

WATERLOO STANDARD CONDOMINIUM PLAN No. 437 - WHISPERING PINES
345 Briar Meadow Drive
Kitchener, Ontario



345 Briar Meadow Drive
Kitchener, ON

**RESERVE FUND STUDY
2014**

Prepared for:

M & O Properties Inc.

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Advised on February, 16 2016 no further comments

TABLE OF CONTENTS

1.0	INTRODUCTION
2.0	SITE DESCRIPTION
3.0	SITE/ BUILDING ASSESSMENT
.1	Landscaping
.2	Sewers and Catch basins
.3	Curbs, Roadways and Retaining Walls
.4	Parking Structure
.5	Storage Rooms
.6	Overhead Garage Doors
.7	Walkways/Patios/Stairs/Railing
.8	Exterior Lights
.9	Street Lighting
.10	Fences
4.0	BUILDING ASSESSMENT
.1	Foundations
.2	Facade
.3	Roofing
.4	Doors and Windows
.5	Balconies
.6	Elevator Lobbies/Hallways
.7	Stairwells
.8	Ground Floor Common Areas
.9	Storage Areas
5.0	MECHANICAL EQUIPMENT ASSESSMENT
6.0	RESERVE FUND SPREADSHEET
	APPENDIX A – PHOTOGRAPHS
	APPENDIX B – SPREADSHEET



1.0 INTRODUCTION

The purpose of this Reserve Fund Study update is to provide information which will assist the Board of Directors in planning for major repair and replacement of the common elements and assets of the Condominium Corporation. The site review and report preparation were completed in July, 2014 by Mr. Brent Powers & Mr. James Hough, of NA Engineering Associates Inc.

NA Engineering Associates Inc. completed the original reserve fund study in November, 2008 and completed as a reserve fund updated in 2011. As per the condominium act an update is required every 3 years.

The study provides data on future costs based upon the review and assessment of the current life expectancy of these common elements and their current replacement costs.

For this study, the common elements were assessed through a program involving visual, non-intrusive inspection and a review of past repair/replacement history through individual discussions. The original architectural construction drawings were supplied by the owner as part of the initial study in 2008.

Material quantities were estimated along with current repair/replacement costs. This data is presented in spreadsheet form showing both current replacement cost for each element along with the assessed life expectancy.

In addition, a projected cash flow of overall future expenditures in comparison with proposed reserve fund contributions is included which illustrates potential critical cash flow situations and, hence, opportune times to further review and assess the particular element repair/replacement.

2.0 SITE / BUILDING DESCRIPTION



Whispering Pines, at 345 Briar Meadow Drive in the City of Kitchener, is a four storey residential condominium building with a total of 40 dwelling units. There is one level partially underground, with an enclosed parking garage accessed from north side of the parking lot. A single overhead door provides access to the parking garage, while the main building is accessed via the main foyer located on the north part of the building. The main entrance services the two walk out and two accessible residential units on the first floor and gains access to the elevator. There are two emergency stairs with one being located on each of the east and west sides of the building.

Based on the information provided by the Corporation, it is our understanding that the building was constructed in 2004/05 with occupancy following shortly thereafter in 2005.

The property is somewhat rectangular in shape with the condominium building occupying the southeast side with the parking lot taking up the north and west sides of the lot. The property has many landscaped areas including the east side of the building along Briar Meadow drive.

For the purposes of this report, the building is comprised of the following levels;

Level 1 – Parking level, main vestibule, 4 units

Level 2 – 12 units

Level 3 – 12 units

Level 4 – 12 units = 40 total

The principal access to the interior of the building is gained from a single entrance off of the parking lot which leads to the main entrance vestibule. The common roadways, surface parking area, and drop off area are constructed of asphalt paving. The interior parking structure was built with a combination of cast-in-place concrete and a section of the parking area containing inter-locking paving stones.

The bottom floor of the building (level 1), is comprised of an enclosed, cast-in-place, concrete parking structure with 26 parking spots. This level can be accessed by the buildings elevator. Vehicular access to this parking area is gained by a separate entrance ramp. Man doors also provide access to this parking level. The first floor also consists of the common area/entrance vestibule, elevator lobby, garbage room, electrical/machine room, and elevator pit. There are also 4 residential units located on the east end of the complex two of which are walkout units and two of which are wheelchair accessible. There is a sprinkler system located in the parking garage supplied from the machine/electrical room in the parking garage.

The second, third, and fourth floors have a similar layout with each floor having 12 residential units with either a concrete patio or balcony. Common elements on each floor include laundry rooms, garbage chute rooms, corridors, exit stairs, and storage



rooms. The second floor has an office space and washroom in addition to the above noted common elements. The fourth floor has a smaller laundry room to allow for a mechanical room to be located on this floor.

The parking structure is constructed of an inter-locking brick on grade (Level 1), columns, and the exterior wall system covered parking area for 26 vehicles.

The building itself is constructed with a combination of cast-in-place concrete, and structural steel studs supporting a composite steel joist/concrete slab system (The drawings show a proprietary system, referred to as Hambro being used in the construction of the building).

The roof of the building is constructed of engineered steel trusses with prefinished metal roofing system over.

The north and west boundary of the site is bordered by other residential properties while the south is bordered by Fairway Road, the east side of the site is bordered by Briar Meadow Drive.

The condominium property has many landscaped areas around the building and around the site. The landscaped areas have a variety of species of small deciduous and coniferous trees and shrubs. There are retaining walls also placed as part of the landscaped areas.

We were advised that, at present, there are no major problems with the Corporation and there have not been any significant capital repairs or replacement projects undertaken to date.

3.0 SITE ASSESSMENT

The site was visually reviewed for surface drainage, catch basins, roadways and parking areas, landscaping, fencing and patios.

The following describes, in summary, the assessment of these items for the purpose of the study.

3.1 Landscaping

There are significant landscaped areas all the way around the property with a mixture of trees, shrubbery and bushes. These areas appear to be well maintained and due to the type of plantings, these areas require only a small amount of maintenance. We assume that cost for upkeep of these areas will be taken from the maintenance budget.

3.2 Sewers and Catch Basins

Drainage for the site is achieved with the use of 4 catch basins located within the parking areas and grassed area on the property. The first is located in the parking area at the east of the site, the second in the west side of the parking area, and the third and fourth are located in the grass area next to Briar Meadow Drive. There are also two small area drains located in the parking garage.

Our visual review of the catch basins and manholes on the condominium property indicated that they are generally in good condition. It was noted in our 2011 report that minor asphalt settlement and cracking was occurring around the catch basins. Since then the asphalt has been patched and looks to be in good condition.

Generally, catch basins and grates have a life expectancy of 40 or more years with proper maintenance. The Corporation should employ a sewer cleaning contractor at least once per year to remove debris and sediment from the bottom of the catch basins in order to maintain a free flow of water from the site.

Sanitary sewers, storm sewers and catch basins are long-term items and based on our review attention should be given to the settlement around the catch basins located in the parking area at this time. This repair would be considered a maintenance item therefore for this study, we have not included setting aside any dollars in the reserve fund for major capital work to any of these systems. The lifespan of these systems is generally 40 – 50 years and rather than build a very large reserve fund, we would recommend that a review of the sewers and catch basins be undertaken when the reserve fund study is updated in the future.

3.3 Curbs, Roadways, and Retaining Wall





No core samples or destructive testing was undertaken to assess the thickness and type of roadways, concrete driveways, etc., that were used in construction of the roadways. Nothing was observed during our site review that would suggest undertaking this type of extensive testing program. It is our opinion that repaving of the roadways and parking areas will be required in 9 to 12 years.

The concrete curbs around the parking lot have areas of cracking and pieces broken off. It would be our recommendation that localized repairs to the curbs be completed. We recommend that these repairs be completed as part of the ongoing maintenance budget.

There are two retaining walls on the property, both being constructed with landscaping blocks. One located on the west side of the parking area beside the parking structure entrance. The other retaining wall is on the east side of the property enclosing the shared common patio area. The retaining wall on the west side of the building beside the parking structure entrance is chipped and has a gap between the building wall and landscaping blocks. This is to be monitored and if further deterioration is observed the Corporation should consider partial removal and re-waterproofing. Cost for this work will be extensive and hence funds have been allotted for the reserve fund has been accounted for in this reserve fund.

A major consideration in the timing of the repair or reconstruction of the roadway curbs and retaining walls is its aesthetic character and how it affects the quality of life and property value of the condominiums. This consideration is outside of the field of engineering judgement and is left for the consideration of the Condominium Corporation. It would be our recommendation that localized repairs be completed where settlement present. We recommend that these repairs be completed as part of the ongoing maintenance budget.

3.4 Parking Structure

The parking structure is located at the ground level and located partially below grade. The floor of the parking structure consists of interlocking brick. The parking structure provides covered parking for 26 vehicles. In addition, the east end of the parking structure houses two rooms that are storage for the owners of the building. Access to the electrical room, garbage room, and mechanical room are also gained from within the parking structure. The parking structure is equipped with CO2 detectors and sprinkler system.

The parking structure is constructed of cast-in-place concrete walls supporting the 'Hambro' floor system. The exposed ceiling in the parking garage is painted gypsum board on resilient channels. The parking structure is lit with 12 high pressure sodium light fixtures. Drainage of the parking structure is achieved with two catch basins. The interlocking brick that makes up the floor of the parking structure appears to be in good condition.



3.5 Storage rooms

The parking structure is equipped with two storage areas located on the west end of the parking garage. Both of these rooms are used to store maintenance equipment, tools and extra materials.

3.6 Overhead Garage Door

The parking structure is equipped with a pre-finished, metal overhead garage door and a mechanical door opener. The garage door appears to be in good condition with no obvious signs of deterioration but should be replaced in 5 to 7 years. The custodian indicated that the motor had been relocated due to a noise issue with the unit above the garage door.

3.7 Walkways/Patios/Stairs/Railings

There are two concrete walkways and three pavestone patios located on the site. The concrete walkways at the main entrance to the building and the south side of the building are cracking and are tripping hazards. We recommend repairing the concrete as part of the maintenance plan.

There is a metal railing on the south side stairs existing the building. The railing is rusted at the bottom. We recommend touching up the paint on the railing to prevent any further rusting. We recommend that this repair be completed as part of the ongoing maintenance budget.

3.8 Exterior Lights

Exterior building lighting consists of a mixture of wall pack lighting and carriage lights located at the various entry and exit doors. The light fixtures all appear to be in good condition. The light fixtures are expected to be replaced as required as part of the ongoing maintenance program.

3.9 Street Lighting

The roadways and parking areas of the condominium complex are lit by 4 pole-mounted fixtures located in the grassed areas along the parking areas of the property. The street light poles are constructed of steel. The poles and light fixtures appear to be in good condition and should reach their effective service life. The metal trim of various light fixtures around the property have come loose and ajar. We recommend installing new base covers where required. A regular maintenance program of changing the bulbs and cleaning the lenses should be undertaken as part of the ongoing maintenance program.

3.10 Fences

The site is surrounded on the perimeter of the property by a fence. On the west and south side of the lot a wooden fence divides the properties. On the east side between the property and fairway road there is a black chain link fence. A wooden fence blocks encloses the shared common are on the east side.

In general the wooden fence is in fair condition. A regular maintenance program of changing the boards and should be undertaken as part of the ongoing maintenance program post replacement.



4.0 BUILDING ASSESSMENT

As with the Site Assessment, the building was reviewed visually from the exterior and interior common areas and information collected through limited discussions and observations.

The following describes, in summary, the assessment of the common elements, subject to the study.

4.1 Foundation

The condominium building is constructed using traditional footing and foundation wall construction. From our visual review of the interior foundation wall from the interior of the parking garage and review of the exposed foundation wall on the exterior of the building the foundation appears to be in good condition. There does not appear to be any visible issues with the foundation, however, settlement of the surface grade around some foundations was observed. Similar to the previous study we recommend filling these areas with soil and sod to help re-direct rainwater away from the foundations.

4.2 Facade

The exterior walls of the condominium building and parking structure are clad with a combination of masonry veneer and vinyl siding. Our visual review indicates that the masonry veneer of the building and parking structure is in good condition with no evidence of spalling, cracking, or efflorescence. The assessed remaining life of the masonry veneer is 31 years, potentially significantly more. At that time re-pointing and selected brick or precast sill replacement may become necessary. The assessed remaining life of the vinyl siding is 31 years, potentially more with ongoing regular maintenance.

4.3 Roofing

The roof system on this condominium building was installed at the time of construction approximately 9 years ago. The roof system is a pre-finished granulated steel sheet system. The owner indicated that the roof system has a warranty of 50 years, however it may be realized that this roof will provide good serviceability to the building for approximately 35-40 years, therefore further reserve fund studies should pay particular attention to the serviceability of this roof system. It would be advised that regular roof inspections be undertaken as part of the maintenance schedule to ensure that the life span of the roofing system is achieved. The custodian indicated there have been no leaks in the roof system.

4.4 Doors and Windows





Each unit has a main entrance door from the hallway into the unit and a set of patio doors onto the balcony. The main entrance doors are painted solid core wood doors and the balcony doors are vinyl sliding doors with large glass windows/vision panels. The main entrance doors have painted metal frames while the balcony doors have aluminium wrapped frames on the exterior. Our observations revealed that all of the exterior doors generally appeared to be in good condition and apart from painting the frames, as previously mentioned they should require little maintenance.

The windows for each unit are extruded vinyl framed units with double glazed sealed glass. The windows are typically a combination of a fixed section over a sliding bottom. The windows in the complex appear to be in good condition and are expected to be of service for approximately 30 years. The custodian indicated there have been no replacements done to this point.

The Corporation might consider a window replacement program when the existing windows reach the end of their life expectancy. The windows are extruded vinyl, which require very little maintenance and will last longer than conventional wood frame windows. The program to replace the existing windows with a new window system should be undertaken over an extended time frame say, 4 to 6 years.

In addition, proper performance of the doors and windows depends largely on keeping the caulking, seals, sweeps, hardware, etc. all in good condition. We would strongly recommend that the Corporation budget some money each year from its maintenance funds for repair and replacement of these types of items so that they remain in good condition and continue to perform as intended.

4.5 Balconies

Each unit is complete with either a concrete patio or a balcony. The balconies are enclosed by a 42" (1070 mm) high powder coated metal railing. All the balconies are reinforced pre-cast concrete slabs and are approximately 6" thick. The balconies for the units measure approximately 54 sq.ft. (~5 sq.m.). In general, the balcony slabs appear to be in good condition with no evidence of efflorescence, spalling or delamination.

Concrete balcony slabs are often susceptible to corrosion-related deterioration, like spalling and delamination, due to their exposure to moisture. In time, the embedded reinforcing steel will begin to corrode causing the steel to expand thus forcing the concrete covering the steel to spall and delaminate. Therefore, it is important that the tenants refrain from placing any flooring materials on the balcony slabs that may hold the moisture. Balcony slabs normally require rehabilitation at some point. We have suggested including some funds to complete this work when the balconies are 25 years old.

4.6 Elevator Lobbies/Hallways



Each floor of the building is accessed by a central core that includes a single elevator and two stairwells. The elevator exits through the building's main lobby on the first floor and the stairwells exit directly to the exterior on the east and west ends of the building. The elevator lobby on the first floor includes a fire hose cabinet, two pull stations, and one exit sign. The elevator and stairwells above the first floor exit to an elevator lobby/hallway which includes a fire hose cabinet, two fire alarm pull stations, two exit signs, and a double set of fire rated doors on a magnetic opener operated by the fire alarm system.

Since the elevator lobbies/hallways are part of the common areas of the building, the surface finishes are also included in the reserve fund. The finishes for the first floor elevator lobby include carpeted or ceramic tile floors, suspended acoustic tile or suspended gypsum board with texture finished ceiling, painted walls, and fluorescent lighting. The north wall of the ground floor elevator lobby also houses the unit mailboxes. The finishes for the first to third floor elevator lobbies/hallways include carpeted or ceramic tile floors, suspended acoustic tile or suspended gypsum board with texture finished ceilings, painted walls, painted doors, and fluorescent lighting.

The fire protection equipment, on all floors, appears to be in good condition but should be tested on a regular basis to ensure it is maintained in proper working order. The finishes in the elevator lobbies/hallways also appear to be in good condition. However, for the purposes of this reserve fund study, it was assumed that the Corporation would update/replace the finishes on a regular basis as a part of the maintenance budget.

An internal push button communication system is present and can be addressed as required as a part of the general maintenance budget.

4.7 Stairwells

As previously mentioned, the central core contains two staircases that access each floor of the building. The staircases are a 'U' shaped at the first floor, the staircases open to the corridors that meander through the building; at the west and east ends of the building the stairs exit directly to the outside.

Similar to the elevator lobbies/hallways, the stairwells are also part of the common areas of the building and thus were reviewed for this reserve fund study. The staircases and landings are constructed of concrete cast in steel pans and the walls of the stairwells have a gypsum board finish. Fluorescent light fixtures at each landing provide light for the stairwells.

In general, the stairs, landings, and finishes appear to be in good condition. As with the elevator lobbies/hallways, it was assumed that the Corporation would update/replace the finishes on a regular basis. However, the period between updates would likely be longer for the stairwells than the elevator lobbies/hallways due to the amount of use.



4.8 Ground Floor Common Areas

The interior walls of the entrance vestibule are constructed of a glass wall system with pre-finished metal frames and double glazed panels. The vestibule also houses the communication/access panel and the fire alarm/security system panel. The finishes in the entrance vestibule include ceramic floor tiles, suspended acoustic ceiling tiles, and wallpapered walls.

The recreation room is located at the south side of the first floor and includes a kitchenette, janitor's closet, and a two piece washroom. The recreation room is heated/cooled by an electric forced air furnace with cooling unit located in the closet along the north wall. The kitchenette contains three appliances (stove, refrigerator, and dishwasher) and melamine cabinets and counter tops. The finishes in the recreation room include carpeted floors, suspended gypsum board ceilings, painted walls, painted doors, and fluorescent lighting. The recreation room also has direct access to an enclosed patio located on the south side of the building. The patio consists on interlocked patio stones. The custodian reported water pooling in this area. We recommend the interlocking patio stones be reset to ensure positive drainage towards the drains. This can be completed as part of the ongoing maintenance budget.

The first floor lounge/lobby is located on the north side of the building, adjacent to the entrance vestibule, and contains two benches and a table. The finishes in the lounge/lobby include carpeted or ceramic tile floors, suspended acoustic tile ceilings, wall papered walls, painted doors, and recessed lights.

In general, the ground floor common areas appear to be in good condition. Similar to the elevator lobbies/hallways, it was assumed that the Corporation would update/replace the finishes on a regular basis. The first floor common areas, with the exception of the entrance vestibule, do not appear to be used extensively and as a result we anticipate that the Corporation would update/replace finishes every 12 to 15 years. The entrance vestibule is finished with a ceramic tile floor and should be of service for approximately 20 years.

The furnaces in the recreation room and lounge were both installed at the time of construction and should, with proper maintenance, reach their effective service life of approximately 30 years.

4.9 Storage Areas

The building has storage lockers located on the fourth floor for residence use. In addition each floor has storage rooms used by the residences and custodian to store building furniture and cleaning equipment. The storage room on the fourth floor has water damage to the ceiling. The custodian noted this has been present for a long duration and has not deteriorated further. We recommend replacing the ceiling as part of the maintenance budget.

5.0 MECHANICAL EQUIPMENT ASSESSMENT

The building's mechanical equipment was visually reviewed and information collected through limited discussions and observations. The review of the mechanical equipment is not intended to be an exhaustive review for the proper functioning of the equipment but to identify the equipment in use and establish its age and condition for future repair or replacement.

The mechanical equipment subject to the reserve fund study includes the make-up air unit, elevator, and hot water distribution.

The make-up air unit is a direct-fired unit manufactured by Engineered Air. The unit was installed at the time of construction. In general, the make-up air unit appears to be in good condition. We were not informed of any problems or concerns with the unit and therefore expect that the unit will require replacement in 11 to 13 years, with regular maintenance.

The building's elevator is a hydraulic elevator with in-ground cylinder. The elevator was manufactured and is assumed to be serviced by Schindler Elevators. Elevators require regular maintenance and through our discussions with the Corporation, we understand that the elevator is regularly serviced. In general, the elevator appeared to be in good condition but will require upgrades as the systems and controls age or become obsolete. We have not accounted for any yearly reserve fund as this type of work can be completed as a part of the yearly general maintenance budget.

The building uses a gas fired boiler with two storage tanks for hot water distribution throughout the building. The boiler and storage tanks appear to be in good condition. The building is equipped with a double tank water softener system. With proper maintenance it is still expected that the water heating system should achieve their lifespan of 15 to 20 years possibly longer depending on the severity of the hard water.

Each unit is equipped with air conditioners that are mounted on the exterior of the building.



6.0 RESERVE FUND SPREADSHEET



Presented at the end of this section we include the detailed Reserve Fund Spreadsheets. They list the common elements for the complex and present quantities and current replacement costs along with the assessed remaining life.

Future costs are presented in the projected Cash Flow Spreadsheet showing indexed future replacement costs at intervals corresponding to the element lifespan. The cash flow is projected forward 30 years (to year 2044). The index is included to allow for an assumed annual inflation, related to cost of construction, of 2%.

Also included in the Cash Flow Spreadsheet are annual contributions of \$14,000.00 to the reserve fund, indexed by 2% every year and the reserve fund balance after annual expenditures. An interest rate of 4.5% has also been included for the year-end balance of the reserve fund. The opening balance of the reserve fund is \$38,925.64 as of July 9, 2014.

The flat rate annual cost represents the sum of the replacement cost of each element divided by the expected lifespan of that element. It is used as a benchmark figure to determine what dollar amount should be placed in the reserve fund each year, without taking into account the balance in the reserve fund or the timing of the element replacements.

This study may be reviewed and modified at other critical times as required by the Corporation to reflect adjustments in the assessment of remaining life and changing market conditions relating to future cost estimates.

We recommend that the Board of Directors review the Reserve Fund Study Report carefully to ensure that no overlap of reserve and general maintenance funds occurs. Adequate reserves are important, but a fund containing more money than required is not in the best interest of the Owners, since the Condominium Act clearly states that reserve fund money cannot be used for any other purpose.

The Condominium Act requires that this study be reviewed every three (3) years maximum.

We appreciate this opportunity to be of service to Whispering Pines – 345 Briar Meadow Drive. If you have any questions or comments or require any additional information, please do not hesitate to contact our office.

Sincerely,
NA ENGINEERING ASSOCIATES INC.



A handwritten signature in black ink that reads "Jim Culliton". The signature is fluid and cursive, with the first letter of "Culliton" being a large, stylized 'C'.

Jim Culliton B.SC.

A handwritten signature in black ink that reads "James Hough". The signature is fluid and cursive, with the first letter of "Hough" being a large, stylized 'H'.

James Hough
Technologist

Appendix A Photographs



Photo 1 –Cracks in the curb.



Photo 2 – Main entrance side walk to the complex. Note cracks



Photo 3 – Retaining wall west side of building by parking garage.



Photo 4 – South side stair railing



Photo 5 – Typical concrete balconies.



Photo 6 – View of north side of building.



Photo 7 – Typical wood fence around patio area.



Photo 8 – Parking garage area with interlocking pavers.



Photo 9 – Typical interior corridor to suites.



Photo 10 – Parking lot lighting fixture base ajar.



Photo 11 – CO2 Sensor



Photo 12 – Two tank water softener



Photo 13 – Boiler located in Mechanical room.



Photo 14 – Cracked ceramic tiles in elevator.

Appendix B Spreadsheet

B.1 RESERVE FUND SPREADSHEET

As defined in the Condominium Act, a Reserve Fund means "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/replacement costs and life expectancy".

The Financial Table identifies costs associated with each common element and are allocated to the proper year in the time line of expenditures (in base year dollar amounts). Each year is then totaled and H.S.T. (13%) added. From these yearly expenditure totals, are added inflation and interest rates to the existing balance.

The existing cash flow reflects these expenditures, current contribution levels, and interest on the opening balances.

The planned cash flow reflects the same expenditures, with the suggested contribution levels and resulting interest on the opening balances. In calculating the planned contribution level we have endeavored to maintain a positive balance for the period corresponding to a thirty (30) year age of the complex given the variables shown (interest, inflation, borrowing rates, etc.).

Current Replacement Cost - This area of the table shows the element description, present age, expected remaining life and the estimated current replacement cost of the item in the base year amount and forms the basis for the remaining areas of the table.

Time Line of Expenditures - This portion of the table illustrates the inventory item and the anticipated year in which a cost associated with each item is forecasted to occur over a thirty (30) year period. The costs are again all in the base year amounts and totaled at the bottom of the page. This table summarizes the replacement schedule for each item. It may be that the actual replacement work will occur over a phased period or be postponed due to superior performance. Such variations have not been addressed in this report.

Cash Flow - This area of the table provides adjustment (adding inflation to expenditures and interest to savings) to the anticipated replacement costs. The actual economic conditions of the study period will vary due to sensitivity to interest and inflation rates.

Planned contribution levels reflect the interest and inflation as shown. The planned contribution of \$14,000.00, the yearly amount (in 2014 dollars) ensures a positive balance over a thirty (30) year complex age given future repair/replace cycles and the expenditure flow.

B.2 ASSUMPTIONS

This Reserve Fund has been developed on the basis of providing for major repair/replacement of common elements and assets of the WSC #437. The accuracy of all cost information, discussion and comments contained herein is limited to the extent of the information available at the time of assessment.

All replacement costs are in 2014 dollars. Prices do not include engineering fees, contingency, and removal and disposal of deteriorated material, where required.

We have predicted life expectancies for the components as we found them during our review of the complex. The type and extent of maintenance work was evaluated and compared to projects of similar construction and services. It has also been assumed that anticipated appearance and performance standards conform to current industry averages and manufacturer's published information on the life expectancy.

The Expected Remaining Life reflects the present condition of a common asset under consideration. The Expected Remaining Life is not necessarily equal to the arithmetical difference between the Normal Life and the Present Age.

It should be noted that throughout the course of this study, it was necessary to predict future events based on a sampling of components and the assumption of a proper continuous maintenance. The accuracy of the Reserve Fund Study is therefore determined by the degree to which the sampled areas are representative and by the quality of the maintenance program. Improper maintenance may result in significant deviation in the future Reserve Fund requirements.

The Current Replacement Cost is based on the total replacement of the entire asset. Minor repairs will be undertaken under the operating/maintenance budget.

The present age of the Condominium complex, including site facilities, is taken to be six (9) years for all common assets in the Current Replacement Costs chart.

In the Cash Flow projections, interest (assumed to be 5%) was calculated on the opening balance at the beginning of the year accruing throughout the year and paid at the end of the year. Expenditures and contributions are assumed to occur at the end of each year, and have thus been adjusted for

inflation (assumed to be 2%). Although not presented in the attached tables, the Planned Cash Flow accounts for anticipated reserve fund expenditures out beyond the length of the thirty (30) years study horizon to a period corresponding to when the complex reaches thirty six (36) years of age. The Planned Cash Flow represents the minimum annual contribution required to maintain a positive balance over this period given the parameters shown.

DESCRIPTION OF RESERVE FUND TABLE

Element Description	A short description of items included in the Reserve Fund Study.
Cost (Current \$)	The estimated cost to perform the replacement work as described in the report. The costs include engineering fees where applicable.
Future Repair/Replace Cycles (Years)	The frequency at which the work must be performed.
Present Age	The current age of the item.
Remaining Life	The remaining life of the item is generally the Future Repair/Replace Cycle minus the present age. However, this value may vary depending upon several factors; improper maintenance, high use, etc.
First Year Of Cycle	The year in which the Repair/Replacement will first take place.
Equivalent Annual Cost (Current \$)	The Cost of the item averaged over the Repair/Replace Cycle. This figure is shown in base dollar amounts and does not account for inflation.
Required Current Reserve Fund Balance (Current \$)	The dollar amount that should be currently in the Reserve Fund allocated to that specific item. The amount is a proportion of the item's cost (Current \$).
Actual Current Annual Contribution	The amount presently set aside by the Condominium into the Reserve Fund.
Planned Current Annual Contribution	The minimum amount that the Condominium should set aside each year (before accounting for inflation) to ensure a positive balance over the period coinciding with the term equal to a thirty (30) year age of the complex.
Annual Contribution (Shortfall/Excess)	The difference between the Actual Current Annual Contribution and the Planned Current Annual Contribution on a yearly basis (without accounting for inflation).
Reserve Fund Balance Actual (start of first year)	The amount of money in the Reserve Fund at the beginning of the study.
Planned (Start of first year)	The sum of the itemized Required Current Reserve Fund Balances.
(Shortfall/Excess)	The difference between the Actual Current Reserve Fund Balance and the Planned Current Reserve Fund Balance. This is an indication as to the adequacy of the existing fund amount.

2016 CURRENT YEAR	30 study length in years	\$38,925.44 BEGINNING BALANCE	4.50% INTEREST RATE	2.00% INFLATION RATE	\$ 11,000.00 Existing Ann. Con.	5.00% Borrow RATE		
Whispering Pines Condominium					Annual Ann. Con.	\$20,460	\$173,432	
ADDRESS	5225 Regentwood Ln, Kitchener, Ontario							
JOB NO.	14-102							
REVISION	01							

Whispering Pines Condominium
CURRENT REPLACEMENT COSTS
TIME LINE OF EXPENDITURES (in thousands of dollars)

Element Description	Quantity	Unit Cost	Cost (Current \$)	Future Repair / Replace Cycle (YRS)	Present Age (YRS)	Remaining Life (YRS)	First Year of Cycle (Year)	Equivalent Annual Cost (Current \$/Yr)	Required Current Reserve Fund Balance (Current \$)	2015 (0)	2016 (1)	2017 (2)	2018 (3)	2019 (4)	2020 (5)	2021 (6)	2022 (7)	2023 (8)	2024 (9)	2025 (10)	2026 (11)	2027 (12)	2028 (13)	2029 (14)	2030 (15)	2031 (16)	2032 (17)	2033 (18)	2034 (19)	2035 (20)	2036 (21)	2037 (22)	2038 (23)	2039 (24)	2040 (25)	2041 (26)	2042 (27)	2043 (28)	2044 (29)	2045 (30)
MUNICIPAL																																								
Landscaping	0	\$0.00	Maintenance	0	0	0																																		
Surface Drainage	0	\$0.00	Maintenance	0	0	0																																		
Roadway and Parking Area Replacement	21,927	ft ²	\$3.50	\$76,744.50	20	9	11	2026	\$3,837																															
Cuts	952	ft	\$13.00	\$12,376.00	40	9	31	2046	\$309																															
Sewers and Catch Basins	6	in No	\$1,100.00	\$6,600.00	50	9	41	2056	\$132																															
Sidewalks	0	ft	\$0.00	Maintenance	0	0	0																																	
Outdoor Lighting	0	in No	\$0.00	Maintenance	0	0	0																																	
ARCHITECTURAL / STRUCTURAL / Mechanical																																								
Foundations	0	ft ²	\$0.00	Maintenance	0	0	0																																	
Retaining Wall (West Wall)	0	\$0.00	\$10,000.00	25	9	16	2031	\$400	\$3,000.00																															
Cladding																																								
- Masonry	162,000	ft ²	\$0.00	Maintenance	0	0	0																																	
- Siding	6,114	ft ²	\$5.00	\$30,570.00	40	9	31	2046	\$764																															
Painting	0	ft ²	\$0.00	Maintenance	0	0	0																																	
Roofing																																								
- Roofing Replacement	18,967	ft ²	\$9.00	\$170,703.00	35	9	26	2041	\$4,877																															
- soffits, fascia, eaves troughs (incl. above)																																								
Louvered Vents	0	in No	\$0.00	Maintenance	0	0	0																																	
Elevator Maintenance	0	in No	\$0.00	Maintenance	0	0	0																																	
Garage - Garb. Machine	2	in No	\$1,100.00	\$2,200.00	50	9	41	2056	\$44																															
Patio Screens																																								
- Decking	8667	ft ²	\$5.00	\$43,335.00	38	9	29	2044	\$1,143																															
- Raftering	291	ft ²	\$5.00	\$1,455.00	35	9	29	2041	\$42																															
Garbage Area - Garbage Chute	1	in No	\$20,000.00	\$20,000.00	40	9	31	2046	\$500																															
Doors																																								
- Type A - D10	1	in No	\$3,000.00	\$3,000.00	39	9	30	2045	\$77																															
- Type B - D9	1	in No	\$1,800.00	\$1,800.00	39	9	30	2045	\$46																															
- Type C (1) - D1, D3, D14	15	in No	\$1,500.00	\$22,500.00	39	9	30	2045	\$577																															
- Type C(2) - D1, D3, D14	15	in No	\$1,500.00	\$22,500.00	40	9	31	2046	\$563																															
- Type C(3) - D1, D3, D14	10	in No	\$1,500.00	\$15,000.00	40	9	31	2046	\$375																															
- Type D - D2, D4, D6, D7, D8, D11, D12, D11	31	in No	\$700.00	\$21,700.00	41	9	32	2047	\$509																															
- Type E - D15, D16	43	in No	\$500.00	\$25,800.00	41	9	32	2047	\$629																															
Windows																																								
- Type A - W1	51	in No	\$500.00	\$25,500.00	35	8	27	2042	\$729																															
- Type B - W2	49	in No	\$600.00	\$29,400.00	33	9	24	2039	\$891																															
- Type C - W3	10	in No	\$700.00	\$7,000.00	31	10	21	2036	\$226																															
Fences																																								
- Wood Fence	0	ft	\$0.00	Maintenance	0	0	0																																	
- Chain Link Fence	0	ft	\$0.00	Maintenance	0	0	0																																	
Furace Replacement - Common Room	1	in No	\$5,000.00	\$5,000.00	30	9	21	2036	\$167																															
Make-Up Air Unit	1	in No	\$12,000.00	\$12,000.00	23	9	14	2029	\$522																															
Gas Fired Boiler	1	in No	\$8,000.00	\$8,000.00	26	9	17	2032	\$308																															
Hot Water Tanks - Common	2	in No	\$3,000.00	\$6,000.00	30	9	21	2036	\$200																															
Fire Alarm System	0	\$0.00	Maintenance	0	0	0																																		
Communication System	0	\$0.00	Maintenance	0	0	0																																		
Concrete Balcony Slab Rehabilitation	30	in No	\$1,200.00	\$36,000.00	25	9	16	2031	\$1,440																															
Update Reserve Fund Study	1	in No	\$3,500.00	\$3,500.00	3	0	3	2018	\$1,167																															
Caulking	0	ft	\$0.00	Maintenance	0	0	0																																	
SUB-TOTAL										0.0	2.0	0.0	5.5	0.0																										

