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Comprehensive
Reserve Fund Study

of

Carleton Condominium
Corporation No. 276

Final Report Prepared For

Carleton Condominium Corporation No. 276
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EXECUTIVE SUMMARY

Overall, the common elements of CCC 276 are generally in satisfactory condition and are well maintained, but substantial replacement work will be required over the next several years, due to normal life cycle renewals of aging common elements. Based on the predicted expenditures listed in the spreadsheet and the current reserve fund finances, the corporation is very well funded to the point that contributions can remain frozen at $102,950 until 2019. After 2019, only annual inflationary increases should be required in order to pay for all anticipated reserve fund expenditures over the next 30 years and beyond.

The following table lists the major common element renewal work scheduled for completion over the next 30 years.

Item Description	Projected Years of Work
Sliding Glass Patio Doors	2011
Garage Doors (partial)	2011
Eavestrough System (partial)	2011
Asphalt Shingle Roofing - Garage Roofs (partial)	2011
Wood Decks (partial)	2012
Painting, Caulking & Wood Repairs	2012
Grounds Lighting	2013
Roadway & Parking Lot Pavement (rebuild)	2013
Driveways	2013
Asphalt Walkways	2013
Concrete Curbs (partial)	2013
Patio Stone Entrance Walkways (resetting)	2013
Asphalt Shingle Roofing - Garage Roofs (partial)	2013
Wood Privacy Fences	2015
Asphalt Shingle Roofing - Garage Roofs	2015 to 2016
Wood Decks (partial)	2017
Painting, Caulking & Wood Repairs	2017
Entry Doors, incl. Sidelights	2019
Soffits & Fascias	2019 to 2021
Eavestrough System	2019 to 2021
Asphalt Shingle Roofing - Main Roofs	2019 to 2021
Fixtures on Exterior of Units	2025 to 2026
Siding & Trim	2025 to 2026
Garage Doors	2026 to 2030
Roadway & Parking Lot Pavement (overlay)	2028
Concrete Curbs (partial)	2028
Asphalt Shingle Roofing - Garage Roofs	2033 to 2034
Windows	2035 to 2036
Sliding Glass Patio Doors	2035 to 2036
Driveways	2037
Asphalt Walkways	2037
Patio Stone Entrance Walkways (resetting)	2037
Wood Privacy Fences	2039

All of the above major capital expenditures reflect normal replacement of common elements as they age.

CONTENTS

1. INTRODUCTION

This Reserve Fund Study is a technical and financial assessment of the common elements of the condominium corporation for the purpose of:

- assessing the condition of the common elements
- forecasting and planning for major capital expenditures over the short and long term
- recommending annual reserve fund appropriations.

In this Reserve Fund Study, we outline our findings regarding the current condition and immediate maintenance and repair requirements for all of the common elements. In addition, we outline the repair and replacement work that we expect will be required over the 30-year period that we examine in this report, including all associated costs. Included in the repair/replacement data is an inventory of the quantities of all common elements that will be subject to replacement work over the life of the corporation. Finally, all anticipated expenditures over the next 30 years are outlined in a detailed spreadsheet, and we provide our recommendation for annual reserve fund appropriations. While this report includes our recommendations for the timing of repair/replacement work and for annual reserve fund contributions, these decisions are ultimately made by the Board of Directors of the condominium corporation.

2. DESCRIPTION OF COMPLEX

Carleton Condominium Corporation No. 276 is a 27-year old complex consisting of 79 two-storey townhouses in twelve blocks of four to eight units per block, plus a small condominium office building. All buildings are laid out in standard townhouse rows along the condominium roadways, but the townhouses also have garages and driveways at the front of units. The complex is located in the east Hunt Club area of Ottawa, just north of Hunt Club Road, at the corner of Cahill Drive and Albion Road. The private roadway that runs through the corporation is called Sandhamm Private.

All townhouses consist of cast-in-place concrete foundation walls and footings, with wood framed walls, floors and roof structures. Exterior wall claddings consist mostly of brick masonry veneer and hardboard siding, but with plywood siding panels and wood barge board trim also accenting the exterior design of the complex. The roof system consists of normal-slope (i.e. 4:12 pitch) gable-style roofs covered with asphalt shingle roofing, while many of the units also have mansard roofs at the front and rear. The roofs are trimmed with aluminum soffits and fascias, and roof drainage is provided by aluminum eavestroughs and downspouts. Wood-framed windows, patio doors and front entrance doors complete the exterior of the buildings. Many units have wood porches at the rear, although only the standard 5' x 8' decks are common elements. (The larger custom decks are the responsibility of the individual unit owners). The common elements of each unit also include water taps and exterior electrical fixtures, such as lights and outlets.

The common property elements also include the all site services (such as water supply, electrical supply, sewer systems, and grounds lighting), paved driveways, visitors' parking lots, walkways, concrete curbs, landscaped grounds, and wood fences.

3. DESCRIPTION OF WORK ACTIVITIES

3.1 Review of Background Information

The first step of a Reserve Fund Study is to become familiar with the complex, and reviewing all available background information about the corporation is a key part of this first step. Before each project begins, we review (as applicable) all drawings and specifications, the current budget, the Auditor's Reports from past years, the past Reserve Fund Study (if one exists), past consultants' reports prepared over the previous several years, the corporation's Declaration and By-laws, warranties for repair and replacement work completed, the repair and maintenance schedule and records, any lists that the Board may have prepared regarding concerns and/or planned repair/replacement work.

3.2 Condition Assessment and Forecasting of Renewal Work

After the background information is reviewed, we carry out visual inspections of readily accessible common elements. The main purpose of the site inspections is to determine the current condition of the common elements. Assessing the current conditions leads directly to determining the maintenance, repair and replacement work that will be required in the near future. In addition, the site assessment of the common elements provides key information regarding when repair and replacement work will be required over the medium to long term. Such information could include the type and quality of materials, the quality of maintenance, the past rate of deterioration, and the expected rate of deterioration in the future. Together, this information enables us to predict approximately when future repair and replacement work will be required. In addition to assessing when work will be required, the site inspections help establish what type of work will be required, what special conditions will affect the work, and how much the work should cost.

3.3 Calculation of Repair and Replacement Costs

After determining the major repair and replacement work to be required over the next 30 years, next we estimate the costs of all projected work. After determining the nature of each work item, the next step is to take an inventory of the common elements. This inventory work is accomplished by measuring the quantities of the common elements using the drawings and, where necessary, by taking site measurements. For each type of renewal work that is forecasted, the total quantity of the common element is determined (such as area of roofing or siding) so that the total value of this element can be determined later. For an Updated Study, the majority of the quantities would have been determined during completion of an earlier Study, so an Updated Study normally will require quantity calculations only for new findings and recommendations.

Once the type and quantities of the renewal work are known, the last step is to calculate the costs of all renewal work. For most items, the total construction costs are determined by multiplying the total quantity of the element by the expected unit price for the work of concern. For example, if the area of flat roofing at the corporation is 200 m^2 and the typical unit price for flat roof replacement is \$150/m^2, then the total estimated costs for flat roof replacement will be \$30,000. While this seems simple, the key part of reliable cost estimation is that the unit price must be an accurate reflection of what the costs will be for the particular work of concern and at that particular condominium corporation.

To ensure that the unit prices used in the calculations are appropriate, we compare the work at the complex to a data base listing of unit prices that we have compiled from many projects that we have been involved with over several years of experience. This list was compiled, and is regularly updated, using actual contract prices and job specific cost estimates for all types of work that are typically required at a condominium complex. If there is a unique type of repair work for which costs must be estimated, we determine the general nature of the work and employ the assistance of an experienced contractor to estimate the costs of the work that we have laid out. Often, estimates are obtained from two or three contractors to ensure that the estimate is reliable.

All major capital expenditures outlined in the spreadsheet are estimated according to the current year's costs. In addition, all budget estimates account for HST at its current rate.

3.4 Development of the Spreadsheet

The main purpose of the spreadsheet is to determine the recommended annual contributions that should be made to the reserve fund. The spreadsheet assists with this recommendation by providing a vehicle for which all important data can be combined into a calculation of all future costs and contributions.

Reserve Fund Data and Calculations:

The first step in preparing the spreadsheet is to enter all startup financial information, such as year reserve fund balance and the current annual contributions. Since the spreadsheet also requires an amount input as the recommended future contributions, we set that amount to equal the current contributions; simply as an initial trial figure.

Next, we input all budgeted expenditures into the spreadsheet, with each figure placed according to the work to be performed and the year the work is expected to be required. To make the spreadsheet easier to follow, all costs included in the spreadsheet are in today's dollars, with inflation accounted for only after the total yearly expenditures are calculated. (The figure below the first double-line is the total yearly expenditures before inflation, while the next figure down is the total after accounting for inflation.)

With the above data entered, the formulae within the spreadsheet automatically calculate the cash flow for the corporation. For each year, the total amount of money remaining in the reserve fund is shown in two ways. The second figure from the bottom is the amount remaining in future dollars - that is, the "actual" amount remaining in that year if all assumptions are correct. To relate all of these figures to today's value of the funds, the bottom figure represents today's equivalent of that future amount, with inflation removed. (The earned interest for each year is calculated in an iterative way by applying the interest rate to the average reserve fund balance over each year.)

As stated previously, the current contributions are first tried as the future contributions. If this funding level results in sufficient funds to cover all anticipated expenditures, then contributions do not need to be increased. Where sufficient funds do not exist using the current contribution level, then the contributions must be increased to a level that does cover all anticipated costs. Sometimes contributions are immediately increased to the required level, while in other cases the increase may be phased in over a few years.

Often a situation occurs where the contribution level is adequate, on average, but there are certain years when there are insufficient funds. In such cases, priorities have to be established that results in some work being delayed until there will be sufficient funds to pay for the work, but without increasing funding levels further. In extreme cases, the corporation may be significantly short of funds and the only way to raise such funds in time is to recommend a special assessment. While a special assessment is a last resort, it is sometimes required. As with phasing in increases in contributions, it is sometimes possible to levy a special assessment that is collected gradually over a few years.

Explanation of Inflation and Interest Rates:

To ensure that the recommendation for annual contributions is as reliable as possible, inflation and earned interest are accounted for in the spreadsheet. While inflation rates over the past generation have been erratic, inflation has remained in the two per cent range for the past decade. This 2% range for inflation is in line with the historically low inflation rates which existed prior to the 1970's, but there is no guarantee that inflation rates will stay at these low levels. (Inflation in Ontario currently is greater than 2%). Because the current inflation rate is fairly low, the rate is expected to stay fairly low for at least a few years, and because historically inflation has been low, we assume an inflation rate of 2.5% for use in the spreadsheet.

Interest is accounted for in the spreadsheet because unused reserve funds are invested, earning interest that is added to the reserve fund. The Condominium Act requires that interest and other income earned by the reserve fund be deposited to the reserve fund. In keeping with the above principal of assuming that current rates will continue for some time, we typically assume an interest rate of 3.0%. This interest rate is based on the assumption that the reserve funds will be kept in secure, easily accessible investments that do not earn high rates of return compared to higher risk investment instruments.

While inflation and interest rates of 2.5% and 3.0% may not apply over the long term, or may not even reflect the exact conditions that exist today, these rates are reasonable average assumptions for this Reserve Fund Study. First of all, this Reserve Fund Study should be updated regularly, so the current rates will likely be close to the actual rates for at least the next few years. Furthermore, the most important rate of concern is the "real interest rate", that is the difference between the interest rate and the inflation rate. For the spreadsheet in this Reserve Fund Study, the real interest rate is 0.5%. As inflation increases, interest rates usually increase by a greater rate (if the higher inflation rate holds for a significant length of time), thereby increasing the real interest rate. Therefore, a real interest rate of 0.5% (based on 2.5% inflation and 3.0% interest) should be conservative over the long term. While the actual rates will inevitably differ from those used in the spreadsheet, these differences should not adversely affect the reserve fund planning.

3.5 Assumptions and Limitations

This report is based only upon visual inspections and a review of the available background information. No quantitative performance testing of any kind has been performed. Therefore, no review has been made regarding the specific performance level of the common elements, or whether individual building elements meet the Ontario Building Code requirements that applied at the time of construction. Furthermore, it is important to note that the review of drawings is not a review of the project design.

Because of the above limitations of this study, the accuracy of the findings, cost estimates, repair forecasts, life expectancy projections, and our recommendations are limited to the information available at the time of preparing this report. In addition, the timing and costs for all expenditures are based on the assumption that all common elements will be well maintained over the life of the corporation and that all elements will perform according to normal standards. If the complex is not well maintained, the corporation is likely to suffer reduced building element performance and life expectancy, thereby increasing and accelerating repair and replacement costs.

4. FINDINGS AND RECOMMENDATIONS

In this section of the report, we outline our findings and recommendations regarding the common elements, with each category of common element discussed within separate subsections. Specifically, each subsection outlines the following information about the common elements:

- findings regarding their current condition
- quantities (as appropriate)
- description of the expected repair and replacement work that will be required
- estimates of when repair and replacement work will be required
- estimates of the costs of repair and replacement work
- advice regarding general repair or replacement procedures that should be followed.

4.1 Site Services

Section Highlights	Items Included: · storm sewers, sanitary sewers, supply of all utilities · fire hydrants · grounds lighting · light fixtures, outlets & door bells					
Item Description	General Condition	Estimated Quantities	Major Repair		Complete Renewal	
			Year	Costs	Year	Costs
Catch basins, Sewer Covers	Good	Repairs/adjustments included in costs of related renewal work.				
Sewers & Utilities	Satisfactory	No major repairs expected during life of complex.				
Fire Hydrants	Good	2 hydrants	as required using annual operating budget		Beyond 2040	N/A
Grounds Lighting	Satisfactory	7 light standards	as required using annual operating budget		2013	$12,000
Light Fixtures, Outlets & Door Bells	Satisfactory	158 each, total of 474	as required using annual operating budget		2025-2026	$10,000 (total)

The major site services contained within the limits of the corporation's property include the supply of all utilities as well as the storm and sanitary sewer systems. These elements should last the life of the complex (i.e. more than 60+ years) without any major repair or replacement work, so no costs are budgeted specifically for these elements during the 30-year period examined in the spreadsheet. However, the sewers should not be ignored based on the assumption that no problems will develop, since minor sewer problems are not completely uncommon. Instead, the sewer system should be inspected periodically using a remote camera to ensure that everything is functioning properly, and to ensure that minor sewer problems that could develop are detected early, so that major problems are averted or at least minimized. Since these inspections are maintenance related, they are commonly paid for with funds from the operating budget. Therefore, no special budgeting has been made for inspection costs. If the sewer inspections reveal problems, repairs should be carried out or a program of periodic sewer flushing should be implemented.

The existing fire hydrants should provide many years of service. The City of Ottawa no longer inspects or tests private fire hydrants, therefore, private property owners are now required to have their fire hydrants inspected and tested, annually, to ensure proper function. Annual inspection, testing and minor repairs to the fire hydrants should be covered by the operating budget.

The grounds lighting system is in generally satisfactory condition but should be renewed in conjunction with the asphalt paved roadway and parking lot reconstruction. That way, access to underground wiring is easily achieved without disturbing any newly placed asphalt. Renewal of the grounds lighting will likely include as required replacement of the posts, fixtures, and some of the wiring. Complete renewal of the grounds lighting is expected to cost $12,000, and this work is budgeted in 2013, to coincide with the asphalt renewal work.

Most of the light fixtures, outlets and door bells are in satisfactory condition. While exterior elements are often replaced on a unit basis by individual owners, this owner replacement approach typically occurs in an ad hoc manner over many years, and is not done at all by many owners. Therefore, we recommend that all exterior fixture elements be replaced when the siding and trim are replaced around 2025 and 2026. We estimate that it will cost about $10,000 to replace exterior electrical elements at the units, if this work is conducted at the same time as the siding and trim replacement.

4.2 Asphalt Pavement & Exterior Concrete

Section Highlights	Items Included: · asphalt paved parking lot, driveways & walkways · patio stone entrance walkways · concrete curbs · precast concrete entrance steps					
Item Description	General Condition	Estimated Quantities	Major Repair		Complete Renewal	
			Year	Costs	Year	Costs
Roadway & Parking Lot	Fair to Unsatisfactory	2,650 m^2	as required using operating budget or contingencies		2013 2028	$90,000 (rebuild) $60,000 (overlay)
Driveways	Fair to Unsatisfactory	1,475 m^2	as required using operating budget or contingencies		2013 & 2037	$55,000 (each time)
Asphalt Paved Walkways	Unsatisfactory	400 m^2	as required using operating budget or contingencies		2013 & 2037	$15,000 (each time)
Patio Stone Entrance Walkways	Good	N/A	2013 2037	$25,000 $40,000	N/A	N/A
Concrete Curbs	Fair to Satisfactory	700 m	2013 & 2028	$20,000 (each time)	Beyond 2040	$60,000
Precast Concrete Entrance Steps	Good	79 landings	as required using operating budget or contingencies		N/A	N/A

The asphalt pavement throughout the roadway and parking lot is in fair to unsatisfactory condition and should be reconstructed within the next several years. This work will involve pulverizing the existing pavement, adding new granular base, as required, compacting and grading the base, and installing new pavement. Accordingly, we have budgeted for reconstruction to the paved roadway and parking lot in 2013, at an estimated cost of $90,000. The asphalt roadway and parking lot pavement should provide about 15 years of service before an overlay is required. As such, we have budgeted for an overlay in 2028, at an approximate cost of $60,000.

In between pavement renewal, asphalt maintenance repairs, such as crack sealing and minor surface repairs should be carried out, as required, in order to prolong the life of the pavement. No funds are included in the reserve fund spreadsheet for these minor maintenance repairs, as it is assumed that the cost of this work will be covered using funds from the annual operating budget or the contingencies allowance of the reserve fund.

Much like the roadway and parking lot, the asphalt driveways and walkways are in generally unsatisfactory condition. The asphalt driveways and walkways should be reconstructed in conjunction with the roadway and parking lot, to reduce overall costs and to improve overall performance and aesthetics. As such, we have budgeted a total of $70,000 to reconstruct the driveways and walkways in 2013. Typically, asphalt driveways and walkways provide a reliable service life of around 25 years. Therefore, a second reconstruction to these elements is budgeted in 2037, at the same cost.

Patio stones provide a walkway from unit driveways to front entry doors. The stones are in generally good condition, with the exception of isolated stones that are cracked and others that are off level. These patio stone entrance walkways will eventually need to be reset and isolated stones will need to be replaced. As such, we have budgeted this work in 2013 and 2037, to coincide with the driveway reconstruction work, at estimated costs of $25,000 and $40,000, respectively.

The cast-in-place concrete curbs located around the perimeter of the asphalt paved roadway and parking lot vary from fair to satisfactory condition. The curbs will require some repair/renewal work during the pavement renewals. Therefore, we have budgeted allowances of $20,000 in 2013 and 2028, to repair/renew localized sections of curb.

The precast concrete entrance steps are in good condition and typically provide several decades of service. We expect that isolated repairs, resetting or replacement of the steps will likely be required during the pavement reconstruction work. However, the cost of this work is commonly paid for with funds from the operating budget or contingencies allowance. Therefore, no special budgeting has been made for such repairs.

4.3 Landscaped Grounds

Section Highlights	Items Included: · all landscaped areas of the complex, including drainage patterns, trees, shrubs & sod					
Item Description	General Condition	Estimated Quantities	Major Repair		Complete Renewal	
			Year	Costs	Year	Costs
Miscellaneous Landscaping	Good	N/A	as required using annual operating budget		N/A	N/A

The landscaped grounds appear to be well maintained and are in generally good condition. Regular maintenance of the landscaping elements on the common grounds should be repaired on a regular basis using funds from the annual operating budget. This should include the annual fertilization of grassed areas as well as trimming and pruning of trees and shrub, as required.

4.4 Wood Fences & Decks

Section Highlights	Items Included: · pressure-treated privacy fences & enclosure fences · cedar decks at rear of units					
Item Description	General Condition	Estimated Quantities	Major Repair		Complete Renewal	
			Year	Costs	Year	Costs
Wood Fences	Fair to Satisfactory	500 m	as required using annual operating budget		2015 & 2039	$70,000 (each time)
Wood Decks	Poor to Excellent	79	as required using annual operating budget		2012 & 2017	$40,000 (each time)

Pressure-treated wood privacy fences and enclosure fences are present at the rear of all units. The fence systems are in fair to satisfactory condition and should be replaced within the next five years. As such, we have budgeted $70,000 in 2015, to replace the wood fences. Normally, wood fences of this type provide about 25 years of reliable service, so the $70,000 cost is repeated in 2039.

Most of the wood decks located at the rear of each unit are in fair to poor condition, while localized decks are in excellent condition, due to recent replacements. The decks should last about six more years before replacement is required. It will cost about $80,000 to replace all standard decks, but all decks will not require replacement at the same time. Therefore, we are assuming that half of the decks will be replaced in conjunction with the repainting and wood repair project in 2012, while the other half will be replaced during the subsequent repainting and wood repair project in 2017.

4.5 Foundation Walls

Section Highlights	Items Included: · cast-in-place foundation walls & parging					
Item Description	General Condition	Estimated Quantities	Major Repair		Complete Renewal	
			Year	Costs	Year	Costs
Foundation Walls	Satisfactory	N/A	as required using operating budget or contingencies		N/A	N/A

The concrete foundation walls are in generally satisfactory condition and any repairs should be carried out, as required, using funds from the annual operating budget or contingency allowance.

4.6 Cladding

Section Highlights	Items Included: · brick masonry veneer · aluminum siding · wood barge board trim · other miscellaneous trim					
Item Description	General Condition	Estimated Quantities	Major Repair		Complete Renewal	
			Year	Costs	Year	Costs
Brick Masonry Veneer	Good	N/A	as required using annual contingency allowance		N/A	N/A
Siding & Trim	Satisfactory to Good	4,100 m²	as required using annual operating budget		2025-2026	$380,000 (total)

The brick masonry veneer is in good condition overall and should last the life of the complex. In the meantime, any required work should be covered by the contingencies allowance of the reserve fund.

The aluminum siding on the buildings is in good condition and should last about 15 more years before replacement is required. The only work that should be required in the interim are regular maintenance repairs, such as re-fastening loose siding panels.

The wood barge board trim is in good condition and should last many more years before replacement is required. Overall, barge board trim can be made to last at least 30 to 35 years because deteriorated pieces of trim are normally replaced as required during repainting work, meaning that replacement is a gradual and ongoing effort until there is simply too much deterioration to replace trim boards in this manner. Since the corporation appears to have a diligent maintenance program in place, we expect that the barge board trim will be made to last as long as the siding.

The hardboard siding panels also are in good condition and normally would last about another 7 to 10 years. However, completely replacing the hardboard siding panels and then replacing all other elements five or so years later would severely limit the corporation's replacement options. Therefore, we recommend that the corporation's maintenance and repair program be used to make the siding panels last until the aluminum siding is replaced in about 15 years. As a result, all siding materials can be replaced under one contract, giving the corporation the opportunity to modernize the complex when cladding replacement is required.

The only significant deficiency-type condition involving the siding is that there are several locations where much splashback of dirt on to the siding is occurring where eavestroughs do not exist. Therefore, more diligent maintenance will be required in these locations to maintain paint finishes and to prevent the splashback and dirtying of the siding from causing premature decay of the wood elements.

If the above recommended approach is taken, we expect that complete siding replacement will occur in about 15 years, possibly over a multi-year project. We estimate that complete cladding replacement will cost about $380,000, and this work is budgeted as a two-year program, in 2025 and 2026.

4.7 Exterior Painting & Caulking

Section Highlights	Items Included: · all exterior painting · all exterior caulking around windows, doors and other elements · isolated wood repairs					
Item Description	General Condition	Estimated Quantities	Major Repair		Complete Renewal	
			Year	Costs	Year	Costs
Exterior Painting & Caulking	Fair to Satisfactory	N/A	as required using operating budget or contingencies		2012 & 2017	$40,000 (each time)
Wood Repairs	N/A	N/A	N/A	N/A	N/A	$10,000

Exterior painted elements are limited to hardboard siding, barge board trim, door frames, light posts, wood fences, and other minor miscellaneous elements. All exterior painted elements (excluding the light posts and wood fences) were repainted in 2002 with a high quality paint and have held up well, but should be repainted again next year. Repainting the light posts and wood fences will not be required in the short term since they are both budgeted for replacement within the next four years. Typically, caulking is replaced or touched up on an as-required basis during repainting work. As such, repainting of the siding, barge board trim and door frames, as well as miscellaneous caulking touch-ups is budgeted in 2012 and again in 2017, at estimated costs of $30,000 each time.

After 2017, no specific budget allowances are made for repainting or recaulking, as all painted elements will be replaced with "maintenance-free" products, and future major recaulking will likely be carried out as part of other projects, such as window or siding replacement.

Isolated wood repairs are expected to occur before the siding modernization project from 2025 to 2026, so an allowance of $10,000 is budgeted for such repairs.

4.8 Windows & Doors

Section Highlights	Items Included: · windows & sliding glass patio doors · front entrance doors, incl. sidelights · garage doors · condominium office doors & windows					
Item Description	General Condition	Estimated Quantities	Major Repair		Complete Renewal	
			Year	Costs	Year	Costs
Windows	Excellent	328 windows area: 450 m²	as required using annual operating budget		2035-2036	$230,000 (total)
Patio Doors	Poor to Excellent	79	as required using annual operating budget		2011 2035-2036	$70,000 $120,000 (total)
Entrance Doors	Satisfactory to Good	79	as required using annual operating budget		2019	$90,000
Garage Doors	Poor to Good	79	as required using annual operating budget		2011 2026-2030	$2,000 $75,000 (total)
Office Doors & Windows	Satisfactory	2 doors & 2 windows	as required using annual operating budget		as required using reserve funds	

The windows were replaced in 2005 with quality PVC sliders and the windows are in excellent condition. Typically, PVC windows provide about 25 to 30 years of reliable service before replacement is required. Due to the size of this complex, we have budgeted the following renewal over a two-year period, during 2035 and 2036, at a total cost of $230,000.

The sliding glass patio doors located at the rear of each unit vary from fair to poor condition, while localized doors are in excellent condition in part to recent replacements. According to background information, approximately 44 doors are original. Therefore, we have budgeted $70,000 in 2011, to replace all original patio doors. Typically, patio doors provide about 25 years of service before replacement is required. As such, we have budgeted $120,000 during 2035 and 2036, to replace the patio doors in conjunction with the windows.

The front entrance doors are in satisfactory to good condition and should provide reliable service for many years, provided that regular due diligence maintenance is performed. Considering their normal service life, the doors should require replacement around 2019. Accordingly, $90,000 has been budgeted for the work.

The garage doors are mostly in good condition, however, two doors are original and are in poor condition. Therefore, we have budgeted $2,000 this year to replace the original garage doors. The remaining doors should provide another 15 to 20 years of service before requiring replacement. Since this work is likely to happen gradually, the estimated $75,000 cost is budgeted at $15,000 per year during 2026 to 2030.

The condominium office doors and windows are in generally satisfactory condition for their use and their replacement timing is generally discretionary. However, we recommend replacing the windows and doors during other window and door replacement projects, to reduce overall costs. All costs associated with renewing these windows and doors has been included with the window and door replacement projects.

4.9 Soffits, Fascias & Eavestroughs

Section Highlights	Items Included: · aluminum soffits & fascias · eavestroughs & downspouts					
Item Description	General Condition	Estimated Quantities	Major Repair		Complete Renewal	
			Year	Costs	Year	Costs
Soffits	Satisfactory to Good	1,050 m²	as required using annual operating budget		2019-2021	$45,000 (total)
Fascias	Satisfactory to Good	3,450 m	as required using annual operating budget		2019-2021	$60,000 (total)
Eavestrough System	Satisfactory	N/A	as required using annual operating budget		2011 2019-2021	$13,000 $30,000 (total)

The aluminum soffits and fascias are prefinished aluminum, are in satisfactory to good condition overall, and should provide reliable service for another 10 years or so. Therefore, we have budgeted $45,000 from 2019 to 2021, to replace the soffits and fascias with the main asphalt shingle roof replacement.

The eavestrough system is also in satisfactory condition, however, not all units have troughs because troughs are the responsibility of the individual unit owners. Since the lack of troughs is causing soil compaction settlement along foundation walls, significant splash back onto cladding surfaces as well as accelerated deterioration to garage roofs, we recommend that the corporation install eavestroughs (or encourage owners to do so) where they do not presently exist. Accordingly, we have included $13,000 into the spreadsheet this year to install an eavestrough system at all front second level roofs, to help prevent further damage to the garage roofs. The remainder of the roof areas should receive a new eavestrough system during the upcoming reroofing of the main roofs. Therefore, the estimated $30,000 costs for this work is budgeted from 2019 to 2021.

4.10 Asphalt Shingle Roofs

Section Highlights	Items Included: · asphalt shingle main roofs, mansard roofs & garage roofs					
Item Description	General Condition	Estimated Quantities	Major Repair		Complete Renewal	
			Year	Costs	Year	Costs
Main Asphalt Shingle Roofs, incl. Mansards	Satisfactory to Good	5,200 m²	as required using annual operating budget		2019-2021	$165,000 (total)
Garage Asphalt Shingle Roofs	Fair	3,500 m²	2011 & 2013	$4,000 (each time)	2015-2016 2033-2034	$85,000 (each time)

The roofing system is composed of asphalt shingles on pitched roofs, with shingled mansard roofs at the front of many units and shingled roofs above each garage. The asphalt shingle roofing was replaced from 1998 to 2000 using 25-year shingles. While the shingles used are called 25-year shingles, they tend to provide a service life of 20 to 25 years. Since the shingles are showing signs of accelerated deterioration, we have assumed a service life of 21 years. As such, we have projected the next main roof replacement work for 2019 to 2021, with a total estimated budget of $165,000.

Much like the main roofs, the garage roofs are also experiencing an accelerated deterioration; only much worse. Numerous garage roofs are experiencing leaks and limited roofs have already been replaced. Although the garage roofs in worst condition have already been replaced, others are expected to follow. Therefore, we have budgeted an allowance of $4,000 in 2011 and 2013, to replace isolated garage roofs. The remainder of the garage roofs should provide another five years of service before requiring replacement. As such, we have budgeted $85,000 during 2015 and 2016, to replace the remainder of the garage roofs. To account for a reduced service life, the newly replaced garage roofs have been budgeted for replacement 18 years later, during 2033 and 2034, at the same cost.

4.11 Contingencies

Isolated minor repair work (such as thermopane replacements, pavement repairs, electrical repairs, etc.) are difficult to budget for, since these types of expenses are somewhat unpredictable. Costs such as these could total several thousand dollars per year for many corporations, making it difficult to account for these expenses in the annual operating budget. To address this difficulty in budgeting, many corporations include a contingencies allowance in the reserve fund and then use this to pay for isolated major repairs and minor replacement work. We recommend that this approach of having a contingencies allowance be utilized to cover these types of costs. To reflect this recommendation, we have provided a general contingencies allowance of $3,000 per year.

4.12 Engineering Fees

Potential costs for engineering fees also are included in the spreadsheet. Engineering fees related to the major repair or replacement of common elements should be paid out of the reserve fund, since such fees are directly related to the common element renewal. To account for such costs, a ballpark cost estimate of such fees is included in the spreadsheet for repair items where the services of an engineer are likely to be used. **It is very important to note that the budgeted amounts are only very rough "guesstimates" of fees, based on what the scope of work might be, but actual scopes of work are likely to vary from that assumed.** Therefore, the Board should not expect quotations for services to match the estimates provided, even for work due within the next few years. The intent of including engineering fees is only to ensure that there is some allowance for such fees, because ignoring engineering fees in budgeting could cause the corporation to be underfunded over the long term.

Budgeted amounts for engineering fees are as follows:

- 2013: $20,000 for design, specifications, tendering and site review of the reconstruction to asphalt roadways, parking lots, driveways and walkways.
- 2019: $8,000 for design, specifications, tendering and site review of the replacement to main shingle roofs, soffits, fascias and eavestroughs.
- 2020: $5,000 for site review of the main shingle roofs, soffits, fascias and eavestroughs replacement.
- 2021: $5,000 for site review of the main shingle roofs, soffits, fascias and eavestroughs replacement.
- 2025: $17,000 for design, specifications, tendering and site review of the siding and trim replacement.
- 2026: $12,000 for site review of the siding and trim replacement.
- 2028: $8,000 for design, specifications, tendering and site review of the asphalt roadway and parking lot overlay.
- 2035 $11,000 for design, specifications, tendering and site review of the windows replacement.
- 2036: $8,000 for site review of the windows replacement.

4.13 Reserve Fund Study Updates

The new Condominium Act requires full Reserve Fund Study Updates (updates based on inspection) be completed no later than every six years, with a Spreadsheet Update (update without inspection) within three years of completing the Full Study Update. In essence, two types of Reserve Fund Study Updates will be required at maximum six-year intervals, with types of the study required alternating. The estimated $4,500 costs for a full Study Update are budgeted in the spreadsheet at six-year intervals in 2011, 2017, 2023, 2029, 2035 and 2041. To reflect the need for a Spreadsheet Update within three years of completing a full Study Update, we have budgeted the estimated $3,000 costs for a Spreadsheet Update every three years after each full Study Update, in 2014, 2020, 2026, 2032 and 2038.

5. CONCLUSIONS & SUMMARY COMMENTS

Overall, the common elements of CCC 276 are generally in satisfactory condition and are well maintained, but substantial replacement work will be required over the next several years, due to normal life cycle renewals of aging common elements. Based on the predicted expenditures listed in the spreadsheet and the current reserve fund finances, the corporation is very well funded to the point that contributions can remain frozen at $102,950 until 2019. After 2019, only annual inflationary increases should be required in order to pay for all anticipated reserve fund expenditures over the next 30 years and beyond.

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Christopher Lyons, A.Sc.T.

Steven Laviolette, P. Eng.

APPENDIX A: SUMMARY OF LIFE EXPECTANCIES AND COSTS

Table 1: Summary of Life Expectancies and Costs

Element Description	Approximate Current Age	Normal Life Expectancy	Estimated Life Remaining	Replacement Value
Grounds Lighting	27 years	30 to 40 years	2 years	$12,000
Light Fixtures, Outlets & Door Bells	27 years	25 years	14 to 15 years	$10,000 (total)
Roadway & Parking Lot	27 years	15 to 20 years	2 years	$90,000 (rebuild)
Driveways	27 years	25 years	2 years	$55,000
Asphalt Paved Walkways	27 years	25 years	2 years	$15,000
Precast Concrete Paver Stone Walkways	27 years60+ years		2 years	$25,000 (reset)
Concrete Curbs	27 years60+ years		2 years	$20,000 (partial)
Wood Fences	27 years	25 to 30 years	4 years	$70,000
Wood Decks	27 years	30 years	1 to 6 years	$80,000 (total)
Siding & Trim	27 years	40 years	14 to 15 years	$280,000 (total)
Exterior Painting & Caulking	9 years	every 5 years	1 year	$35,000 (total)
Wood Repairs	N/A	N/A	N/A	$10,000
Windows	6 years	25 to 30 years	24 to 25 years	$230,000 (total)
Patio Doors	27 years	25 years	none	$70,000
Entrance Doors	27 years	30 to 40 years	8 years	$90,000
Garage Doors	27 years	15 to 20 years	15 to 19 years	$75,000
Office Doors & Windows	27 years	25 to 30 years	N/A	N/A
Soffits	27 years	50 to 60 years	8 to 11 years	$45,000 (total)
Fascias	27 years	50 to 60 years	8 to 11 years	$60,000 (total)
Eavestrough System	varies	30 to 40 years	8 to 11 years	$30,000 (total)
Asphalt Shingle Roofing - Main Roofs	11 to 13 years	20 to 25 years	8 to 11 years	$165,000 (total)
Asphalt Shingle Roofing - Garage Roofs	11 to 13 years	20 to 25 years	4 to 5 years	$85,000 (total)

APPENDIX B: RESERVE FUND STUDY SPREADSHEET

CCC 276: RESERVE FUND SPREADSHEET

SPREADSHEET ESSENTIALS:

- THE END OF THE FISCAL YEAR IS DECEMBER 31 OF EACH YEAR
- THE RESERVE FUND BALANCE AS AT DEC. 31, 2010 WAS: $196,822
- FOR THIS YEAR (2011), RESERVE FUND CONTRIBUTIONS ARE: $102,950
- FROM 2012 TO 2019, CONTRIBUTIONS CAN REMAIN AT: $102,950
- AFTER 2019, ONLY REGULAR INFLATIONARY INCREASES SHOULD BE REQUIRED.

SPREADSHEET ASSUMPTIONS:

2.5% IS THE ASSUMED INFLATION RATE FOR EXPENDITURES & CONTRIBUTIONS

3.0% IS THE ASSUMED RATE OF INTEREST EARNINGS FOR RESERVE FUND INVESTMENTS, BASED ON THE AVERAGE BALANCE FOR EACH YEAR

INFLATION AND INTEREST RATES ARE ASSUMED TO BE CONSTANT OVER THE 30-YEAR PERIOD EXAMINED IN THIS SPREADSHEET

AGE OF COMPLEX (start of fiscal year)	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
WORK DESCRIPTION | CALENDAR YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Grounds Lighting			$12,000													
Fixtures on Exterior of Units															$5,000	$5,000
Roadway & Parking Lot Pavement			$90,000													
Driveways			$55,000													
Asphalt Walkways			$15,000													
Concrete Curbs			$20,000													
Patio Stone Entrance Walkways			$25,000													
Wood Privacy Fences					$70,000											
Wood Decks		$40,000					$40,000									
Siding & Trim															$190,000	$190,000
Painting, Caulking & Wood Repairs		$45,000					$45,000									
Windows																
Sliding Glass Patio Doors	$70,000															
Entry Doors, incl. Sidelights									$90,000							
Garage Doors	$2,000															$15,000
Soffits & Fascias									$35,000	$35,000	$35,000					
Eavestrough System	$13,000								$10,000	$10,000	$10,000					
Asphalt Shingle Roofing - Main Roofs									$55,000	$55,000	$55,000					
Asphalt Shingle Roofing - Garage Roofs	$4,000		$4,000		$40,000	$45,000										
General Contingencies Allowance	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
Engineering Fees			$20,000						$8,000	$5,000	$5,000				$17,000	$12,000
Reserve Fund Study Updates	$4,500			$3,000			$4,500			$3,000			$4,500			$3,000
EXPENDITURES, BEFORE INFLATION	$96,500	$88,000	$244,000	$6,000	$113,000	$48,000	$92,500	$3,000	$201,000	$111,000	$108,000	$3,000	$7,500	$3,000	$215,000	$228,000
EXPENDITURES, AFTER INFLATION	$96,500	$90,200	$256,352	$6,461	$124,731	$54,308	$107,272	$3,566	$244,899	$138,624	$138,249	$3,936	$10,087	$4,136	$303,789	$330,212
ANNUAL CONTRIBUTIONS	$102,950	$102,950	$102,950	$102,950	$102,950	$102,950	$102,950	$102,950	$102,950	$105,524	$108,162	$110,866	$113,638	$116,478	$119,390	$122,375
EARNED INTEREST	$6,093	$6,571	$4,629	$3,903	$5,160	$5,726	$6,575	$8,223	$7,826	$5,398	$4,600	$5,911	$9,296	$12,867	$12,161	$6,559
REMAINING FUND: FUTURE DOLLARS	$209,365	$228,686	$79,912	$180,304	$163,683	$218,051	$220,305	$327,912	$193,789	$166,087	$140,600	$253,440	$366,287	$491,497	$319,259	$117,981
REMAINING FUND: 2011 DOLLARS	$209,365	$223,108	$76,061	$167,430	$148,289	$192,726	$189,968	$275,861	$159,051	$132,990	$109,836	$193,158	$272,355	$356,542	$225,948	$81,462

OTHER SPREADSHEET INFORMATION:

- ALL COSTS LISTED IN THE ROWS BESIDE WORK DESCRIPTIONS (I.E. ABOVE THE FIRST DOUBLE-LINE) ARE THE ACTUAL COST ESTIMATES OUTLINED IN THE MAIN BODY OF THE REPORT
- INFLATION IS ACCOUNTED FOR ONLY AFTER YEARLY EXPENDITURES ARE TOTALLED
- ALL COSTS ARE ESTIMATED IN 2011 DOLLARS

43	44	45	46	47	48	49	50	51	52	53	53	54	55	56		
2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTALS	WORK DESCRIPTION
															$12,000	Grounds Lighting
															$10,000	Fixtures on Exterior of Units
	$60,000														$150,000	Roadway & Parking Lot Pavement
										$55,000					$110,000	Driveways
										$15,000					$30,000	Asphalt Walkways
	$20,000														$40,000	Concrete Curbs
										$40,000					$65.000	Patio Stone Entrance Walkways
												$70,000			$140,000	Wood Privacy Fences
															$80,000	Wood Decks
															$380,000	Siding & Trim
															$90,000	Painting, Caulking & Wood Repairs
								$115,000	$115,000						$230,000	Windows
								$60,000	$60,000						$190,000	Sliding Glass Patio Doors
															$90,000	Entry Doors, incl. Sidelights
$15,000	$15,000	$15,000	$15,000												$77,000	Garage Doors
															$105,000	Soffits & Fascias
															$43,000	Eavestrough System
															$165,000	Asphalt Shingle Roofing - Main Roofs
						$40,000	$45,000								$178,000	Asphalt Shingle Roofing - Garage Roofs
$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$93,000	General Contingencies Allowance
	$8,000							$11,000	$8,000						$94,000	Engineering Fees
		$4,500			$3,000			$4,500			$3,000			$4,500	$42,000	Reserve Fund Study Updates
$18,000	$106,000	$22,500	$18,000	$3,000	$6,000	$43,000	$48,000	$193,500	$186,000	$113,000	$6,000	$73,000	$3,000	$7,500	$2,414,000	EXPENDITURES, BEFORE INFLATION
$26,721	$161,292	$35,092	$28,776	$4,916	$10,077	$74,028	$84,701	$349,988	$344,834	$214,733	$11,402	$142,189	$5,989	$15,348	N/A	EXPENDITURES, AFTER INFLATION
$125,435	$128,570	$131,785	$135,079	$138,456	$141,918	$145,466	$149,102	$152,830	$156,651	$160,567	$164,581	$168,696	$172,913	$177,236	N/A	ANNUAL CONTRIBUTIONS
$5,097	$6,257	$7,422	$10,739	$14,718	$19,208	$22,889	$25,654	$24,414	$19,289	$16,186	$18,187	$21,477	$25,077	$30,848	N/A	EARNED INTEREST
$221,791	$195,326	$299,440	$416,483	$564,742	$715,790	$810,116	$900,172	$727,427	$558,534	$520,554	$691,920	$739,904	$931,904	$1,124,640	$1,124,640	REMAINING FUND: FUTURE DOLLARS
$149,404	$128,368	$191,991	$260,522	$344,645	$426,171	$470,568	$510,125	$402,177	$301,268	$273,933	$364,112	$379,866	$466,770	$549,568	$549,568	REMAINING FUND: 2011 DOLLARS