CONTINGENCY RESERVE FUND STUDY
FOR
THE NEW YORKER
1066 HAMILTON STREET, VANCOUVER

THE OWNERS, STRATA PLAN LMS 1490
c/o Vancouver Condominium Services Ltd.
400-1281 W. Georgia Street
Vancouver, BC., V6E 3J7

HALSALL ASSOCIATES LIMITED
Attn: Kevin Grasty, P.Eng.
604-924-5575

205vA003A

August 12, 2005

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TABLE OF CONTENTS

1. GENERAL DESCRIPTION OF CORPORATION

The Strata consists of 23 residential suites on four floors, as well as 6 commercial units on the ground floor and 1 commercial (working loft) type unit on the 2nd floor (which are part of the strata). There is a single level underground parking garage below the building. There is 1 elevator. We understand the interior common areas in the building are limited to an entrance lobby, common corridors and stairwells. There is limited common property, which primarily consists of roof top terraces. The building was originally constructed around 1912 and later renovated and converted into a strata about 10 years ago. There is no landscaping (other than on the rooftop terraces) or recreation facilities. The fiscal year end of the Strata is August 31st.

1.1 Shared Facilities

We understand there are no Shared Facilities or Reciprocal Agreements with any adjacent properties.

1.2 Common Asset Components

The registered Strata Plan includes site and floor layouts, and schedules; however, there is no description of Strata Lot boundaries with respect to floors, roofs, windows, cladding systems, walls, mechanical or electrical systems, chimneys, or the common assets of the property. The Strata Council has provided an excerpt of the Strata Bylaw 28.1 which reads as follows:

28.1 The Strata Corporation must repair and maintain:

(a) common assets of the Strata Corporation;

(b) common property that has not been designated as limited common property;

(c) the limited common property, but the duty to repair and maintain it is restricted to:

(i) repair and maintenance that in the ordinary course of events occurs less often than once a year; and

(ii) the following, no matter how often the repair or maintenance ordinarily occurs:

(A) the structure of the building;

(B) the exterior of the building;

(C) chimneys, stairs, balconies, and other things attached to the exterior of the building;

(D) doors, windows, and skylights (including the casings, frames, and sills of such doors, windows, and skylights) on the exterior of the building or that front on the common property; and

(E) fences, railings, and similar structures that enclose balconies, the Main Roof Deck, or Private Roof Decks; and

(d) a strata lot, but the duty to repair and maintain it is restricted to:

(i) the structure of the building;
(ii) the exterior of the building;
(iii) chimneys, stairs, balconies, and other things attached to the exterior of the building;
(iv) doors, windows, and skylights (including the casings, frames, and sills of such doors, windows, and skylights) on the exterior of the building or that front on the common property; and
(v) fences, railings, and similar structures that enclose balconies, the Main Roof Deck, or Private Roof Decks.

The Strata Property Act states that unless otherwise shown on the Strata Plan, if a Strata lot is separated from:

- another Strata lot,
- the common property, or
- another parcel of land

by a wall, floor or ceiling, the boundary of the Strata lot is midway between the surface of the structural portion of the wall, floor or ceiling that faces the lot and the surface of the structural portion of the wall, floor or ceiling that faces the other Strata lot, the common property or another parcel of land. The Act also has easement provisions, reciprocally in favour of each Strata lot and common Strata property, in relation to services such as mechanical and electrical equipment.

Legal interpretations of Strata Plans and the Statute have erred on the side of the Statute, and any component which plays an integral part in the performance of say the exterior wall, is generally the responsibility of the common Strata to maintain, repair and replace.
We understand that the Strata has had this and the following section (Section 1.3) reviewed by its solicitor for the appropriateness of our determinations, and our understanding of the unit boundaries and the responsibility for them. These assumptions define the expenses included in the study.

Based on our interpretation of the Strata Plan, the excerpt provided of Bylaw 28.1, and how we understand the Strata to be operating, we understand that the following building components are common assets which must be addressed as part of this Contingency Reserve Fund Study:

- the structure of the building;
- the exterior of the building;
- chimneys, stairs, balconies, and other things attached to the exterior of the building;
- doors, windows, and skylights (including the casings, frames, and sills of such doors, windows, and skylights) on the exterior of the building or that front on the common property; and
- fences, railings, and similar structures that enclose balconies, the Main Roof Deck, or Private Roof Decks;
- Roofs including common and penthouse areas of the roof-top deck;
- Interior finishes in common areas including entrance lobby, corridors, and service areas;
- Common mechanical and electrical facilities;
- Plumbing and electrical fixtures within a strata lot if they are located within a floor, wall, or ceiling or if they are capable of being used by another strata lot.

1.3 Unit Owned Assets

We understand that components which are not common assets and are the responsibility of the individual owners include:

- Interior suite finishes
- Suite and commercial unit plumbing and electrical fixtures that are within a strata lot but are not located within a floor, wall, or ceiling, or if they are not capable of being used by another strata lot.
- Suite and commercial unit electric baseboard heaters and gas fireplaces

1.4 Assumptions

1.4.1 Factors Affecting Analysis

The assumptions we have made about hidden conditions, predicting technical performance and ongoing maintenance needs for the common assets are described in Appendix B: "Repair and Replacement Protocol".

1.4.2 Operating Budget Expenditures

Section 92 of the Strata Property Act states that the operating fund is "for common expenses that usually occur either once a year or more often than once a year" and that the contingency reserve fund is "for common expenses that usually occur less often than once a year or that do not usually occur". Based on the requirements of the Strata Property Act, Contingency Reserve Fund expenses should not duplicate operating budget expenses.
Based on discussions with the Strata Council and Property Manager, you indicated that the operating fund includes is for common expenses that usually occur either once a year or more often than once a year. Items that would typically fall within the Reserve Fund scope but which in this case would cost less than a threshold of $2,000 are listed on the expenditure table and marked "Operating". An annual allowance has been included in the Contingency Reserve Fund Study to cover expenditures below the $2,000 threshold that usually occur less often than once a year or that do not usually occur. This allowance should be monitored and adjusted as necessary with future updates to reflect actual expenditures. A full inventory of items not budgeted within the Reserve Fund or budgeted for within the allowance for expenditures less than the $2000 threshold is not provided. If required and/or useful for management or accounting purposes, we recommend others compile an inventory of these operating items.

Operating expenditures should be carefully monitored. Conditions that require increasing expenditure may indicate problems that should be dealt with differently than how we have assumed. Further evaluation may be appropriate to determine if a more comprehensive repair or replacement program should be added to the Reserve Fund, or if programs already planned should be advanced. These types of changes would be reflected in updates.

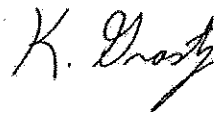
1.5 Scope

The Reserve Fund Study is intended to include expenses for the repair or replacement of common assets. We include items which typically require replacement because their service life is shorter than the service life of the building (such as caulking, roofing, equipment, etc.). We also include items which would not have been anticipated to be required when the building was new, but which have become necessary due to building specific deterioration (concrete repair related to poor durability, window modifications due to loss of internal seals, etc.). There may be expenses which arise which we have not anticipated, related to concealed conditions or unexpected deterioration.

As long as these relate to the repair or replacement of the common assets, they can often be paid out of the Reserve Fund provided the study is updated to account for the impact of these expenditures.

If you are in doubt about whether or not an expenditure can be paid for out of the Reserve Fund, we recommend you check with your legal counsel or chartered accountant.

Respectfully submitted,
HALSALL ASSOCIATES LIMITED



Kevin Grasty, P.Eng.
Project Manager

Bill Sullivan, P.Eng
Project Principal

2. RESERVE FUND PLAN - RESULTS AND RECOMMENDATIONS

The Owners, Strata Plan LMS 1490
1066 Hamilton Street, Vancouver

Assumptions:

Fiscal Year End:	August 31
2005 Annual Contribution to Reserve	$10,485
2005 Annual Operating Budget	$115,445
First Year for Cash Flow Tables:	2005
Minimum Balance:	$40,000
Interest Earned on Investments:	4.0%
Number of Units:	30
2004 Year End Balance	$68,536

FUNDING SCENARIOS

Scenario 1 - Inflation-matched Increases

Inflation:	1.0%
Inflation Rate for Contributions:	1.0%
Inflation Rate for Minimum Balance:	1.0%
Scenario 1 - First Critical Year:	2012
Scenario 1 - Second Critical Year:	2037

Results			
Recommended Annual Increase for	2006	$	63,177
Average Monthly Increase per Unit in	2006	$	146.37
Average Monthly Increase per Unit in	2007	$	1.75
Minimum Balance within 30 years:		$	43,315
Maximum Annual Contribution within 30 years:		$	67,064

Scenario 1 represents the funding model if future increases in the contribution MATCH inflation, which requires a one time increase in the next fiscal year.

Scenario 2 - Increase Phased-in until 1st Critical Year

Inflation:	1.0%
Inflation Rate for Contributions:	48.6%
Inflation Rate for Minimum Balance:	1.0%
Scenario 2 - First Critical Year:	2012
Scenario 2 - Second Critical Year:	2037

Results			
Recommended Annual Increase for	2006	$	15,583
Average Monthly Increase per Unit in	2006	$	14.16
Average Monthly Increase per Unit in	2007	$	21.05
Minimum Balance within 30 years:		$	43,315
Maximum Annual Contribution within 30 years:		$	167,945

Scenario 2 represents the funding model where the recommended increase is uniformly phased-in starting at the current contribution level from now until the first critical year. Phasing-in an increase results in higher future contributions than those calculated in an inflation-matched scenario. This plan of increasing reserve fund conributions at a rate greater than inflation may be perceived negatively.

Commentary:

Scenario 1, the inflation-matched funding plan, is ideal, and is our primary recommendation. If current financial constraints make this impossible, then Scenario 2 shows an alternate funding plan with lower initial increases. In our opinion, either funding plan demonstrates a cash flow pattern that provides sufficient funds to cover expected costs.

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The Owners, Strata Plan LMS 1490
1066 Hamilton Street, Vancouver
Expenditure Table

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Date of Construction:	1912 / 1994	Annual Operating Budget (2005):	$115,445	Fiscal Year End: August 31	Cost Inflation Rate: 1.0%
Number of Units:	30	Annual Contribution to Reserve (2005):	$10,485	Minimum Balance: $40,000	Interest Earned on Investments: 4.0%

Reserve Fund Balance at Fiscal Year ending in	(2004)	$ 68,536			Fiscal Year ending in:		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
					Total Expenses:		$ 13,049	$ 2,040	$ 28,333	$ 17,690	$ 44,668	$ 137,998	$ 7,605	$ 284,637	$ 8,843	$ 24,302	$ 16,619	$ 29,297	$ 26,745	$ 31,036	$ 179,950
Scenario 1 - Inflation-matched increases					Interest Earned on Reserve:		$2,741	$3,971	$6,062	$7,950	$8,611	$8,959	$9,050	$6,040	$2,365	$3,442	$4,465	$5,444	$6,258	$7,085	$4,901
					Contribution:		$10,485	$63,177	$63,809	$64,447	$65,091	$65,742	$66,400	$67,064	$41,446	$41,860	$42,279	$42,702	$43,129	$43,560	$43,995
					RESERVE FUND BALANCE:		$ 68,713	$ 133,821	$ 175,359	$ 230,065	$ 260,100	$ 196,803	$ 264,748	$ 43,315	$ 77,282	$ 98,283	$ 129,407	$ 148,256	$ 170,897	$ 190,507	$ 59,454
					Critical Years:									*							
Scenario 2 - Increase Phased-in until 1st Critical Year					Interest Earned on Reserve:		$ 2,741	$3,019	$3,308	$3,671	$4,282	$3,344	$4,348	$4,100	$2,365	$3,442	$4,465	$5,444	$6,258	$7,085	$4,901
					Contribution:		$ 10,485	$ 15,583	$ 23,150	$ 34,421	$ 51,158	$ 76,032	$ 113,001	$ 157,945	$ 41,446	$ 41,860	$ 42,279	$ 42,702	$ 43,129	$ 43,560	$ 43,995
					RESERVE FUND BALANCE:		$ 68,713	$ 86,276	$ 83,410	$ 103,812	$ 114,584	$ 55,962	$ 166,807	$ 43,315	$ 77,282	$ 98,283	$ 129,407	$ 148,256	$ 170,897	$ 190,507	$ 59,454
					Critical Years:									*							

Item	Description	Quantity	Units	Present Cost	Age	First Occurrence	Cycle	Current Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	2004 Expenditures from Reserve			$ 10,920		1	99	$ 11,029														
1	STRUCTURE																					
1.1	Foundation Walls - Repair Leakage	120	m	operating	93																	
1.2	Building Structure - Repairs			operating	93 / 10																	
1.3	Parking Garage - Repair Allowance		allowance	$ 10,000	93 / 10	4	10				$ 10,406											
1.4	Garage Ramp Repairs	95	m2	operating	10																$ 11,495	
2	ROOFING																					
2.1	Flat Roofing				10																	
a)	Roofing - Replace	830	m²	$ 100,000		8	25								$ 106,286							
b)	Roofing - Interim Repair Program		allowance	$ 5,000		23	25															
2.2	Roof-Top Deck	470	m²	$ 70,000	10	8	25								$ 75,800							
a)	Replace Deck			$ 70,000		8	25								$ 75,800							
b)	Repair, Clean and Protect Deck			$ 5,000		3	5			$ 5,152					$ 5,414					$ 5,690		
2.3	Roof-Top Guardrail - Replace	45	m	$ 25,000	10	8	50								$ 27,071							
3	CLADDING																					
3.1	Exterior Walls																					
a)	Brick - Repair Allowance (includes access)	250	m²	$ 50,000	93	6	20						$ 63,076									
b)	Stucco - Evaluation		allowance	$ 5,000	10	3	20			$ 5,152												
c)	Stucco - Repair (access included above)	525	m²	$ 25,000	10	6	20						$ 26,538									
d)	Sealant - Replace (access included above)	500	m	$ 15,000	10	6	20						$ 15,923									
3.2	Windows	400	m²		10																	
a)	Window Rehabilitation - Weatherstripping, renew corner seals, repair hardware			operating																		
b)	Sealed Window Units - Replace			operating																		
c)	Wood Windows including Frames - Replace (budget is 85% of full replacement cost)	190	m²	$ 150,000	10	15	45															$ 174,145
3.3	Exterior Doors	10	doors	operating	10																	
3.4	Entrance Canopies - Repaint	2	canopies	$ 12,500	10	3	15			$ 12,879												
3.5	Skylights - Replace	9	skylights	$ 10,000	10	33	50															
3.6	Overhead Garage Door - Replace	1	door	$ 5,000	10	4	25				$ 5,203											
3.7	Exterior Painting				5																	
a)	Wood Window Frames																					
	i) Paint in 2009			$ 20,000		5	99					$ 21,020										
	ii) Paint in 2014			$ 20,000		10	99										$ 22,092					
b)	Window Boxes and Cornice - Paint			$ 18,000		5	7					$ 18,915							$ 20,283			
4	FIRE SAFETY SYSTEMS																					
4.1	Fire Alarm System																					
a)	Fire Panels - Replace (reuse wiring and devices)	3	panels	$ 5,000	10	6	20						$ 5,308									
b)	Wiring and Devices - Replace		allowance	$ 5,000	10	6	40						$ 5,308									
4.2	Supression Systems																					
a)	Compressor for Dry Sprinkler System	1	compressor	$ 2,000	10	6	12						$ 2,123									
b)	Fire Suppression System Repair Allowance (standpipe valves, jockey pumps)		allowance	$ 2,000	10	11	8											$ 2,231				
4.3	Emergency Lighting			operating	10																	
5	INTERIOR FINISHES																					
5.1	Residential Corridors - Refurbish				10																	
a)	Carpets - Replace		allowance	$ 6,000		13	12													$ 6,829		
b)	Wall and Ceiling Finishes - Paint		allowance	$ 8,000		13	12													$ 9,105		
c)	Light Fixtures - Replace		allowance	$ 10,000		25	24															
d)	Door Hardware - Replace			operating																		
5.2	Residential Entrance Lobby - Refurbish		allowance	$ 6,000	10	7	12							$ 5,361								
5.3	Other Common Area Finishes (Stairwells and Storage Rooms) - Refurbish			operating	10																	

Item	Description	Quantity	Units	Present Cost	Age	First Occurrence	Cycle	Current Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
6	SITE																					
6.1	General Site		N/A																			
7	HEATING, VENTILATION AND AIR CONDITIONING																					
7.1	Roof-top Make-up Air Unit - Replace	1	unit	$ 15,000	10	14	25														$ 17,242	
7.2	Exhaust Fans - Replace		operating		10																	
8	PLUMBING																					
8.1	Site Services - Repair Allowance		allowance	$ 5,000	10	16	10															
8.2	Domestic Hot Water Heating System (hot water tanks) - Replace	2	tanks	$ 10,000	3	18	20															
8.3	Plumbing Distribution System - Phased Replacement Allowance (25% per cycle)		allowance	$ 10,000	10	11	10											$ 11,157				
9	WASTE DISPOSAL																					
9.1	Garbage Disposal System			operating		10																
10	ELECTRICAL																					
10.1	Electrical Distribution System - Phased Replacement Allowance (5% per cycle)		allowance	$ 5,000	10	16	4															
10.2	Non-Corridor Light Fixtures - Replace		operating		10																	
10.3	Intercom System - Replace	3	panels	$ 7,500	10	17	15															
11	CONVEYANCE																					
11.1	Elevator Cab Finishes - Replace	1	Cab	$ 20,000	10	6	20						$ 21,230									
11.2	Elevator System - modernization including control system, motors and pump	1	Cab	$ 80,000	10	21	30															
12	MISCELLANEOUS																					
12.1	Miscellaneous Expenditures		allowance	$ 2,000		1	1	$ 2,020	$ 2,040	$ 2,061	$ 2,081	$ 2,102	$ 2,123	$ 2,144	$ 2,166	$ 2,187	$ 2,209	$ 2,231	$ 2,254	$ 2,276	$ 2,299	$ 2,322
12.2	Consulting Services																					
a)	Reserve Fund Study Update with Site Visit		allowance	$ 4,000		9	8									$ 4,375						
(b)	Reserve Fund Study Update without Site Visit		allowance	$ 2,500		5	8					$ 2,626								$ 2,845		

CASH FLOW TABLE

Scenario 1 - Inflation-matched Increases

Opening Balance of the Reserve Fund :	$	68,536
Minimum Reserve Fund Balance (as indicated in this Table):	$	43,315
Assumed Annual Inflation Rate for Reserve Fund Expenditures:		1.0%
Assumed Annual Interest Rate for Interest earned on the Reserve Fund:		4.0%

Year	Opening Balance	Recommended Annual Contributions	Estimated Inflation Adjusted Expenditures	Estimated Interest Earned	Percentage Increase in Recommended Annual Contribution	Closing Balance
2005	$ 68,536	$ 10,485	$ 13,049	$ 2,741	0.0%	$ 68,713
2006	$ 68,713	$ 63,177	$ 2,040	$ 3,971	502.5%	$ 133,821
2007	$ 133,821	$ 63,809	$ 28,333	$ 6,062	1.0%	$ 175,359
2008	$ 175,359	$ 64,447	$ 17,690	$ 7,950	1.0%	$ 230,065
2009	$ 230,065	$ 65,091	$ 44,668	$ 9,611	1.0%	$ 260,100
2010	$ 260,100	$ 65,742	$ 137,998	$ 8,959	1.0%	$ 196,803
2011	$ 196,803	$ 66,400	$ 7,505	$ 9,050	1.0%	$ 264,748
2012	$ 264,748	$ 67,064	$ 294,537	$ 6,040	1.0%	* $ 43,315
2013	$ 43,315	$ 41,446	$ 9,843	$ 2,365	-38.2%	$ 77,282
2014	$ 77,282	$ 41,860	$ 24,302	$ 3,442	1.0%	$ 98,283
2015	$ 98,283	$ 42,279	$ 15,619	$ 4,465	1.0%	$ 129,407
2016	$ 129,407	$ 42,702	$ 29,297	$ 5,444	1.0%	$ 148,256
2017	$ 148,256	$ 43,129	$ 26,745	$ 6,258	1.0%	$ 170,897
2018	$ 170,897	$ 43,560	$ 31,036	$ 7,086	1.0%	$ 190,507
2019	$ 190,507	$ 43,995	$ 179,950	$ 4,901	1.0%	$ 59,454
2020	$ 59,454	$ 44,435	$ 16,416	$ 2,939	1.0%	$ 90,412
2021	$ 90,412	$ 44,880	$ 15,988	$ 4,194	1.0%	$ 123,498
2022	$ 123,498	$ 45,329	$ 44,856	$ 4,949	1.0%	$ 128,920
2023	$ 128,920	$ 45,782	$ 30,203	$ 5,468	1.0%	$ 149,968
2024	$ 149,968	$ 46,240	$ 8,541	$ 6,753	1.0%	$ 194,419
2025	$ 194,419	$ 46,702	$ 122,623	$ 6,258	1.0%	$ 124,756
2026	$ 124,756	$ 47,169	$ 2,489	$ 5,884	1.0%	$ 175,319
2027	$ 175,319	$ 47,641	$ 21,372	$ 7,538	1.0%	$ 209,127
2028	$ 209,127	$ 48,117	$ 29,204	$ 8,743	1.0%	$ 236,783
2029	$ 236,783	$ 48,598	$ 38,473	$ 9,674	1.0%	$ 256,582
2030	$ 256,582	$ 49,084	$ 183,926	$ 7,566	1.0%	$ 129,307
2031	$ 129,307	$ 49,575	$ 6,541	$ 6,033	1.0%	$ 178,374
2032	$ 178,374	$ 50,071	$ 15,855	$ 7,819	1.0%	$ 220,409
2033	$ 220,409	$ 50,572	$ 12,678	$ 9,574	1.0%	$ 267,877
2034	$ 267,877	$ 51,077	$ 13,478	$ 11,467	1.0%	$ 316,943

Note: this 30 year cash flow table is based on 60 years of repair and replacement data.

CASH FLOW TABLE

Scenario 2 - Increase Phased-in until 1st Critical Year

Opening Balance of the Reserve Fund :	$	68,536
Minimum Reserve Fund Balance (as indicated in this table):	$	43,315
Assumed Annual Inflation Rate for Reserve Fund Expenditures:		1.0%
Assumed Annual Interest Rate for Interest earned on the Reserve Fund:		4.0%

Year	Opening Balance	Recommended Annual Contributions	Estimated Inflation Adjusted Expenditures	Estimated Interest Earned	Percentage Increase in Recommended Annual Contribution	Closing Balance
2005	$ 68,536	$ 10,485	$ 13,049	$ 2,741	0.0%	$ 68,713
2006	$ 68,713	$ 15,583	$ 2,040	$ 3,019	48.6%	$ 85,276
2007	$ 85,276	$ 23,160	$ 28,333	$ 3,308	48.6%	$ 83,410
2008	$ 83,410	$ 34,421	$ 17,690	$ 3,671	48.6%	$ 103,812
2009	$ 103,812	$ 51,158	$ 44,668	$ 4,282	48.6%	$ 114,584
2010	$ 114,584	$ 76,032	$ 137,998	$ 3,344	48.6%	$ 55,962
2011	$ 55,962	$ 113,001	$ 7,505	$ 4,348	48.6%	$ 165,807
2012	$ 165,807	$ 167,945	$ 294,537	$ 4,100	48.6%	* $ 43,315
2013	$ 43,315	$ 41,446	$ 9,843	$ 2,365	-75.3%	$ 77,282
2014	$ 77,282	$ 41,860	$ 24,302	$ 3,442	1.0%	$ 98,283
2015	$ 98,283	$ 42,279	$ 15,619	$ 4,465	1.0%	$ 129,407
2016	$ 129,407	$ 42,702	$ 29,297	$ 5,444	1.0%	$ 148,256
2017	$ 148,256	$ 43,129	$ 26,745	$ 6,258	1.0%	$ 170,897
2018	$ 170,897	$ 43,560	$ 31,036	$ 7,086	1.0%	$ 190,507
2019	$ 190,507	$ 43,995	$ 179,950	$ 4,901	1.0%	$ 59,454
2020	$ 59,454	$ 44,435	$ 16,416	$ 2,939	1.0%	$ 90,412
2021	$ 90,412	$ 44,880	$ 15,988	$ 4,194	1.0%	$ 123,497
2022	$ 123,497	$ 45,329	$ 44,856	$ 4,949	1.0%	$ 128,920
2023	$ 128,920	$ 45,782	$ 30,203	$ 5,468	1.0%	$ 149,967
2024	$ 149,967	$ 46,240	$ 8,541	$ 6,753	1.0%	$ 194,418
2025	$ 194,418	$ 46,702	$ 122,623	$ 6,258	1.0%	$ 124,756
2026	$ 124,756	$ 47,169	$ 2,489	$ 5,884	1.0%	$ 175,319
2027	$ 175,319	$ 47,641	$ 21,372	$ 7,538	1.0%	$ 209,126
2028	$ 209,126	$ 48,117	$ 29,204	$ 8,743	1.0%	$ 236,783
2029	$ 236,783	$ 48,598	$ 38,473	$ 9,674	1.0%	$ 256,582
2030	$ 256,582	$ 49,084	$ 183,926	$ 7,566	1.0%	$ 129,306
2031	$ 129,306	$ 49,575	$ 6,541	$ 6,033	1.0%	$ 178,373
2032	$ 178,373	$ 50,071	$ 15,855	$ 7,819	1.0%	$ 220,408
2033	$ 220,408	$ 50,572	$ 12,678	$ 9,574	1.0%	$ 267,876
2034	$ 267,876	$ 51,077	$ 13,478	$ 11,467	1.0%	$ 316,942

Note: this 30 year cash flow table is based on 60 years of repair and replacement data.

APPENDIX A

RESERVE FUND ITEMS

1. STRUCTURE

1.1 Foundation Walls	
Description: Cast-in-place concrete underground exterior walls in the parking garage. Extent of damproofing or waterproofing, and/or drainage systems unknown.	**History:**
Evaluation & Recommendations: No leaks through garage foundation walls were noted or reported. No capital repairs to the foundation walls anticipated within the term of this report. Localized injection waterproofing of leaking cracks expected to be managed out of the operating budget on an as needed basis or from the allowance for miscellaneous expenditures (item 12.1) if the expenditure is considered a contingency reserve expense.	

1.2 Building Structure	
Description: The building has a heavy timber wood framed structure on conventionally reinforced concrete foundation. Additional seismic restraint provided by conventionally reinforced columns and walls, and steel beams. The upper floors of the 4 corner penthouse units are steel framed.	**History:** 1994: Structural reinforcement added as seismic upgrade and 5th floors added to 4 corner penthouse units during conversion.
Evaluation & Recommendations: No structural deficiencies were noted or reported. No capital repairs to the building structure are anticipated within the term of this report.	

1.3 Parking Garage Interior

Description:

Single level underground parking garage accessed from Hamilton Street. The garage structure consists of conventionally reinforced concrete walls, timber columns and steel cross-bracing with a concrete slab-on-grade.

History:

1994: Renovations included installation of floor drains and drainage piping in slab-on-grade, as well as adding concrete columns adjacent timber columns and cross-bracing foundation walls.

Evaluation and Recommendation:

The slab-on-grade, columns and foundation walls are in serviceable condition. No structural deterioration was noted.

The slab is generally level, and no differential settlement was noted. The slab has a patchwork appearance as a result of trenching through the slab to install floor drains and piping as part of the renovation.

The foundation walls are honeycombed as a result of poor consolidation of the concrete during original construction. This condition does not appear to have adversely affected the performance of the structure.

Problem conditions identified include:

- Cracks in the slab-on-grade as a result of insufficient joints to control cracking.
- Corrosion noted at base of the original timber column supports.

We recommend budgeting a periodic allowance to undertake miscellaneous repairs throughout the garage to maintain it in its current condition. Repairs may include: periodic repainting of the timber column bases, and/or localized slab-on-grade repairs to address ongoing deterioration of the surface.

1.4 Garage Ramp

Description:

Access into the garage is provided by a single lane ramp off Hamilton Street. The ramp structure is a suspended, conventionally reinforced concrete slab with unprotected surface.

There is a trench drain at the base of the ramp which is connected to the below-grade storm drainage system.

History:

1994: Ramp reconstructed as part of renovation.

Evaluation & Recommendations:

No leakage was observed through the ramp into the storage space below.

Minor cracks were noted that run perpendicular to the length of the ramp. The cracks in the ramp surface should be sealed to mitigate the infiltration of water and potential deterioration of the structure. Routing and sealing of the cracks is expected to be managed out of the operating budget on an as needed basis or from the allowance for miscellaneous expenditures (item 12.1) if the expenditure is considered a contingency reserve expense.

As part of preventative maintenance, the Strata should consider protecting the ramp with a waterproofing protection system. We estimate an allowance of about $5,000 every 15 years would be sufficient to install and maintain an elastomeric type waterproofing system. Pending feedback from the Strata, budgets to install a protection system have not been included at this time.

2. ROOFS

2.1 Flat Roofing	
Description: Based on previous reports and our site review, the roof construction from top to bottom is: •• 2-ply modified bitumen assembly (granulated surface cap sheet) •• 7/16" organic fibreboard •• wood deck and framing The exception to this construction is the 5th floor additions on the corner penthouses which have the same membrane, but it has been installed over a structural steel deck (Q deck). A large portion of the roof is covered with a wood framed deck. Refer to the Roof-Top Deck item (below) for further details. The mail roof is sloped towards Mainland Street. Two internal area drains provided along the edge of the roof adjacent Mainland Street. Down spouts mounted to the exterior cladding connect the roof drains to the storm drainage system in the garage. Overflow scupper drains provided through the parapets. The penthouse roof areas are sloped towards the center of the building. One internal area drain provided per roof area. Drains connected to prefinished aluminum down spouts which discharge onto main roof below roof deck. No overflow scupper drains provided.	**History:** 1994: New roofs installed.

Evaluation & Recommendations:

Based on comments provided in previous roof reports, the membrane is reported to be in good condition. No leaks were observed or reported.

Drains are reported to be functional. No screens have been provided over the roof drains. Council reports that drains are cleaned regularly to mitigate flooding roofs.

Previous roof reports recommend replacement of the roof assembly in about 2010 - 2013 at a cost of about $120,000 (excluding GST). A budget to replace the roof has been included, excluding replacement of the wood deck which has been budgeted for in the Roof-top Deck item (below). A budget to undertake interim repairs between cycles of roof replacement has also been included.

2.2 Roof-Top Deck

Description:

The main roof has large areas of wood framed decking over it. Cedar fences separate the common roof areas from the 4 penthouse unit decks.

The decking is 2x4" cedar boards, supported on wood framing.

The fencing consists of 1x6" vertical boards supported by 2x4" framing and 4x4" posts. The top of some fences is finished with lattice.

The deck and fences are supported by wood framing resting on concrete pavers placed over the roof membrane.

History:

1994: Installed.

2004: Deck repairs, including local board replacement completed throughout the deck area at a cost of about $3,000 (as reported by Council).

Evaluation & Recommendations:

The wood deck and fences are in serviceable condition.

Deck repairs, including local board replacement, will be required to maintain the deck in its current condition. To extend the service life of the deck, a budget to undertake localized repairs along with cleaning and protect the deck with a penetrating sealer every 4 to 6 years has been included. We assume some annual expenditures out of the operating budget will be undertaken to address localized repairs between cycles of reserve expenditures.

We recommend budgeting for deck and fencing replacement in conjunction with the roof membrane replacement.

2.3 Roof-top Guardrail

Description:

Guardrails enclose the roof perimeters adjacent Hamilton St. and Mainland St. The guards consist of prefinished metal frames with glass infill panels, separated by stucco clad piers.

The guardrail assembly is secured to the top of the wood deck. Metal braces reinforce the guardrail assembly against overturning.

History:

1994: Guards installed.

Evaluation & Recommendations:

We noted local corrosion of the guardrail assembly. The metal finish is generally faded and chalked. The stucco piers are stained as no cap flashing has been provided to shed water away from the face of the stucco.

During re-roofing, the guardrail assembly will require removal as it is secured to the top surface of the wood decking.

We recommend budgeting to install a more durable guardrail assembly in conjunction with re-roofing. We assume an aluminum framed guardrail with glass infill panels will be installed in lieu of the existing design.

3. CLADDING

3.1 Exterior Walls

Description:

Two types of exterior cladding are provided:
- Brick over majority of the exterior walls
- Stucco over portions of the 1st floor, over 5th floor of the four penthouse units, and around the common area skylights on the roof.

Brick Cladding: Drawings indicate the wall assembly consists (from outside to inside) of:
- clay brick
- concrete wall
- clay brick

Above windows and doors, the brick is supported by metal shelf angles.

Stucco Cladding: Drawings indicate the wall assembly consists (from outside to inside) of:
- acrylic stucco finish
- Tyvek building paper
- 5/8" gypsum sheathing
- 6" steel studs at 16"o/c
- R-20 fibreglass batt insulation
- 6 mil poly vapour barrier
- 5/8" Type X drywall.

The window sills are concrete.

The cornice at the top of the 4th floor is constructed of painted metal, supported by steel framing.

There are sealants at the window and door perimeters.

History:

1994: The original brick was restored as part of the renovation. Drawings indicate the brick was sandblasted and coated with a protective sealer.

1994: Stucco installed as part of renovation.

Evaluation & Recommendations:

No leaks were observed or reported.

The brick has localized areas with deteriorated mortar joints and cracked bricks. General replacement of the brick cladding is not anticipated within the term of this report. We recommend budgeting for periodic repointing and local brick repairs.

The stucco appears in good condition. In general, given the vulnerable nature of the gypsum sheathing used in this assembly, we would normally recommend budgeting for eventual replacement. In this case, the stucco is well protected by roof overhangs and canopies. Therefore we have assumed that general replacement of the stucco will not be required within the term of this report. We recommend budgeting for an inspection to evaluate the assembly's condition. Pending the evaluation, we recommend budgeting for future repairs and coating of the stucco to maintain its weather resistance.

The roof overhangs at the 4 penthouse units are also clad with stucco. These areas are exposed to rain and as such are prone to deterioration. We recommend cladding the overhangs with sheet metal in conjunction with roof replacement. Budgets for cladding over the overhang are included in the roof replacement budget.

The building sealants are generally flexible and intact. However, we noted localized cracking of the sealants around windows where the joint's profile was thin. Budget for replacement in conjunction with cycles of brick repair to minimize access costs. Local sealant repairs required between cycles of general replacement are assumed to be managed out of the operating budget on an as needed basis or from the allowance for miscellaneous expenditures (item 12.1) if the expenditure is considered a contingency reserve expense.

3.2 Windows

Description:

The ground floor commercial units have prefinished aluminum frames (thermally broken) with fixed double glazed sealed insulating glass units (IGU's) with alumium spacers. The IGU's are installed from the interior, dry gasket sealed, and stamped "IGMAC AFG Twinsulite Vancouver 1994".

The residential units (2nd to 4th floors) have painted wood frames with a combination of fixed and casement style operable sashes. These windows have double glazed sealed IGUs with aluminum spacers. The IGUs are installed from the interior, held in place by wood stops nailed to the sash.

The casement windows have compression-type gasket weather stripping.

Painted metal window boxes are provided at the operable residential windows.

History:

1994: Windows installed (including commercial storefronts).

Evaluation & Recommendations:

No evidence of leaks related to windows was noted and no active leaks were reported by Management. Window operation seemed acceptable with the exception of suite 305 where one window will not latch closed. The painted finish on the wood windows is faded, but uniform.

No failed sealed units were noted or reported. Weatherstripping generally appears in good condition.

Council noted the windows are cleaned twice yearly out of the operating budget. We assume the following items will also be managed out of operating on an as needed basis or from the allowance for miscellaneous expenditures (item 12.1) if the expenditure is considered a contingency reserve expense:

- window adjustments, weatherstripping replacement, internal joint sealing, and hardware repairs; and
- replacement of the insulating glass units, including the IGU's in doors.

We recommend budgeting for about 90% of the full replacement cost of the wood framed windows. The remaining 10% of this budget is assumed to be obtained by deferring and/or timing re-sealing, so that these additional funds may be put towards complete renewal.

We assume the aluminum framed windows and metal window boxes will not require replacement within the term of this report. Painting of the window boxes is included in the painting item (below).

3.3 Exterior Doors

Description:

The exterior doors are typically aluminum framed, with full height sealed double glazed lites, manufactured by Aluminex. IGU's stamped "Canadian-pan-o-lite VCR IGMAC 1994".

The exterior doors include:

- Entrance door to lobby (Hamilton St.): Double door.
- Common area exits (2 total): Single man door exits onto Mainland St. from garage. Single man door exits on to Mainland St. from east stairwell.
- Commercial doors (7 total): Single man doors (3 on Hamilton St., 4 on Mainland St.).
- Roof top access from stairwell: Single man door.

History:

1994: New exterior doors installed.

Evaluation & Recommendations:

The doors checked operate well and were self-closing and self-latching.

General replacement of the aluminum framed doors is not anticipated within the term of this report. IGU's and weatherstripping replacement are covered under Windows. Other local repairs and isolated replacements are expected to be managed from the operating budget on an as needed basis or from the allowance for miscellaneous expenditures (item 12.1) if the expenditure is considered a contingency reserve expense.

3.4 Canopies with Sloped Glazing	
Description: Ground floor canopies project over the walkways on both Hamilton St. and Mainland St. The canopies have painted metal frames, anchored to building wall. The cantilever is supported by canopy ties complete with turnbuckles. Both canopies have sloped glazing adjacent building wall. Wire mesh used in the outer portion of the Mainland St. canopy.	**History:** 1994: Canopies installed.
Evaluation & Recommendations: Corrosion of the metal framing and fading of the painted finish was noted. General replacement of the canopies is not anticipated within the term of the report. A budget to periodically repaint and locally repair the canopies has been included.	

3.5 Skylights	
Description: There are flat panel type skylights with prefinished aluminum frames and sealed glazing units at the following locations: •• 5 over the 4th floor corridor. •• 4 over 4th floor residential units (units 402, 403, 406, and 407).	**History:** 1994: Skylights added.
Evaluation & Recommendations: No skylight defects were identified. However, flat panel skylights are vulnerable to leakage problems as they are not sloped to shed water. To minimize the risk of leakage, the joints in the aluminum frames and around the glazing units should be regularly maintained out of operating. We recommend budgeting to replace skylights with every 2nd roof replacement program. Budgets to replace sealants are covered under Exterior Walls. Budgets to replace failed IGU's are covered under Windows.	

3.6 Overhead Garage Door	
Description: An overhead door provides vehicle access to the parking garage. The door is metal framed with metal infill panels. A single man door is built into the frame adjacent the garage door. The door has a torsion spring operator, connected to an automatic door opener, with remote control. The door opener system is equipped with photo cell safety at door threshold.	**History:** 1994: New door installed.
Evaluation & Recommendations: No general problems detected. Budget for replacement.	

3.7 Exterior Painting	
Description: The following exterior components are painted: •• wood framed windows •• metal window boxes •• metal cornices at 4th floor (Hamilton St. and Mainland St.) •• metal canopies (Hamilton St. and Mainland St.)	**History:** Circa 1999: Council reports the windows were painted, cost and timing unknown.
Evaluation & Recommendations: The exterior painted finishes are faded, but uniform. We noted localized areas of corrosion on the metal canopies. We recommend budgeting for: •• Painting of wood framed windows until such time that the windows are replaced. •• Painting of metal window boxes and metal cornices on a regular cycle. Budgets to paint the metal canopies have been included in Item 3.4.	

4. FIRE SAFETY

4.1 Fire Alarm System

Description:

There is an Edwards EST 6632 Fire Alarm panel in the electrical room adjacent the garage. The system is monitored, but does not have a voice communication system. The panel has 32 zones available, 25 zones in use.

There are annunciator panels at the main entrance (Hamilton St.) and south-east stairwell entrance (Mainland St.).

The system also includes: pull stations, detectors, signaling devices (bells) and associated wiring.

History:

1994: Installed.

2001: Back-up battery in fire alarm panel replaced.

Evaluation & Recommendations:

No significant concerns were noted or reported. The system was last inspected / tested in May 2004 by Firetronic. The next test is scheduled for May 2005.

Illuminated exit signs, where visible in the common areas, were checked.

A fire plan is posted adjacent to the elevator in the corridors and lobby.

Firetronic reports that the fire alarm panel and annunciator panels are obsolete and parts are becoming difficult to obtain. We have therefore budgeted for early replacement of the panels.

Budgets for repairs and replacement are based on the information provided by Firetronic.

4.2 Suppression Systems	
Description: A Standpipe system is provided in both stairwells. There is a dry type sprinkler system in the garage and selected service areas. There is a wet type sprinkler system throughout building. There are siamese connections adjacent to both common area entrances (Hamilton St. and Mainland St.), close to municipal fire hydrants. The pump and compressor are located in the sprinkler room adjacent to the garage. There are 5 lb. ABC type fire extinguishers in each corridor.	**History:** 1994: System installed.
Evaluation & Recommendations: No significant concerns were noted or reported. The budgets for repairs and replacement are based on discussions with Firetronic.	

4.3 Emergency Power	
Description: There is an emergency lighting system which includes remote heads with battery packs. The system services the corridors, lobby, stairwells, garage and service rooms.	**History:** 1994: Installed.
Evaluation & Recommendations: No significant concerns were noted or reported. As general replacement of the emergency lighting is not anticipated as a single expenditure, we have assumed that replacement of emergency lighting systems will be managed on an as-needed basis out of the allowance for miscellaneous expenditures (item 12.1).	

5. INTERIOR FINISHES

5.1 Residential Corridors	
Description: Floors: Inlaid carpet floors with tile surround. Walls: Painted drywall with wood trim. Ceilings: Painted drywall. Lights: Compact fluorescent wall sconces. Suite Doors: Brushed stainless steel finish and painted metal frames.	**History:** 1994: All finishes replaced as part of renovation. 2004: Common areas repainted at a reported cost of $8,000 (as reported by council). 2005: Plans are in place to renovate the corridors. Planned expenditures include: replace carpet $6,000, replace light fixtures $6,000, and associated electrical wiring $4,000.
Evaluation & Recommendations: Conditions appear consistent with age. At the 2004 AGM, council presented budgets to complete interior refurbishment including painting, new carpet, and new lighting for the common areas. The budget estimate based on quotes obtained by the council was about $24,000. We recommend budgeting for refurbishment on a regular cycle. We assume the current plans of refurbishment will be completed prior to start of the next fiscal year. We expect that the suite door hardware will be replaced on an as-needed basis from the operating budget or from the allowance for miscellaneous expenditures (item 12.1) if the expenditure is considered a contingency reserve expense.	

5.2 Residential Entrance Lobbies

Description:

Flooring: Main lobby off Hamilton Street has carpet with tile surround, lobby of Mainland Street has tile.

Walls: Combination of exposed brick, painted drywall, and finished wood trim.

Ceiling: Painted drywall.

Furnishings: Pictures on the walls.

Lighting: Compact fluorescent wall sconces, and pot lights (halogens and incandescent bulbs).

Mailbox: Wall mounted, aluminum framed mailbox, with 24 boxes.

History:

1994: All finishes replaced as part of renovation.

Evaluation & Recommendations:

Conditions appear consistent with age.

We recommend budgeting an allowance for periodic refurbishment of the lobbies.

5.3 Other Common Area Finishes

Description:

Parking Garage: Painted walls and soffits. Unfinished concrete floor.

Stairwells: Combination of exposed brick, unfinished concrete, and painted walls. Unfinished concrete floors.

Lockers and Service Rooms: Unfinished concrete walls, soffits, and floor. Wood framed dividing walls.

History:

Evaluation & Recommendations:

Conditions appear consistent with age.

Refurbishment of these areas, including painting and miscellaneous hardware replacement, is expected to be managed out of the operating budget on an as needed basis or from the allowance for miscellaneous expenditures (item 12.1) if the expenditure is considered a contingency reserve expense.

6. SITE

6.1 General Site Condition	
Description: We understand that there is no site property beyond the footprint of the building.	**History:** N/A
Evaluation & Recommendations: We have assumed that the walkways adjacent Hamilton Street and Mainland Street are maintained by the City of Vancouver.	

7. HEATING, VENTILATION AND AIR CONDITIONING

7.1 Heating System

Description:

Heating within the individual residential and commercial units is provided by electric baseboard heaters. The residential units also have gas fireplaces.

Note: There is no central cooling.

Common area heating is provided by a gas fired make-up air unit located on the roof (Engineered Air, 5800 CFM, 500,000 BTUH).

History:

1994: Installed.

2003: Repairs to the roof-top unit included new control board and gas regulator, cost $4,200 as reported in the financial statements.

Evaluation & Recommendations:

The baseboard heaters and gas fireplaces within each unit are believed to be the unit owners' responsibility; therefore, no budgets have been provided.

The roof-top make-up air unit is serviced by Latham Mechanical. The service contractor did not advise of any conditions that might require special repair. We understand the unit is serviced 3 times per year (filter replacement, mechanical adjustment, etc.). We recommend budgeting for eventual replacement, assuming that maintenance and minor repairs will be funded from the operating budget.

The metal housing on the roof-top unit is corroding. We recommend having the housing repainted out of the operating budget on an as needed basis or from the allowance for miscellaneous expenditures (item 12.1) if the expenditure is considered a contingency reserve expense.

7.2 Exhaust Fans

Description:

There are exhaust fans for the following common and service areas:

- Elevator machine room
- Electrical room
- Garage locker room (S-W corner)
- Garage (fan located on the main roof)

The garage exhaust fan is controlled by a carbon monoxide and propane detection and control system.

History:

1994: Fans installed.

Evaluation & Recommendations:

The fans were operational at the time of our review. The service contractor, Latham Mechanical, did not advise of any conditions that might require special repair.

We understand the exhaust fans are serviced every 3 months, and the carbon monoxide detector is calibrated and tested every 3 months.

As general replacement of the exhaust fans and garage's carbon monoxide detection system is not anticipated as a single expenditure, we have assumed that expenditures deemed to be contingency reserve expenses will be managed on an as-needed basis out of the allowance for miscellaneous expenditures (item 12.1).

8. PLUMBING

8.1 Site Services

Description:

There is buried piping which provides storm and sanitary water discharge. These are located below the garage slab-on-grade and are gravity fed (no sump pumps).

Floor drains in the garage are connected to the storm drainage system and are also gravity fed.

The potable water supply (4" main line) enters through the garage foundation wall from Hamilton Street.

History:

Evaluation & Recommendations:

No problems with the site services were detected or reported.

We recommend budgeting a periodic allowance for repair/replacement of the buried services.

8.2 Domestic Hot Water Heating System

Description:

Domestic hot water is provided by 2 gas fired hot water tanks, manufactured by A.O.Smith (365,000 BTUH and 246 L capacity per tank), located in the sprinkler room adjacent the garage. An expansion tank also located in the sprinkler room is connected to the system.

History:

2002: Two domestic hot water tanks were replaced on July 4th, 2002. Installation involved two A.O. Smith BTRC305 commercial gas water heaters with vent dampers (cost $10,000).
Expansion tank was installed in 1999 (cost $851.72).

Evaluation & Recommendations:

The domestic water boilers were operational at the time of our review. No problems associated with hot water supply have been reported. The service contractor, Latham Mechanical, did not advise of any conditions that might require special repair.

We recommend budgeting for replacement of the hot water tanks. As the cost of tank replacement is below the report threshold and it's timing of replacement cannot be predicted, the expansion tank is expected to be replaced on an as needed basis from the allowance for miscellaneous expenditures (item 12.1) if the expenditure is considered a contingency reserve expense.

8.3 Plumbing Distribution System	
Description: The domestic cold water, hot water, and hot water recirculation lines are Type L copper. The hot water recirculation line is equipped with a recircuation pump (110 watts).	**History:** 1994: Installed.
Evaluation & Recommendations: There are no reports of leakage. While on site we noted the recirculation pump was leaking. We assume pump repairs will be managed out of the operating budget, and replacement will be covered on an as needed basis from the allowance for miscellaneous expenditures (item 12.1). We recommend budgeting an allowance for progressive replacement of the piping distribution system. The phased program allows for replacement of all piping after about 50 years of service.	

9. WASTE DISPOSAL SYSTEMS

9.1 Garbage Disposal System	
Description: Garbage bins for both the residential and commercial units are located on Mainland Street and Hamilton Street. Recycle bins are stored on the garage ramp.	**History:** N/A
Evaluation & Recommendations: No problems with waste disposal were noted or reported. It is expected that the garbage and recycling bins will be replaced as needed out of the operating budget.	

10. ELECTRICAL SYSTEMS

10.1 Electrical Distribution System

Description:

The main electrical room located in the north-west corner of the garage contains the following electrical systems (all of which are manufactured by Federal Pioneer):

- 1,225 KVA, 208/120V transformer
- 1,500 A service panel (MC#1)
- 1,400 A service panel (MC#2)
- 1,200 A service panel (house)
- 3 smaller service panels (panel A, B and elevator)
- 13 electrical meters, analogue type

Electrical closets at the end of the corridors contain the following equipment:

- 2nd floor - telephone system
- 3rd floor - 18 electrical meters
- 4th floor - cable TV panel

Where checked, we noted copper distribution feeders and copper wiring.

History:

1994: All electrical equipment believed to have been replaced.

Evaluation & Recommendations:

No significant problems were noted or reported. The Council members report the electrical system has been performing adequately with the exception of power surges reported by residents in 2004.

We recommend having a thermographic scan completed annually funded from the operating budgets. A electrical consultant should be engaged to review the issue of power surges if the Council is concerned of a potential electrical problem.

We recommend budgeting for a phased replacement program for the panels and wiring, with full replacement achieved after about 100 years of service.

10.2 Light Fixtures

Description:

Exterior light fixtures consist of wall mounted lights along Hamilton St. (7 fixtures) and Mainland St. (7 fixtures), and pot lights above the building exits and commercial unit entrances (7 fixtures).

The parking garage lighting consists of 4ft long fluorescent tube fixtures (31 fixtures, T-12 tubes, 34 watts each).

The service rooms have 4ft long fluorescent tube fixtures (T-12 tubes, 34 watts).

The stairwell light fixtures consist of compact fluorescent fixtures.

See Section 5 for the corridor light fixtures.

History:

Evaluation & Recommendations:

No concerns with the lighting in the garage, common area and service areas were noted or reported. The light levels in the stairwells appeared low. We understand there are plans to upgrade the stairwell lighting as part of the corridor renovation project.

We assume replacement of non-corridor light fixtures and tubes will be completed on an as-needed basis out of the operating budget or from the allowance for miscellaneous expenditures (item 12.1) if the expenditure is considered a contingency reserve expense.

The Strata should consider upgrading the lighting in the garage and service rooms with more energy efficient lighting. Pending further consideration by the Strata, budgets for this work have not been included.

10.3 Intercom System	
Description: A Mircom intercom system provides communication and entry control between the suites and the two entrances (Hamilton St. and Mainland St.). The control panel is located in the electrical room.	**History:** 1994: Intercom system installed.

Evaluation & Recommendations:

The intercom system is not functioning, as reported by Council. The function is reported to be a result of recent problems with vandalism. We understand the Council is considering installing a security gate and upgrade the security system at the entrance vestibule on Hamilton and Mainland Streets. Budgets for these upgrades have not been included in this study.

We understand the intercom system will be replaced in 2006, however the expenditure will not come from the reserve. We have therefore excluded the cost of the 2006 replacement from this report. Budget includes an allowance for a major program of renewal including replacing controls and limited wiring.

11. ELEVATORS

11.1 Elevator Cab Finishes

Description:	History:
Flooring: Ceramic tile. Walls: Laminate wall panels with decorative metal trim. Ceiling: Tiled suspended ceiling with halogen lights.	1994: Installed.

Evaluation & Recommendations:

Conditions appear consistent with age.

We recommend including an allowance for periodic renewal. Budgets can vary widely depending on desired design. Council advised that the budget should allow for "premium" finishes.

11.2 Elevator Systems

Description:	History:
There is a single Richmond Elevator hydraulic lift with 1135kg capacity (British Columbia Code #15078). Cylinder: In-ground type with PVC liner. Controls: Combination of Relay and Microprocessor type. The cab doors are equipped with infra-red sensors.	1994: Installed.

Evaluation & Recommendations:

Conditions and quality of operation appeared consistent with age.

We understand the elevator is maintained under a full service contract with Richmond Elevator. The service contractor did not advise of any conditions that might require special repair.

We recommend including an allowance for periodic modernization of the elevator equipment.

12. MISCELLANEOUS

12.1 Miscellaneous Expenditures	
Description: Expenditures less than the $2,000 threshold established for this study and usually occur less often than once a year or that do not usually occur but which are deemed to be a Contingency Reserve Expense.	**History:** N/A
Evaluation & Recommendations: We recommend budgeting an annual allowance. Council has requested the allowance be set at $2,000. We recommend monitoring the expenditures which fall within this description over the next few years so that the allowance can be refined with future Contingency Reserve Fund Study updates.	

12.2 Consulting Services	
Description: Engineering fees related to the Reserve Fund Study, evaluations, investigations, or design not associated and covered by other specific reserve fund items.	**History:** No previous contingency reserve fund studies have been conducted.
Evaluation & Recommendations: We recommend budgeting to periodically update this study.	

APPENDIX B

REPAIR AND REPLACEMENT PROTOCOL

1. Structure
2. Roofs
3. Cladding
4. Fire Safety
5. Interior Finishes
6. Site
7. Heating, Ventilation and Air Conditioning
8. Plumbing
9. Waste Disposal Systems
10. Electrical Systems
11. Elevators

GENERAL COMMENTS

Concealed Conditions: The performance and durability of many building components is often dependent upon the condition of concealed elements. These cannot be evaluated by visual review. Dis-assembly and/or testing would be required. Expected future performance and the scope and timing of repairs and replacements are based on judgement influenced by visual appearance, experience with performance of similar components at other buildings, and the performance history at this building as discussed with property management and/or service contractors.

Changes to the plan may be required to incorporate findings from future testing and/or repair programs. We recommend further investigation or testing where identified to be necessary to develop an appropriate management strategy. Resulting changes to budgets will need to be incorporated into reserve fund updates.

Comprehensive Service Contracts: Comprehensive Service Contracts can promote proper maintenance and require the service contractor to replace specific components as is necessary to restore service to the specified level. In some instances, these replacements also lead to building component renewal, reducing the need to draw upon the Reserve Fund for repairs or replacements.

We identify components which are expected to be replaced outside of the Reserve Fund based on reviewing the Contract scope(s), and discussion with Property Management to check the history of previous replacements undertaken by the service contractor. We do not complete a legal review of the Service Contract to evaluate the conditions and limitations associated with replacement under the Contract(s).

Even where service contracts exist, our experience has been that there is still a need for budgeting for major programs of repair or replacement. Service Contracts only cover limited periods of time. Once major equipment has reached the end of its service life, has become obsolete or is otherwise impractical to maintain, it may not be possible to renew the Contract at the end of the term. Replacement from the Reserve Fund then becomes necessary.

Adequate Maintenance: Prior to the time of an identified program of renewal, local repairs, replacements and maintenance are necessary as part of the operating budget. These are assumed to be diligently completed to assure that the expected remaining service life is achieved. If performance is poorer than expected, increased levels of repair or an earlier time for renewal may need be accommodated by the reserve fund. This should be reflected in future reserve fund updates.

1 STRUCTURE

Foundations: Unless problems with settlement or deterioration are detected, building foundations are generally not expected to require repair or replacement within the foreseeable future.

Leakage problems may develop if ground water drainage systems become plugged and/or waterproofing treatments which may be applied to below grade walls or floors become rigid and split at cracks or penetrations. These types of problems can usually be managed by local excavation to allow waterproofing or restoring drainage, or by periodic injection sealing from the interior. Unless general problems with leakage develop, only an allowance is provided to accommodate these types of local repairs.

Main Building Structure: It is assumed that the original structural design and construction met applicable Building Codes. The structure is generally contained within the building envelope, and protected from the deteriorating effects of weather. Except as otherwise noted, the main building structural elements are generally not expected to require repair, replacement or upgrading within the time frame of this study. This relies upon proper maintenance and repair of other building components to assure that conditions which might lead to deterioration do not develop.

Parking Structure Concrete Deterioration: Parking structures can deteriorate aggressively, primarily from the effects of vehicles depositing de-icing salts and moisture. When exposed to these elements, steel reinforcing contained within concrete elements can begin to corrode. This leads to concrete cracking and spalling, requiring repair to restore structural integrity.

For structures which are not contaminated with salt, a pro-active repair and maintenance program is required to avoid general problems with structural deterioration. This requires prompt repair and replacement of waterproofing systems to protect the structure. Local repairs are expected to be managed as part of operations. General waterproofing replacement must be timed to occur before performance degrades and allows widespread leakage. Only limited structural repair would then be expected to be necessary. Concrete deterioration would typically occur at cracks and joints which may have been exposed to excessive leakage prior to repair.

For structures identified to be contaminated with salt (chloride) and which are demonstrating problems with structural deterioration, cost effective and durable repair strategies vary. Special testing and evaluation becomes necessary to identify options and associated costs.

Parking Garage Traffic Deck Protection Systems: Traffic deck waterproofing systems include a flexible waterproofing membrane covered by a traffic surface to resist wear and tear. Construction joints and cracks usually require special treatment to allow the membrane to stretch across them with movements. With age, membranes can become less flexible and split, allowing leakage.

The wear course is subject to deterioration from vehicles. Areas may erode away or crack. Asphaltic systems are vulnerable to softening from petroleum spills or leaks.

Expansion joints require special treatment to maintain a watertight seal. Sealants, looped joints, or rubber glands can be used. The magnitude of movements that occur can lead to problems with seal failure. For garages that experience leakage problems, it is often advisable to upgrade to a more reliable joint seal to avoid costly structural deterioration that can occur.

Local repairs to defects can usually help to defer the need for a general program of replacement. Depending on the expected magnitude of this work, this may or may not require a reserve item. General renewal of these elements is required before increasing problems with leakage or water and salt ingress occurs and leads to structural deterioration problems.

Parking Garage Entrance Ramps: Parking garage entrance ramps generally have de-icing systems. Electric cables can eventually burn-out or break at cracks and joints. Hydronic systems can fail by developing leakage. In addition, if the ramp is structural, waterproofing may be present below the topping to protect the structure from deterioration. When either the deicing system or the waterproofing fail, the entire system must be rehabilitated.

Balcony Guards and Dividers: Balcony guards are subject to deterioration from exposure to weather. Painted finishes degrade from UV (sunlight) and moisture. Wear and tear imposed by residents and maintenance activities causes damage. Steel elements can begin to corrode (rust). Gaskets or seals which may be present can become rigid and split.

If a pro-active program of repair and maintenance is implemented to limit deterioration, it is often possible to defer the need to replace the guards. However, appearance tends to degrade with repeated re-painting and repair programs. Planning for future replacement is generally recommended to avoid escalating repair cost, and to maintain acceptable aesthetics.

2 ROOFS

Flat (Low Slope) Roofing Systems: Low slope roofing system performance varies. Variables that influence performance can include workmanship in the original application, wear and tear from maintenance activities, and maintenance quality.

The waterproofing element (membrane) tends to lose flexibility with age. Problems with splitting or debonding can occur with thermal movements. Once moisture ingress into the system begins, progressive deterioration may develop. For most systems, testing is necessary if current conditions were to be established to try and more accurately predict future performance.

If promptly identified and completed, local repairs are often effective in prolonging service life. However, before excessive degradation in performance occurs and leads to excessive or frequent problems with leakage, a program of renewal becomes necessary. The expected repairs and the timing for general renewal are based upon judgement related to available information, visual observations as to current performance, the expected ability to be effective in deferring replacement by local repair, and experience with similar roofing systems at other buildings.

Annual inspection and minor related repairs are assumed to be an operating expense.

Protected membrane systems can likely have their life extended to 30 or 35 years if the field of the roof is well installed, and the perimeter upturns are replaced after about 15 years of service. We generally assume that this is the normal practice, unless we have evidence that the field of the roof is not durable.

Sheet Metal: Sheet metal components may include sloped metal roofing systems, protective metal flashings, and drainage systems such as eaves troughs and down spouts.

These elements are subject to wear and tear from ice and maintenance activities. Where the resulting damage affects function or becomes aesthetically unacceptable, replacement becomes necessary. Replacement of many of these items becomes necessary in conjunction with roof renewal.

Painted finishes degrade with exposure to UV (sunlight) and exposure to pollutants. While field painting to renew the appearance may be possible in some instances, the quality of finish is generally not as aesthetically pleasing or as durable as the original finish. As a result, this is generally only considered as an option where it is expected the resulting appearance would be acceptable and the cost for deferring replacement could be justified.

Galvanized steel is protected from corrosion only as long as the zinc coating exists. Once the zinc coating is consumed, corrosion begins. This often first becomes evident at cut edges. Once widespread corrosion develops, replacement becomes necessary.

3 CLADDING

General Requirements: The exterior walls include components which resist wind and rain, and thermal insulation to assist in maintaining interior comfort. Many elements are concealed. A visual review is only able to check for evidence of problems which may have developed. A more comprehensive evaluation usually requires test openings and/or performance testing.

Local leakage may occur from time to time. This may be adequately addressed by local repair under the operating budget. If we expect the magnitude of these repairs to be significant enough, we include a periodic repair allowance as part of the reserve.

Insulation is usually incorporated within the cladding assembly. Most common types of insulation do not deteriorate providing they are not exposed to frequent or excessive wetting as may occur with rain or air leakage. Upgrading thermal insulation may become desirable in the future in response to rising energy costs, but is not included in this plan unless a specific need were identified. If this were to be considered, this would usually be completed in conjunction with interior finish replacement or general cladding renewal.

An "air barrier" is required in modern cladding systems. This limits energy loss from air leakage, as well as helping to resist rain water penetration, moisture accumulation (condensation) and insect ingress (cluster flies). Many buildings, particularly those constructed prior to about the late 80's may have a poor air barrier. However, unless specific and general problems related to air leakage are detected, upgrading by air sealing defects is not included in the plan. Performance testing should be completed to identify typical problem areas and the potential benefits related to air sealing. If required, maintaining air seals that may include interior caulking at windows, seals between floors and walls and seals at outlets or other penetrations is assumed to be completed as part of the operating budget.

Vapour barriers are also required to be incorporated within cladding to resist moisture flow into the cladding. These are generally seen to be less critical to wall performance than the air barrier.

Water shedding details frequently play an important part in promoting durability. Details that allow rain water to run onto adjacent components should be identified to consider whether they need to be corrected to promote durability. Improvements and repairs required to promote water shedding are assumed to be managed as part of maintenance, or in conjunction with other repair programs.

A cleaning program (a supplement to regular maintenance such as window washing) may become desirable to remove pollutants which may collect on the cladding to maintain an acceptable appearance. This is a discretionary item. Whether or not this becomes necessary is a function of the cladding finishes, details related to water shedding, and local environment. We include this work only where we expect appearance to degrade excessively so that this is desired by owners.

Sealants and Caulking: Exterior sealants are generally relied upon to provide a weather seal. These tend to become rigid and split with age and exposure to UV (sunlight). Various degrees of defects are also incorporated at the time of application as a result of poor workmanship. There are also industry problems with respect to poor or improper detailing, particularly with window systems. It is often found that a program of local repair can be effective at deferring the need to complete a program of general replacement. Depending on the expected magnitude of this work, this may or may not require a reserve item. Before general problems with deterioration develop, renewal should be completed. This work is best timed in conjunction with other exterior repairs or replacements. High performance sealant materials should be employed to prolong the service life.

Brick and Concrete Masonry: Brick and concrete masonry can develop various deterioration problems. The actual performance varies considerably between buildings, according to the quality of materials, design and workmanship. To fully evaluate masonry walls requires performance testing and test openings. We estimate repair allowances based on reports and observations, as well as experience with similar cladding systems at other buildings.

Even brick and mortar which meets modern standards can be vulnerable to deterioration (spalling) when exposed to moisture and freeze-thaw action. Problems with cracking can also develop where there are inadequate joints to allow movement which occur with thermal changes and structure flexibility.

Rain water can normally penetrate masonry. Leakage problems can develop if where internal drained cavities and/or flashings are inadequate to manage this water. Maintaining the exterior surface to limit water ingress and local masonry removal and internal repair to internal flashings can often be effective in managing these types of problems.

Embedded steel elements which may exist can corrode. Even if galvanized, wetting can lead to this protection being consumed. Steel elements can include connectors securing the outer masonry to the back-up, support angles at floor slabs and/or over windows, and reinforcing embedded within the masonry. Expansion which occurs with corrosion may lead to the exterior spalling. Stainless steel retrofit anchors are available to replace corroding connectors with little disruption. Other steel elements tend to require masonry removal to allow replacement or applying protection. We include an allowance for the repair we expect to be necessary.

Stucco and Exterior Insulated Finish Systems (EIFS): Stucco and exterior finish cladding systems (EIFS) can develop problems with internal deterioration that could only be detected by further evaluation including test openings. Problems which develop could involve the mesh reinforcing, water resisting sheathing wraps, sheathing board, studs, and/or fasteners. However, unless general problems are detected or expected to occur, it is assumed that the cladding is properly designed and constructed, and will be maintained so that general replacement is avoided within the time frame of this study.

Local repairs are expected to be effective in deferring the need to replace the cladding. These would include repairing local defects with cracking or deterioration, and applying a new vapour permeable protective coating to improve the exterior weather seal and renew appearance.

Sheet Metal Cladding: Sheet metal cladding service life varies according to material and finish types.

These elements are subject to wear and tear from ice and maintenance activities. Where the resulting damage is not aesthetically acceptable, replacement becomes necessary. Replacement of many of these items becomes necessary in conjunction with roof renewal.

Painted finishes degrade with exposure to UV (sunlight) and exposure to pollutants. While field painting to renew the appearance is possible in some instances, the quality of finish may not be as aesthetically pleasing or as durable as the original finish.

Galvanized steel is protected from corrosion only as long as the zinc coating exists. Once the zinc coating is consumed, corrosion begins. This often first becomes evident at cut edges. Once widespread corrosion develops, replacement becomes necessary.

Paint and Coatings: Paints and other architectural coatings provide varied performance that depends on factors including quality of material, workmanship in preparation and application, exposure to moisture & UV (sunlight), and wear & tear. Unless problems with inadequate bond are detected, it is generally assumed that re-finishing can occur over the existing finishes with limited surface preparation. Use of a high performance coating to obtain a longer service life is generally recommended as the least cost strategy.

The timing for re-finishing is somewhat discretionary. As long as the underlying materials are not allowed to become exposed and allow progressive deterioration, timing may be deferred as long as the degrading appearance is deemed to be acceptable.

In conjunction with re-finishing, an allowance should be provided to accommodate local repairs to the substrate which may be necessary to provide a sound and even surface.

Window and Door Systems - General: Window and door performance as mandated by building codes is often found to be inadequate. Leakage problems can develop with wind driven rains. Performance testing would be necessary to check the level of resistance to leakage. Unless reported or observed to be a general problem, we assume that acceptable performance is managed by maintenance.

With weatherstripping wear, the effectiveness of the weather seal degrades. Replacement becomes necessary to provide a reliable level of resistance to leakage, to control energy loss and maintain comfort. It may be preferable to undertake a program of general weatherstripping replacement rather than replacing it in a piecemeal fashion. This allows greater quality control. Performance testing should be completed to identify the full scope of work which will be necessary. Drainage improvements, and hardware maintenance would likely be included in this rehabilitation program.

Glazing tape seals at glass and metal panels become less effective with thermal movements and pumping action from winds. The glazing tape tends to be pushed out of the joint. If leakage develops, an increased rate of sealed insulated glass unit (IGU) failure may occur. However, these seals are also replaced in conjunction with IGU replacement. Exterior cap sealing (needle glazing) is recommended if leakage problems are expected and the IGU are generally expected to have sufficient remaining service life to warrant this investment.

Some window systems have internal seals located within drained pockets which are necessary to avoid leakage. These seals tend to become rigid with age and may split with thermal movements and require re-sealing. Leakage may become evident on the interior, or may drain into cladding systems and lead to concealed deterioration. Detailed evaluation and testing would be necessary to check for current problems. This is recommended in conjunction with planning for a general program of rehabilitation.

If proper maintenance and repair is implemented to protect windows and doors, it is expected that replacement could be deferred to beyond the time frame of this study. Where we expect maintenance and repair to become too costly, and/or inadequate to meet owners expectations, we recommend replacement. In addition, owner considerations with respect to aesthetics, comfort and ease of operation may create a discretionary desire to upgrade and replace these elements. This decision should be made prior to investing in other related repair programs so that the related portions of the reserve fund can be put towards the replacement cost.

Aluminium Systems: It is difficult to predict whether or not modern aluminum framed, double glazed windows and doors will require full replacement within the timeframe of the study. Pending actual industry experience, which will only come with time, it seems reasonable to assume that replacement will eventually be required. This may be necessary due to material degradation (corrosion of frames, deterioration of concealed elements) or to meet resident's increased expectations for serviceability, aesthetics and comfort. These expectations are likely to be raised by advances in window technology.

The finishes applied to aluminium are subject to deterioration depending upon the material and exposure to UV (sunlight). High performance fluoropolymer coatings are available to provide a longer service life. However, lower quality finishes are common at many residential buildings and chalk aggressively. Cleaning to eliminate the easily marked chalk can actually hasten coating removal. Field re-coating (repainting) is expected to become necessary. Industry improvements in materials and application techniques are expected to become available to service this growing demand.

Anodized aluminium finishes are expected not to require work within the life of this study. Problems with pitting from exposure to pollutants are becoming evident at some buildings, but this is assumed to be avoided by regular cleaning.

Sealed Insulating Glazing Units (IGU): Sealed window units fail when the perimeter seal allows moisture to penetrate the cavity between the panes of glass. This moisture obscures vision by condensing on and scumming the inside surfaces. Replacement becomes necessary for aesthetic reasons. Factors which affect IGU durability include the quantity of desiccant available in the spacer to absorb penetrating moisture, the vapour resistance provided by the perimeter seal, and the extent to which the IGU is exposed to moisture penetrating the glazing pocket. This moisture can arise from deteriorating external seals, or problems with interior condensation. It is expected that these conditions will be promptly corrected so that accelerated deterioration does not occur.

In most residential window systems, sealed units are replaced from the interior of the building. However, in some systems replacement is completed from the exterior, requiring the higher cost of access. Some windows are "channel glazed", which can also require sash replacement when the IGU fails.

IGU failure tends to occur in a distributed fashion, requiring replacement on a frequent basis. Early failures tend to occur where there are local problems with poor workmanship in manufacturing or installation, or where there is greater exposure to moisture. We attempt to budget for progressive replacement, based on the apparent performance and experience at other buildings. Property management should maintain records to enable monitoring the actual IGU replacement rate.

Skylights: Skylight systems are exposed to increased demands with respect to UV (sunlight) exposure on seals, direct rain fall, and snow and ice accumulation. Acceptable performance usually relies upon concealed seals and drainage to collect and remove water which may penetrate the outer surface. If leakage problems develop, rigorous maintenance to exterior seals can sometimes provide a lower initial cost maintenance strategy to defer a program of rehabilitation. However, dis-assembly is eventually expected to become necessary to allow renewing the system including interior seals and glazing.

Acrylic dome skylights eventually require replacement when the plastic deteriorates and fades from UV exposure.

Overhead Doors: Overhead doors tend to require repair as a result of frequent use and impact damage. Required repairs and replacements of components are assumed to be managed as part of the operating budget. If the cost of ongoing repair becomes excessive, replacement with a more durable, less maintenance intensive system would be appropriate. We estimate the time this may be required.

4 FIRE SAFETY

Egress: Unless specific problems are detected, fire safety components related to egress are assumed not to require general replacement or upgrading within the time frame of this study. This includes fire separations around exits, exit doors with associated hardware, stairwells with guards and handrails, exit signs, and emergency lighting. Ongoing maintenance from operating budgets is assumed to be completed to keep these components in acceptable condition. No audit or design check was completed to confirm that these meet current code requirements unless otherwise noted.

Separations: Unless specific problems are detected, fire safety components related to fire separations are assumed not to require general replacement or upgrading within the time frame of this study. This includes structure fire protection, wall and floor fire separations, suite doors with associated hardware, fire stopping and smoke sealing at penetrations (if provided), fire dampers at ducts or pipes.

Local repair and replacements as part of the operating budget are assumed to be completed to keep these components in acceptable condition. No audit or design check was completed to confirm that these meet current code requirements unless otherwise noted.

Detection: Detection systems include the fire alarm system, smoke and heat detectors, signalling devices, and associated wiring. In conjunction with annual testing completed as part of the operating budget, local repairs and replacements are required. These activities are expected to lead to renewal of some devices. However, advances in fire alarm and detection technology tend to result in systems becoming obsolete. Once compatible replacement parts are no longer manufactured, it becomes difficult to continue to maintain the system. In addition, advances in fire safety may lead to upgrading being necessary. A general program of renewal is expected to become necessary

The actual scope of the renewal will need to be identified. It is normally expected that many components could be salvaged, particularly those renewed as part of operations. Components which may be salvaged are expected to include wiring, and some devices.

Some manufacturers are requiring replacement of all end-devices and wiring when their system is installed. Whether or not this is a long-term trend is unknown. Until more information is available, we only budget for replacement on a case-specific basis.

Suppression: Suppression systems include sprinkler systems, the standpipe, and associated pumps, valves, fire hoses and cabinets.

These systems are not subject to regular use. Unless problems with deterioration are detected, the base piping for these systems are assumed not to require replacement within the term of this study. Local problems with corrosion which may develop are assumed to be addressed as part of annual repairs associated with the operating budget. If general problems with internal pipe corrosion were to be detected, changes to the reserve fund plan would be required. Air compressors, small pumps, sprinkler heads and other small components are generally assumed to be managed from operating budgets.

Valves tend to require replacement as a result of seizing or developing leakage as seals age.

Sprinkler heads have occasionally been recalled by certain manufacturers. However, since this cannot be predicted with any certainty, we have not included repair budgets associated with potential recalls. If such costs are incurred, they likely can be paid from the reserve fund and would be addressed as part of future updates of the study.

Fire hoses and fire extinguishers are assumed to be repaired or replaced as required as part of operations. As fire hoses age, they can deteriorate and develop leaks. In some instances, local replacement occurs in conjunction with annual inspection and testing as part of the operating budget so that reserve fund budgeting is not necessary. Where there are a substantial number of hoses that may require a larger program, we include a budget for replacement unless there is evidence that this will be managed from operations.

Fire pumps boost pressure so that there is adequate water to fight a fire at upper levels of the building. Jockey pumps act to maintain pressure within a sprinkler system. Pumps eventually require replacement due to impeller erosion, bearing and/or seal failure. While maintenance repairs might defer replacement, this is eventually becomes impractical.

Jockey pumps should be managed out of operating budgets.

Fire hydrants can be owned by the local municipality, or by the Corporation. We generally assume that hydrants located within the property lines of the complex are the responsibility of the Corporation.

Emergency Batteries: Batteries provided for emergency power tend to lose effectiveness as they age, or associated parts may become unavailable. Local replacements tend to be completed on an as-needed basis as part of annual maintenance, so that reserve fund budgeting may not be necessary. The exception would be central battery systems or AC to DC inverters, in which case, we include a Reserve Fund item.

5 INTERIOR FINISHES

General Comments Regarding Finishes: Replacement of common element interior finishes becomes necessary when wear and tear becomes excessive, and/or to meet the expectations of owners regarding maintaining acceptable aesthetic qualities. As discretion can be applied in selecting the actual timing and scope of these projects, the Board of Directors should review the reserve fund items to keep them current with their plans and owner expectations.

While finishes tend to have different service lives according to varying levels of wear, a comprehensive renewal program that includes treating all components in the area is often desired. This avoids subsequent disruption and risk of damage. For example, while wall and ceiling finish renewal might be deferred to a time later than carpet replacement, it is often completed at the same time.

Where not subject to wear and tear, interior finish components may not require replacement within the time frame of this study. Local maintenance or repairs in conjunction with other finish renewal programs are assumed to be adequate. This can include drywall, stippled finish, stucco, and trim.

Carpets: Carpets fade, stain and wear from traffic. Costs for replacement carpet can vary considerably according to the quality and application techniques selected. We estimate a budget based on our expectations, and experience with what has been selected at other buildings. When the time for this work approaches, the budgets should be revised according to actual plans.

Painted Finishes: Painted finishes require renewal as a result of fading, staining and wear and tear. Deterioration may also occur if areas are exposed to moisture. Local repainting necessary to defer general renewal programs is assumed to be completed as necessary as part of operations.

Whether or not a painting allowance is included in the Reserve Fund depends on the expected size of the project. Small painting projects are assumed to be managed as part of operations.

Wallpaper: Wallpaper tends to become damaged, and becomes difficult to repair in an acceptable fashion. As the pattern becomes dated, owners may desire a change.

Ceilings: While ceilings tend to be exposed to little wear and tear, some damage can occur from time to time, particularly if interior leakage occurs. Re-painting drywall and stippled finish is possible. Drop tile ceilings can be maintained by local replacements, and would only require general replacement if matching original tile became difficult as a result of fading or if matching tile were no longer available.

Ceramic Tile and Natural Stone Finishes: Hard finishes such as ceramic and stone are very durable. However, problems can develop with time including mortar joint staining and erosion, debonding, cracking, scratching and impact damage. Local repairs that become necessary may not match the original materials. We generally expect that a program of replacement will become necessary to maintain an acceptable appearance.

Cabinetry, Millwork and Hardwood: The need for renewing cabinets and millwork is dependent upon the level of wear and tear that they area subjected to. Options for renewal usually include refacing or complete replacement. Natural wood floors and millwork can usually be re-finished. Whether or not an allowance is included in the Reserve Fund depends on the expected size of the project.

6 SITE

No site components.

Wood Fences, Decks and Gazebos: Wood fences, decks and gazebos are subject to deterioration or rot over time with continued exposure to moisture. Regular application of protective coatings can act to prolong the service life. However, general problems eventually develop with long term weathering and may include rot, splitting, warping, and corrosion of fasteners.

7 HEATING, VENTILATION AND AIR CONDITIONING

Heating and Cooling Water Distribution Systems: Heating and cooling water distribution systems can include piping, valves and chemical treatment systems. These can develop the following problems:

- Seizing or leakage of valves
- Damage to insulation
- Corrosion, pitting, erosion or embrittlement. This can be affected by factors such as the quality of materials used, impurities in the water, or adequacy of chemical treatment
- Fatigue and failures related to thermal movements

Expansion joints in the distribution piping rarely develop problems and are typically not expected to require replacement. In unusual circumstances, failure does occur and can represent a large unplanned expenditure. However, given that this occurs in less than 5% of buildings, we do not budget a reserve line item unless there have been previous problems.

Local repairs and replacements are initially managed as part of the operating budget. However, with increasing rates of failure, larger sections would also need to be replaced, requiring budgets from the Reserve Fund. The actual rates of failure and corresponding budgets will need to be determined. Unless a problem condition is identified that suggests general replacement may become necessary, judgement is applied to establish an allowance for progressive replacement once aged.

Heating, Cooling and Air Distribution Units: Heating, cooling and air distribution units such as fan-coils require local repair and component replacement as part of the operating budget to assure they provide adequate service. However, a program of renewal becomes necessary once the extent of deterioration becomes excessive, or if parts are no longer available to continue with repair. This may also be desirable to take advantage of more energy efficient equipment.

Pumps: Pumps generally require replacement due to erosion of the impeller, failure of the bearings, failure of seals, and to take advantage of more energy efficient modern equipment. Small pumps of fractional horse power, such as those for recirculation are expected to be replaced when required as part of operations.

Air Supply and Exhaust Fans: Air supply and exhaust fans require cleaning, re-balancing and local repairs as part of maintenance managed from the operating budget. This includes addressing motors, dampers, belts, coils, cabinets, filters, etc. However, with advanced age, general replacement is expected to become necessary to provide reliable service.

Small units not included in the reserve fund plan are expected to be repaired or replaced on an as-needed basis as part of the operating budget. This can include items such as service room exhaust fans and common area bathroom fans.

The parking garage exhaust fans remove carbon monoxide (CO) from vehicles so that it does not pose a risk to residents. These must either run continuously or be provided with CO detectors that control the fans. The fan components are assumed to be replaced as required out of the operating budget.

If there is a CO detection system, maintenance will require testing, yearly calibration, and replacing failed components as part of the operating budget. However, a general renewal of this control system is expected to become necessary once the controls fail and/or this equipment becomes obsolete.

Fireplace Chimney Flues: Insulated stainless steel chimney fireplace flues (B-Vents) have been found to corrode. This is a particular problem with older chimneys as a result of the insulation contained within the flue being corrosive and/or poor installation practices. Corrosion requires replacement, the rate that this becomes necessary depends on chimney use and exposure to rainwater rather than based on a standard service life. A chimney evaluation would be necessary to check internal and concealed conditions.

Clay or masonry flues typically only need to be replaced (or lined) if they are deteriorated or the equipment they serve is converted to gas. Periodic inspection is recommended.

8 PLUMBING

Site Services: Site services include buried piping to supply water to the building (for fire and potable purposes), storm sewers to drain away rain and ground water, sanitary sewers to drain away waste. Periodic maintenance including pressure flushing and camera inspection is assumed to be managed as part of the operating budget.

Unless problems are detected, we do not expect there will be a need for widespread replacement within the time frame of this study. However, repairs may be needed to correct local problems that may develop, such as local collapse or breakage with ground settlement, leakage or major blockage or restrictions from deposits, or deterioration such as corrosion of steel piping. Identifying the actual locations, quantities, types and conditions related to these buried services would require further investigation. An allowance which is expected to be reasonable to accommodate limited problems is included in the Reserve Fund.

Drainage Plumbing: Drainage lines are generally not expected to require replacement within the time frame of the study unless specific problems with deterioration are identified. Flushing of all risers and main lines should be carried out every one to two years as an operating expense to avoid major expenses which can result from not flushing.

Domestic Water Distribution System: The domestic water distribution system includes piping, valves and insulation. Problems which develop as the system ages include:

- Seizing or leakage of valves
- Damage to insulation
- Corrosion, pitting, erosion and/or embrittlement of piping. This can be affected by the quality of materials used, impurities in the water, stray currents, etc.
- Fatigue and failures related to thermal movements

Local repairs and replacements are initially managed as part of the operating budget. However, with increasing rates of failure or blockage, larger sections would also need to be replaced, requiring budgets from the Reserve Fund. The actual rates of failure and budgets necessary will need to be determined.

Type 'M' copper piping (common in the 70's to present) is thin-walled piping which is found to develop problems with pinhole leakage. In addition, the wall thickness of the new piping was reduced over time as a cost-saving measure. In the case of type M, we budget for 100% replacement in a fairly short timeframe starting with the hot water and recirculation lines, dependent on performance and date of installation. For piping installed in the early 80's, a 15 to 20 year service life can be expected for the hot water system. For piping installed in about 1990, when the wall thickness was even less, the service life is closer to 10 to 15 years, and in some extreme cases, pipe replacement has been needed in less than 10 years.

For type 'L' copper piping, which has a thicker wall, an allowance is included for replacement of the hot water recirculation lines then the hot water supply lines and finally the cold water supply lines, over a significantly longer time period.

More unusually, there may be galvanized steel piping which starts to corrode once the zinc coating is consumed, leading to obstructed flow and pressure drop. Hot water piping deteriorates more rapidly than cold water piping. For galvanized piping, 100% replacement is included.

Backflow preventer gauges, controllers and isolated valves are all expected to be replaced out of the operating budgets, asusming periodic maintenance.

Boilers and Pumps

See Section 7.

Domestic Hot Water Storage Tanks: Domestic hot water tanks store hot water to ensure there is adequate supply in times of high demand. Storage tanks tend to require replacement with deterioration of the liner and/or corrosion of the tank body, leading to obstructions and leakage. Repairs such as re-lining interior concrete surfaces are often able to prolong the service life of the tank.

Small tanks (120 gallons and less) should be replaced from operating budgets.

Common Area Fixtures: Common area fixtures such as faucets, sinks, water closets, etc. are expected to be repaired or replaced as part of operations, or in conjunction with interior finish renewal programs.

9 WASTE DISPOSAL SYSTEMS

Limited service - disposal bin pick-up. We assume maintenance and replacement of bins will be managed out of operating.

10 ELECTRICAL SYSTEMS

Electrical Distribution: Insulation used on distribution wiring tends to become brittle with age and is expected to crack and split. Connections tend to deteriorate where subject to increased heating or stress from thermal movements. Power surges related to the utility service or lightening strikes can hasten deterioration. Maintenance including electrical thermography and local repairs is expected to be completed as part of the operating budget. This should be completed at least every three years, and more frequently for systems incorporating aluminium wiring. Once aged, portions of the system are expected to require replacement from the reserve fund. An allowance for a phased program of replacement is included. Further monitoring and evaluation will be necessary to establish the actual scope of work and rate of replacement which will be necessary.

Buried electrical supply lines, typical of townhouse complexes, are subject to aging of the wires leading to brittle cracking and splitting. Connections tend to deteriorate. Phased replacement should be budgeted in the Reserve Fund.

Transformers: Transformers tend to fail abruptly once aged. This can be related to deterioration of insulation. Oil filled transformers should be scanned as part of the routine electrical thermal scans. Some transformers are owned by the local utility (generally pole mounted units, or those located in vaults owned by the utility).

Outlets and Switches: Local devices including electrical outlets, switches, and mechanical switchgear are assumed to be replaced as required as part of the operating budget, or in conjunction with programs of interior finish renewal or equipment replacement.

If there is aluminium wiring, then connections to receptacles and switches should be checked regularly to see if contacts are deteriorating. This should be an operating expense.

Light Fixtures: Light fixtures tend to require replacement as the associated finishes fade and deteriorate, as electrical insulation embrittles and cracks, with corrosion if exposed to exterior moisture, with vandalism, or if desired for aesthetic reasons. The discretion applied to the timing for light fixture replacement, and the quality of materials that are available varies considerably. Programs that are expected to be appropriate given the apparent quality desired are estimated.

Local repairs including replacing ballasts, bulbs, switches or timers are assumed to be managed as part of the operating budget.

Light fixtures in stairwells and service rooms are assumed to be replaced as-needed from operating budgets, as these are generally not included in any aesthetic upgrade plans.

Intercom and Card Access Systems: The intercom system will require replacement when excessive repairs become necessary, replacement parts become unavailable, or newer technology is desired.

Individual card access readers will require replacement as required from the operating budget. Complete renewal of the system will be required when the system becomes obsolete, and/or when an upgrade to an alternate technology is desired.

Telephone and Cable Television Systems: Allowances for replacement of telephone communication wiring or coaxial cable are generally not included in the Reserve Fund. While future re-wiring may be desirable to meet technological advances, this could be considered an upgrade that may not be appropriate to finance through the Reserve Fund. Ownership of these systems can be a complex legal issue, they are generally not considered common elements, but rather the property of other parties. As business and technology continues to evolve, it is possible that replacements will be completed in conjunction with other service agreements, or become unnecessary altogether if alternate wireless systems become available.

11 ELEVATORS

Elevator Cab Finishes: Timing for refinishing elevator cabs can be dependant on wear and abuse, and owner aesthetic expectations. The scope and quality of refinishing can vary considerably. A budget that allows a program that is expected to be appropriated is included.

Elevator Repairs, Replacement and Modernization: Components of the elevator system can deteriorate and require replacement as a result of wear, age and the quality of preventative maintenance. This work tends to be completed as part of the operating budget and/or in conjunction with comprehensive maintenance contracts which may exist. This work may include motor rewinding or replacements, or replacement of control devices.

However, major programs of rehabilitation and modernization are generally expected to become necessary. This may be in response to increasing frequency of problems and/or difficulties completing repairs once the equipment becomes obsolete and replacement parts are difficult to obtain. Upgrading to more modern equipment also tends to become necessary to meet owner expectations or to comply to changes in the safety code. The scope of a general rehabilitation will need to be further identified. As part of a major overhaul, providing new control systems will be required.

APPENDIX C
RESERVE FUND CONCEPTS

The following concepts and definitions are used in calculating the required contributions to the Reserve Fund:

Life Expectancies

Life expectancies are our estimates based on our observations of the performance of similar materials systems or components at other buildings, literature we have read, and/or recommendations made to us by manufacturers or suppliers.

We estimate two factors when considering the timing of future repairs or replacements

a) Time to first occurrence or "Time" is our estimate of when the work will be required. This estimate is based on the apparent condition of the item and may not simply be the time remaining in the standard estimated life cycle.

b) Life cycle or "cycle" is the frequency at which the repair or replacement is normally expected to be required. The time cycle following a repair or replacement may be different from the original service life as a result of changes in the materials or equipment employed, and changes in technology. A cycle of 99 years indicates that the item is expected to be required once in the life of the building.

We endeavour to estimate the timing of repairs to reflect the necessity of maintaining the building standards and achieving this at the lowest cost. Some items that are not critical to the building operation (such as finishes, site work) may be deferred from our recommended time, however, this may result in a decrease in building standards. For some items, particularly those such as leakage, there may be an increase in the extent of repairs and costs if the required work is deferred.

For some building materials and systems, the actual service life is difficult to estimate as a result of a short history of application or use in other similar buildings. This can be particularly true of mechanical and electrical systems. While the estimated service lives for these components may be exceeded, it is recommended that the funds be available for the repairs or replacements at the times indicated.

Costs

Costs given represent our opinion regarding the current dollar value for the work described. They are based on our assumptions regarding the likely scope of the work, and the materials or equipment that will be required. We base our opinion on comparing the assumed scope with costs of similar work at other buildings, using construction estimating manuals, or by discussions with contractors. Replacement costs are often much different than new construction costs as a result of disposal, difficulties with access and the requirement to work around finishes. Costs are intended to include GST and where appropriate, allowances for design, inspection and testing that may be required to execute the work.

More accurate cost estimates will require a detailed scope of work to be developed, design completed, bid documents prepared, and quotations from qualified contractors obtained.

Limits to Accuracy

Given the level of review completed for a reserve fund study and the uncertainties associated with predicting the future, we can in no way guarantee the precision of the cost data or timing. While we apply our experience and expertise to our estimates, the exercise is not intended to be exact, but rather to reduce the risk of long term under-funding or over-funding. We cannot be responsible for under-funding or over-funding identified in future reserve fund studies.

Starting Year

The first year in the plan for which the contribution amount is being calculated, and the first year (Year 1) for planned expenditures. Each year is assumed to extend to the financial year end in that year (eg. the financial year from September 1 2005 to August 31, 2006 is labelled "2006").

Opening Balance

The amount of the Reserve Fund at the start of the analysis as communicated to us by Management. The amount in the Reserve Fund at the start of the fiscal year for which the required contribution amount is being calculated.

Minimum Reserve Fund

The present value of the lowest allowable Reserve Fund balance. This level is reached at what we term the "critical years". These years are marked with an asterisk (*) in the expenditure table, and identified on the results page.

The minimum balance could be set at zero. However, we generally recommend a higher amount as a factor of safety against estimates that prove to be inaccurate, unexpected repair items becoming necessary in the future and changes legislated by Building Authorities.

Interest Rate and Interest Earned

The estimated annual interest earned on savings, assuming these monies are re-invested into the Reserve Fund. This rate should not necessarily be the current interest rate, but should reflect expected average trends.

It is not the assumed interest rate but the spread between interest and inflation that most affects Reserve Fund planning.

Our analysis assumes that interest earned on the reserve balance is available in the year earned. In some instances, with longer term investments, the interest does not actually come available until maturity. Managing Reserve Fund investments and expenditures is required to assure positive cash flow in critical years, when the balance is at its lowest.

Cost Inflation Rate

The estimated annual inflation rate used to increase the estimated costs of repairs and replacements. As interest earned on money has historically been greater than inflation, the spread between interest and inflation act to decrease the level of contribution to the Reserve Fund (assuming interest monies are re-invested into the Reserve Fund).

Minimum Reserve Fund Inflation Rate

The percentage rate at which the minimum Reserve Fund balance is increased. This ensures the minimum Reserve Fund balance at the critical years is not devalued as a result of inflation. This is usually the same as the inflation rate, unless there is a desire to accelerate the minimum balance at a rate greater than inflation.

Contribution Inflation Rate

The percentage rate at which the Reserve Fund contribution is increased each year. The contribution can be increased by a percentage amount greater than inflation each year in order to phase in a required increase. This can be used to prevent abrupt changes in the level of contribution and to provide a stable funding plan which balances the interests of both present and future owners.

First Critical Year

In cash flow analysis, a critical year is the year in which the fund balance reaches the minimum reserve fund balance you specify.

Expenditures up to the first critical year are used to calculate the Reserve Fund contribution. Deferring work beyond the first critical year can reduce contribution requirements by providing further time to accrue the required funds for that work. This reduction can be significant if the first critical year occurs soon (within about 10 years).

If the first critical year is further away (20 years or beyond), changes in work timing tend to have a smaller effect on the Reserve Fund contributions. Other variables such as the difference between interest and inflation rates or the contribution inflation rate can have a greater effect owing to the increased time for compounding.

Subsequent Critical Years

The subsequent critical years (if they occur within the scope of the analysis) govern the contributions required beyond the first critical year. The level of contribution required following the first critical year may decrease. A significant decrease is a reflection of previous under-funding to the Reserve Fund, or an excessive amount of work planned or required within the near future.

The contribution inflation rate after the first critical year can usually be reduced to match inflation, even if a rate higher than inflation is required until the first critical year.

Analysis Period

Our analysis checks to ensure the critical year(s) which govern the required Reserve Fund contributions have been identified. For some studies, this can involve analysing projected cash flow beyond 50 years. While the analysis period may exceed 30 years, we typically only print a 30 year cash flow plan.

APPENDIX D
SCOPE OF WORK

Authorization

This study was commissioned by the Strata Council of Strata Plan LMS 1490 in accordance with our proposal dated September 1, 2004 and Agreement for Professional Services dated November 8, 2004.

Purpose

A well planned Contingency Reserve Fund Study requires that contributions to the Reserve Fund be calculated on the basis of expected repair, or replacement costs and life expectancies of the common assets.

In order to meet this requirement, we:

- Review and evaluate the condition of the major common asset components;
- Recommend improvements which are likely to minimize deterioration or increase the life expectancy of common assets;
- Identify common assets we expect to deteriorate and require repairs or replacement;
- Estimate the scope of repairs or replacement which are likely to be required;
- Predict the times when repairs or replacements will be necessary and the life expectancies following the repairs;
- Provide our opinion of the cost required to carry out the repairs or replacements; and
- Calculate a schedule of contributions to the Reserve Fund so that the estimated expenditures can be accommodated without a deficit.

Survey Method

Halsall Associates Limited reviewed the building structure, roofs, walls, windows and doors, portions of the interior and the site, as well as conducted a non-specialist review of the fire safety, mechanical, plumbing, electrical and elevator systems. The site was visited on January 19th and 28th, 2005.

The survey consisted of visual review of portions of the building including:

- the exterior walls from grade
- the windows from interior and exterior
- the roofs and roof-top decks
- the parking garage
- suites 305 and 405, and commercial unit (1050 Hamilton St.)
- interior common areas: corridors, lobby, storage rooms / lockers.
- service rooms: electrical, sprinkler, and elevator room.

The following documents were available for use in this study:

- Strata Plan LMS 1490, dated July 14, 1994
- 1911 Plans by Raphael & Nicolais
- Architectural Drawings by RositchHemphill and Associates, dated Aug 13, 1993 for Building Permit.
- Structural Drawings by Worlfrom Muzyk & Partners, dated Aug 17, 1993 for Construction
- Mechanical Drawings by Keen Engineering, dated Jan 28, 1994, labelled "For Construction"
- Fire Safety Drawings by Protection Engineering, dated Aug.28, 1993, labelled "For Construction"
- "The New Yorker" - Preventative Maintenance Schedule
- Financial Statement (Audited), dated August 31, 2004
- Roof Report by Inter-Provincial Inspectors (1982) Ltd., dated July 7, 2003, updated July 13, 2004.
- Roof Report by Coastpro Contracting Ltd., dated January 5, 2004

Two Strata Council members and Gerry Fanaken from Vancouver Condominium Services Ltd. answered questions about the history of performance of the various systems, described existing capital plans, etc.

A financial questionnaire was completed and the results were incorporated.

The following service contractors were contacted:

- Fire Safety: Firetronic
- Mechanical and Plumbing Systems: Latham Mechanical
- Elevator Systems: Richmond Elevator

APPENDIX E
LIMITATIONS

- This work is intended solely for the Client(s) named. The scope of work and related responsibilities are defined in the Conditions of Assignment. Any use which a third party makes of this work, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Decisions made or actions taken as a result of our work shall be the responsibility of the parties directly involved in the decisions or actions. Any third party user of this report specifically denies any right to any claims, whether in contract, tort and/or any other cause of action in law, against the Consultant (including Sub-Consultants, their officers, agents and employees).

- The work reflects the Consultant's best judgement in light of the information reviewed by them at the time of preparation. Unless otherwise agreed in writing by Halsall, it shall not be used to express or imply warranty as to the fitness of the property for a particular purpose. This is not a certification of compliance with past or present regulations. No portion of this report may be used as a separate entity; it is written to be read in its entirety.

- This work does not wholly eliminate uncertainty regarding the potential for existing or future costs, hazards or losses in connection with a property. No physical or destructive testing and no design calculations have been performed unless specifically recorded. Conditions existing but not recorded were not apparent given the level of study undertaken. Only conditions actually seen during examination of representative samples can be said to have been appraised and comments on the balance of the conditions are assumptions based upon extrapolation. We can perform further investigation on items of concern if so required.

- Only the specific information identified has been reviewed. The Consultant is not obligated to identify mistakes or insufficiencies in the information obtained from the various sources or to verify the accuracy of the information.

- Halsall is not investigating or providing advice about pollutants, contaminants or hazardous materials.

- Budget figures are our opinion of a probable current dollar value of the work and are provided for approximate budget purposes only. Accurate figures can only be obtained by establishing a scope of work and receiving quotes from suitable contractors.

- Time frames given for undertaking work represent our opinion of when to budget for the work. Failure of the item, or the optimum repair/replacement process, may vary from our estimate.

- Any user of this report specifically denies any right to any claim which may arise out of mould or infiltration of precipitation into a building envelope.