COMPREHENSIVE RESERVE FUND STUDY

Carleton Condominium Corporations No. 667 and No. 769 Riverside Gate Shared Facilities

Final Report

OCSCC 667 & OCSCC 769, Shared Facilities
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1.0 INTRODUCTION

1.1 Terms of Reference

Buchan, Lawton, Parent Ltd. was retained to prepare a comprehensive reserve fund study for the common elements of Riverside Gate Shared Facilities. This report, detailing the findings, has been prepared for the Property Manager and Board of Directors of the Condominium.

1.2 Property Description

OCSCC No. 667 and 769, commonly known as Rivergate Phase 1 and 2 respectively, are located at 3590 and 3580 (respectively) Rivergate Way in Ottawa, Ontario. The two buildings are 19 storey, 140-apartment style unit condominium, built in 2003 and 2006.

A shared building, which houses the pool is common to both condominiums and was constructed in approximately 2003.

The Shared Facilities also consist of all hard and soft landscaping elements around both condominiums, including, but not limited to asphalt paving, concrete curbs and sidewalks, unit pavers, perimeter fencing grass, plants and trees, tennis court area, and the gate house. The common building for the pool is linked to both condominiums. The mechanical equipment for the pool is located on level P1 below the pool.

Refer to Photo 1 and 2 for general views of the shared facility pool building and the shared site work.

1.3 Report Description

The findings of the site review are discussed in Section 4.0, Site Review Findings. Each subsection:

- lists the building or site common elements included under that heading;
- discusses the condition of the elements; and,
- includes a table with the normal life cycle, the expected repair/replacement years and the cost estimates for the elements.

Cost tables developed following the calculation of quantity and current construction costs are presented in Section 5.0, Cost Estimating.

The reserve fund portion of the study is presented in Section 6.0, Reserve Fund Analysis. One scenario is presented for the funding of the reserve fund.

Conclusions are given in the Section 7.0 of the report.

Photographs referenced in the Site Review Findings section are included in Appendix A.

There is no Form 15 for the Shared Facilities, as it is not a condominium. The costing for the expenditures have been split on a 50%/50% ratio between OCSCC 667 & OCSCC 769 and are included in their individual Reserve Fund Studies and Form 15. For funding purposes, the balance was also split on a 50%/50% ratio and added to each condominium's reserve fund balance.

This report illustrates the expenditures and the amount to be allocated from both condominiums to the separate reserve fund for the Shared Facility.

2.0 STUDY OBJECTIVES

The purpose of the reserve fund study is to establish recommended funding plans for the major repair or replacement of common elements of the Condominium over the next 30 years.

The steps required to undertake a comprehensive reserve fund study include:

1. Reviewing available documentation such as building drawings and construction specification, descriptions/details of remedial work carried out, reserve fund financial information;
2. Conducting on-site reviews to evaluate the current condition of building and site common elements;
3. Estimating major capital expenditures and timing over the next 30-year period based on quantities, costing data, life cycles and current condition; and,
4. Presenting the reserve fund financial analyses.

2.1 Assumptions and Limitations

The accuracy of the discussions and conclusions contained in the study is limited to the extent of information available at the time of the study. The assessment of the condition of the common elements is based upon visual inspection. No destructive testing or performance monitoring was conducted.

Accordingly, the professional opinions expressed herein are subjective. Projections of building component life expectancy assume that the owners will perform good and timely periodic maintenance. The study does not make allowances for the effects of rare events, such as flooding, lightning, fire, explosions, etc.

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

3.0 Background Information

3.1 Building Documents

Buchan, Lawton, Parent Ltd was provided with the following information for Riverside Gate Shared Facilities.

Drawings

Site Services:
S1, J.L. Richards & Associates Limited, As Recorded Information Added, dated August 18, 2003.

Landscape:
L1-L3, Urbandale Corporation Limited, dated January 9, 2008, As-builts.

Architectural:
A1-A31, Urbandale Corporation Limited, Various revisions and issues, various dates.

Electrical:
E1-E15, Goodkey Weedmark & Associates Limited, Issued for As-Built, dated June 20, 2004.

Mechanical:
M0.1-M0.3, M1.1-M1.5, M2.1, M2.2, M2.4, M2.11, M2.12, Goodkey Weedmark & Associated, Issued as Red Line Drawings, dated October 19, 2001.

M2.3, M2.5-M2.10, M2.13, Goodkey Weedmark & Associated, Issued for As-Built, dated, dated October 19, 2001.

Fire Protection:
SP1-SP3, Ottawa Sprinkler, Issued for As-Built, dated October 23, 2003.

Audited Financial Statements

Riverside Gate Shared Facilities Financial Statement, dated December 31, 2011

Previous Reserve Fund Studies

Reserve Fund Study Report prepared by Halsall Associates Limited, dated October 5, 2005

3.2 Site Review

Site reviews were carried out on April 11, April 25, and August 8, 2012 by the following Buchan, Lawton, Parent Ltd personnel:

- Mr. Matthew Cogliati, P.Eng.
- Ms. Kathryn Buchan, B.A.Sc.

The site review entailed the visual observation of the condition of common elements of the building. As part of this work, the interior of the shared facility was accessed to examine the condition of the interior, mechanical and electrical elements. The exterior of the shared facility, including the building envelope of the pool, all site work, and the gatehouse were also reviewed.

Discussions with the Property Manager provided important information on the building history, the problems encountered, and the remedial measures carried out. The assessment and inclusion of historical items is limited to the information provided to us.

4.0 SITE REVIEW FINDINGS

The following subsections of the report discuss the various building or site common elements. Each subsection:

- lists items included under that heading;
- discusses the current condition of those items;
- includes a table with the normal life cycles of those items; the expected repair/replacement years and the cost estimates for those items as determined by Buchan, Lawton, Parent Ltd.

If no costing table is provided, the repair or replacement of the component does not fall within the 30-year time frame of this study or the cost would not typically be expensed against the reserve fund.

4.1 Site Work

4.1.1 Asphalt Paving

Includes - Parking Lot Asphalt
- Roadway Asphalt
- Line Painting
- Walkway Asphalt

An asphalt parking lot is located in front of the main entrances. A roadway is located along the front of the buildings and in between the parking lot. The roadway leads to the parking garage entrances at either end of the buildings.

In general, the asphalt paving was in good condition. Some areas of pooling were noted along the curbs and some potholes were also noted. Areas of pooling should be monitored for worsening.

There is also some cracking/separation of the asphalt where the paving from Phase 1 parking area meets the paving from Phase 2 parking area. Crack sealing should be done as preventative maintenance using funds from the operating budget.

Painted lines on the asphalt paving separate the parking stalls. The line painting is fading and should be re-painted in the near future, using funds from the operating budget.

An asphalt walkway is located along the sides and back of the buildings, provide access to the rear of the property. The asphalt walkway is generally in good condition.

Preventative maintenance and minor repairs, including crack sealing and asphalt patching, can delay asphalt deterioration and extend the service life of the asphalt. Repairs should be performed as required using funds from the operating budget.

A cost to resurface the asphalt roadway, parking lots, and walkway is included in this study.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Resurface Asphalt Roadway and Parking	$132,000	25 years	2028
Resurface Asphalt Walkway	$9,000	25 years	2028

4.1.2 Concrete and Masonry Items

Includes - Concrete Pads
- Concrete Curbs
- Concrete Walkways
- Concrete Retaining Wall
- Masonry Unit Pavers
- Masonry Retaining Wall
- River and Cobble Stones
- Masonry Fence Columns and Decorative Wall

A concrete pad is installed near the southeast corner of the parking lot, which serves as the bicycle storage area. The concrete pad is generally in good condition.

Cast-in-place concrete curbs are installed along the parking lot and roadway. The concrete curbs are generally in good condition. Some minor cracking and light damage was noted, which likely can be attributed to normal concrete shrinkage cracking and mechanical damage from snow plows. A cost to repair/replace sections of the concrete curb is included in this study and should be done in conjunction with the asphalt paving resurfacing.

Cast-in-place concrete walkways are installed along the front of the building and the roadway. The concrete walkways are generally in good condition, however there is an elevation difference between the walkway and curb along the roadway between OCSCC 667 and 769. The elevation different is a tripping hazard and should be addressed. Refer to Photo 3.

A concrete retaining wall is located to the northeast corner of building 769. The retaining wall is in good condition, however there are hairline cracks is multiple location. These cracks should be monitored over time to ensure there is no movement.

The concrete pad, curbs, walkways and retaining wall should not require replacement during the 30-year duration of this study. Repairs to the concrete elements should be done as required using fund from the operating budget.

Masonry unit pavers are installed outside the main entrances in the roadway, at the rear of the buildings on the podium deck near the northwest corner of the property, and at the southeast corner of the shared pool building. The masonry unit pavers are generally in good condition. Avoiding vegetative growth between the unit pavers and re-leveling them to avoid pooling will help prolong the life of the unit pavers. A cost to replace only the unit pavers outside the shared pool building is included in this study. The remaining portion of the unit pavers should be replaced when the podium deck membrane is replaced. Refer to the individual studies for OCSCC 667 and 769 for the replacement schedule.

A masonry unit retaining wall is located on the south side of the parking garage structure of OCSCC 667. The masonry retaining wall is generally in good condition and should not require replacement until the end of the study. The replacement of the retaining wall should be done in conjunction with the podium deck membrane replacement.

River stone beds are located around the perimeter of the buildings adjacent to the foundation walls. Cobble stone beds are located around the masonry columns support the entry canopy structure. The stone beds are in good condition. Occasionally the beds may need to be re-graded or topped-up with new stone. This should be done using funds from the operating budget.

Masonry fence columns are located along the east side of the property. A decorative masonry wall is located at the main entrance near the gatehouse. The masonry columns and decorative wall are bearing on a concrete footing. The masonry fence columns are in fair condition, however efflorescence was observed on the masonry on numerous columns and along the bottom of the decorative wall. Refer to Photo 4. The efflorescence should be monitored over time for worsening. Repairs to the masonry units and re-point will likely be required over the course of the fence column's life. A contingency to repair the columns and wall is included in this study.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Repair Concrete Curbs	$26,000	40 years	2028
Replace Masonry Unit Pavers	$8,000	35 years	2028
Replace Masonry Retaining Wall	$34,000	35 years	2038
Contingency to Repair Masonry Fence Columns and Decorative Walls	$7,000	n/a	2018, 2033

4.1.3 Metal Items

Includes: - Steel Fence
- Chain Link Fence
- Tennis Court Chain Link Fence
- Bike Racks
- Bollards

Painted steel fencing is installed along the east perimeter of the property, between the masonry fence columns. Steel fencing is also installed at the southeast corner of the shared pool building to close in a patio area. The steel fencing is generally in good condition, however the paint is peeling in several locations. Some corrosion has begun at several locations as well. Repairs and painting should be done using funds from the operating budget. Provided preventative maintenance is carried out over the life of the steel fencing, it should not require replacement during the 30-year duration of this study.

Powder coated galvanized chain link fencing is installed along the south, west and north sides of the property. It is also installed around the tennis court at the southeast corner of the property. The chain link fence is in good condition. The chain link fence should not require replacement during the 30-year duration of this study. Repairs and painting should be done using funds from the operating budget.

Galvanized steel bike racks are located near the southeast corner of the parking lot, next to the tennis court. The bike racks are bolted to the concrete pad, however a few of the bike racks are loose and should be repaired. A few of the bike racks also have some rusting. A contingency has been included for occasional repairs and/or replacement of the bike racks.

Concrete filled galvanized steel bollards are installed around the hydro vault at the south end of the property. The steel bollards are in good condition. Repairs should be done as required using funds from the operating budget. They should not require replacement during the 30-year timeframe of this study.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Repair/Replace Galvanized Steel Bike Racks	$1,000	Varies	2013, 2023, 2033

4.1.4 Soft Landscaping

Includes: - Trees
- Shrubs
- Sod
- Grading

Various trees, shrubs, and other plantings are located around the property. Grass is also installed over the majority of the podium deck, along the front of the buildings, and around the tennis court. In general, the soft landscaping elements are in good condition.

The grading around the buildings appears to be in good condition. No signs of major pooling were observed.

Regular maintenance, pruning, and cleaning of the planting beds should be done using funds from the operating budget. Repairs and replacements should be done using funds from the operating budget.

4.1.5 Amenities

Includes: - Tennis Court
- Irrigation System
- Signage

A tennis court is located at the southeast corner of the property. In general, the tennis court is in good condition and appears to be well maintained. A contingency has been carried for occasional repairs to the court and replacement of the various tennis court elements.

An irrigation system has been installed throughout the property. There were no problems reported regarding the operation of the irrigation system. The irrigation system was not available for review as it was not active during the reviews. Any repairs or replacement should be done using funds from the operating budget.

Various signs are posted around the parking lot and roadways. Generally the signs are in good condition. One of the signs at the south end visitor parking area is loose in the ground. Repairs and replacement of the signage should be done as required using funds from the operating budget.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Repair/Replace Tennis Court Elements	$11,500	n/a	2013, 2023, 2033

4.1.6 Gate House

Includes: - Building Envelope
- Interior Finishes
- Mechanical and Electrical
- Gate Arm

The gatehouse located at the east side of the property was built in conjunction with OCSCC 667. The exterior closure of the structure consists of masonry veneer, EIFS, punch windows, two exterior doors, and an inverted roof. The building envelope is generally in good condition.

Some vegetative growth is beginning to form on the north side of the gatehouse and could potentially hold moisture against the EIFS and masonry veneer. The cladding should be gentle cleaned to remove the growth.

Some water staining was observed at the bottom of the west wall where the A/C unit lines penetrate the building. This should be reviewed and repairs may be required.

There is rust forming on the bottom corners of both exterior doors. Some water damage to the interior wall finishes has also occurred at the bottom corners. Cleaning and painting of the steel frame and minor interior repairs should be carried out in the near future.

The interior is consists of an open area, with a desk and bathroom. The finishes are painted drywall and tile floor. The finishes are in fair condition, however they have some significant wear in some locations.

The mechanical components of the gatehouse consist of electric heaters, an air conditioning unit, plumbing fixtures, and the gate arms system. The exterior connection at the bottom of the air condition unit was beginning to freeze.

The gatehouse also contains all the electronics associated with the gate arm and entry system. The entry panel is currently in fair condition, however the interior panel appears to have some wear. Replacement of the interior control panel may be required in the short term.

A contingency has been carried for occasional repairs to the gatehouse elements.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Repair/Replace Gate House Elements	$5,000	n/a	2014, 2018, 2022, 2026, 2030, 2034, 2038

4.2 Structure

4.2.1 Building Structure

Includes - Structural Concrete (Foundation and Parging, Shear Walls, Columns, Floor Slabs, Roof Deck)
- Pool Structure

The building is a reinforced concrete structure, with concrete columns, slabs, walls, shear walls, and parapets on the roof.

Exterior walls are comprised of masonry block walls. Interior demising walls are comprised of masonry block walls, concrete walls, columns, and shear walls.

The majority of the building structure is painted or concealed with tile. However, no problems were reported regarding the building structure.

The normal life cycle of the building structural components is beyond the 30-year time frame of the study. No contingencies have been included for structural repairs at this time.

The pool structure is cast-in-place reinforced concrete and it is sealed with a cementitious waterproof coating inside the pool area. There have been ongoing issues with leakage of pool water into the service area around the pool, but have recently been resolved. The cracks in the pool structure have been filled with a specially formulated caulking. The caulking is being tested on an ongoing basis in the mechanical room, which simulates the actual caulking installed in the pool structure. To date, the caulking is in good condition.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Repair Concrete Pool Structure	$2,000 $20,000	n/a	Annually 2018, 2033
Contingency to Sandblast and Refinish Pool	$30,000	n/a	2018, 2033

4.3 Building Envelope

4.3.1 Cladding System

Includes: - Masonry Veneer

The building is clad in brick veneer. In general, the cladding throughout the building is in good condition.

The brick veneer is in good condition. Efflorescence was observed at several locations around the shared pool building, which is a sign of water penetration behind the brick veneer.

- Some minor efflorescence was observed at the corner of the patio area between the shared pool building and OCSCC 667.
- Efflorescence was also observed on the brick veneer near the concrete walkway link near OCSCC 667 (west side of the shared pool building).
- Along the top and bottom of the brick wall on the north side of the building. Refer to Photo 5.

The areas of efflorescence should be reviewed and monitored for worsening.

Provided the caulking joints, roofing, and flashing are maintained, the brick veneer should not require major repairs for many years. A contingency has been carried for occasional repairs to the brick veneer.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Repair Brick Veneer	$5,000	n/a	2032

4.3.2 Exterior Door

Includes: - Patio Door

There is a pre-finished aluminum door with full glazing located at the southeast corner of the shared building. The door is original to construction and in good condition. The glazing in the door and transom above are in good condition.

A cost to replace the patio door is included in this study. Replacement of sealed glazing units should be done as required using funds from the operating budget.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Replace Exterior Door	$2,000	30 years	2032

4.3.3 Windows

Includes: - Fixed Windows

The building's window system consists of ten punched window units located at the southeast corner of the pool area. All windows are fixed glazing units. The windows are original to construction. The exterior is a pre-finished aluminum with a Duracron finish on the inside.

The windows are in good condition. Replacement of sealed glazing units should be done as required using funds from the operating budget. A cost to replace the windows is included later in the study.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Replace Windows	$20,000	30 years	2032

4.3.4 Caulking

Includes: - Window and Door Perimeters
- Exterior Penetrations

Maintaining the integrity of the caulked joints on the building is essential to prevent water infiltration. Replacing the caulking when it shows signs of drying or shrinking will prolong the lifespan of adjoining elements.

Exterior caulking is installed at the perimeter of all windows and the door, all brick expansion joints, and at all penetrations. Caulking is also installed at various metal flashing joints throughout the building. The caulking joint in the brick veneer on the north side of the shared building is missing.

In general, the caulking is in fair condition and is approaching the end of its typical life expectancy. A cost has been included in the short term to remove and replace all of the caulking throughout the building.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Replace Caulking	$2,000	10 years	2013, 2023

4.3.5 Roofing and Drainage

Includes: - Main Roof
- Roof Flashing
- Roof Drains

The main roof over the pool area is an inverted roof with a roofing membrane applied onto a concrete slab, protected with rigid insulation, filter cloth, and decorative stone ballast. The small side roof on the west side of the pool

building is also an inverted roof, with modified bitumen membrane extending up and adhered to the concrete walls. The top of the membrane is secured with a pressure plate and sealed with caulking to the concrete wall.

The main roof appears to be in good condition, with no reports of active water leakage and no serious roof deficiencies noted during the visual review. A cost has been included to replace the main roof. It is assumed that the stone ballast would be saved and re-used to keep the same look.

The small west roof is in fair condition, however the membrane that laps from the roof parapet onto the foundation wall is exposed and deteriorated. Also, the pressure plate is loose in some areas and the caulking joints have some deterioration.

Pre-finished metal flashing is installed along the top of the parapet wall around the perimeter of the main roof and along the west end of the small roof. Metal flashing is also installed along the bottom of the north brick wall to protect the transition from the podium deck membrane to the air and vapour barrier behind the brick veneer. The metal flashing along the bottom of the north brick wall is sloping back and allowing water to pool on the metal flashing. In some locations, efflorescence was observed, indicate water I penetrating behind the brick veneer and not being able to properly drain out of the weep holes. In other locations, the caulking joint between the flashing and brick is deteriorating. Refer to Photo 6.

A contingency to repair the main and small roofs has been included in this study. The metal flashing detail along the north side of the shared building, and the deficiencies with the small lower roof should be repaired using this contingency.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Repair Main and Lower Roofs	$7,500	n/a	2012
Replace Main Roof	$75,000	25 years	2027
Replace Lower Roof	$15,000	25 years	2027

4.4 Mechanical Systems

4.4.1 Site Services

Includes - Catch Basins
- Manholes

Catch basins and manholes are located throughout the parking lot and driveways on the southeast side of the property. Minor repairs have been conducted since the property was built.

One catch basin near the west side of the parking (which faces the building) and one near the south end of the property (near the hydro vault box) needs to be reset lower, as there is evidence of water pooling around the catch basin.

A contingency has been carried for occasional repairs to the catch basins and manholes. The cost includes repairs to the asphalt paving at the same time.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Reset Catch Basins and Manholes	$7,000	n/a	2013, 2018, 2023, 2033,

4.4.2 Domestic Water and Building Drainage Systems

Includes - Domestic Water Piping / Valves
- Circulators
- Hot Water Tank

The building service, including domestic water and drainage lines/sewers come from the adjoining condominium tower.

No issues were noted or reported with these systems, however it is wise to carry a repair contingency to domestic water systems and for building drainage systems.

An electric hot water tank provides heated water for the pool area shower. A cost to replace the hot water tank has been included in this study.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Repair Domestic Water System	$7,500	n/a	2019, 2034
Contingency to Repair Building Drainage System	$7,500	n/a	2019, 2034
Replace Hot Water Tank	$500	25 years	2028

4.4.3 Pool Equipment

Includes - Pool Equipment
- Dry-O-Tron

The equipment associated with the pool water system, including piping, pumps, filters, treatment, etc., appear to be in good condition. The common elements should be periodically reviewed and replaced as required. A contingency has been allowed on a five-year cycle for repairs to this system.

The water in the pool is heated by the heat extracted during the dehumidification of the pool's exhaust air with a Dry-O-Tron unit. The system appears to be working adequately with no noted problems. Costs to replace the Dry-O-Tron unit, along with ductwork repairs and upgrades have been included in the study.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Repair/Replace Pool Equipment	$7,500	n/a	2013, 2018, 2023, 2028, 2033, 2038
Replace Dry-O-Tron	$40,000	20 years	2023

4.5 Electrical Systems

4.5.1 Lighting

Includes: - Common Area Interior Light Fixtures
- Exterior Fixtures

Lighting for the pool area is provided by Halogen fixtures. Lighting in the service areas is provided by fluorescent fixtures. No problems were noted with the interior lighting.

A contingency has been carried for occasional replacement of the Halogen fixtures and the service area fixtures.

The exterior lighting for the parking lot and driveways is provided by exterior pole fixtures mounted on concrete bases. The fixtures are in good condition.

A contingency to being replacement of the exterior light fixtures has been included, beginning later in the study.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Replace Pool Area Halogen Fixtures	$5,000	20-25 years	2023, 2028, 2033, 2038
Contingency to Replace Service Area Fixtures	$1,000	30 years	2033
Contingency to Replace Exterior Light Fixtures	$8,000	30 years	2033, 2038

4.6 Life Safety Systems

4.6.1 Fire Detection and Suppression Systems

Includes: - Fire Detection Systems
- Fire Suppression Systems

The fire detection and suppression systems are tied into the systems for OCSCC 667. The emergency power for the building in supplied by the back-up generator for OCSCC 667.

No problems were reported with the detection or suppression systems. A contingency has been carried for occasional replacement of elements of the fire detection and suppression systems.

All components of the fire detection system should be tested on a regular basis to ensure they are functioning properly.

Exit light fixtures and emergency lighting are located throughout the building.

No problems were reported with the exit lights and emergency lighting. A contingency has been carried for occasional replacement of exit light fixtures and emergency lights.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Replace Fire Detection and Suppression Elements	$2,000	n/a	2014, 2024, 2034
Contingency to Replace Exit Light Fixtures and Emergency Lights	$1,000	n/a	2014, 2024, 2034

4.7 Interior Finishes

4.7.1 Flooring

Includes - Pool Area Tile
- Painted Floors

Ceramic tile is installed throughout the pool area. The tile is original to construction and is in good condition. A cost to replace the tile is included in this study. The replacement of the tiles should be done in conjunction with the concrete pool sandblasting and repairs. Minor selective tile repairs should be done using funds from the operating budget.

The service rooms are typically exposed concrete floors. In some cases the service area are painted concrete. Repainting of the service area should be conducted using funds from the operating budget.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Replace Ceramic Tile	$25,000	30 years	2033

4.7.2 Wall and Ceiling Finishes

Includes - Pool Area
- Service Room

The pool area walls and ceilings are painted concrete block. The pool area painting is in good condition. A cost to prepare and paint the pool area has been included in this study. One of the painting occurrences should be done in conjunction with the ceramic tile replacement and pool repairs in the future.

Decorative tile is installed in two sections of the pool area. The tile is the same tile used for the pool area deck. The wall tile is in good condition. Replacement of the tile is included with the ceramic tile floor replacement in Section 4.7.1.

The service rooms are typically exposed concrete walls. In some cases the service area are painted gypsum board. Repainting of the service area should be conducted using funds from the operating budget.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Contingency to Prepare and Paint Pool and Service Rooms	$10,000	10 - 15 years	2018, 2033

4.7.3 Interior Doors

Includes: - Service Room Doors

The metal service room doors throughout the building are original to construction. No problems were observed with the doors. Minor repairs, adjustments and any replacement of the service room doors should be done using funds from the operating budget.

4.8 Reserve Fund Studies

Includes - Reserve Fund Study Fees

Under the new Condominium Act, reserve fund study updates must be conducted every three years. At a minimum, every second update must be a comprehensive update (with a site review). Costs to carry out these studies are included in this report.

Task	*Estimated Costs*	*Life Expectancy*	*Assigned Years*
Comprehensive Reserve Fund Study Update	$4,400	n/a	2012, 2018, 2024, 2030, 2036
Reserve Fund Study Update	$2,600	n/a	2015, 2021, 2027, 2033, 2039

5.0 COST ESTIMATING

Estimates of the costs for reserve fund items in the following tables are based on current 2012-dollars for the project elements outlined. The costs represent values for labour and material. The tables are linked to the reserve fund analysis spreadsheets presented in Section 6.0.

It has been assumed that materials used in the construction of the building will be replaced with materials of equivalent quality unless stated otherwise.

The life spans and estimated repair/replacement costs of particular materials in the project are estimated based primarily on Buchan, Lawton, Parent Ltd's experience and judgement, which has been developed through many years in the field of building science. In addition, the firm routinely monitors the Quantity Survey Costing for the industry published regularly by Means in their *Building Construction Costs Data* series and by Hanscomb in their *Yardsticks for Costing* and works closely with contractors.

5.1 Estimated Costs, First Ten Years

	Estimated Costs $2012									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
ITEM	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
SITE WORK										
Concrete and Masonry Items										
Contingency to Repair Masonry Fence Columns and Decorative Wall	0	0	0	0	0	0	7000	0	0	0
Amenities										
Contingency to Repair/ReplaceTennis Court Elements	0	11500	0	0	0	0	0	0	0	0
Gate House										
Contingency to Repair/Replace Gate House Elements	0	0	5000	0	0	0	5000	0	0	0
STRUCTURE										
Building										
Contingency to Repair Concrete Pool Structure	2000	2000	2000	2000	2000	2000	20000	2000	2000	2000
Contingency to Sandblast and Refinish Pool	0	0	0	0	0	0	30000	0	0	0
BUILDING ENVELOPE										
Sealants										
Replace Sealants	0	2000	0	0	0	0	0	0	0	0
Roofing										
Contingency to Repair Main and Lower Roofs	7500	0	0	0	0	0	0	0	0	0
MECHANICAL										
Site Services										
Contingency to Reset Catch Basins and Manholes	0	7000	0	0	0	0	7000	0	0	0
Domestic Water and Building Drainage System										
Contingency to Repair Domestc Water System	0	0	0	0	0	0	0	7500	0	0
Contingency to Repair Building Drainage System	0	0	0	0	0	0	0	7500	0	0
Pool Equipment										
Contingency to Repair/Replace Pool Equipment	0	7500	0	0	0	0	7500	0	0	0
FIRE/LIFE SAFETY SYSTEMS										
Fire Detection/Suppression										
Contingency to Replace Fire Detection and Suppression Elements	0	0	2000	0	0	0	0	0	0	0
Contingency to Replace Exit Light Fixturesand Emergency Lights	0	0	1000	0	0	0	0	0	0	0
INTERIORS										
Walls & Ceilings										
Contingency to Prepare and Paint Pool and Service Rooms	0	0	0	0	0	0	10000	0	0	0
RESERVE FUND STUDIES										
Reserve Fund Study Comprehensive Update	4400	0	0	0	0	0	4400	0	0	0
Reserve Fund Study Update	0	0	0	2600	0	0	0	0	0	2600
TOTALS	**$13,900**	**$31,000**	**$10,000**	**$4,600**	**$2,000**	**$2,000**	**$90,900**	**$17,000**	**$2,000**	**$4,600**

5.2 Estimated Costs, 30 Years

	Estimated Costs $2012					
	2012-2016	2017-2021	2022-2026	2027-2031	2032-2036	2037-2041
ITEM	years 1-5	years 6-10	years 11-15	years 16-20	years 21-25	years 26-30
SITE WORK						
Asphalt Items						
Resurface Asphalt Roadways and Parking	0	0	0	132000	0	0
Resurface Asphalt Pathway	0	0	0	9000	0	0
Concrete and Masonry Items						
Repair Concrete Curbs	0	0	0	26000	0	0
Replace Unit Pavers	0	0	0	8000	0	0
Replace Masonry Retaining Wall	0	0	0	0	0	34000
Contingency to Repair Masonry Fence Columns and Decorative Wall	0	7000	0	0	7000	0
Metal and Wood items						
Contingency to Repair/Replace Galvanzied Steel Bike Racks	1000	0	1000	0	1000	0
Amenities						
Contingency to Repair/ReplaceTennis Court Elements	11500	0	11500	0	11500	0
Gate House						
Contingency to Repair/Replace Gate House Elements	5000	5000	10000	5000	5000	5000
STRUCTURE						
Building						
Contingency to Repair Structure	0	0	0	0	0	0
Contingency to Repair Concrete Pool Structure	10000	28000	10000	10000	28000	10000
Contingency to Sandblast and Refinish Pool	0	30000	0	0	30000	0
BUILDING ENVELOPE						
Cladding						
Contingency to Repair Brick Veneer	0	0	0	0	5000	0
Exterior Doors						
Replace Exterior Door	0	0	0	0	2000	0
Windows						
Replace Windows	0	0	0	0	20000	0
Sealants						
Replace Sealants	2000	0	2000	0	0	0
Roofing						
Contingency to Repair Main and Lower Roofs	7500	0	0	0	0	0
Replace Main Roof	0	0	0	75000	0	0
Replace Lower Roof	0	0	0	15000	0	0
MECHANICAL						
Site Services						
Contingency to Reset Catch Basins and Manholes	7000	7000	7000	0	0	7000
Domestic Water and Building Drainage System						
Contingency to Repair Domestc Water System	0	7500	0	0	7500	0
Contingency to Repair Building Drainage System	0	7500	0	0	7500	0
Replace Hot Water Tank	0	0	0	500	0	0
Pool Equipment						
Contingency to Repair/Replace Pool Equipment	7500	7500	7500	7500	7500	7500
Replace Dry-O-Tron	0	0	40000	0	0	0

5.2 Estimated Costs, 30 Years, cont'd

	Estimated Costs $2012					
	2012-2016	2017-2021	2022-2026	2027-2031	2032-2036	2037-2041
ITEM	years 1-5	years 6-10	years 11-15	years 16-20	years 21-25	years 26-30
ELECTRICAL						
Lighting						
Contingency to Replace Pool Area Halogen Fixtures	0	0	5000	5000	5000	5000
Contingency to Replace Service Area Fixtures	0	0	0	0	1000	0
Replace Exterior Light Fixtures	0	0	0	0	8000	0
FIRE/LIFE SAFETY SYSTEMS						
Fire Detection/Suppression						
Contingency to Replace Fire Detection and Suppression Elements	2000	0	2000	0	2000	0
Contingency to Replace Exit Light Fixturesand Emergency Lights	1000	0	1000	0	1000	0
INTERIORS						
Floors						
Replace Ceramic Tile	0	0	0	0	25000	0
Walls & Ceilings						
Contingency to Prepare and Paint Pool and Service Rooms	0	10000	0	0	10000	0
RESERVE FUND STUDIES						
Reserve Fund Study Comprehensive Update	4400	4400	4400	4400	4400	0
Reserve Fund Study Update	2600	2600	0	2600	2600	2600
TOTALS	**$61,500**	**$116,500**	**$101,400**	**$300,000**	**$191,000**	**$71,100**

6.0 RESERVE FUND ANALYSIS

The reserve fund balance calculations are presented in this section. The total costs identified from the cost estimating sheets in Section 5.0 have been allocated to each year over a 30-year time horizon. In each individual year, the 2012-dollar costs are inflated to an assumed inflation rate. The calculated fund balance each year is the previous year's balance plus the contribution shown in that year, minus the replacement costs shown in that year, plus or minus any interest on the previous fund value.

The reserve fund spreadsheet includes a discounted fund value. This amount represents the fund value in 2012-dollars.

Scenario 1, shown in Section 6.1, is intended to reflect the long-term performance of the fund using the proposed funding plan is followed:

- June 30, 2012 reserve fund balance: $80,537
- Year 2 reserve fund contribution: $30,000
- Annual contribution increase rate, Years 2-30: 2.5%
- Interest on monies retained in the reserve fund years 1-3: 0.5%
- Interest on monies retained in the reserve fund years 4-30: 3.5%
- Interest on borrowed money (if necessary): 7.0%
- Inflation index: 2.5%

Using these assumptions, the fund's projected balance remains above a deficit for the entire 30-year duration of this study.

6.1a Scenario 1, Reserve Fund Cash Flow, Table

FISCAL YEAR	30-Jun-12	2012	2013	2014	2015	2016	2017	2018
Year	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*
CONTRIBUTION		10,000	30,000	30,750	31,519	32,307	33,114	33,942
TOTAL ITEM COSTS $2012		13,900	31,000	10,000	4,600	2,000	23,300	23,300
INFLATED COSTS		13,900	31,775	10,506	4,954	2,208	26,362	27,021
INTEREST ON FUND		403	385	378	3,370	4,417	5,625	6,059
FUND VALUE (fiscal year end)	**80,537**	**77,040**	**75,650**	**96,272**	**126,206**	**160,723**	**173,101**	**186,081**
DISCOUNTED FUND VALUE	**80,537**	**75,161**	**72,005**	**89,398**	**114,337**	**142,056**	**149,264**	**156,543**

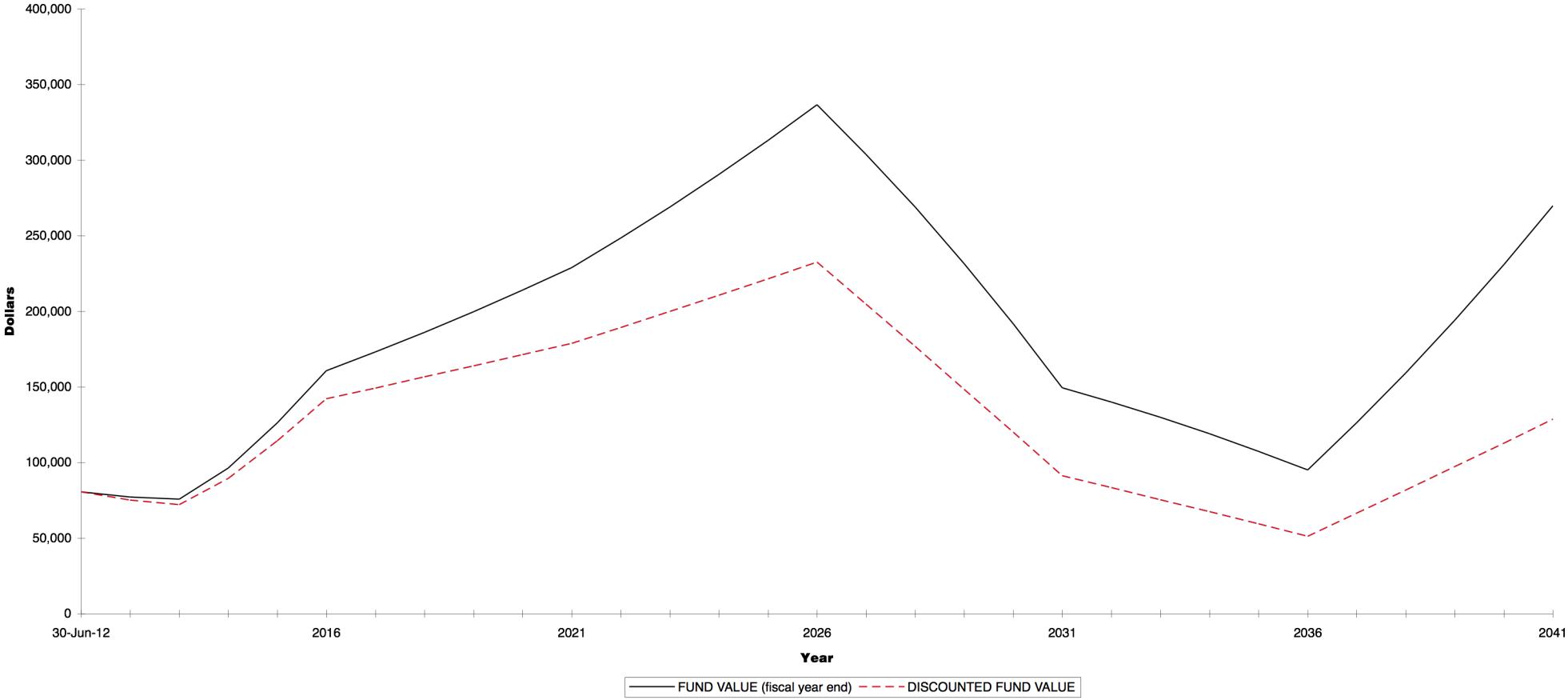
FISCAL YEAR	2019	2020	2021	2022	2023	2024	2025	2026
Year	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
CONTRIBUTION	34,791	35,661	36,552	37,466	38,403	39,363	40,347	41,355
TOTAL ITEM COSTS $2012	23,300	23,300	23,300	20,280	20,280	20,280	20,280	20,280
INFLATED COSTS	27,696	28,389	29,099	25,960	26,609	27,274	27,956	28,655
INTEREST ON FUND	6,513	6,989	7,488	8,011	8,694	9,411	10,164	10,953
FUND VALUE (fiscal year end)	**199,688**	**213,949**	**228,890**	**248,407**	**268,895**	**290,395**	**312,949**	**336,602**
DISCOUNTED FUND VALUE	**163,893**	**171,315**	**178,809**	**189,322**	**199,939**	**210,658**	**221,482**	**232,412**

FISCAL YEAR	2027	2028	2029	2030	2031	2032	2033	2034
Year	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*
CONTRIBUTION	42,389	43,449	44,535	45,649	46,790	47,960	49,158	50,387
TOTAL ITEM COSTS $2012	60,000	60,000	60,000	60,000	60,000	38,200	38,200	38,200
INFLATED COSTS	86,898	89,070	91,297	93,580	95,919	62,595	64,160	65,764
INTEREST ON FUND	11,781	10,636	9,411	8,104	6,710	5,225	4,896	4,542
FUND VALUE (fiscal year end)	**303,875**	**268,889**	**231,538**	**191,711**	**149,292**	**139,881**	**129,776**	**118,941**
DISCOUNTED FUND VALUE	**204,698**	**176,713**	**148,454**	**119,921**	**91,108**	**83,283**	**75,382**	**67,404**

FISCAL YEAR	2035	2036	2037	2038	2039	2040	2041
Year	*24*	*25*	*26*	*27*	*28*	*29*	*30*
CONTRIBUTION	51,647	52,938	54,262	55,618	57,009	58,434	59,895
TOTAL ITEM COSTS $2012	38,200	38,200	14,220	14,220	14,220	14,220	14,220
INFLATED COSTS	67,408	69,093	26,363	27,022	27,698	28,390	29,100
INTEREST ON FUND	4,163	3,757	3,323	4,416	5,571	6,792	8,081
FUND VALUE (fiscal year end)	**107,343**	**94,945**	**126,167**	**159,179**	**194,061**	**230,897**	**269,773**
DISCOUNTED FUND VALUE	**59,347**	**51,212**	**66,393**	**81,722**	**97,201**	**112,830**	**128,613**

ASSUMPTIONS:			year 1-3	year 4-20	year 21-30
Opening Fund Balance	$80,537	Fund Interest -	0.5%	3.5%	3.5%
Remaining Year 1 Contributio	$10,000	Cost Inflation Index -	2.5%	2.5%	2.5%
Total Year 1 Controbution	$20,000	Borrowing Cost Interest -	7.0%	7.0%	7.0%
Year 2 Contribution	$30,000	Contribution Increase -	2.5%	2.5%	2.5%

6.1b Scenario 1, Reserve Fund Cash Flow, Graph



7.0 Conclusions and Recommendations

Common element items requiring major repair or replacement in the short term are tabulated in the First Ten Years cost worksheet (Section 5.1).

One scenario is presented in this study using assumptions to model the proposed operation of the reserve fund. Based on the findings and assumptions herein, the Condominium's proposed plan does provide sufficient funds to meet the projected capital costs over the next 30 years. With an increased annual contribution to $30,000 (average of $8.93/unit/month) starting in 2013, provides a plan to sustain the reserve fund over the term of this study.

The annual contribution of $30,000 in the next fiscal year would be split on a 50% / 50% ratio between OCSCC 667 and OCSCC 769. Each condominium would allocate $15,000 from their annual condominium fees and transfer the funds to the separate reserve fund for the Shared Facilities.

The reserve fund study must be reviewed every three (3) years as per the new Condominium Act, in order to update it based on how the elements are aging, actual costs incurred since the previous study and to account for current raw materials and construction industry costs.

APPENDIX A

PHOTOGRAPHIC RECORD

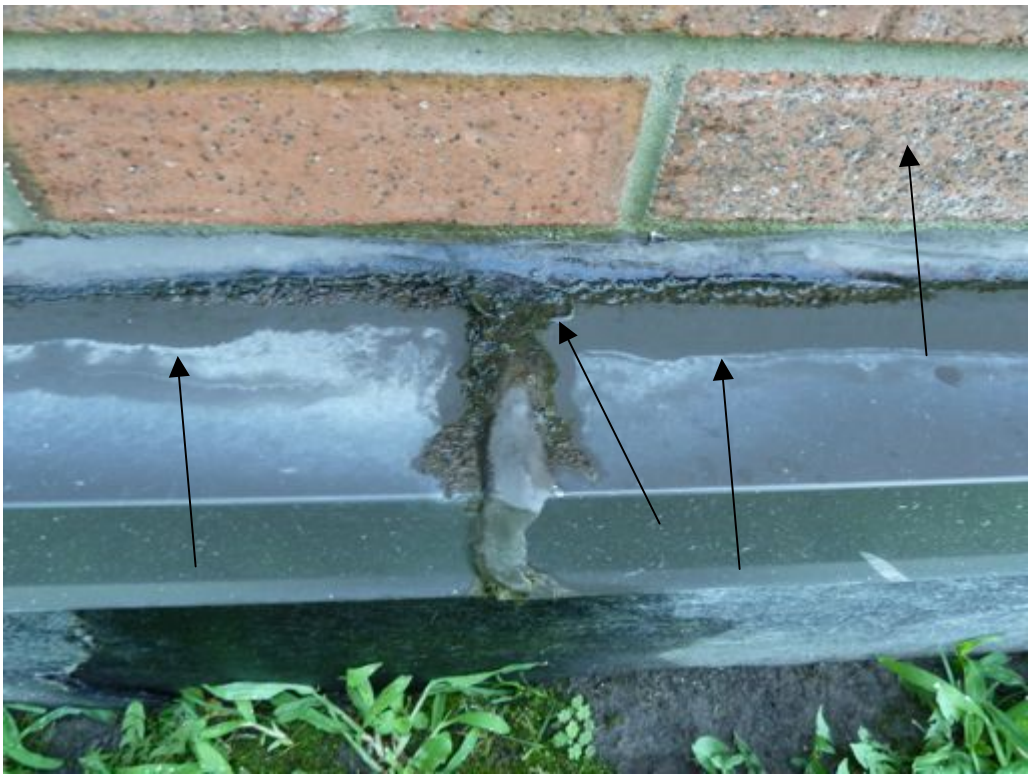
1. General view of the Shared pool building between OSCCC 667 and OCSCC 769.

2. General view of the Shared site work in front of OCSCC 667 and OCSC 769.

3. Elevation difference between concrete sidewalk and curb near OCSCC 667. This is a tripping hazard.

4. Typical masonry fence column. Note the efflorescence at the bottom of the masonry. Also note the steel fencing is corroding at various locations.

5. Efflorescence on the masonry veneer on the north wall of the Shared pool building. Also note the negatively sloped flashing at the base of the wall.



6. Negatively sloped flashing along the north brick veneer wall of the Shared pool building. Also note there is efflorescence on the brick and the caulking joint is deteriorated.