottawa Construction Association
- Building Owners and Management Association



OUR TEAM

Justin Tudor, P.Eng.	<i>President</i>
Matt Michaluk, P.Eng.	<i>Director of Engineering</i>
Ljubica Savic, P.Eng.	<i>Senior Structural Engineer</i>
Adam Archambault, C.E.T.	<i>Project Manager</i>
Heinz Keller, M.Eng, P.Eng.	<i>Senior Consultant & Founder</i>
Steve Christison, P.Eng.	<i>Building Science & Structural Engineer</i>
Tim Beckwith, P.Eng.	<i>Senior Electrical Engineer</i>
Andrew VanBakel, P.Eng.	<i>Building Science & Structural Engineer</i>
Miguel Plano, P.Eng.	<i>Mechanical Engineer</i>
Ben Savage, E.I.T.	<i>Building Science Engineer</i>
Andrée Ball	<i>Director of Client Relations</i>

OUR SERVICES

CONDOMINIUMS

- Reserve Fund Studies
- Performance and Technical Audits
- Building Condition Report
- Investigations and Testing
- Energy Audits and Incentive Grant Assistance
- Building Rehabilitation Project Design and Coordination in Occupied Properties
- Mechanical and Electrical Systems Upgrades and Repairs

COMMERCIAL & RESIDENTIAL

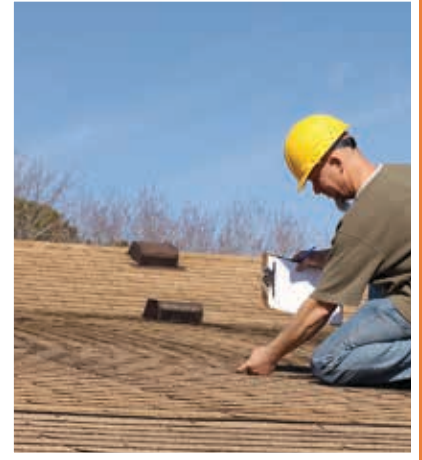
- Building Condition Assessments
- New Construction and Building Additions
- Interior Tenant Fit-ups
- Investigations and Testing
- Energy Audits and Incentive Grant Assistance
- Building Rehabilitation Project Design and Coordination in Occupied Properties
- Mechanical and Electrical Systems Upgrades and Repairs

PUBLIC SECTOR

- Building Condition Assessments
- Interior Tenant Fit-ups
- Investigations and Testing
- Building Rehabilitation Project Design and Coordination in Occupied Properties
- Mechanical and Electrical Systems Upgrades and Repairs

ENVELOPE & STRUCTURAL ENGINEERING

- Maintenance Planning
- Building Envelope Studies
- Masonry Engineering
- Structural Design
- Roof Anchor Design, Inspection & Testing
- Heritage Masonry Structures
- Litigation Support
- Insurance Claims
- Parking Garages, Balconies
- Renovation, Rehabilitation, Retrofit
- Pre-Purchase Inspections
- Commercial Space Measurement
- Pre-Blast Surveys
- CADD Services
- Procurement
- Contract Management



MECHANICAL & ELECTRICAL ENGINEERING

- Refrigerant Phase Out Planning (Montreal Protocol)
- Maintenance Efficiency Optimization
- Energy Conservation Studies
- Investigative Analysis
- Life Cycle Analysis
- Tenant Fit-Up
- **ELECTRICAL SYSTEMS DESIGN**
 - Lighting
 - Power Supply
 - Power Distribution
 - Communication
 - Emergency Power
- **MECHANICAL SYSTEMS DESIGN**
 - Plumbing
 - Heating & Ventilation
 - Air Conditioning
 - Refrigeration



RESERVE FUND STUDY UPDATE WITH SITE VISIT OTTAWA CARLETON STANDARD CONDOMINIUM CORPORATION No. ###, OTTAWA, ONTARIO

-SAMPLE-



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STUDY SUMMARY

A site inspection was performed on June 6, 2017 by:

- Ryan Wilson, C.E.T., Keller Engineering (Structural & Architectural)
- Justin Tudor, P.Eng., Keller Engineering (Structural & Architectural)
- Miguel Plano, B.A.Sc.Mech.Eng., Keller Engineering (Electrical & Mechanical)

Based on our visual examination of the property, it is our opinion that Ottawa Carleton Standard Condominium Corporation No. ### is in satisfactory condition. A number of common elements will, however, require repairs or replacement over the 30-year horizon of this reserve fund study.

Based on our fiscal analysis and best current estimate, it is recommended that annual reserve fund contributions be increased to **\$158,687** in fiscal year **2018**. Increases in the annual contributions in fiscal year **2019** and all years thereafter are budgeted at **2.0% per year**, which is our assumed yearly construction cost increase. This funding plan, in our opinion, will provide adequate funds to carry out necessary repair work and will provide a surplus which will be required in later years to pay for major capital expenditures anticipated beyond the time period examined in this Reserve Fund Study.

Repair / Replacement Work

The following repair/replacement work will be required from the reserve fund over the next few years:

- Asphalt Podium Waterproofing Replacement
- Landscaping Podium Waterproofing Replacement
- Asphalt Roadway & Parking Area Replacement
- Paver Walkway Replacement
- Concrete Curb Replacement
- Baseboard Electric Heater Replacement
- Forced Flow Electric Heater Replacement
- Parking Garage Electric Space Heater Replacement
- Door Entry System Replacement
- Gas Monitoring Controller Replacement
- Air Conditioner Unit Replacement
- Elevator Control Modernization
- Elevator Cab Interior Modernization
- TSSA Elevator Contingency Allowance
- Fire Pump Replacement
- Conventional Roofing System Replacement
- Masonry Veneer Repair Allowance
- Fire Alarm Sensor Replacement Allowance
- Battery Pack Unit Replacement Allowance
- Sanitary Sump Pump Replacement

Future Work

The following items are not expected to require repair or replacement within the 30-year scope of this study; however, it is likely that work will be required in the future. Budgeting for these items will commence as they approach the 30-year scope of the Reserve Fund Study:

- Domestic Cold Water Distribution and Riser Replacement
- Sanitary and Storm Pipe Replacement
- Standpipe Replacement
- Garage Sprinkler Pipe Replacement

Recommended Further Investigations:

The following investigations are recommended to further evaluate the condition of common elements showing distress. The findings of these investigations should be provided to your reserve fund planner in order to provide greater insight into existing conditions.

- Masonry Veneer Efflorescence
- Domestic Cold Water Distribution and Sanitary Piping
- Standpipe and Sprinkler Piping

Structural and Architectural

Ryan Wilson, C.E.T.

Justin Tudor, P.Eng.

Electrical & Mechanical

Miguel Plano, B.A.Sc.Mech.Eng.

1.0 INTRODUCTION

1.1 Scope

The Board of Directors of Ottawa-Carleton Standard Condominium Corporation No. ### (OCSCC ###) commissioned Keller Engineering to inspect the common elements of its condominium corporation in order to prepare the following Reserve Fund Study. The work included the review of civil, structural, architectural, mechanical, and electrical common elements.

In accordance with 'The Condominium Act, 1998', the purpose of this study is to determine whether the amount of money in the reserve fund and the amount of contributions collected by the Corporation are adequate to provide for the expected costs of major repairs and replacement of the common elements and assets of the Corporation. The Reserve Fund Study contains findings about the current conditions of the common elements and it tabulates major capital expenditure predictions over the next 30 years.

This Reserve Fund Study satisfies the requirements of a Reserve Fund Study Update with Site Visit as outlined in Part IV of the Ontario Regulation 48/01, s. 28.

1.2 Description of Property

Ottawa Carleton Standard Condominium Corporation No. ### is a 24-year old, 15-storey high-rise containing 68 residential units. The property, also known as Building is located at 123 Address Street, in Ottawa, Ontario.

The condominium complex structure consists of cast-in-place reinforced concrete columns, floor slabs and shear walls. The exterior is clad with brick veneer and the flat roof of the condominium complex is protected with a conventional roofing system. The parking garage structure consists of typical two-way concrete slabs supported on concrete columns.

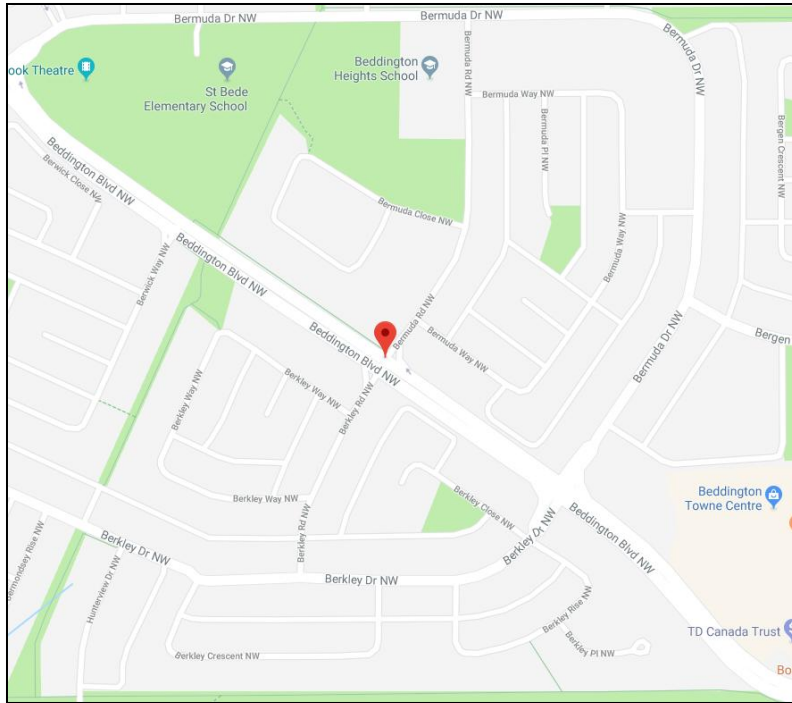


Fig.1: Location of OCSCC ###

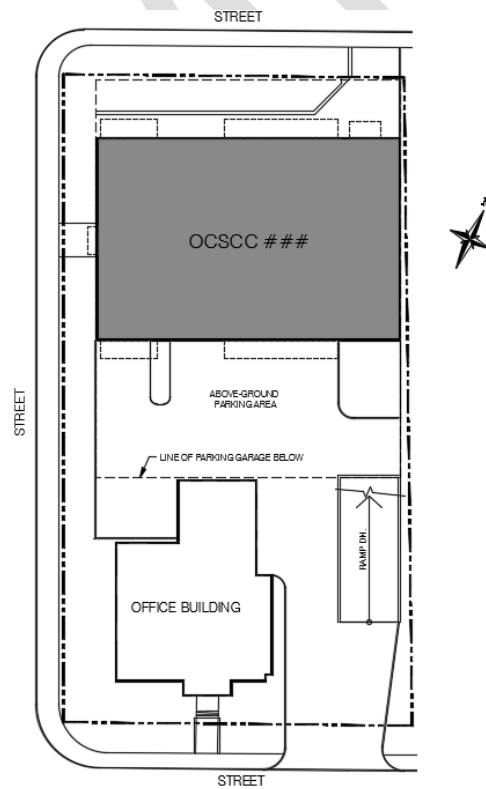


Fig. 2: Key Plan

1.3 References

Reference Materials were provided by Mr. Property Manager, of Property Management Company, Property Manager for OCSCC ### and the Board of Directors.

The following documents were available for review for the purpose of completing this study:

- .A Previous Reserve Fund Studies
 - Reserve Fund Study Update with Site Visit; dated April 25, 2012; Keller Engineering
 - Reserve Fund Study Update without Site Visit; dated October 19, 2015; Keller Engineering
 - .B Auditor's Statements
 - Fiscal Year 2016; dated January 17, 2017
 - .C 2017 Budget
 - .D Declaration; dated August 10, 1993
-

2.0 GENERAL INFORMATION

2.1 Determination of Repair/Replacement Costs

The procedures for determining repair/replacement costs of the common elements involve site inspections, quantity take-offs from drawings, cost estimations and a spreadsheet layout which are described in detail in this report.

TECHNICAL AUDIT

A Technical Audit is performed to assess the general condition of the common elements. This site work also provides the opportunity to determine the type of repair or replacement work that will be required for each common element as well as the time period when such work will likely be required.

COST ESTIMATION

Once the type and quantity of repair or replacement work are known, the costs associated with such work are estimated. Keller Engineering has developed an extensive listing of unit costs for a wide variety of repair and replacement work involving all civil, structural, architectural, and exterior electrical elements that are typically included in Reserve Fund Studies. This listing was compiled using prices obtained from repair and replacement contracts in which Keller Engineering has been involved as well as from cost estimates provided by manufacturers, suppliers and contractors. For unique repair or replacement items, advice is generally obtained from a contractor with experience in the work of concern. In such cases, the contractor examines the work and prepares an estimate for our use in the Reserve Fund Study.

FORECASTING COSTS

Capital expenditures for repair and replacement of building components have been forecasted in current dollars and the most probable fiscal years when these expenditures will be required have been set out in this report. Adjustments for construction cost increases as well as earned interest are automatically made to the spreadsheet and, since the annual fees are to be revised in the current year, the recommended contributions are also determined in current dollars. Beyond the current year, it is the Board's responsibility to ensure that the reserve fund contributions are in line with those outlined in the spreadsheet.

When an expense will be incurred depends on a number of factors, such as:

- i) The urgency of repair or replacement: Some building components, such as water supply, sanitary sewers or electricity distribution mains, must operate flawlessly at all times. Interruptions in their working condition cannot be tolerated and repair costs for these items cannot be deferred.
- ii) The perceived importance of a repair or replacement: For example, caulking, paving or painting need not be addressed when the first blemishes appear. The Board of Directors has considerable freedom to delay or advance the time when funds will be spent on these non-essential types of repairs to suit the demand from owners and the financial constraints of the Corporation's budget.

In most cases, expenses for each common element have been budgeted for the specific fiscal year in which the repair or replacement will likely be required. If possible, repair or replacement of the common elements will usually be performed throughout the corporation during one year rather than spreading the repairs out over a few years as this is generally the most cost effective solution. For cases where repair or replacement of a building component is not required throughout the corporation at the same time, it may be more cost effective to phase the work over two or more years. Phasing the work may also be necessary due to a lack of reserve funds. A prudent manager would be expected to determine whether phasing the work is cost effective and have the work performed accordingly. Some of the expenses outlined in this Reserve Fund Study will occur early in the predicted time period, other expenses will be incurred later however the accumulated reserve fund should be sufficient to pay for all of these expenses as they come due.

It is within the Board's mandate to advance or defer non-essential repair contracts based on sound technical advice at the time of the scheduled repair.

ENGINEERING FEES

To ensure that major repair and replacement work at the condominium corporation is properly specified and performed, it is strongly recommended, that an experienced engineer be hired to provide professional assistance. Engaging the services of a professional engineer would ensure that the work is properly specified, tendered, and executed. Engineering fees related to the common element repairs will be paid out of the reserve fund. Accordingly, a suitable allowance for engineering fees has been included in the spreadsheet where it is likely that the Board will require professional assistance in implementing the work. Depending on the extent and complexity of the work, engineering fees can range between 5% and 15% of the value of the construction project.

2.2 Financial Plan

SPREADSHEET

The main purpose of the spreadsheet is to determine the annual reserve fund contributions required to ensure that there will be sufficient funds to pay for all foreseeable expenditures over the 30-year plan. To determine the total expenditures to be incurred in each fiscal year, the projected expenditures are entered into the spreadsheet, summed and adjusted for yearly construction cost increases.

INFLATION RATES

Over the past few years, the rate at which construction costs increase has varied significantly between - 0.7% and 4.4%. An annual inflation rate of **2.0%** has been used in this report. This rate is based on annually published data by Statistics Canada relating to the construction price index for apartment buildings in the local region.

While the increase in construction costs will fluctuate from year to year, an annual rate of **2.0%** will likely provide a reasonable representation of how prices will increase over the next few years.

INTEREST RATES

For this Reserve Fund Study, a **2.0%** interest rate was assumed in calculating the annual contributions from interest earned on the reserve fund balance.

While actual inflation and interest rates may differ from those assumed for this report, the above rates, in combination, should be representative over the next few years.

DETERMINING CONTRIBUTION AMOUNTS

Trial values for the annual reserve fund contributions are entered into the spreadsheet and through an iterative process the most appropriate annual contributions are determined and used to establish the 30-year funding plan. The iterations account for annual expenditures, annual contributions from owners' monthly fees as well as contributions from investment interest earned on the unused balance of the reserve fund. As noted previously, these figures are adjusted to account for yearly construction cost increases prior to determining the recommended funding plan and the annual contributions are shown in the actual dollar values for each respective year.

The most appropriate contribution ensures that sufficient funds are accumulated in the reserve fund to cover all anticipated expenditures as they come due while leaving a surplus at the end of the study period. The size of the surplus depends greatly on the individual condominium and on the expenses that are to be incurred beyond the study period. Condominiums which are expected to incur large expenditures shortly beyond the study period should have a large surplus.

At the end of the spreadsheet, the remaining reserve fund is shown in current dollars to provide a better perspective of the fund balance at the end of the study period.

Grace Period: Condominiums declared before May 5, 2001 have a 15-year "grace period" from the date of their first reserve fund study received under the current Act. For CCC 251, the fund should have been "adequate" by 2016. The most accepted interpretation of adequate funding is that annual contributions remain constant increasing only by inflation and that no special assessments are necessary.

In accordance with the Condominium Act and the associated Regulations, Reserve Fund Study Updates must be conducted every 3 years. These updates will allow for adjustments to interest rates, construction cost increases, and/or the funding plan, due to any unforeseen costs incurred over the 3-year period. Prices for future reserve fund studies are for budgeting purposes only and do not constitute a fee proposal for future services.

SAMPLE

3.0 ASSUMPTIONS AND LIMITATIONS

The accuracy of the discussions, conclusions and cost information contained in this study is limited to the extent of information available at this time. The condition assessment of the common elements is based upon visual examination only. Neither destructive testing nor performance monitoring were conducted.

Life expectancy projections for the common elements assume that the corporation will provide satisfactory and timely periodic maintenance. The study does not make allowances for the effects of rare events such as flood, fire, lightning, explosions, earthquakes etc.

Future cost projections for the repair or replacement of common element items is based on a set inflation rate taken as an average of past years' construction price index, which is provided by Statistics Canada. As market value increases may vary annually, it is difficult to determine the percentage increase on an item by item basis. Therefore, the most accurate projection is provided by reviewing the previous year's average of the entire construction industry and extrapolated over the life span of the study.

It is assumed that the expected performance standards and appearance correspond to the current norm. Furthermore, housing industry averages and manufacturers' published data on component life expectancy apply to this condominium corporation.

4.0 APPENDICES

4.1 Spreadsheet for Major Repair and Replacement

As described in Section 2: General Information, the purpose of the spreadsheet is to determine the annual reserve fund contributions required to ensure that there will be sufficient funds to pay for all foreseeable expenditures over the next thirty years.

4.2 Photo Review

A visual summary of our findings is included in Appendix B: Photo Review.

4.3 Management Planning Table

The Management Planning Table included in Appendix C provides managers and Board members with a list of expected major expenses and their likely occurrence. The information contained in this table is presented elsewhere in the text of this study and is summarized here for convenience.

4.4 Notice of Future Funding (Formerly Form 15)

The Notice of Future Funding of the Reserve Fund is included in Appendix D. This notice contains a summary of the Reserve Fund Study as well as the proposed plan for future funding. Copies of this notice are to be sent to each of the unit owners to give notice and make them aware of the proposed plan.

Within 120 days of receiving the study, it is the responsibility of the Board of Directors in consort with the Corporation's property management and financial advisors, to review the Reserve Fund Study and propose a plan for future funding of the reserve fund which the Board determines will ensure that the fund will be adequate for the purpose for which it was established.

5.0 TECHNICAL AUDIT AND COSTING

The following sections include a brief technical discussion of the major building components common to the condominium corporation, approximate quantities involved, life expectancy, repair and replacement costs as well as the fiscal years in which work is anticipated.

All items have been ranked on a scale from poor to satisfactory. The rankings are as follows:

- Satisfactory – The condominium complex component exhibits little to no deterioration and is expected to last or exceed its estimated full life cycle assuming regular maintenance and no change to its general environment.
- Fair – The condominium complex component is serviceable although there is evidence of collective degradation or deficient operation. Repairs may be required within the next 5 years.
- Poor – The condominium complex component is either at the end of its life cycle or there is the potential for immanent failure. In the circumstance, the condominium complex component may be inoperative or exhibit total failure and immediate repairs or replacement may be required.

5.1 Architectural/Structural/Civil

5.1.1 Site Services

UNDERGROUND SERVICES

The underground services which include sanitary and storm water piping systems, water supply lines and electrical services are situated beneath the condominium complex. These systems will typically last the life of condominium complex without requiring replacement, however, generally major repairs will be required after 40 to 50 years of service.

The underground services are suspected to have been installed as part of the original construction; as such are 33 years old. Based on their current age, we expect the systems are in satisfactory condition. We do not anticipate replacement or major repairs will be required during the 30-year planning period of this study.

The sewer system should not be ignored under the assumption that it will operate flawlessly at all times. Periodic inspection of the sewers by a qualified inspection company should be performed to ensure all systems are functioning properly and should be cleaned as required. The occasional sewer repairs that may arise should be paid out of the reserve fund, however no funds are budgeted for these repairs because it is impossible to predict what costs will be incurred, if any.

We recommend the following work be anticipated and funded:

- .A Although costs are not included in this study, as they do not constitute a major repair or replacement, we recommend that camera inspections and sewer cleaning be performed ever 5 and 10 years respectably, using funds from the operating budget

5.1.2 Parking Garage

The 2-level reinforced concrete below grade parking garage is located beneath the condominium with the main entrance accessible from the west side of the property.

PARKING GARAGE STRUCTURE

The parking garage structure is constructed of reinforced concrete slabs, columns, and foundation walls. The parking garage structure will typically last the life of the complex; however, significant repairs usually required after 30 years of service.

The parking garage structure was installed as part of the original construction; as such is 24 years old. The parking garage structure is generally in satisfactory condition with no major deficiencies observed. We do not anticipate additional major repairs will be required during the 30-year planning period of this study.

We recommend the following work be anticipated and funded:

- .A Minor repairs of the concrete structure should be performed, as required, using funds from the operating budget

PODIUM SLAB COVERED WITH ASPHALT

The asphalt covered podium is located at the rear of the building at the parking area and is protected by a waterproofing membrane. The waterproofing under the asphalt has a typical service life of 20-25 years.

The waterproofing under the asphalt was installed as part of the original construction; as such is 24 years old. Based on its current age, we expect the waterproofing is in fair condition. We estimate replacement will be required in the near future.

Generally minor concrete repairs will be required upon replacement of the waterproofing membrane and an allowance for these repairs has been included in the costs for replacement.

We recommend the following work be anticipated and funded:

- .B Replacement of the podium waterproofing including all asphalt and curbs is estimated to cost **\$180,000** and this work has been budgeted in fiscal year **2018 and every 25 years thereafter**

PODIUM SLAB COVERED WITH LANDSCAPING

The landscaped covered podium is located at the front of the building and is protected by a waterproofing membrane. The waterproofing under the asphalt has a typical service life of 20-25 years.

The waterproofing under the pavers was installed as part of the original construction; as such is 24 years old. Based on its current age, we expect the waterproofing is in fair condition. We estimate replacement will be required in the near future.

Generally minor concrete repairs will be required upon replacement of the waterproofing membrane and an allowance for these repairs has been included in the costs for replacement.

Asphalt Podium Waterproofing Replacement	
. Qty	560 m ²
. Cost	\$180,000
. Year(s)	2018, 2043

Landscaping Podium Waterproofing Replacement	
. Qty	210 m ²
. Cost	\$90,000
. Year(s)	2018, 2043

We recommend the following work be anticipated and funded:

- .C Replacement of the podium waterproofing beneath the walkway pavers is estimated to cost **\$90,000** and this work has been budgeted in fiscal year **2018 and every 25 years thereafter**

CONCRETE SLAB-ON-GRADE

A concrete slab-on-grade has been installed in the parking garage. The concrete slab-on-grade will typically last the life of the complex.

The concrete slab-on-grade was installed as part of the original construction; as such is 24 years old. The concrete slab-on-grade is in satisfactory condition with no major deficiencies observed. We expect minor patch repairs will be required in the near future.

We recommend the following work be anticipated and funded:

- .D Minor repairs of the concrete slab-on-grade should be performed, as required, using funds from the operating budget

5.1.3 Asphalt Pavement

ASPHALT ROADWAYS AND PARKING AREAS

Asphalt pavement roadways and parking areas are located on the rear podium parking slab. Asphalt pavement has a typical service life of 15-20 years.

The asphalt pavement was resurfaced in fiscal year 2000; as such is 17 years old. The asphalt pavement is in fair condition with minor transverse cracking observed. We estimate full asphalt reconstruction will be required in the near future. This work has been scheduled to coincide with the podium membrane replacement.

Full reconstruction of asphalt surfaces is generally performed when the second renewal becomes necessary (i.e. after about 40-50 years of service). Complete reconstruction involves the removal of existing asphalt pavement as well as the existing sub-base. New sub-base materials are then implemented and compacted, prior to the reinstatement of a new asphalt overlay. This is often required instead of resurfacing due to pavement sub-base deterioration.

We recommend the following work be anticipated and funded:

- .A A full reconstruction of the asphalt pavement is estimated to cost **\$26,000** and this work has been budgeted in fiscal year **2018 and every 25 years thereafter**, in conjunction with the podium membrane replacement
- .B To maintain the condition of the asphalt pavement between resurfacing cycles, crack and rut repairs and asphalt patching should be performed on a regular basis using funds from the operating budget

Asphalt Roadway & Parking Areas Replacement

. Qty	380 m ²
. Cost (Recon.)	\$26,000
. Year(s)	2018, 2043

5.1.4 Pavers

PRECAST PAVER WALKWAYS

The interlocking paver walkways are located at the front entrance of the building. Pavers have a typical service life of 25-30 years.

The pavers were installed as part of the original construction; as such are 24 years old. The pavers are in satisfactory condition with moderate settlement and heaving observed. We estimate that a complete replacement of the pavers will be required in the near future. A subsequent resetting will be required 10-15 years thereafter

We recommend the following work be anticipated and funded:

- .A Replacement of the pavers is estimated to cost **\$42,000** and this work has been budgeted in fiscal year **2018**
- .B Resetting of the pavers is estimated to cost **\$15,000** and this work has been budgeted in fiscal year **2033**
- .C Minor resetting of the pavers should be performed as required using funds from the operating budget.

Paver Walkways	
. Qty	240 m ²
. Cost (Replace)	\$42,000
. Year(s)	2018
. Cost (Reset)	\$15,000
. Year(s)	2033

5.1.5 Exterior Concrete

CONCRETE CURBS

Cast-in-place concrete curbs are located on the rear podium parking slab. Concrete curbs have a typical service life 30-40 years.

The concrete curbs were repaired in 2000; as such are 17 years old. The concrete curbs are in satisfactory condition with isolated damage observed. Replacement of the concrete curbs will be required when the podium waterproofing membrane beneath the asphalt is replaced.

Damaged concrete curbs are likely due to snow removal operations; however, concrete curbs will experience gradual deterioration and repairs will likely be required every 15-20 years. Curb repairs should consist of the cutting-out and reconstruction of defective sections, as merely patching the curbs will not provide lasting repairs. When complete reconstruction of the asphalt pavement is performed, it is likely that the concrete curbs will also require total replacement.

We recommend the following work be anticipated and funded:

- .A Replacement of the concrete curbs is estimated to cost **\$12,000** and this work has been budgeted in fiscal year **2018 and every 25 years thereafter**, in conjunction with the podium waterproofing membrane replacement
- .B Minor repairs of the concrete curbs should be performed as required using funds from the operating budget.

Concrete Curb Replacement	
. Qty	100 m
. Cost	\$12,000
. Year(s)	2018, 2043

CONCRETE RAMP

The concrete ramp provides access to the parking garage from the west elevation. The concrete ramp will typically last the life of the complex.

The concrete ramp was installed as part of the original construction; as such is 24 years old. The concrete ramp is in satisfactory condition with no major deficiencies observed. We do not anticipate replacement will be required during the 30-year planning period of this study.

We recommend the following work be anticipated and funded:

- .C Minor concrete repairs of the concrete ramp should be performed, as required, using funds from the operating budget.

5.1.6 Landscaping

LANDSCAPED GROUNDS

The landscaped grounds, shrubs, planters, and trees, surround the condominium complex property. The landscaped grounds will typically last the life of the complex.

The landscaped grounds were installed as part of the original construction; as such are 24 years old. The landscape grounds are in satisfactory condition with no major deficiencies observed. We do not anticipate replacement will be required during the 30-year planning period of this study.

We recommend the following work be anticipated and funded:

- .A Minor repairs of the landscaping should be performed as required using funds from the operating budget.

SITE GRADING

Grading around the condominium complex provides positive drainage away from foundation wall and towards catchment areas. The condition of site grading will typically last the life of the complex.

The site grading was installed as part of the original construction; as such is 24 years old. The site grading is in satisfactory condition with no major deficiencies observed. We do not anticipate replacement will be required during the 30-year planning period of this study.

Regrading should be performed as required to ensure that surface run-off is directed away from the foundation walls, in order to reduce the likelihood of water infiltrating the units.

We recommend the following work be anticipated and funded:

- .B Minor regrading of the site should be performed, as required, using funds from the operating budget

5.1.7 Foundation Walls

CONCRETE FOUNDATION WALLS

The cast-in-place concrete foundation walls support the mid-rise building structure. The foundation walls will typically last the life of the complex.

The foundation walls were installed as part of the original construction; as such are 24 years old. The foundation walls are in satisfactory condition with no major deficiencies observed. We do not anticipate replacement or major repairs will be required during the 30-year planning period of this study.

We recommend the following work be anticipated and funded:

- .A Minor concrete repairs of the foundation walls should be performed as required using funds from the operating budget

5.1.8 Balconies

BALCONY STRUCTURE

The balcony structures are constructed of cantilevered reinforced concrete slabs. The balcony slabs will typically last the life of the complex; however, significant repairs usually required after 30 years of service.

The balcony slabs were installed as part of the original construction; as such are 24 years old. The balcony slabs varies from fair-to-satisfactory condition with delaminated concrete and exposed reinforcing bars observed. We estimate significant concrete repairs will be required in the next 5-10 years. Subsequent concrete repairs will be required in 15 years, following the initial repair program.

Significant concrete repairs are generally required in concrete balconies after the structure has obtained 30-years of service; therefore, we recommend a survey of the balconies be performed prior to the any significant repairs to determine the scope of this project.

It should be noted that carpets were observed on a number of balconies. Generally, covering the unprotected balcony slabs with carpets is not recommended, as the carpets tend to retain moisture on the balcony slabs which will increase the rate of the slab deterioration

We recommend the following work be anticipated and funded:

- .A Repairs of the balcony slabs are estimated to cost **\$40,000** and this work has been budgeted in fiscal year **2023 and every 15 years** thereafter

WATERPROOFING MEMBRANE

The balcony slabs on are protected with an elastomeric traffic bearing membrane. The traffic bearing membrane has a typical service life of 15-20 years.

The waterproofing underwent a repair program in 2008; as such ranges from 9-24 years in age. The waterproofing membrane is in fair condition with moderate deterioration observed. We estimate complete replacement will be required in the next 5-10 years. This work has been scheduled to coincide with the balcony slab repairs.

We recommend the following work be anticipated and funded:

- .B Replacement of the waterproofing membrane is estimated to cost **\$85,000** and this work has been budgeted in fiscal year **2023 and every 15 years** thereafter, in conjunction with the balcony slab repairs.

Balcony Structure Repairs

. Qty	Allowance
. Cost	\$40,000
. Year(s)	2023, 2038

Traffic Bearing Membrane Replacement

. Qty	450 m ²
. Cost	\$85,000
. Year(s)	2023, 2038

BALCONY RAILINGS

The aluminium framed railings and glass panels are located at the balcony edges. The railings have a typical service life of 30-40 years.

The railings were installed as part of the original construction; as such are 24 years old. The railings are in satisfactory condition with minor corrosion observed. We estimate replacement will be required in the next 5-10 years, in conjunction with the balcony slab repairs.

We recommend the following work be anticipated and funded:

- .C Replacement of the balcony railings is estimated to cost **\$140,000** and this work has been budgeted in fiscal year **2023**, in conjunction with the balcony slab repairs.

Balcony Railings	
. Qty	600 m ²
. Cost	\$140,000
. Year(s)	2023

5.1.9 Masonry**BRICK VENEER**

A brick veneer is installed as the primary cladding of the building. The veneer will typically last the life of the complex; however, significant repairs usually required after 30 years of service.

The veneer was installed as part of the original construction; as such is 24 years old. The veneer is in satisfactory condition with minor cracking and efflorescence staining observed. We do not anticipate replacement of the masonry veneer will be required during the 30-year planning period of this study; however, we expect repairs including isolated repointing and unit replacement, will be required in the near future.

It should be noted that minor efflorescence staining of the brick veneer was observed at the balcony slabs. Efflorescence is usually an indication of moisture seepage through the brick which will cause premature deterioration of the brick veneer. Further investigation into the cause of the efflorescence should be performed in the near future to prevent future masonry problems from occurring.

Significant masonry veneer repairs are generally required after the masonry veneer has obtained 30-years of service; therefore, we recommend a survey of the masonry veneer be carried out prior to any major work to determine the correct scope of work.

In general, regular masonry veneer repairs and maintenance, such as mortar repointing and isolated brick replacements, should be performed at approximately 10 to 12 year intervals to prolong the service life of the brick.

We recommend the following work be anticipated and funded:

- .A In order to ensure funds are available to perform isolated repairs when required, an allowance of **\$20,000** has been made in fiscal year **2020 and every 12 years** thereafter

Masonry Veneer Repairs	
. Qty	Allowance
. Cost	\$20,000
. Year(s)	2020, 2032, 2044

- .B Although costs are not included in this study, as it does not constitute a major repair or replacement, we recommend that an investigation into the masonry veneer efflorescence be performed in fiscal year 2018, using funds from the operating budget

5.1.10 Caulking

CAULKING

The caulking is located at the window and door openings as well as at the masonry control joints. The caulking has a typical service life of 10-12 years.

The caulking was replaced in fiscal year 2010; as such, is 7 years old. The caulking is in fair condition with minor cracking observed. The majority of the caulking replacement will be done as part of the window and patio door replacement work. We estimate the caulking at the masonry control joints will have to be replaced in the next 5 years. A subsequent complete caulking replacement will be required in 12 years, following the window replacement.

When caulking is replaced only high quality materials should be used and all old caulking should be removed before applying the new caulking. Caulking should be inspected regularly and the necessary repair work carried out by a qualified contractor. Minor repairs should be paid for out of the operating budget

We recommend the following work be anticipated and funded:

- .A Replacement of the caulking at the masonry control joints is estimated to cost **\$35,000** and this work has been budgeted in fiscal year **2022**
- .B Subsequent complete replacement of the caulking is estimated to cost **\$90,000** and this work has been budgeted in fiscal year **2037**
- .C Minor repairs of the caulking should be performed, as required, using funds from the operating budget.

Caulking	
. Qty	Allowance
. Cost	\$35,000
. Year(s)	2022
. Cost	\$90,000
. Year(s)	2037

5.1.11 Windows & Balcony Doors

WINDOWS

The aluminium framed windows provide the primary fenestration for the building. The windows have a typical service life of 30-40 years.

The windows were installed as part of the original construction; as such are 24 years old. The windows are in fair condition with degradation of the frame finishes observed. We estimate replacement will be required in the next 10-15 years.

Although the structure of aluminium frame windows can be maintained for periods exceeding 40 years, generally the window system will require replacement within 30 to 40 years as the aluminium frame finishes will degrade over time and become aesthetically unpleasing, the maintenance costs of the window system will begin to increase and replacement hardware will become more difficult to source.

Window Replacement	
. Qty	400 m ²
. Cost	\$600,000
. Year(s)	2028

We recommend the following work be anticipated and funded:

- .A Replacement of the windows is estimated to cost **\$600,000** and this work has been budgeted in fiscal year **2028**
- .B Minor repairs including replacement of hardware, screens, weatherstripping, and isolated thermopanes should be performed, as required, using funds from the operating budget

BALCONY DOORS

The aluminium sliding doors are located at the unit balconies. The balcony doors have a typical service life of 30-40 years.

The balcony doors were installed as part of the original construction; as such are 24 years old. The balcony doors are in fair condition with degradation of the frame finishes observed. We estimate replacement will be required in the next 10-15 years. This work has been scheduled to coincide with the window replacement.

Although the structure of aluminium frame doors can be maintained for periods exceeding 40 years, generally the door system will require replacement within 30 to 40 years as the aluminium frame finishes will degrade over time and become aesthetically unpleasing, the maintenance costs of the door system will begin to increase and replacement hardware will become more difficult to source.

We recommend the following work be anticipated and funded:

- .C Replacement of the balcony doors is estimated to cost **\$240,000** and this work has been budgeted in fiscal year **2028**, in conjunction with the window replacement
- .D Minor repairs including replacement of hardware, screens, weatherstripping, and isolated thermopanes should be performed, as required, using funds from the operating budget

Balcony Door Replacement

. Qty	54
. Cost	\$240,000
. Year(s)	2028

5.1.12 Doors

MAIN ENTRANCE

The main exterior entrance doors are located at the north and south elevation of the building. The main entrance doors have a typical service life of 25 to 30 years.

The main entrance doors were installed as part of the original construction; as such are 24 years old. The main entrance doors are in satisfactory condition with no major deficiencies observed. We estimate replacement will be required in the next 10-15 years. This work has been scheduled to coincide with the window replacement.

Generally main entrance doors have a shorter service than other doors due to their exterior exposure and high traffic use.

We recommend the following work be anticipated and funded:

- .A Replacement of the main entrance doors is estimated to cost **\$20,000** and this work has been budgeted in fiscal year **2028**, in conjunction with the window replacement
- .B Minor repairs of the main entrance doors should be performed, as required, using funds from the operating budget

Entrance Door Replacement

. Qty.	4
. Cost	\$20,000
. Year(s)	2028

COMMON AREA MAN DOORS

The common area man doors are located at entrances of stairwells, in common rooms and corridors, at emergency exits, in the garage, and at entrances to mechanical rooms and other common areas. The common area man doors have a varying service life depending on usage and exposure.

The common area man doors are suspected to have been installed as part of the original construction; as such are 24 years old. The man doors are generally in satisfactory condition with no major deficiencies observed. We do not anticipate full replacement will be required during the 30-year planning period of this study; however, isolated major repairs or replacements will be required periodically.

We recommend the following work be anticipated and funded:

- .C In order to ensure funds are available to perform isolated repairs and replacements when required, an allowance of **\$15,000** has been made in fiscal year **2028** and **every 10 years** thereafter
- .D Minor repairs of the unit suite doors should be performed, as required, using funds from the operating budget

UNIT SUITE DOOR

The unit suite doors have a varying service life depending on usage.

The unit suite doors were installed as part of the original construction; as such are 24 years old. The unit suite doors are in satisfactory condition with no major deficiencies observed. We do not anticipate full replacement will be required during the 30-year planning period of this study; however, isolated major repairs or replacements will be required periodically.

We recommend the following work be anticipated and funded:

- .E In order to ensure funds are available to perform isolated repairs and replacements when required, an allowance of **\$90,000** has been made in fiscal year **2033**
- .F Minor repairs of the unit suite doors should be performed, as required, using funds from the operating budget

GARAGE DOOR

The garage door is located on the north end of the garage. The garage door has a typical service life of 15-20 years.

The garage door was reportedly replaced in fiscal year 2005; as such is 12 years old. The garage door is in fair condition with no major deficiencies observed. We estimate replacement will be required in the next 5 years.

We recommend the following work be anticipated and funded:

- .G Replacement of the garage door is estimated to cost **\$2,000** and this work has been budgeted in fiscal year **2025** and **every 20 years** thereafter
- .H Minor repairs of the garage doors should be performed, as required, using funds from the operating budget

Common Area Man Door Replacement	
. Qty.	Allowance
. Cost	\$15,000
. Year(s)	2028, 2038

Unit Suite Door Replacement	
. Qty.	Allowance
. Cost	\$90,000
. Year(s)	2033

Garage Door Replacement	
. Qty.	1
. Cost	\$2,000
. Year(s)	2025, 2045

5.1.13 Roofing Systems

CONVENTIONAL ROOFING SYSTEMS

A conventional two-ply modified bitumen membrane (MBM) roofing system protects the main roof and typically consists of rigid insulation, fabric, protection boards, and hot applied layers of pre-manufactured roofing membranes. A MBM roofing system has a typical service life of 20-25 years.

The MBM roofing system was installed as part of the original construction; as such is 24 years old. The MBM roofing system is in fair condition with membrane degradation and water pooling observed. We estimate replacement will be required in the next 5 years. A subsequent roof replacement will be required in 20-25 years, following the initial replacement.

We recommend the following work be anticipated and funded:

- .A Replacement of the MBM roofing system is estimated to cost **\$160,000** and this work has been budgeted in fiscal year **2019** and **every 25 years** thereafter
- .B Minor repairs of the inverted roofing membrane system should be performed, as required, using funds from the operating budget

Conventional Roofing System Replacement	
. Qty	600 m ²
. Cost	\$160,000
. Year(s)	2019, 2044

5.1.14 Common Corridors

The interior finishes of the corridors on all levels consist of painted walls, painted ceilings and carpet.

PAINTED WALLS

The walls are painted in the main corridors of the building. Painted walls have a typical service life of 10-15 years prior to becoming aesthetically unpleasing.

The painted walls on all levels were reportedly last painted in fiscal year 2015; as such is 2 years old. The painting is in satisfactory condition with no major deficiencies observed. We estimate repainting will be required in the next 10-15 years. Subsequent repainting will be required in 15 years, following the initial replacement.

We recommend the following work be anticipated and funded:

- .A Repainting of the walls on all levels is estimated to cost **\$75,000** and this work has been budgeted in fiscal year **2030** and **every 15 years** thereafter
- .B Minor patch repairs should be performed, as required, using funds from the operating budget

Wall Paint all Levels	
. Qty	2,000 m ²
. Cost	\$75,000
. Year(s)	2030, 2045

CARPET

Carpet is installed on the floor on all Levels. Carpet has a typical service life of 10-15 years

The carpet on all levels was reportedly replaced in fiscal year 2015; as such is 2 years old. The carpet is in satisfactory condition with no major deficiencies observed. We estimate replacement will be required in the next 10-15 years. A subsequent carpet replacement will be required in 15 years, following the initial replacement. This work has been scheduled to coincide with the repainting of the walls.

We recommend the following work be anticipated and funded:

- .C Replacement of the carpet on all levels is estimated to cost **\$70,000** and this work has been budgeted in fiscal year **2030** and **every 15 years** thereafter, in conjunction with the wall painting
- .D Minor repairs of the should be performed, as required, using funds from the operating budget

Carpet on all Levels	
. Qty	380 m ²
. Cost	\$70,000
. Year(s)	2030, 2045

PAINTED CEILINGS

The ceilings are painted in the main corridors of the building. Painted ceilings have a typical service life of 15-20 years prior to becoming aesthetically unpleasing.

The painted ceilings on all levels were reportedly last painted in fiscal year 2015; as such is 2 years old. The painting is in satisfactory condition with no major deficiencies observed. We estimate repainting will be required in the next 10-15 years. Subsequent repainting will be required in 15 years, following the initial replacement. This work has been scheduled to coincide with the repainting of the walls.

We recommend the following work be anticipated and funded:

- .E Repainting of the ceilings on all Levels is estimated to cost **\$10,000** and this work has been budgeted in fiscal year **2030** and **every 15 years**, thereafter in conjunction with the wall painting
- .F Minor patch repairs should be performed, as required, using funds from the operating budget

Painted Ceiling	
. Qty	380 m ²
. Cost	\$10,000
. Year(s)	2030, 2045

5.1.15 Common Rooms

The interior common rooms of the building include a lobby and stairwells.

LOBBY

The lobby consists of ceramic tile floors, painted walls, and painted ceiling. Generally major renovations of the lobby occur after 30-40 years of service as the original finishes appear dated.

The lobby finishes were installed as a part of the original construction; as such are 24 years old. The lobby finishes are in satisfactory condition with no major deficiencies observed. We estimate refinishing will be required in the next 10-15 years.

Lobby Refinishing Allowance	
. Qty	Allowance
. Cost	\$50,000
. Year(s)	2030

We recommend the following work be anticipated and funded:

- .A In order to ensure funds are available to perform refinishing as required, an allowance of **\$50,000** has been made in fiscal year **2030**
- .B Minor repairs to the furniture or finishes should be performed, as required, using funds from the operating budget

STAIRWELLS

The stairwells consist of painted floors, painted walls and painted concrete ceilings. Generally major renovations of the stairwells occur after 30-40 years of service as the original finishes appear dated.

The stairwell finishes were reportedly last painted in fiscal year 2015; as such are 2 years old. The stairwell finishes are in satisfactory condition with no major deficiencies observed. We estimate refinishing will be required in the next 5-10 years. The budget for this work has been included with the common corridor painting.

Stairwell Refinishing Allowance	
. Qty	Allowance
. Cost	See Section 5.1.14
. Year(s)	2030, 2045

We recommend the following work be anticipated and funded:

- .C Costs associated with refinishing of the stairwells, which mainly consists of repainting, has been included in section 5.1.14
- .D Minor repairs to the furniture or finishes should be performed, as required, using funds from the operating budget

5.2 Electrical

5.2.1 Electrical Distribution

MAIN HYDRO EQUIPMENT

The main hydro equipment consists of primary transformers, load break switches and 15,000V breakers located in the main hydro vault. The primary transformers are owned and maintained by Hydro Ottawa. The associated load breaks switches and main breakers are owned by the condominium. Main hydro equipment has a typical service life of 40-50 years.

The main hydro equipment is suspected to have been installed as part of the original construction; as such it is 24 years old. Based on its current age, we expect the main hydro equipment is in satisfactory condition. We estimate replacement or overhaul will be required in the next 15-20 years.

To extend the life of the equipment and ensure that operates at all times, we recommend that the vault be subjected to regular testing and maintenance as required by Hydro Ottawa. This work would include hi-potential (hipot) and Doble(TM) testing, secondary injection and trip testing of all overload, loss of phase and ground fault relays as well as cleaning, tightening and testing of all equipment. The results of the hipot and Doble testing will indicate when major equipment replacement is necessary as well as what partial re-builds and replacements may be performed to extend the life of the equipment. This work should only be performed by electrical service companies specializing in medium and high voltage switchgear maintenance. It may be required to revise the equipment replacement schedule depending on the findings of the electrical test.

Hydro Vault Equipment Replacement	
. Qty	1
. Cost	\$80,000
. Year(s)	2038

We recommend the following work be anticipated and funded:

- A. Replacement/overhaul of the main hydro equipment is estimated to cost **\$80,000** and this work has been budgeted in fiscal year **2038**.
- B. Although costs are not included in this study, as they do not constitute a major repair or replacement, we recommend that electrical vault maintenance and testing be performed as required by Hydro Ottawa, using funds from the operating budget.

MAIN DISCONNECT SWITCH

The 600A, 600V main disconnect fused disconnect switch located in the main electrical room on the ground floor protects and isolates the main electrical feed into the building. Main disconnect switch has a typical service life of 40-45 years.

The main disconnect switch was installed as part of the original construction; as such is 24 years old. The main disconnect switch is in satisfactory condition with no major deficiencies observed. We estimate replacement will be required in the next 15-20 years.

Main Disconnect Switch	
. Qty	1
. Cost	\$12,000
. Year(s)	2038

We recommend that a company skilled in electrical distribution equipment maintenance be hired to open, inspect, test, clean and torque the boards, and that infrared thermography be performed on switches, panels, disconnects, transformers, and starters to determine "hot spots" on a regular basis. A qualified electrician should be employed to open and close panels and to correct immediate concerns during this inspection. The results of this inspection and testing will provide a much more accurate estimate of when the electric equipment will have to be repaired and/or replaced. This will require that the power to the building be shut off for 8 to 12 hours. It may be required to revise the equipment replacement schedule depending on the findings of the electrical test.

Note: The Electrical Room is being used as a storage space and access to panels and switches is being blocked by the stored items. Materials, supplies and trash left in electrical rooms often block access, are a source for accidents, and pose potential fire hazards. Allowing any objects to be left near electrical panels violates the Ontario Electrical Safety Code:

RULE 2-308 states "a minimum working space of 1 metre with secure footing shall be provided and maintained about electrical equipment... enclosed in metal."

RULE 2-312 further requires "working space around electrical equipment shall not be used for storage and shall be kept clear of obstruction."

In order to comply with the Ontario Electrical Safety code, all items not related to the electrical maintenance (parts and tools) of the equipment in the electrical room should be removed.

We recommend the following work be anticipated and funded:

- C. Replacement of the main disconnect switch is estimated to cost **\$12,000** and this work has been budgeted in fiscal year **2038**.
- D. Although costs are not included in this study, as they do not constitute a major repair or replacement, we recommend periodic maintenance and infrared thermography be performed on the electrical system every 5 years, using funds from the operating budget.

METER CENTERS

The metering sockets located in the main electrical room within the building provide individual electrical metering to the suites. Metering sockets have a typical service life of 45-50 years.

The metering sockets were installed as part of the original construction; as such are 24 years old. The metering sockets are in satisfactory condition with no major deficiencies observed. We estimate replacement will be required in the next 15-20 years.

We recommend the following work be anticipated and funded:

- E. Replacement of the metering sockets is estimated to cost **\$87,000** and this work has been budgeted in fiscal year **2038**.

DISTRIBUTION BREAKER PANELS

The 120/240 volt and 600 volt distribution breaker panels installed in the electrical room divide electrical power feed into subsidiary circuits. Moulded case circuit breakers contained within provide circuit overload protection. Breaker panels have a typical service life of 40-45 years.

Breaker panels and circuit breakers were installed as part of the original construction; as such are 24 years old. The distribution breaker panels and moulded case breakers are in satisfactory condition with no major deficiencies observed. We estimate replacement will be required in the next 15-20 years.

It is recommended that the in-house maintenance staff keep a supply of breakers in reasonable quantities available at all times.

We recommend the following work be anticipated and funded:

- F. Replacement of the 120/240 Volt breaker panels and moulded case breakers is estimated to cost **\$7,000** and this work has been budgeted in fiscal year **2038**.
- G. Replacement of the 600 Volt breaker panels and moulded case breakers is estimated to cost **\$32,000** and this work has been budgeted in fiscal year **2038**.

FUSED DISCONNECT SWITCHES

The 240/600V fused disconnect switches of amperages ranging from 30A to 600A installed in the electrical room and throughout the building provide electrical power feed and overload protection to individual pieces of equipment. Fused disconnect switches have a typical service life of 40-45 years.

Metering Sockets	
. Qty	54
. Cost	\$87,000
. Year(s)	2038

120/240 Volt Electrical Distribution Breaker Panels	
. Qty	1
. Cost	\$7,000
. Year(s)	2038

600 Volt Electrical Distribution Breaker Panels	
. Qty	1
. Cost	\$32,000
. Year(s)	2038

Fused Disconnect Switches	
. Qty	27
. Cost	\$105,000
. Year(s)	2038

The fused disconnect switches were installed as part of the original construction; as such are 24 years old. The fused disconnect switches are in satisfactory condition with no major deficiencies observed. We estimate replacement will be required in the next 15-20 years. We recommend the following work be anticipated and funded:

- H. Replacement of the fused disconnect switches is estimated to cost **\$105,000** and this work has been budgeted in fiscal year **2038**.

DRY CORE TRANSFORMERS

The dry core transformers ranging from 45 kVA to 75 kVA located in the main electrical room reduce the voltage of the electrical feed. Dry core transformers have a typical service life of 35-40 years.

The dry core transformers were installed as part of the original construction; as such are 24 years old. Based on their current age, we expect the dry core transformers are in satisfactory condition. We estimate overhaul or replacement will be required in the next 10-15 years.

We recommend the following work be anticipated and funded:

- I. Replacement or overhaul of the dry core transformers is estimated to cost **\$35,000** and this work has been budgeted in fiscal year **2030**.

Dry Core Transformers	
. Qty	2
. Cost	\$35,000
. Year(s)	2030

5.2.2 Lighting

INTERIOR LIGHT FIXTURES

The common light fixtures are located throughout the common areas of the building and inside the parking garage. Common light fixtures have a varying service life depending on usage.

The common light fixtures are suspected to have been installed as part of the original construction; as such are 24 years old. The common light fixtures are in satisfactory condition with no major deficiencies observed. We expect isolated light fixture replacement will be required within the 30-year planning period of this study.

The fluorescent lamps in the parking garage, stairs and mechanical rooms are suspected to have been installed as part of the original construction; as such are 24 years old. The common light fixtures are in satisfactory condition with no major deficiencies observed. We expect isolated light fixture replacement will be required within the 30-year planning period of this study.

There are energy saving opportunities by retrofitting lighting to newer more efficient technologies. It would be beneficial to replace incandescent & fluorescent bulbs with more efficient LED bulbs.

Replacement magnetic ballasts for the T12 fluorescent lamps are no longer available. These light fixtures should be continued to be retrofitted to electronic ballast and T8 lamps or LED lamps as an energy conservation project.

We recommend the following work be anticipated and funded:

- A. Full scale replacement of the light fixtures should not be required during the span of this study, and consequently, no funds have been allocated for fixture replacement. When individual fixtures and light bulbs/tubes require replacement, the costs should be paid for out of the operating budget.

EXTERIOR LIGHT FIXTURES

The exterior light fixtures located throughout the condominium complex consist of HID light fixtures and wall sconces. Exterior light fixtures have a varying service life depending on usage.

The exterior light fixtures are suspected to have been installed as part of the original construction; as such are 24 years old. The exterior light fixtures are in satisfactory condition with no major deficiencies observed. We do not anticipate replacement will be required during the 30-year planning period of this study.

There are energy saving opportunities by retrofitting lighting to newer more efficient technologies. It would be beneficial to replace incandescent & fluorescent bulbs with more efficient LED bulbs.

We recommend the following work be anticipated and funded:

- B. Full scale replacement of the exterior light fixtures should not be required during the span of this study, and consequently, no funds have been allocated for fixture replacement. When individual fixtures and light bulbs/tubes require replacement, the costs should be paid for out of the operating budget.

5.2.3 Fire Alarm System

FIRE ALARM PANEL

The Mircom fire alarm panel is installed in the ground floor electrical room. The remote annunciator is installed in the main entrance vestibule. Fire alarm panels have a typical service life of 30-35 years.

The fire alarm panel was reportedly installed as a part of the original construction; as such is 24 years old. The fire alarm panel is in satisfactory condition with no major deficiencies observed. We estimate replacement will be required in the next 5-10 years.

The Fire Marshal's office is now enforcing the audibility and visibility requirements of the National Fire Code much more vigorously, and has forced condominiums to upgrade to the current standard when inspected. To meet the requirements of the NFC, it will require panel replacement, rewiring of the system as well as replacement of the existing bells with strobe/horns and the installation of strobe/horns and smoke detectors in all suites.

We recommend the following work be anticipated and funded:

- A. Replacement of the fire alarm panel is estimated to cost **\$55,000** and this work has been budgeted in fiscal year **2028**.

Fire Alarm Panel	
Qty	1
Cost	\$55,000
Year(s)	2028

- B. Although costs are not included in this study, as they do not constitute a major repair or replacement, the ULC 536 test of the fire alarm system is required on an annual basis, using funds from the operating budget.

FIRE ALARM SENSORS

The smoke detectors and heat sensors located in the common areas throughout the building provide monitoring for the fire alarm system. The smoke detectors and heat sensors have a typical service life of 10-15 years.

The smoke detectors and heat sensors are suspected to have been replaced on an as-needed basis. Based on their current age, we expect the smoke detectors and heat sensors are in satisfactory condition. We estimate isolated replacement will be required in the next 5 years.

We recommend the following work be anticipated and funded:

- C. Due to the varying service life of the smoke detectors and heat sensors, isolated replacement need only be completed as required. For budgeting purposes, an allowance of **\$10,000** has been made in fiscal year **2020 and every 10 years thereafter** to ensure funds are available when the work is required.

Fire Alarm Sensors	
. Cost	\$10,000
. Year(s)	2020, 2030, 2040

5.2.4 Emergency Power System

BATTERY PACK UNITS

The battery pack units located throughout the building provide emergency power for emergency lights and exit signs. The battery pack units have a varying service life depending on usage.

The battery pack units were installed as part of the original construction; as such are 24 years old. Based on their current age, we expect the battery pack units are in fair condition. We estimate isolated replacement will be required in the next 5 years.

It is recommended that a regular maintenance program for the battery packs be carried out, including battery replacement as required and as per manufacturer's recommendations, to ensure that the system remains in active working condition all times.

We recommend the following work be anticipated and funded:

- A. Due to the varying service life of the battery pack units, isolated replacement need only be completed as required. For budgeting purposes, an allowance of **\$8,000** has been made in fiscal year **2020 and every 10 years thereafter** to ensure funds are available when the work is required.

Battery Pack Units	
. Cost	\$8,000
. Year(s)	2020, 2030, 2040

5.2.5 Electrical Heating Systems

BASEBOARD ELECTRIC HEATERS

The baseboard electric heaters located in the stairs provide primary heating to these areas. The baseboard electric heaters have a typical service life of 25-30 years.

The baseboard electric heaters were installed as part of the original construction; as such are 24 years old. Based on their current age, we expect the baseboard electric heaters are in fair condition. We estimate replacement will be required in the near future.

We recommend the following work be anticipated and funded:

- A. Replacement of the baseboard electric heaters is estimated to cost **\$12,000** and this work has been budgeted in fiscal year **2018 and every 25 years thereafter**.

Baseboard Electric Heaters	
. Qty	12
. Cost	\$12,000
. Year(s)	2018, 2043

FORCED FLOW ELECTRIC HEATERS

The forced flow electric heaters located in the entryways provide primary heating to these areas. The forced flow electric heaters have a typical service life of 25-30 years.

The forced flow electric heaters were installed as part of the original construction; as such are 24 years old. Based on their current age, we expect the forced flow electric heaters are in fair condition. We estimate replacement will be required in the near future.

We recommend the following work be anticipated and funded:

- B. Replacement of the forced flow electric heaters is estimated to cost **\$6,000** and this work has been budgeted in fiscal year **2018 and every 25 years thereafter**.

Forced Flow Electric Heaters	
. Qty	2
. Cost	\$6,000
. Year(s)	2018, 2043

ELECTRIC SPACE HEATERS

The electric space heaters located in parking garage provide primary heating to this area. The electric space heaters have a typical service life of 25-30 years.

The electric space heaters in the parking garage were installed as part of the original construction; as such are 24 years old. Based on their current age, we expect the electric space heaters are in fair condition. We estimate replacement will be required in the near future.

There are energy savings opportunities by switching to a natural gas fired space heaters. Although the capital cost for the new natural gas equipment is considerable, an estimated 20-50% in energy costs savings (weather depending) can be achieved.

We recommend the following work be anticipated and funded:

- B. Replacement of the electric space heaters in the parking garage is estimated to cost **\$8,000** and this work has been budgeted in fiscal year **2018 and every 25 years thereafter**.

Parking Garage Electric Space Heaters	
. Qty	3
. Cost	\$8,000
. Year(s)	2018, 2043

5.2.6 Security Systems

DOOR ENTRY SYSTEM

The phone based door entry system with an access panel located in the main entrance vestibule provides visitor access to the building. The door entry system has a typical service life of 25-30 years.

The door entry system was installed as part of the original construction; as such is 24 years old. The door entry system is in fair condition with no major deficiencies observed. We estimate replacement will be required in the near future.

We recommend the following work be anticipated and funded:

- A. Replacement of the door entry system is estimated to cost **\$10,000** and this work has been budgeted in fiscal year **2018** and every 25 years thereafter.

Door Entry System	
. Qty	1
. Cost	\$10,000
. Year(s)	2018, 2043

5.3 Mechanical

5.3.1 Ventilation System

MAKE-UP AIR UNIT

The packaged Engineered Air make-up air unit with gas fired heat exchanger located on the rooftop provides fresh air to the building, pressurises the building, and prevents odor transfer between units. Make-up air units have a typical service life of 20-25 years.

The make-up air unit was reportedly replaced in fiscal year 2005; as such is 12 years old. The make-up air unit is in satisfactory condition with no major deficiencies observed. We estimate replacement will be required in the next 5-10 years.

The make-up air unit is set up to run on a timer and it is set to shut off during the day. This is a vital component of the HVAC system and by Code it is required to constantly. This provides fresh air and proper ventilation to the units. It also maintains the corridors with a positive pressure in order to keep any smells from infiltrating into the corridors. Continuous mechanical ventilation is required under sections 6.2.2.1, 6.2.2.2 and 6.2.3.11 of the Ontario Building Code.

During our inspection it was noted that the ductwork protective jacket has been damaged in several parts allowing insulation to get wet. The insulation and jacket need to be repaired immediately to avoid further damage.

We recommend the following work be anticipated and funded:

- A. Replacement of the make-up air unit is estimated to cost **\$45,000** and this work has been budgeted in fiscal year **2025** and every 20 years thereafter.
- B. Maintenance of the ductwork insulation and jacket should be performed immediately using funds from the operating budget.

Make-up Air Unit	
. Qty	1
. Cost	\$45,000
. Year(s)	2025, 2045

EXHAUST FANS

The multiple exhaust fans located in the electrical room, electrical vault, locker rooms, garbage room, elevator room, and other common areas provide ventilation and temperature control. Exhaust fans have a typical service life of 30-35 years which can vary greatly depending on usage and environmental conditions.

The exhaust fans are suspected to have been installed as part of the original construction; as such are 24 years old. The exhaust fans vary from fair-to-satisfactory condition with unbalanced blades, noisy fans and slow motors observed. We estimate replacement will be required in the next 5-10 years.

We recommend the following work be anticipated and funded:

- C. Replacement of the exhaust fans is estimated to cost **\$12,000** and this work has been budgeted in fiscal year **2023**.

Exhaust Fans	
. Cost	\$12,000
. Year(s)	2023

GARAGE VENTILATION

The axial exhaust fans and motorized dampers for the parking garage ventilation are set to run in conjunction with the gas detection system. Axial exhaust fans and motorized dampers have a typical service life of 30-35 years.

The axial exhaust fans were installed as part of the original construction; as such are 24 years old. The axial exhaust fans vary from fair-to-satisfactory condition with unbalanced fans, damaged bearings and corroded fan boxes. We estimate replacement will be required in the next 5-10 years.

The motorized damper was installed as part of the original construction; as such is 24 years old. The motorized damper is in fair condition with no major deficiencies observed. We estimate replacement will be required in the next 5-10 years.

We recommend the following work be anticipated and funded:

- D. Replacement of the axial exhaust fans is estimated to cost **\$8,000** and this work has been budgeted in fiscal year **2023**.
 E. Replacement of the motorized dampers is estimated to cost **\$4,000** and this work has been budgeted in fiscal year **2023**, in conjunction with the exhaust fan replacement job.

Garage Exhaust Fans	
. Qty	2
. Cost	\$8,000
. Year(s)	2023

Motorized Dampers	
. Qty	1
. Cost	\$4,000
. Year(s)	2023

GARAGE GAS MONITORING SYSTEM

The Armstrong gas monitoring controller monitors CO sensors located in the parking garage controlling the operation of the parking garage ventilation equipment. Gas monitoring controllers have a typical service life of 15-20 years. CO sensors have a typical service life of 5-7 years.

The gas monitoring controller is suspected to have been installed as part of the original construction; as such is 24 years old. Based on its current age, we expect the gas monitoring controller is in poor condition. The gas monitoring controller has exceeded its useful service life, which means replacement parts will become more difficult and expensive to procure, therefore it should be replaced in the near future.

Gas Monitoring Controller	
. Qty	1
. Cost	\$5,000
. Year(s)	2018, 2023

CO sensors are tested and calibrated annually and are replaced on an as-needed basis. Based on their current age, we expect the CO sensors are in satisfactory condition. We estimate replacement will be required in the next 5 years.

Calibration and testing of the CO sensors should occur every 12 months by a qualified service technician. The costs should be paid for out of the operating budget.

We recommend the following work be anticipated and funded:

- F. Replacement of the gas monitoring controller is estimated to cost **\$5,000** and this work has been budgeted in fiscal year **2018 and every 15 years thereafter**.
- G. Although costs are not included in this study, as they do not constitute a major repair or replacement, we recommend that testing and calibration of the gas monitoring system be performed every year, using funds from the operating budget.
- H. Replacement of the CO sensors should be performed, as required, using funds from the operating budget.

5.3.2 Heating & A/C Systems

DIRECT EXPANSION AIR CONDITIONER UNIT

The Skymark 12-Ton direct expansion self-contained air conditioner unit provides cooling for the ground floor office. The unit is located in the parking garage mechanical room. Air conditioner units have a typical service life of 15-20 years.

The air conditioner unit was replaced in 2003 as such is 14 years old. Based on its current age, we expect the air conditioner unit is in fair condition. We estimate replacement will be required in the near future.

We recommend the following work be anticipated and funded:

- A. Replacement of the air conditioner unit is estimated to cost **\$35,000** and this work has been budgeted in fiscal year **2018 and every 15 years thereafter**.

Air Conditioner Unit	
. Qty	1
. Cost	\$35,000
. Year(s)	2018, 2033

5.3.3 Plumbing Systems

PLUMBING SYSTEMS

The plumbing systems are comprised of domestic cold water distribution pipes, risers, sanitary and storm pipes installed throughout the building. The plumbing systems have a typical service life of 60-80 years.

The domestic cold water distribution pipes and risers were installed as part of the original construction; as such are 24 years old. Based on their current age, we expect the domestic cold water distribution pipes and risers are in satisfactory condition. We do not anticipate replacement will be required during the 30-year planning period of this study.

Domestic Cold Water Distribution and Risers	
. Cost	\$300,000
. Year(s)	Beyond 2045/46

Sanitary and Storm Pipes	
. Cost	\$300,000
. Year(s)	Beyond 2045/46

The sanitary and storm pipes were installed as part of the original construction; as such are 24 years old. Based on their current age, we expect the sanitary and storm pipes are in satisfactory condition. We do not anticipate replacement will be required during the 30-year planning period of this study.

It is recommended that a comprehensive investigation including piping thickness testing be performed of the domestic cold water piping to assess its condition and plan its replacement. The sanitary stacks and horizontals need to be inspected using a camera to better assess their condition and maintenance requirements.

We recommend the following work be anticipated and funded:

- A. A rough order of magnitude estimate for the replacement of the domestic cold water distribution pipes is estimated to cost **\$300,000** and this work has been **beyond the 30-year planning period** of this study.
- B. A rough order of magnitude estimate for the replacement of the sanitary and storm pipes is estimated to cost **\$300,000** and this work has been budgeted **beyond the 30-year planning period** of this study.
- C. Although costs are not included in this study, as it does not constitute a major repair or replacement, we recommend that a comprehensive investigation of the domestic cold water distribution piping and sanitary piping be performed, to better assess the condition, remaining service life, and cost of replacement, in the next 5 years, using funds from the operating budget.

5.3.4 Sump Pumps

SUMP PUMP

The sanitary, and elevator shaft pit, sump pumps are located on their respective pit in the parking garage pumping waste water from the lower levels of the building to the city sewer. Sump pumps have a typical service life of 15-20 years which can vary greatly depending on usage.

The sanitary sump pumps have been replaced on as needed basis and their current age could not be determined. We expect the sanitary sump pumps are in satisfactory condition as the sanitary sump pumps could not be visibly inspected. We estimate replacement will be required in the next 5-10 years.

Sump pumps should be inspected regularly and properly maintained in accordance with the manufacturer's recommendations to reduce the risk of premature failure.

We recommend the following work be anticipated and funded:

- A. Replacement of the sanitary sump pumps is estimated to cost **\$5,000** and this work has been budgeted in fiscal year **2020 and every 10 years thereafter**.

Sanitary Sump Pumps

. Qty	2
. Cost	\$5,000
. Year(s)	2020, 2030, 2040

5.3.5 Elevators

ELEVATORS

The Dover hydraulic elevator installed in the building provides access to floors B to 6. The elevator mechanical room is located on level B in the parking garage. Hydraulic elevators have a typical service life of 30-35 years. Elevator cab interiors have a typical service life of 25-30 years and are renewed for aesthetic purposes.

The Elevators were installed as part of the original construction; as such is 24 years old. The elevators are in fair condition with no major deficiencies observed. We estimate replacement will be required in the near future.

Periodically, the Technical Standards and Safety Authority dictate remedial work that must be carried out on various types of elevators, and is mandatory.

We recommend the following work be anticipated and funded:

- A. Replacement of the elevators control system is estimated to cost **\$170,000** and this work has been budgeted in fiscal year **2018 and every 25 years thereafter**.
- B. Replacement of the elevator cab interiors is estimated to cost **\$17,000** and this work has been budgeted in fiscal year **2018 and every 25 years thereafter**, in conjunction with the elevator control modernization.
- C. In order to ensure funds are available to perform potential mandatory TSSA upgrades, an allowance of **\$2,000** has been made in fiscal year **2018 and every 5 years thereafter**.

Elevator Control Modernization	
. Qty	1
. Cost	\$170,000
. Year(s)	2018, 2043

Elevator Cab Interior Modernization	
. Qty	1
. Cost	\$17,000
. Year(s)	2018, 2043

TSSA Elevator Contingency Allowance	
. Qty	Allowance
. Cost	\$2,000
. Year(s)	2018, 2023, 2028 2033, 2038, 2043

5.3.6 Fire Protection Systems

FIRE PROTECTION SYSTEMS

The fire protection systems consist of fire extinguishers, fire hose cabinets, and dry pipe sprinklers in the parking garage. Fire protection systems have a varying service life.

The fire protection systems are inspected annually and are replaced on an as-needed basis. The fire protection systems vary from fair-to-satisfactory condition with no major deficiencies observed. We anticipate isolated repairs and replacement of individual components will be required during the 30-year planning period of this study.

Annual inspection and maintenance has been performed and should be continued to ensure that the fire protection system remains in active working condition at all times.

We recommend the following work be anticipated and funded:

- A. Repairs and maintenance of the fire protection systems should be performed, as required, using funds from the operating budget.

FIRE PUMP

The fire pump located in the parking garage pump room provides water to the standpipe, fire hose cabinets and sprinklers in the building and parking garage. Fire pumps have a typical service life of 25-30 years.

The fire pump was installed as part of the original construction; as such is 24 years old. Based on their current age, we expect the fire pump is in fair condition. We estimate replacement will be required in the near future.

We recommend the following work be anticipated and funded:

- B. Replacement of the fire pump is estimated to cost **\$7,000** and this work has been budgeted in fiscal year **2018 and every 25 years thereafter**.

Fire Pump	
. Qty	1
. Cost	\$7,000
. Year(s)	2018, 2043

DRY PIPE AIR COMPRESSOR

The Husky 5HP, 20 Gallon air compressor for the dry pipe sprinkler system located in the basement pump room provides compressed air to maintain air pressure inside the dry pipe sprinkler system. The air compressor has a typical service life of 15-20 years which can vary greatly on usage and environmental conditions.

The air compressor was replaced in 2005; as such is 12 years old. The air compressor is in satisfactory condition with no major deficiencies observed. We estimate replacement will be required in the next 5-10 years

We recommend the following work be anticipated and funded:

- C. Replacement of the air compressor is estimated to cost **\$2,500** and this work has been budgeted in fiscal year **2020 and every 15 years thereafter**.

Dry Pipe Air Compressor	
. Qty	1
. Cost	\$2,500
. Year(s)	2020, 2035

STANDPIPES AND SPRINKLER PIPES

The standpipes comprised steel pipes installed throughout the condominium and sprinkler pipes with sprinkler heads installed in the parking garage serve the wet fire protection system. The standpipes and sprinkler systems have a typical service life of 60-80 years.

The standpipes were installed as part of the original construction; as such are 24 years old. Based on their current age, we expect the standpipes are in satisfactory condition. We do not anticipate will be required during the 30-year planning period of this study.

The dry pipe sprinkler pipes in the parking garage were installed as part of the original construction; as such are 24 years old. Based on their current age, we expect the sprinkler pipes are in satisfactory condition. We do not anticipate replacement will be required during the 30-year planning period of this study.

It is recommended that a comprehensive investigation including piping thickness testing be preformed of the standpipe and sprinkler pipes to assess their condition and plan their replacement. Dry pipe sprinkler systems are prone to corrosion and early failure if water drainage is not done correctly after the annual test.

Standpipes	
. Cost	\$150,000
. Year(s)	Beyond 2045/46

Garage Sprinkler Pipes	
. Cost	\$100,000
. Year(s)	Beyond 2045/46

We recommend the following work be anticipated and funded:

- D. A rough order of magnitude estimate for the replacement of the standpipes is estimated to cost **\$150,000** and this work has been budgeted **beyond the 30-year planning period** of this study.
- E. A rough order of magnitude estimate for the replacement of the sprinkler pipes is estimated to cost **\$100,000** and this work has been budgeted **beyond the 30-year planning period** of this study.
- F. Although costs are not included in this study, as it does not constitute a major repair or replacement, we recommend that a comprehensive investigation of the standpipe and sprinkler pipes be performed in 2022/23, using funds from the operating budget.

**APPENDIX A:
SPREADSHEET
FOR MAJOR
REPAIR AND
REPLACEMENT
COSTS**

OCSCC ###: Spreadsheet For Major Repair & Replacement Costs, Fiscal Years 2017 to 2046

AGE OF COMPLEX	24 Years	25 Years	26 Years	27 Years	28 Years	29 Years	30 Years	31 Years	32 Years	33 Years	34 Years	35 Years	36 Years	37 Years	38 Years	39 Years
REPAIR/REPLACEMENT ITEMS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
5.1 CIVIL, ARCHITECTURAL																
5.1.1 Site Services																
5.1.2 Parking Garage		\$270,000														
5.1.3 Asphalt Pavement		\$26,000														
5.1.4 Pavers		\$42,000														
5.1.5 Exterior Concrete		\$12,000														
5.1.6 Landscaping																
5.1.7 Foundation Walls																
5.1.8 Balconies							\$265,000									
5.1.9 Masonry				\$20,000												\$20,000
5.1.10 Soffits & Fascias																
5.1.11 Caulking						\$35,000										
5.1.12 Windows & Balcony Doors												\$840,000				
5.1.13 Doors									\$2,000			\$35,000				
5.1.14 Roofing Systems			\$160,000													
5.1.15 Common Corridors														\$155,000		
5.1.16 Common Rooms														\$50,000		
5.2 ELECTRICAL SYSTEMS																
5.2.1 Electrical Distribution														\$35,000		
5.2.2 Lighting																
5.2.3 Fire Alarm System				\$10,000								\$55,000		\$10,000		
5.2.4 Emergency Power System				\$8,000										\$8,000		
5.2.5 Electrical Heating System		\$26,000														
5.2.6 Door Entry System		\$10,000														
5.3 MECHANICAL SYSTEMS																
5.3.1 Ventilation System		\$5,000					\$24,000		\$45,000							
5.3.2 Heating & A/C System		\$35,000														
5.3.3 Plumbing System																
5.3.4 Sump Pumps				\$5,000										\$5,000		
5.3.5 Elevators		\$189,000					\$2,000					\$2,000				
5.3.6 Fire Protection System		\$7,000		\$2,500												
Reserve Fund Study Update	\$5,800			\$3,000			\$5,800			\$3,000			\$5,800			\$3,000
YEARLY EXPENDITURE TOTALS	\$5,800	\$622,000	\$160,000	\$48,500	\$0	\$35,000	\$296,800	\$0	\$47,000	\$3,000	\$0	\$932,000	\$5,800	\$263,000	\$0	\$23,000
EXPENDITURES INCL. INFLATION	\$5,800	\$634,440	\$166,464	\$51,469	\$0	\$38,643	\$334,245	\$0	\$55,068	\$3,585	\$0	\$1,158,825	\$7,356	\$340,219	\$0	\$30,955
CONTRIBUTIONS FROM FEES	\$155,575	\$158,687	\$161,860	\$165,097	\$168,399	\$171,767	\$175,203	\$178,707	\$182,281	\$185,927	\$189,645	\$193,438	\$197,307	\$201,253	\$205,278	\$209,383
ADDITIONAL CONTRIBUTIONS																
INTEREST CONTRIBUTIONS	\$10,604	\$7,525	\$2,825	\$3,984	\$6,913	\$10,098	\$10,040	\$10,442	\$13,743	\$17,147	\$21,251	\$13,845	\$6,292	\$6,934	\$7,744	\$11,776
REMAINING RESERVE FUND	\$610,379	\$142,151	\$140,372	\$257,984	\$433,297	\$576,519	\$427,517	\$616,666	\$757,622	\$957,110	\$1,168,007	\$216,464	\$412,707	\$280,675	\$493,697	\$683,901

ESTIMATED RESERVE FUND = \$450,000 December 30, 2016
CURRENT ANNUAL CONTRIBUTIONS = \$155,575 January 1, 2017
FUTURE ANNUAL CONTRIBUTIONS = \$158,687 January 1, 2018

NOTES:

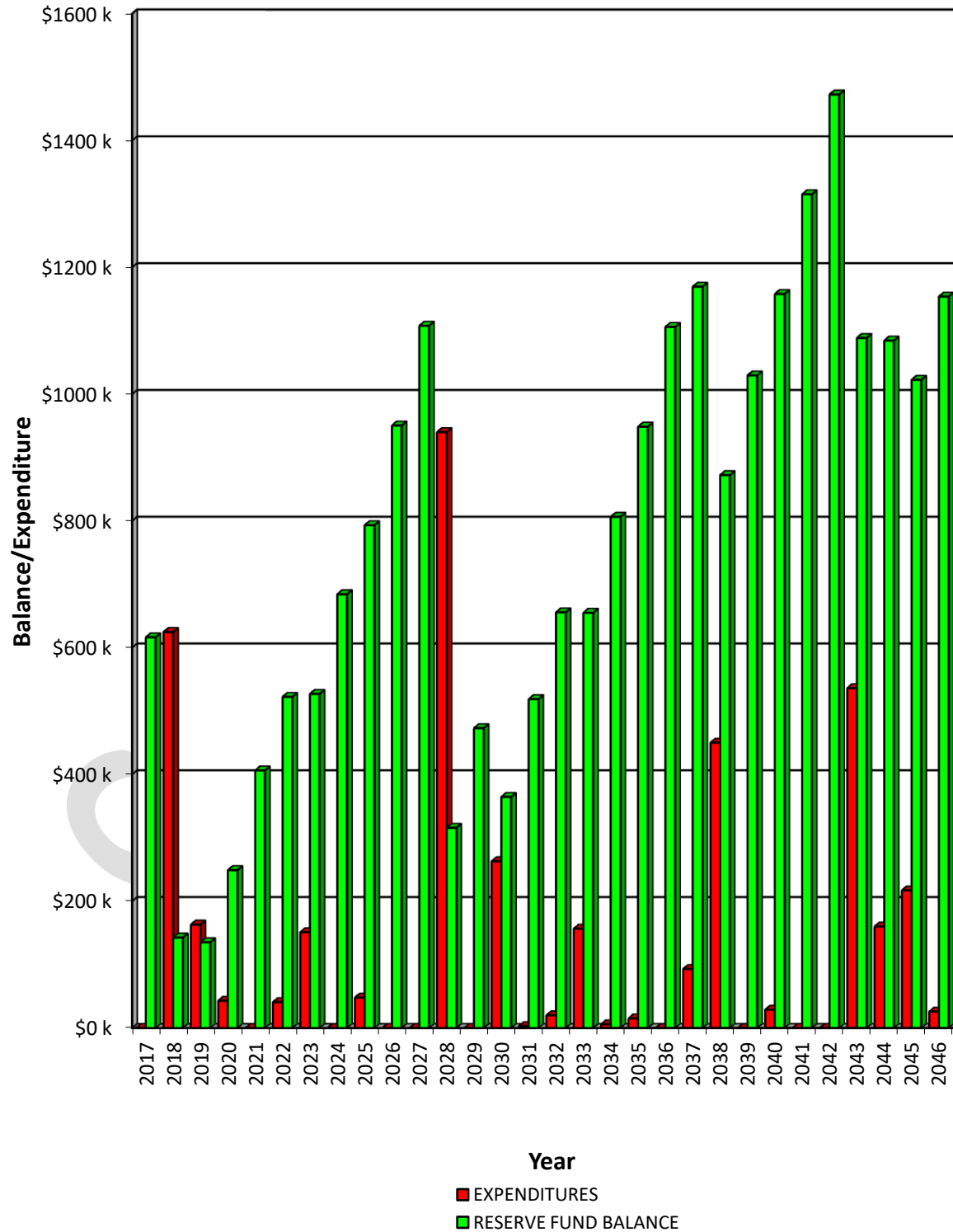
1) Interest contributions for each year are based on the average remaining reserve fund for that year at an interest rate of 2.0%.

2) Estimates for expenditures include HST and, where appropriate, engineering fees.

40 Years	41 Years	42 Years	43 Years	44 Years	45 Years	46 Years	47 Years	48 Years	49 Years	50 Years	51 Years	52 Years	53 Years		AGE OF COMPLEX
2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTALS	REPAIR/REPLACEMENT ITEMS
															5.1 CIVIL, ARCHITECTURAL
														\$0	5.1.1 Site Services
										\$270,000				\$540,000	5.1.2 Parking Garage
										\$26,000				\$52,000	5.1.3 Asphalt Pavement
\$15,000														\$57,000	5.1.4 Pavers
										\$12,000				\$24,000	5.1.5 Exterior Concrete
														\$0	5.1.6 Landscaping
														\$0	5.1.7 Foundation Walls
					\$125,000									\$390,000	5.1.8 Balconies
											\$20,000			\$60,000	5.1.9 Masonry
														\$0	5.1.10 Soffits & Fascias
				\$90,000										\$125,000	5.1.11 Caulking
														\$840,000	5.1.12 Windows & Balcony Doors
\$90,000					\$15,000							\$2,000		\$144,000	5.1.13 Doors
											\$160,000			\$320,000	5.1.14 Roofing Systems
												\$155,000		\$310,000	5.1.15 Common Corridors
														\$50,000	5.1.16 Common Rooms
															5.2 ELECTRICAL SYSTEMS
					\$323,000									\$358,000	5.2.1 Electrical Distribution
														\$0	5.2.2 Lighting
							\$10,000							\$85,000	5.2.3 Fire Alarm System
							\$8,000							\$24,000	5.2.4 Emergency Power System
										\$26,000				\$52,000	5.2.5 Electrical Heating System
										\$10,000				\$20,000	5.2.6 Door Entry System
															5.3 MECHANICAL SYSTEMS
\$5,000												\$45,000		\$124,000	5.3.1 Ventilation System
\$35,000														\$70,000	5.3.2 Heating & A/C System
														\$0	5.3.3 Plumbing System
							\$5,000							\$15,000	5.3.4 Sump Pumps
\$2,000					\$2,000					\$189,000				\$386,000	5.3.5 Elevators
		\$2,500								\$7,000				\$19,000	5.3.6 Fire Protection System
		\$5,800			\$3,000			\$5,800			\$3,000			\$44,000	Reserve Fund Study Update
\$147,000	\$0	\$8,300	\$0	\$90,000	\$468,000	\$0	\$23,000	\$5,800	\$0	\$540,000	\$183,000	\$202,000	\$0	\$4,109,000	YEARLY EXPENDITURE TOTALS
\$201,799	\$0	\$11,854	\$0	\$133,735	\$709,332	\$0	\$36,269	\$9,329	\$0	\$903,646	\$312,360	\$351,687	\$0	\$5,497,079	EXPENDITURES INCL. INFLATION
\$213,571	\$217,843	\$222,199	\$226,643	\$231,176	\$235,800	\$240,516	\$245,326	\$250,233	\$255,237	\$260,342	\$265,549	\$270,860	\$276,277	\$6,311,379	CONTRIBUTIONS FROM FEES
														\$0	ADDITIONAL CONTRIBUTIONS
\$13,935	\$16,536	\$21,195	\$26,037	\$29,837	\$26,641	\$24,825	\$29,868	\$35,016	\$40,735	\$37,638	\$31,428	\$30,774	\$33,369	\$558,998	INTEREST CONTRIBUTIONS
\$709,608	\$943,987	\$1,175,527	\$1,428,207	\$1,555,485	\$1,108,594	\$1,373,935	\$1,612,860	\$1,888,781	\$2,184,753	\$1,579,088	\$1,563,704	\$1,513,651	\$1,823,297	\$1,823,297	REMAINING RESERVE FUND
REMAINING RESERVE FUND IN 2017 DOLLARS														\$1,026,721	

3) Inflation assumed to be at an average rate of 2.0% over the time frame examined above.

OCSCC ### - Reserve Fund Annual Expenditures/Closing Balance





January 30, 2019

Carleton Condominium Corporation No. 498
c/o Capital Integral Property Management
904 Lady Ellen Place,
Ottawa, Ontario
K1Z 5L5

Attention: Anne Makuch, Property Manager

**Subject: La Renaissance – 40 Landry Street, Ottawa, Ontario
Proposal for Reserve Fund Study Update**

Dear Board:

Thank you for requesting our proposal to update your Reserve Fund Study. Your last study, dated February 3, 2016 was not based on a site inspection. Therefore, you require a site visit for this update.

WSP has provided hundreds of Reserve Fund Studies since 1986. We are constantly improving our systems to provide you with a better Reserve Fund Study experience. Our commitment to your needs and goals through service excellence will result in a customized, sensible and understandable Reserve Fund Study.

OUR MANDATE

This update will be optimized through our dedication to achieving the following objectives:

- Update costs and timing to reflect current pricing and data in time for budgeting for your next financial year which begins on January 1.
- Help the Board of Directors meet their obligations to verify adequate funding.
- By our site review, check previous predictions regarding the timing and extent of expected work and identify new problems becoming apparent.

Our report will incorporate our knowledge of the building from our involvement with the recent garage repairs.

SCOPE AND FEES

The attached scope of work includes details about how WSP will complete your reserve fund study update.

Our fee for the level of engineering input described will be **\$8,500** including expenses.

Our fee allows for one draft study and one final study. We will attend one meeting with the Board to review the findings of the draft study and discuss revisions/changes. We will complete one set

Suite 300
2611 Queensview Drive
Ottawa, ON, Canada K2B 8K2

T: +1 613 829-2800
F: +1 613 829-8299
wsp.com



of revisions towards producing a final study. Additional revised drafts and additional meetings will be billed on a time basis in addition to the fee at our standard rates.

Our services and fees are subject to the attached General Terms and Conditions and applicable taxes and assume the use of the standard WSP contract. Any alternative contracts or supplemental conditions shall be subject to review by WSP Legal Counsel and negotiation of mutually agreeable terms and conditions.

SCHEDULE

Your financial year end is December 31. We assume that you will want a draft report by late September so there is time for us to meet with the Board and make revisions prior to finalizing the study in time for your budget process. We require around 6 to 8 weeks to complete the study, so approval, and all required documentation, should be provided by August 1, 2018.

The schedule should not be extended beyond this fiscal year end, or the figures will need to be updated.

Thank you for considering WSP. If you have any questions with respect to our submission, please feel free to contact us. We would be pleased to meet you to discuss how WSP can provide you with the best value for your specific needs.

If you would like to proceed with this work, you can accept WSP's offer to perform the services outlined in this proposal by signing the attached Authorization for Services and returning a copy to our office at your earliest convenience.

Yours sincerely,

A handwritten signature in blue ink that reads 'Dylan Conners'.

Dylan Conners, B.A.Sc.
Project Manager

Encl. Scope of Services
 Authorization for Services

Dist. Anne Makuch, Property Manager

WSP Ref. 1855357



SCOPE OF SERVICES - RESERVE FUND STUDY UPDATE

FACILITY DESCRIPTION

Your Condominium Corporation includes a 16-storey tower with 218 residential units and one commercial unit on the ground floor. There is a three-level underground parking garage with about 269 parking stalls. Outdoor living space for the residential units is provided by concrete balconies. Amenities include a party room, indoor pool with a whirlpool, changerooms, saunas, exercise room, laundry room, library and workshop. There are three overhead traction passenger elevators. The building was constructed in about 1984.

We understand there are no shared facilities or cost sharing agreements in place with any adjacent properties.

BASE SCOPE OF WORK

Reserve Fund Study updates must be completed at least every three years, alternating with and without site inspection. In order to meet the requirements of the Condominium Act, you require an updated study based on a site inspection, which includes the following scope:

- **Reflect Work completed since last update.** Based on information you provide, including the financial statements, we will update the study to reflect any work completed since the last study was prepared.
- **Review previous WSP data.** We will examine the previous Reserve Fund Study to identify changes or additions that should be made to reflect improvements we have made in our planning approach.
- **Incorporate changes that the Board of Directors wishes to see made.** We will provide a questionnaire for completion by the Board and/or Property Management at the start of our work regarding current financial information and planned work.
- **Evaluate the condition of building components.** This includes a site review to check for components which may be performing better or worse than expected, or to check specific items of concern that may be identified to us by Property Management. The team does not include a separate elevator consultant, so we will not have access to the pit and hoistway.
- **Update the estimated costs and times,** to reflect the pricing based on market conditions and timing based on the conditions of the elements.
- **Analyze the data.** Using specified interest and inflation rates, we will determine reserve fund contribution amounts required to meet future expenditures. If the analysis indicates that an increase in the contribution amount is required, we will provide an analysis showing how this can be phased in gradually rather than requiring a sharp increase.
- **Update your report** with the changes we have made.
- **Attend one Board meeting** to review the findings of the draft study and discuss revisions towards producing the final report. Our fee includes for one set of minor revisions. Multiple revised drafts have not been included.

PROCESS

We often find that a draft report is requested by the Board of Directors followed by a final report to include any fine-tuning. We will provide you with two financial analyses, one where any under-funding is addressed through an immediate correction to the annual contribution, and a second which phases in the required increases.

The fees submitted as part of this proposal assume this study will proceed promptly from a draft format to the final with one set of minor editorial changes, clarifications and recalculation based



feedback received within 60 days of the date of the draft report. If the time frame extends beyond this, or additional revised drafts are needed, we will bill our time on a time basis. The additional costs are typically about \$600 per set of revised financial analyses.

REPORTING

COMPONENT DESCRIPTION

Each component in the Reserve Fund Study is clearly described with its condition and repair history (where made known to us) documented. In our engineered evaluation, we consider the actual manner in which repairs/ replacements are likely to be carried out, including likely phasing of work, combining work to be cost effective, replacement with preferred materials, etc.

FINANCIAL INFORMATION (RESERVE FUND CONTRIBUTIONS)

We provide an expenditure table, which shows all the anticipated projects, and the years when they occur, and 30 year scenario summaries showing the impact of different funding approaches on the contribution levels and balances.

We typically use a threshold of \$2,500 to decide which items have a dedicated line item in the study and include a contingency to cover the items which would fall in the \$500 to \$2,500 range. The contingency is checked against actual spending patterns in the prior three years at each update.

If the current reserve fund is underfunded, the annual expenditures, contributions and resulting reserve fund balance for assumed interest or inflation rates are shown for two extremes. These extremes represent the increase in contributions that would be required, if future annual increases match inflation (larger increase), or if the required increase is phased in as gradually as, in our opinion, is reasonable (minimum increase). The Board can select any contribution above the minimum for the final report.

NOTICE OF FUTURE FUNDING OF THE RESERVE FUND

Within 15 days of proposing a plan, the Condominium is required to circulate a "Notice of Future Funding of the Reserve Fund" (formerly Form 15) to Owners, describing both the Study and the Plan. This notice must be issued to unit owners at least 30 days before the funding plan takes effect (usually the start of the fiscal year).

We will prepare the written notice (Notice of Future Funding of the Reserve Fund), based on a plan that matches one of the recommendations in the Reserve Fund Study. If an alternate plan is developed, our involvement would need to be defined at that time and additional fees will apply.

We will provide one copy of the Form for the Board to sign, copy and distribute.

REPORT FORMAT

While we will happily meet your needs to provide hard copy reports, we prefer to provide the report electronically as part of our ongoing initiative to reduce paper usage. You might consider accepting the bulk of the report electronically (with just the financial information printed out for each Board Member) for the draft, and then perhaps one hard copy for the final report.

**WSP CANADA INC.
AUTHORIZATION FOR SERVICES**

CLIENT: Carleton Condominium Corporation No. 498 c/o Capital Integral Property Management	DATE: January 30, 2019
ADDRESS: 904 Lady Ellen Place, Ottawa, Ontario	
CONTACT NAME: Anne Makuch	EMAIL: amakuch@cimanagement.ca
PROJECT: Reserve Fund Study Update (Class II)	LOCATION: 40 Landry Street, Ottawa, Ontario
AUTHORIZATION: CLIENT requests and authorizes WSP Canada Inc. having its head office at 1600 René-Lévesque Boulevard West, Montréal (Québec) H3H 1P9 (" WSP ") to perform the services specified in the following BASIC SERVICES and ADDITIONAL SERVICES (" SERVICES ") in accordance with the terms and conditions of this Authorization for Services (" AGREEMENT ").	
BASIC SERVICES: As per proposal 1855357 dated January 30, 2019	
COMPENSATION: CLIENT agrees to pay WSP for the performance of the Services on the following basis: The lump sum of \$8,500 in two installments: 90% of the fee upon submittal of the draft report and 10% of the fee upon submittal of the final report. Applicable taxes are in addition to the installments amounts.	
PAYMENT: WSP will invoice CLIENT: <input type="checkbox"/> biweekly <input type="checkbox"/> monthly <input checked="" type="checkbox"/> other: 90% upon draft submittal, 10% upon final submittal for SERVICES performed and CLIENT agrees to pay each invoice within thirty (30) days without holdback. Interest at the rate of [1] % per annum (or the maximum rate allowed by law, if lower) will be charged on all overdue amounts. WSP may suspend the SERVICES and retain all documents prepared in connection therewith, after giving CLIENT five (5) days' written notice, until any overdue amounts have been paid in full.	
PROFESSIONAL RESPONSIBILITY AND LEGAL LIABILITY: <ul style="list-style-type: none">Standard of Care. The standard of care applicable to the SERVICES will be the degree of care, skill and diligence normally employed by professional engineers or consultants performing the same or similar services at the time and place that the SERVICES are performed.Professional Liability Insurance. WSP shall maintain throughout the term of this AGREEMENT Professional Liability Insurance with a limit deemed reasonable to WSP, insuring WSP'S professional liability resulting from the performance of the SERVICES. WSP shall provide CLIENT with proof of such insurance upon written request.Limitation of Liability. WSP'S aggregate liability to CLIENT for claims arising out of this AGREEMENT or in any way relating to the SERVICES, will be limited to the total fees paid to WSP hereunder. In no event will WSP be liable for indirect or consequential damages including without limitation loss of use or loss of profits. These	



limitations of liability will apply, to the extent permitted by law and will extend to and include WSP'S directors, officers, employees, insurers, agents and sub-consultants.

OWNERSHIP OF DOCUMENTS:

All drawings, plans, models, designs, specifications, reports, surveys, calculations and other data or documents which are prepared by or on behalf of WSP in connection with the SERVICES are and shall remain the property of WSP. WSP retains ownership of all patents, trademarks, copyrights, industrial or other intellectual property rights resulting from the SERVICES or from concepts, products, or processes which are developed or first reduced to practice by WSP in performing the SERVICES. The CLIENT will not use, infringe or appropriate such proprietary rights without the prior consent and compensation of WSP.

TERMINATION:

This AGREEMENT may be terminated for convenience by either party on thirty (30) days' written notice or if either party fails substantially to perform through no fault of the other and does not commence correction of such non-performance within five (5) business days of written notice and diligently complete the correction thereafter. On termination, WSP will be paid for all authorized SERVICES performed up to the termination date plus reasonable termination costs.

GOVERNING LAW:


This AGREEMENT shall be governed by and interpreted in accordance with the laws of the Province where the SERVICES are performed by WSP.

ENTIRE AGREEMENT:

This AGREEMENT contains the entire agreement of the parties and supersedes all previous communications and negotiations between them relating to the SERVICES. If CLIENT issues a purchase order in connection with the SERVICES, the terms and conditions thereof do not supersede this AGREEMENT which shall prevail over such purchase order.

LANGUAGE:

The parties hereto acknowledge having required that this AGREEMENT be drawn up in the English language. *Les parties aux présentes ont demandé que la présente entente soit rédigée en anglais.*

Carleton Condominium Corporation No. 498	WSP Canada Inc.
BY:	BY:  Dylan Conners, B.A.Sc. Project Manager
AUTHORIZED REPRESENTATIVE	AUTHORIZED REPRESENTATIVE





Anne Makuch <amakuch@cimanagement.ca>

Anti EMF shielding

James Gu <jgu@cimanagement.ca>
To: ccc498board <ccc498board@cimanagement.ca>
Cc: Anne Makuch <amakuch@cimanagement.ca>

Mon, Mar 11, 2019 at 10:37 AM

Hi all,

After research and measurement, we have found two solutions for the project:

Coating the wall between her bedroom and the neighbor. Cost: 1830 + HST

Pro

Highly effective

Con

- Will block everything including Wi-Fi and cellphones.
- In order to be 100% effective, need to paint every surface (even ceiling). So only one wall might not seem enough.
- Expensive

Two Poles to "convert" the "bad" frequency for the body.

400 + HST

Pro

- Cheap
- Easy to install as the poles defines the limit of the EMF shield
- Will not affect most other "good" frequency such as cellphone and wi-fi

Con

- Is it really reliable?
- No proof that might actually work.

Your choice...

Best regards,

--

James Gu, Property Assistant
ACMO 2000 Certified

Web: www.cimanagement.ca Tel: 613-722-1232 ext. 114 Fax: 1-613-651-0306

To reach your management team for any service please use the service email for your location. This will ensure the quickest response to your request.

If your building name is OCSCC No. 345, then use the service345@cimanagement.ca email.



04/03/2019

NEXUS ELECTRIC
2212 Gladwin Cr. Unit E3
Ottawa, ON K1B 5N1
Office: 613-518-7159 x:202
Cell: 613-818-4420
Fax: 1-636-548-6931
Email: andredrouin@nexuselectric.net

Attn: CCC498 40 Landry St.
Unit 1702 master bedroom EMF Shielding painting.
Capital Integral Property Management
Attn: James Gu

We are pleased to provide you with our price of \$1,830.00+HST to paint the master bedroom demising wall with 1 layer of EMF shielding paint and perform the grounding for it.

For 2 layers of paint it would cost \$2,170.00+HST.

The paint to be used for this project will be YSHIELD EMF Shielding paint HSF54.

This quote allows for test results after shielding painting has been completed.

This price doesn't allow for the washroom demising wall painting.

Notes:

- Work to be done during regular hour.
- All furniture, picture frame, wall decorations to be moved by other to allow painting.
- No allowance for any patching, trim removal, carpet repairs or cleaning.
- No allowance for any wall paper, wall finishing and paint finishing after EMF shielding will be apply.
- ESA log book up date.
- This price is valid for a period of 30 days.

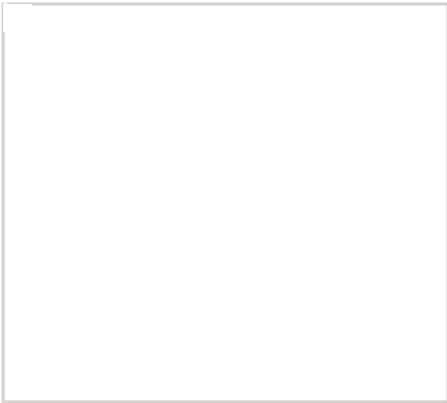
Sincerely,

André Drouin
Owner, Operator
Nexus Electric



CALL TO ORDER: 877 571 71

SafeSpace Solutions



Radiant Room

The Radiant Room can protect a single room – up to 400 square feet – from the health dangers of EMF radiation. And you can take it with you wherever you go. It is the ideal solution for clearing and protecting bedrooms, small offices, classrooms, hospital rooms, lecture halls, hotel rooms and any place you can't easily use the SafeSpace EMF Adapter.

Radiant Room

\$159.95

 **BUY NOW**

Product Details

- **Size:** 3" x 3" X 1/4" Circle
- **Range:** Radiates a protective field into a single room up to 400 square feet
- **Material:** Plexiglass case for protection

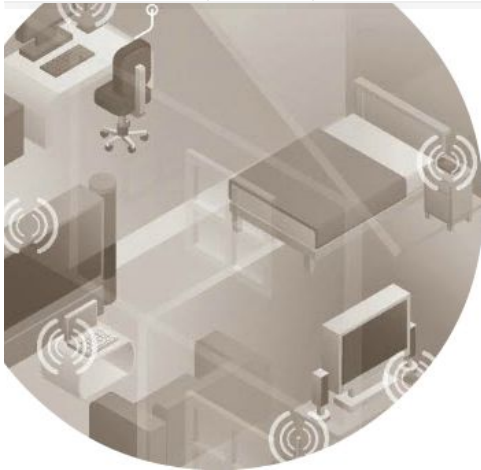
	?	“ ”
Details	FAQ	Testimonials

Radiant Room

Clear a single room at home or away

The Radiant Room protects smaller spaces from external EMF sources such as smart meters, cell towers, high-voltage power lines, wireless networks and geopathic stress.

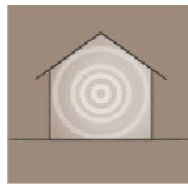
It creates an overlay of benign energy that can:



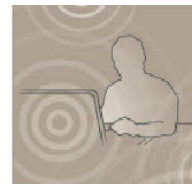
- Enhance mental and emotional clarity
- Restore balance and tranquility to your environment
- Help you get more-restful sleep.

Start feeling better right away

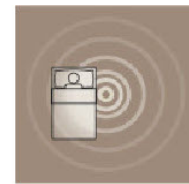
The SafeSpace Radiant Room begins to work immediately, and it continues to keep the areas clear of EMFs as long as it remains in place. All you have to do is remove it from its velour carrying case and place it on any flat surface or attach it to a wall. You can move it easily from one location to another, although if you remove it from the room, the EMF dissonance will return.



Single Room
Clearing



Improved Clarity
at Work



A More Restful
Sleep



Wi-Fi Area
Protection

Try the Radiant Room RISK-FREE for 30 days

All SafeSpace products have a 30-day money-back guarantee. If you are not completely happy with the product, return it within 30 days for a full refund.

See our complete line of SafeSpace Solutions for:

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	CCC 498 Ongoing Action Item List					
	Date	Item	Action 1	Action 2	Action 3	Notes
1	January 2, 2019	Obtain 3rd quote for building mats	Received two quotes and awaiting 3rd -	Third quote received and included in Feb Board package		Board decided to wait for 4th quote from Rismat
						UPDATE: Awaiting fourth quote from Toronto-based company RISMAT
2	January 8, 2019	Owners/residents require parking reimbursement following garage re-surfacing project	List and receipts obtained from office at 40 Landry - Cheque Requisitions prepared for accounting to issue reimbursements.	UPDATE: BDO has all the parking reimbursement cheque requisitions and is processing - payments should be completed by week of February 25	UPDATE: Accounting confirmed that most reimbursements are complete however some deposit information missing for a few owners. Once obtained the funds will be deposited.	
3	January 9, 2019	Asbestos Management Plan required for the building	Obtain 3 quotes for designated substance testing and an Asbestos Management Plan. Awaiting quotes.			UPDATE - Quotes received from Kanellos and Pinchin - awaiting 1 more quote from DST Consulting
4	January 10/19	Owner requested second railing at entrance to pool	Obtain quote from Poolworks	Quote received and provided with Board package	Approved by board. PO sent to Poolworks	UPDATE - was installed on 5 Mar 2019. Pool closed Mar 05-07
5	January 10/19	Roof leak at 17th floor	Joe to investigate. Joe found leak is coming from roof and not plumbing. Temporary measures until a roofer can inspect and repair.	UPDATE - Management seeking roofer to investigate and repair. Very difficult to repair in present weather conditions. Management meeting with Roof Maintenance Solutions February 26 to discuss way forward.	UPDATE: Met Ernie Cecchetto fo Roof Maintenance Solutions February 27. He examined roof but not much can be done until the weather warms and roof is clearer.	
6	January 10/19	Hydro Vault switch is defective. DS Electric provided a quote last year but nothing was done.	Requested an updated quote from DS Electric as well as additional quotes from Carleton Electric and SBL Electric.	UPDATE: Awaiting quotes still it is a big project and much has to go into quoting for the work. One company approached, SBL Electric, cannot do the work. A third company, Broder Electric, has been contacted to obtain a third quote.		
7	January 15/19	Reserve Fund Study for 2019 - proposals from BLP, EXP and WSP for a Class 2 study (with site review) were found however they are outdated.	Obtain updated quotes. In progress.	Roof inspection must be done along with other RFS items not completed	RFS to look at exterior membrane. Also ask D. Fried re: indepth RFS	Proposals received and included with February Board meeting material. The Board requested further information/presentation from Capacity Engineering (CEL) on their proposal for a Depreciating Asset Study. UPDATE: Maurice Quinn of CEL will attend the March 18th meeting.
8	January 21/2019	Credits and debits in AR need to be cleared up	PM to speak to accounting	Spoke with Nelia. This will not show on January statements but will be done for the February statements.	UPDATE: Unfortunately not possible for February statements but will be cleared for March.	
9	January 21/19	Electromagnetic issue:	Get quote for shielding paint for 1702 wall	UPDATE: in progress as we have contacted the unit owner to access the unit to take measurements of the adjoining wall. Supplier for EMF shielding paint found and material is being costed. In addition the services of an electrician are required as the paint must be applied over a grounding strap and be able to attach to a grounding rod separate from the building wiring.	UPDATE: DS Electric reviewing the grounding only task. Nexus electric has accepted to overtake the whole project. UPDATE: \$1830 for coating only 1 wall. New alternative: \$400 for installing 2 poles anti-EMF (effective?)	
10	January 21	A fob audit needs to be done in spring	UPDATE:- Intercom buzzer to be cleaned by end of March - Finding new contractor for the fob system (Com-net & Ainger) - Since capital system is also managing the parking. We need to discuss in case of changing the contractor.			

11	January 21/19	Lockboxes at back need to be removed	Send notice to residents saying lockboxes will be removed by a certain date. Include mention of no residents parking in visitors	UPDATE: - Signage place in front of lockboxes to warn that lockboxes must not be placed at this location stating that all lockboxes will be removed on March 31st.		
13	January 21/19	Four units still reporting condensation issues - could it be wall insulation issue? Follow-up with residents of 4 units	Following up with residents regarding condensation - pamphlet to be provided indicating measures to take to reduce condensation.	ongoing		
14	January 21/19	Owner of 710 submitted reno request	Draft letter for board review approving the request with caveats re: touching common elements	Provide board with example of common element modification bylaw. UPDATE: James prepared a renovation agreement	To be decided by Mar 2019 boards meeting for the final version	
15	January 21/19	Follow up with WSP for column repairs - are they following service contract - need bids to start repairs May 15 - call Steve Castonguay	Francois followed up with WSP regarding the column repairs	Received contract. To be signed by the boards. -Signed and sent to WSP on 2019-03-08		
16	February 16/19	Water leak reported in bathroom of 104	OMS attended and found that water was coming from the shower - poor caulking. OMS advised owner to have a handyman repair the shower. While handyman was onsite, with Joe, he discovered an additional leak from the cold water pipe junction.	CWW was called to repair the pipe - installed new clamp. No more leaking	Drywall damages to be repaired in 304 and 104, - Obtaining quote UPDATE: quote obtained and approved. Repair for both on 4th Mar2019	
17	February 19/19	1405 requires extermination of silverfish	Regionex contacted to treat the unit - owner to provide access	Owner cancelled the task due to illness. Awaiting for her call.	Owner cancelled the extermination saying no more silverfish in view	
18	February 28/19	Hallway HVAC down	Unit went down for the 3rd time in 4 months. 1st repair changed the mainboards, 2nd repair changed the switch. Francis said the drain has been stuck by debris.	UPDATE: Quote received. Repair approved but also seeking an alternate HVAC contractor.		
19	February 26/19	AirBNB	An email was sent to the owner. As reply she promised to remove her ads	UPDATE: The owner responded by promising to remove the ad and it was determined it had been removed.		
20	February 26/19	Garage rules - towing non-resident car	Board has decided to strictly apply the rules, therefore to give last written warning before towing for real	UPDATE: A warning letter has been sent to the owner (both paper and email). Deadline to remove car set for March 31st.		
22	February 26/19	AGM place booking	UPDATE: St Bartho Church has been decided. Awaiting for the AGM date in order to book.			
23	March 1/19	New/extension of bike storage	The board has agreed to discuss the case			
24	March 7/19	TOTAL FIRE deficient system repair	Approved by the board (\$14,269.59) W/O sent			
25	March 8/19	Generator refueling	W/O sent			
26	March 13/19	Hallway 16F ceiling damage from old leaking (+6 months)	W/O sent (\$230)			
27	March 14/19	Coinmatic, wash-machine contract has come to an end. Contractor is asking if there will be any changes for the new contract.				
28	March 14/19	Locker fee: 103, 104 & 911 not paying	104 & 911 have both given reasons and both were approved by Axia before			



La Renaissance



Carleton Condominium Corporation No. 498
Minutes of the Meeting of the Board of Directors
Held Monday, February 25, 2019 starting at 6:30 p.m.
The Boardroom, 40 Landry Avenue, Ottawa, Ontario

Present:	Lucie Chartrand	Chair
	Jean-Maurice Filion	Secretary/Treasurer
	Andrew Shore	Director-at-Large
	Stéphane Émard-Chabot	Director-at-Large
	Anne Makuch	Property Manager, CI
	James Gu	Property Administrator, CI

Christine M. Plouffe	Unit Owner
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Absent:	François W. Lalonde	Vice-Chair
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1. Call to Order

The President, Lucie Chartrand, called the meeting to order at 6:33 p.m.

It was agreed that the agenda item regarding the electric vehicle charging station would be discussed at the beginning of the meeting so that Christine Plouffe could present her information without having to sit through other agenda items.

2. Acceptance of Financial Statements

- The boards requests previous budgets for year-to-year comparisons.
- CIPM is working with BDO to ensure that the Board has access and is approving payments.
- Unit 207's previous owner Larry Knox still has some credit balance. CIPM agreed to find his contact in order to refund the money back.

Moved by Jean-Maurice Filion, seconded by Stephane Émard-Chabot, to accept the January 2019 financial statements.

3. Management Report

Maintenance issues

	Item	Decision reached
1	Building mats	4th quote needed (from toronto based company) before final decision
2	Sanitary booster pumps	Done
3	Leak on 17th floor is coming from roof	ongoing
4	Defective hydro vault switch	Awaiting quotes from 2 contractors (3rd one gave up)
5	The second handrail for the pool	The contractor is projecting installing by the end of Feb 2019.
6	Annual fire inspection	Deficiency repair moved by Jean-Maurice Filion, seconded by Lucie Chartrand. Amount: \$14,269.59 Also looking for alternative contractors with better value.
7	Francis HVAC to replace one of three heat exchangers in garage	Moved by Lucie Chartrand, seconded by Andrew Shore - to be replaced in the fall (sep/oct). Amount \$8,244.00
8	Anti-EMF coating	Obtaining a quote however the project proved to be more complicated than originally anticipated. Since the coating is conductive it needs to be grounded by a certified electrician.
9	Poolwork contract termination	To look in detail into the conditions of termination and send a termination notice when possible.

Administrative issues

	Item	Decision reached
1	Parking reimbursement	The payment to be confirmed by the end of the month.
2	Asbestos Management Plan	Ongoing - awaiting third quote
3	Discrepancy issue with Budget	To refund back the surplus of money to all owners. Schedule and further procedures are to be made by the CI administration.

4	Locker & parking fee problem	<p>To research the reason for locker free rental. To make announcement that starting April 2019, normal rental fee will be applied.</p> <p>Starting March 2019, the standard parking rental fee (\$100/month) will be applied to everyone.</p>
5	Reserve fund study	The boards is interested in a detailed presentation of a proposal for depreciating asset study by Capacity Engineering at the next meeting.

4. Approval of Previous Minutes (January, 2019)

- It was noted that the numbered items in the minutes require renumbering.
- The board reached the decision to tow the non-registered car that is parked in the garage as it is the car of a non-resident, which is in contravention of the rules and regulations of the condominium corporation. A final warning notice will be given prior to towing.

The board approved the board meeting minutes of January 21, 2019 as amended.
 Moved by Andrew Shore, seconded by Stephane Emard-Chabot.

5. Ratification of Decisions Made Between Meetings

- a) To accept the proposal from Duron for the garage column repairs estimated to be \$90,900. Moved by Stephane Émard-Chabot, seconded by Lucie Chartrand
- b) To confirm decision to scan remaining condo file documents transferred from Axia at a cost of \$3,375 + HST for 9 boxes. Moved by Stephane Émard-Chabot, seconded by Lucie Chartrand

6. New business

a) Electric Vehicle Charging Station

The Board heard a presentation from Christine Plouffe regarding the possibility of installing an electric vehicle charging station at the building. Upon discussion it was decided that CIPM would find two or more companies offering a concrete assessment and technical advice as the next step, including the best installation location i.e. in the garage or at visitor parking.

b) 2018 financial audit - To begin March 8

c) Confirmation of AGM date and rental of hall

Should be scheduled around end of May. James will try to find any booking confirmation details in an email possibly send last year by previous office administrator either at Saint Bartholomew Church or Richelieu Vanier Community Centre.

d) Repairs of garage ceiling in B3 originating from last year's or previous membrane patching project - WSP to come to the building to make an assessment on the issue.

e) Alternate parking arrangements

As the project coordinator, James to make list of owners involved and to secure street parking with the City of Ottawa in time for the project start date. One hundred street parking permits were required during the project last summer.

f) Parking control - Visitor lot and parking garage - To ask the company that is monitoring the exterior visitor parking whether it is possible to extend those services to the parking garage.

7. Review of Latest Status Certificate

The Board was in receipt of the most recent status certificate.

8. Other Business

a) Renovation agreement

The agreement will be approved by next meeting once François W. Lalonde has had the opportunity to review.

b) Unit 603, 2nd parking space & window condensation issues

Parking: the owner of the unit is claiming that a second parking stall belongs to her unit as it was listed in the agreement of purchase and sale when the unit was purchased. The condominium corporation Declaration does not state that unit 603 has two parking stalls. The Declaration supersedes any document relating to the issuance of parking stalls.

Condensation: windows, being a common element, is not be touched by the owner. In addition, according to the last report that was done, the main cause for condensation may not be the windows.

c) Visitor Parking

A request was received to lease a parking space for a visitor of a unit. The visitor was granted extended visitor parking for a portion of the stay until. No visitor

parking will be granted to the visitor once the garage project begins.

d) Short-term tenant (AirBnB) continuing issue - monitoring and enforcing rule

CIPM has sent a reminder to the owner of the unit that short-term rentals are forbidden as per the bylaws. If the issue has not resolved within two weeks, legal will be contacted for further action.

9. Adjournment

The meeting was adjourned at 9:07 p.m. Moved by Andrew, seconded by Lucie.
Next meeting 18th March 2019, 6:30pm.

Hello

Times have changed and bicycling for 8 months a year is a reasonable means of transport in our location in the city.

I would like to suggest either the doubling of the level 1 bicycle storage area with the removal of the construction area.

Or the construction of an external fenced bike storage area for the summer with high fences and fob entry.

The existing bike storage area is now so full that it will be impossible for me to get my bicycle out of it in the spring. The quantity of bicycles in the storage area is an indication of the necessity to provide a reasonable alternative storage solution for the building. The city is trying to encourage biking. The residents of the building are obviously enthusiastic but there is no easy and safe storage solution for the bicycles. The jumble of bicycles in the storage area now is rather tragic. There is so much potential but I doubt anyone can now get their bicycle out of it.

I use my bike frequently. I would consider parking it outside but last year proved that it would most likely be stolen if it was not secured behind a wall or fence. I watched bicycles being stolen overnight when the office staff replayed what the security camera recorded.

When I moved to this building last summer I had no idea that I would have to abandon my favorite means of transport because there is no reasonable storage solution for my bicycle.

Can the condo make a suitable accommodation for bicyclists whose parking spaces are not on the ground level.

I have another option for a storage area. A secure and convenient bicycle storage area could be created with a 10 foot fence and gate and keyfob lock replacing the little chain that blocks the lane at the back of the building and connecting it to the back fence at the back of the building. The bicycles could be stored there during the summer with some degree of security. It is a big area and they would be stored in single file as they were last summer.

Michele Morton. Unit 511

27 February 2019

Rogers
c/o Grant & Dawn Lawyers Professional Corporation
226 MacLaren Street
Ottawa, ON K2P 0L6
Tel: 613-235-2212
Fax: 613-235-5294

Re:	Purchaser	Rogers
	Vendor	Barker
	Address	1603-40 Landry Street, Ottawa, ON K1L 8K4
	Legal Desc	Unit 3, Level 15, Carleton Condominium Corporation 498
	Closing Date	17 April 2019
	Our File No.	498_1603
	Your File No.	10723301
	Order No.	N/A

Pursuant to your request of 27 February 2019 please find enclosed a current Status Certificate as per the *Condominium Act, 1998* and documentation package relating to the above-referenced property.

Please note that our office requires written confirmation from the lawyer that this transaction of sale has closed. In addition, please provide us with the full name, address, email address, and telephone number of the purchaser so that we may correspond with the new owner with future Corporation business.

Regards,

Anne Makuch
Property Manager
Capital Integral Property Management
"As Agents for CCC 498"

** The information provided in this Status Certificate is as accurate as the information made available at the time of preparation of this document. The party addressed above who ordered the certificate (directly or through a law office or realtor) is allowed to use the information and is with whom we have a liability relationship with regards to the information, exclusively. A third party cannot hold us liable. Each party relying on the information is required to order their own status certificate.*

STATUS CERTIFICATE
(Under subsection 76 (1) of the Condominium Act, 1998)
Updated March 23, 2018

CARLETON CONDOMINIUM CORPORATION No. 498
LA RENAISSANCE

Carleton Condominium Corporation No. 498 (known as the "Corporation") certifies that as of the date of this certificate:

GENERAL INFORMATION CONCERNING THE CORPORATION

1. Mailing address: See below
2. Address of service: See below
3. Property Manager: Anne Makuch - amakuch@cimanagement.ca
Capital Integral Property Management
904 Lady Ellen Place
Ottawa ON K1Z 5L5
Tel: 613-722-1232
Fax: 613-651-0306
4. The Directors and Officers of the Corporation are:
Lucie Chartrand, Director, President, 24 May 2016-2019
Jean-Maurice Filion, Director, Secretary/ Treasurer, 24 May 2016-2019
Andrew Shore, Director, 28 June 2017-2019
Stephane Emard-Chabot, Director, 30 May 2018-2021
Francois Lalonde, Director, 30 May 2018-2021

COMMON EXPENSES / JOINT USE MAINTENANCE FEES

5. The current Owner(s) of Unit 3, Level 15, known as 1603-40 Landry Street, and exclusive use of parking space B3-16, Ottawa, Ontario of Carleton Condominium Corporation 498 registered in the Land Registry Office for the Land Titles (or Registry) Division of Ottawa **is NOT in default** in the payment of common expenses.
6. The current monthly Condominium Fee for this unit is \$682.09, due and payable on the first day of each month.

Payment on account of common expenses for the unit in the amount of \$682.09 was received for the period of 01 February 2019 through 28 February 2019 pending confirmation from the bank.

These above amounts include the amount of any increase since the date of the budget of the Corporation for the current fiscal year as described in paragraph 10. An update of the account should be requested prior to the closing date.

7. The Corporation has the amount of \$0.00 in prepaid Common Expense/Condominium Fees for this unit.
8. There are no amounts that the *Condominium Act, 1998* requires to be added to the common expenses payable for the unit, except: for any increase in common expenses the budget may require.

BUDGET

9. The budget of the Corporation for the current fiscal year is accurate and may result in a surplus or deficit of \$0.
10. The budget commenced 01 January 2019. An increase to the monthly condominium fees was included in the budget. Since the date of the budget of the Corporation for the current fiscal year, the common expenses for the unit have not been further increased.
11. Since the date of the budget of the Corporation for the current fiscal year, the Board has not levied any assessments against the unit to increase the contribution to the reserve fund, or the Corporation's operating fund or for any other purpose.
12. The Corporation has no knowledge of any circumstance that may result in an increase of common expenses for the unit, except for any increase in the new fiscal year as per an approved budget and as the reserve fund plan may require, and as any changes in the new Condominium Act may require when enacted, and except:

The Corporation has become aware of the presence of asbestos containing materials ("ACMs") within the building. The ACMs have been identified in the Flintkote vapour barrier on the inside face of the precast concrete panel of the exterior wall. The ACMs that have been identified are not believed to pose a health risk in their current state and so, do not require removal at this time. The Corporation has, as is required by the Occupational Health and Safety Act, arranged for an asbestos survey of the building, to identify any other locations where ACMs may exist, and is now in the process of arranging for the preparation of an Asbestos Management Plan. It is not anticipated that there will be any increase in common expenses or a special assessment as a result of this issue.

The Corporation has committed to further repairs of the garage and the project is expected to commence 01 May 2019 for a duration of approximately 16 weeks. While this will not affect the common expenses in any way, as it is a planned Reserve Fund Expense, owners should be aware that the project may result in the need to find parking elsewhere.

The *Protecting Condominium Owners Act, 2015*, will bring some important changes to condominium law and administration in Ontario, including changes to the Condominium Act, as well as mandatory licensing for condominium property managers. As a result, condominium management fees are expected to increase. Also, condominium corporations will be required to make payments towards the new Condominium Authority of Ontario. The Corporation might also experience increased Legal Costs (for review of and/or amendments to the Corporation's governing documents and for added guidance and assistance in relation to the new legislation). These matters are expected to result in an increase in the common expenses, and the increase is currently estimated at between \$10.00 and \$13.00 per unit per month. These changes are expected to come into force in phases, from 2017 – 2019.

RESERVE FUND

13. The Corporation's reserve fund amounts to \$1,622,085 (un-audited) as of 31 December 2018.
14. The most recent reserve fund study conducted by the Board was a comprehensive Reserve Fund Study, dated February 2016 and prepared by WSP Canada Inc. (formerly Halsall Associates). The next Reserve Fund Study will be conducted before December 2019.
15. The balance of the reserve fund at the beginning of the previous fiscal year was \$1,898,574 (audited). The balance of the reserve fund at the beginning of the current fiscal year was \$1,622,085 (unaudited). The financials for the previous fiscal year are in the process of being finalized and audited. In accordance with the budget of the Corporation for the current fiscal year, the annual contribution to be made to the reserve fund in the current fiscal year is \$551,558 and the anticipated expenditures to be made from the reserve fund in the current fiscal year amount to \$320,556. The Board anticipates that the reserve fund will be adequate in the current fiscal year for the expected costs of major repair and replacement of the common elements and assets of the Corporation.
16. The Board has sent to all owners a notice containing a summary of the reserve fund study, a summary of the proposed plan for future funding of the reserve fund and a statement indicating the areas, if any, in which the proposed plan differs from the study.
17. There are no plans to increase the reserve fund under a plan proposed by the Board under subsection 94 (8) of the *Condominium Act, 1998* for the future funding of the reserve fund, except as indicated in the Notice of Future Funding of the Reserve Fund (formerly called "Form 15").

LEGAL PROCEEDINGS, CLAIMS

18. There are no outstanding judgments against the Corporation.
19. The Corporation is not party to any proceeding before a court of law, an arbitrator or an administrative tribunal.
20. The Corporation has not received a notice of or made an application under section 109 of the *Condominium Act, 1998* to the Superior Court of Justice for an order to amend the Declaration and description, where the court has not made the order.
21. The Corporation has no outstanding claim for payment out of the guarantee fund under the *Ontario New Home Warranties Plan Act*.
22. There is currently no order of the Superior Court of Justice in effect appointing an inspector under section 130 of the *Condominium Act, 1998* or an administrator under section 131 of the *Condominium Act, 1998*.

AGREEMENT WITH OWNERS RELATING TO CHANGES OF THE COMMON ELEMENTS

23. The unit is not subject to one or more agreement(s) under clause 98 (1)(b) of the *Condominium Act, 1998* or section 24.6 of Ontario Regulation 48/01 (General) made under the *Condominium Act, 1998* relating to additions, alterations or improvements made to the common elements by

the unit owner. To the best of the Corporation's information, knowledge and belief, the agreements have been complied with by the parties.

a) No modification agreements currently on file.

The following modifications have been made by the unit owner(s) or previous unit owner(s) without the prior written approval of the Board of Directors:

a) No modifications currently on file.

The Corporation is aware of the following modification(s) to common elements made by the unit owner or a previous owner of the unit made **prior** to the *Condominium Act, 1998*, coming into force, for which there is no agreement under Section 98 (1) (b) of the Act):

We are not aware of any.

[Note: this is simply a list of the modifications known to the Corporation. Other modifications, not known to the Corporation, may have been made without approval of the Corporation and accordingly may not be lawful].

The following renovations have been advised of by the unit owner(s) or previous unit owner(s) but do not require the prior written approval of the Board of Directors:

a) No renovations currently on file.

Except as otherwise indicated in an agreement or in the By-Laws or Rules of the Corporation, the owner of the unit, from time to time, is entirely responsible for all modifications made to the common elements by the Owner(s) or by a previous Owner(s) of the unit. Accordingly, any future unit Owner(s) is also responsible for the modifications made and is also responsible for all maintenance, repairs and insurance related to such modification and must fully and completely indemnify and save harmless the Corporation from any claims, expenses or losses related in any way to the modifications. Without limiting the generality of the foregoing, the Owner shall be responsible for all costs and expenses incurred in order to remove the modification to afford the Corporation access to any portion of the property (for the purposes of carrying out repair or maintenance, or for any other reason) as well as reinstatement of the modification (if desired), and the Corporation shall have no obligation for any damage which may be caused to the modification as a result of any such required access. Any modification or upgrade to common elements must have prior written approval from the Board of Directors.

If an owner sells his or her unit, the owner shall, upon request from the purchaser, provide to the purchaser a written list of all modifications made to the common elements by the owner or by a previous owner of the unit.

When a unit is sold, it is the responsibility of the purchaser to determine what modifications have been made to the common elements by the vendor or by a previous owner of the unit.

LEASING OF UNITS

24. The Corporation has NOT received notice under section 83 of the *Condominium Act, 1998* during the fiscal year preceding the date of this status certificate. The Corporation's understanding is 62 units in the condominium are owned by non-resident owners as of the date of the most

recent periodic information certificate for period ending 30 September 2018, but notice under section 83 has not yet been received respecting all of those leased units.

SUBSTANTIAL CHANGES TO THE COMMON ELEMENTS, ASSETS OR SERVICES

25. There are no additions, alterations or improvements to the common elements, changes in the assets of the Corporation or changes in the service of the Corporation that are substantial and that the Board has proposed but has not implemented, and there are no proposed installations of an electric vehicle charging system to be carried out in accordance with subsection 24.3 (5) of Ontario Regulation 48/01 (General) made under the *Condominium Act, 1998*.

INSURANCE

26. The Corporation has secured all policies of insurance that are required under the *Condominium Act, 1998*.

PHASED CONDOMINIUM CORPORATIONS

27. N/A
28. N/A

VACANT LAND CONDOMINIUM CORPORATIONS

29. N/A

LEASEHOLD CONDOMINIUM CORPORATIONS

30. N/A
31. N/A
32. N/A

ATTACHMENTS

33. The following documents are attached to this status certificate and form part of it:

- a) a copy of the current Declaration for the Corporation;
- b) a copy of the By-Laws for the Corporation;
- c) a list of all current agreements between the Corporation and the owner of the unit: if applicable, see paragraph 23; a copy of all agreements, if any, described in clause 98 (1) (b) of the *Condominium Act, 1998* or section 24.6 of Ontario Regulation 48/01 (General) made under the *Condominium Act, 1998* that bind the unit; or current agreements mentioned in section 111, 112 or 113 of the *Condominium Act, 1998* and all current agreements between the Corporation and another corporation: The Corporation is not aware of any such agreements;
- d) a copy of the Rules and Regulations;
- e) a copy of the last audited financial statements and auditor's report;
- f) a copy of the budget for the current fiscal year;
- g) a certificate or memorandum of insurance for the Corporation; and
- h) a copy of the most recent Notice of Future Funding of the Reserve Fund (formerly called "Form 15").

RIGHTS OF PERSON REQUESTING CERTIFICATE

34. The person(s) requesting this certificate has the following rights under subsections 76 (7) and (8) of the *Condominium Act, 1998* with respect to the agreements listed in subparagraph 33 (c) above:

1. Upon receiving a written request and reasonable notice, the Corporation shall permit a person who has requested a status certificate and paid the fee charged by the Corporation for the certificate, or an agent of the person duly authorized in writing, to examine the agreements as per subparagraph 33 (c) at a reasonable time and at a reasonable location.
2. The Corporation shall, within a reasonable time, provide copies of the agreements to a person examining them, if the person so requests and pays a reasonable fee to compensate the Corporation for the labour and copying charges.

Dated at Ottawa this day of 27 February 2019

Carleton Condominium Corporation No. 498



Anne Makuch
Property Manager
Capital Integral Property Management
"As Agents for CCC 498"

**The information provided in this Status Certificate is as accurate as the information made available at the time of preparation of this document. The party that orders the certificate is allowed to use the information and is with whom we have a liability relationship with regards to the information, exclusively.*



MONTHLY COLUMN MONITORING FEBRUARY 2019

PROJECT:	La Renaissance 40 Landry Street	Project No:	181-16544-00
CLIENT:	CCC 498	Ref.No:	181-16544- 00.rep04.February 2019.docx
		Date:	4 March 2019

4.1 GENERAL

- a) Report Period: February 2019
- b) Site Review Date: February 28, 2019 from 10:00am – 10:30am
- c) The monthly review carried out during the report period was performed by Steve Castonguay under the supervision of Abraham Rollins, P.Eng. of WSP.

4.2 PROJECT SCOPE

The purpose of this review is to identify conditions that may impact the serviceability of column G13 in the short term, before the concrete restoration program begins. This monthly review was completed in accordance with our proposal dated October 23, 2018 and included monthly review of column G13 on level B3 by visual review and monitoring crack patterns.

4.3 REVIEW

This report is meant to communicate our continued monitoring of this column. The column was previously reviewed on:

- November 3, 2017 (no report provided);
- January 30, 2018 (January 2018 Report); and
- February 23, 2018 (February 2018 Report)
- March 28, 2018 (March 2018 Report)
- May – September 2018, No monitoring during the summer 2018 restoration program (no report provided)
- November 30, 2018 (November 2018 Report)
- January 7, 2019 (December 2018 Report)
- January 31, 2019 (January 2019 Report)

During our review the following observations were made:

4.3.1 Column review

Column G-13 is separated by an expansion joint approximately 25mm wide. Section G-13 North is approximately 250mm x 800mm and extends from level B3 up to the podium slab. Section G-13 South is approximately 300mm x 800mm and extends from level B3 all the way to the top of the tower. The south elevation of G-13 North and the north elevation of G-13 South are concealed as they are located in the expansion joint and, as such, were not reviewed.



Cracking remains on the West and East elevation of both G-13 South and North on level B3. Hollow sounding concrete remains localized at mid height, on the west elevation of column G-13 South. No new cracks or areas of hollow sounding concrete were observed during our most recent review; where cracks were previously identified on the West and East elevations of the columns, no changes in length were noted. (refer to Appendix B – Drawings for more information).

Based on these observations, our recommendations made in the November report to reinforce the column and complete repairs no later than Friday September 27, 2019 remain. (refer to November 2018 Report dated January 30, 2019 for more information)

Respectfully submitted,

WSP Canada Inc.

A handwritten signature in black ink, appearing to read 'Steve Castonguay'.

Steve Castonguay, EIT, M.A.Sc.
Project Manager

A handwritten signature in black ink, appearing to read 'Abraham Rollins'.

Abraham Rollins, P.Eng.
Technical Lead

Attachments

Appendix A – Photographs

Appendix B – Drawings

Distribution:

Anne Makuch

James Gu

Francois Lalonde

E-mail: amakuch@cimanagement.ca

jgu@cimanagement.ca

francoiswl@gmail.com

181-16544-00.rep04.February 2019.docx



APPENDIX A – PHOTOGRAPHS


Photo	Description
	<p>Photo 1:</p> <p>Column G-13, Level B3 West Elevation</p>


Photo	Description
	<p>Photo 2:</p> <p>Column G-13, Level B3 South Elevation</p>



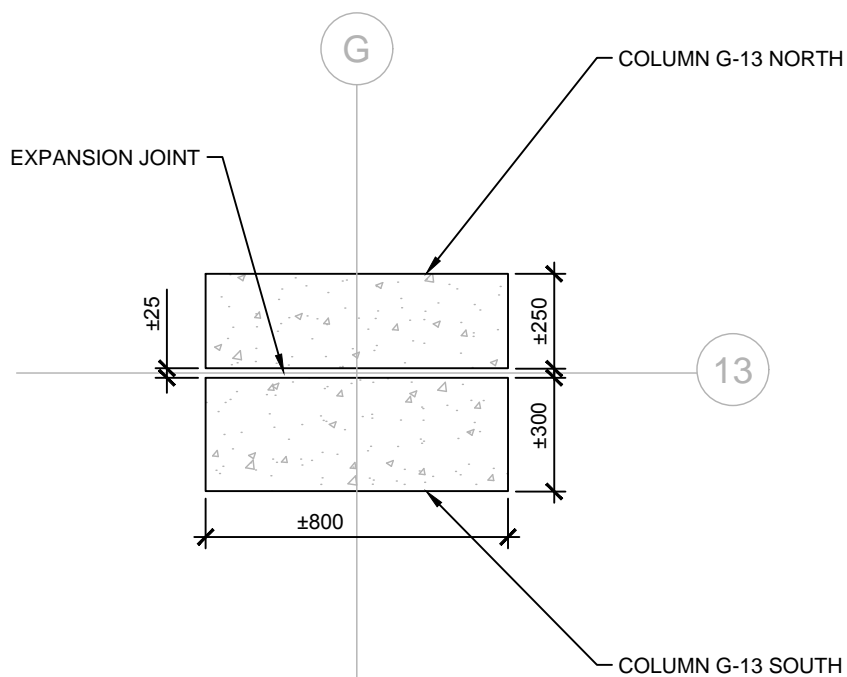
Photo	Description
	<p>Photo 3:</p> <p>Column G-13, Level B3 East Elevation</p>

Photo	Description
	<p>Photo 4:</p> <p>Column G-13, Level B3 North Elevation</p>



APPENDIX B – DRAWINGS



PLOTTED BY: SYC • PLOT DATE & TIME: 2019-02-28 1:05:31 PM • PLOT: AT ANSI A (11.00 x 8.50 Inches) SHEET SIZE READ DRAWING ACCORDINGLY
FILE: \\SHAREPOINT2013\WSPGROUP.COM\SSLD\AV\WWW\ROOT\SITES\10CA181-16544-00\TECHNICAL\01. MONITORING\181-16544-00.DWG\01. COLUMN MONITORING.DWG



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CCC 498 - 40 LANDRY STREET, OTTAWA
COLUMN MONITORING

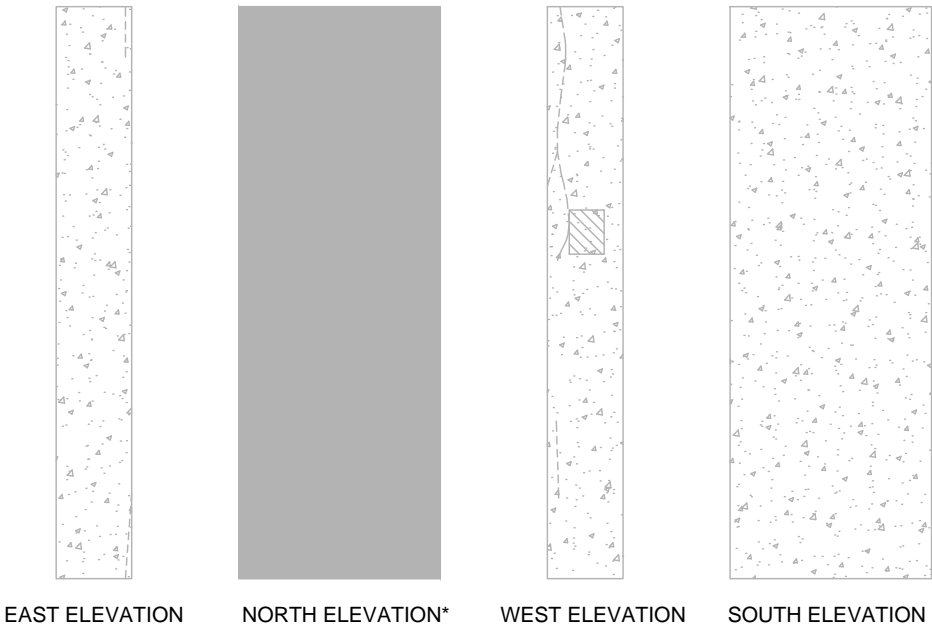
COLUMN G-13 - PLAN VIEW

2611 QUEENSVIEW AVE, SUITE 300, OTTAWA, ON CANADA K2B 8K2
PHONE: 613.829.2800 WWW.WSP.COM FAX: 613.829.8299

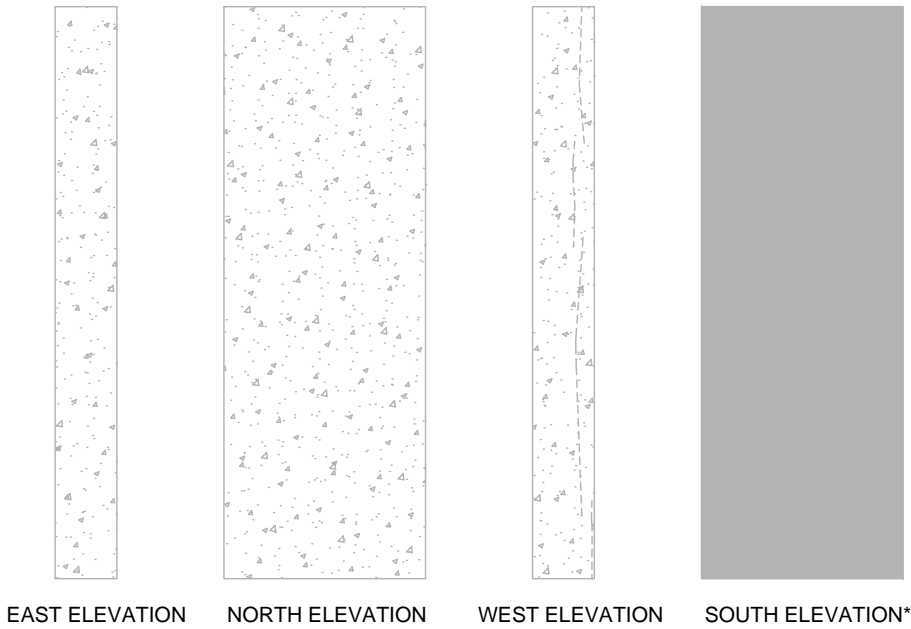
DATE: 28/02/2019	SCALE: NTS
DRAWN BY: SYC	CHECKED BY: AYR
PROJECT NO. 181-16544-00	
DRAWING NO. S100	



PLOTTED BY: SYC • PLOT DATE & TIME: 2019-02-28 1:05:32 PM • PLOT: AT ANSI A (11.00 x 8.50 Inches) SHEET SIZE. READ DRAWING ACCORDINGLY.
FILE: \\SHAREPOINT\2013\WSP\GROUP.COM\SSLD\DA\WWW\ROOT\SITES\10CA181-16544-00\TECHNICAL\01. MONITORING\181-16544-00.DWG 01. COLUMN MONITORING.DWG


COLUMN G-13 SOUTH - LEVEL B3



COLUMN G-13 NORTH - LEVEL B3



- LEGEND:
- * CONCEALED FACE
 - CRACK IDENTIFIED DURING REVIEW
 - CRACK PREVIOUSLY IDENTIFIED
 -  HOLLOW SOUNDING CONCRETE IDENTIFIED DURING REVIEW
 -  HOLLOW SOUNDING PREVIOUSLY IDENTIFIED

	CCC 498 - 40 LANDRY STREET, OTTAWA COLUMN MONITORING		DATE: 28/02/2019	SCALE: NTS
	CRACK PATTERN, FEBRUARY 2019 REVIEW		DRAWN BY: SYC	CHECKED BY: AYR
	2611 QUEENSVIEW AVE, SUITE 300, OTTAWA, ON CANADA K2B 8K2 PHONE: 613.829.2800 WWW.WSP.COM FAX: 613.829.8299		PROJECT NO. 181-16544-00	
			DRAWING NO. S200	