

FINAL

Depreciation Report

Mountain Gate Strata Corporation NW2040

Moorside Place, Braemoor Place, Ridgemoor Place, Burnaby, British Columbia



Presented to:

The Owners of NW2040

c/o Derek Martinig, Strata Vice-President & Treasurer 9088 Moorside Place Burnaby, BC

Report No. 5140285.00 July 7, 2014 M:\PROJ\5140285\DEPRECIATION REPORT\NW 2040 MOUNTAINGATE DR.DOCX

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1. INTRODUCTION

As per our Proposal dated October 17, 2013 and your Authorization Form, completed by Derek Martinig and dated January 16, 2014, this letter report and attachments comprise your Depreciation Report.

To the best of our knowledge, this document was prepared in general compliance with Section 6.2 (Depreciation Report) of the Strata Property Regulation B.C. Reg. 43/2000 with Amendments July 1, 2000 and December 13, 2011. This report is subject to the limitations identified in Appendix E.

PROJECT TEAM AND QUALIFICATIONS

As per section 6.2 of the Act, clause 1d, the report must provide the name of the person from whom the depreciation report was obtained and a description of:

- i) their qualifications
- ii) the error and omission insurance, if any, carried by that person, and
- iii) the relationship between that person and the strata corporation

i) Morrison Hershfield Limited (MH) prepared this report. MH is a prominent, privately held, multi-disciplinary engineering and management firm. Our mandate is to provide services and solutions that will assist our clients in achieving their objectives in a cost effective, efficient, professional and friendly manner. The firm was established in 1946 and has a broad range of engineering, architectural and specialist skills that are used to serve clients in the public and private sectors.

- Jacquelyn White, P.Eng. is a Principal of MH and project manager in facility assessment with over ten years of experience in the design, review and assessment of buildings. Ms. White has been performing depreciation report/reserve fund studies since the late 1990's while working in Ontario. Ms. White visited site and prepared the report including the Reserve Fund Tables;
- Scott Gennings, EIT of MH is a mechanical engineer in training with experience in building systems design, telecommunications design and inspections, building condition/reserve fund assessments and custom design work. Mr. Gennings reviewed the mechanical sections of the report;
- Alex Rubin of MH is an electrical designer with over 20 years of experience in design, review and assessment of electrical systems. Mr. Rubin reviewed the electrical sections of the report;
- Jeremy Takada Balden, AScT of MH is a building science consultant experienced in the design, construction and assessment of both low-rise and high-rise construction. Mr. Takada Balden provided a peer review of the report.

ii) We confirm that we carry professional liability insurance in the amount of \$2,000,000 per claim.



iii) Morrison Hershfield is not associated with Strata Corporation NW2040 beyond being retained to perform professional services. We are not aware of any conflicts of interest.

MH submitted a draft report on April 21, 2014. We met with the Strata Council on May 28, 2014 to review the draft. Changes and updated information were provided on June 17, 2014. We received authorization to finalize the report on July 6, 2014 by Strata President, Derek Martinig.

2. PHYSICAL ASSESSMENT

This study is based on a review of relevant documents provided by NW2040, and a visual review of the common elements as described in the Building Data Sheet (Appendix A). The following documents were reviewed:

- Select Architectural Drawings prepared by L./D. Architecture, various dates 1982
- Civil Drawings 1 and 2 prepared by Morgan Steward and Company Limited dated July 1982
- Electrical Drawings E1-E4 prepared by Nemetz Flagel Ltd. Electrical Engineering, dated December 29, 1982
- Financial Information as provided by strata
- Warranty and Roof Contract for 9125, 9233, 9247 and 9259 Braemoor Place
- Strata NW2040 Bylaws, Rules, 2013 AGM Minutes and Financial Statements

The visual reviews were completed on Feb. 4 and Feb. 19, 2014 by Rod Clapham. Jacquelyn White returned on April 1, 2014. We were accompanied by Ron Brimacombe, Strata Council member, who provided access to all areas of the facility including several units.

Current condition and recommendations by component are included in the attached Tables (Appendix C). The component inventory includes all capital expenses but items less than \$10,000 are not carried through the capital plan. As identified in the startup questionnaire (Appendix B), these smaller items will be covered out of the operating budget. Following accounting standards, we identify a fiscal year by the year in which it ends. For example, the 2013/2014 fiscal year is referred to throughout as 2014. To maintain consistency in calculations, a component's year of acquisition is also shown as the fiscal year rather than the calendar year.

Short Term (within two years)	Middle Term (within six years)
 wood entry step replacement structural review of bridge guardrails bridge guardrail contingency (pending outcome of further review) 	cladding paintingdepreciation report updateenvelope review
 replacement of domestic water distribution piping to units 	

In summary, we recommend planning for the following renewal projects and studies:

It is important to note that any significant project should be preceded with a detailed review of that specific component. Regular building envelope assessments will assist in prioritizing renewals as the life expectancies of those components approach. Windows for example, may be deferred well beyond their useful service life if it is known that they are not contributing to any damage to the wall assembly and owners are satisfied with their appearance and thermal performance. At this time, given the repairs done at the wall areas to date, cladding has been approached as a contingency budget for repairs as required.



Further review may indicate that more widespread replacement is necessary, and this would be reflected on future depreciation report updates.

Ultimately, every identified project should be reviewed by council to determine if it will proceed in that year based on assumed risk and available funds.



3. FINANCIAL ANALYSIS

The Strata Corporation's annual contributions to the Reserve Fund Account should be established by the Council. Three possible funding scenarios are summarized below and detailed in Appendix D.

Scenario 1

This Scenario is based on the last approved funding plan.

This Scenario shows contribution increases due to inflation only. The Reserve Fund Balance remains positive over the next thirty years, with a minimum balance of approximately \$30,190 in fiscal year 2016. For details, please see the 30 Year Reserve Fund Cash Flow Table for Scenario 1.

	2014	2015	2016	2017
Annual Reserve Contribution*	\$24,700	\$25,194	\$25,698	\$26,212
% Increase	n/a	2.0%	2.0%	2.0%
Average Increase per Unit	n/a	\$13.72	\$14.00	\$14.28
Average Annual CRF Contribution per Unit	\$686.11	\$699.83	\$713.83	\$728.11
Total Other Contributions**	\$40,000	\$80,000	\$120,000	\$110,000
Average Other Contribution per Unit	\$1,111.11	\$2,222.22	\$3,333.33	\$3,055.56

Scenario 2

This Scenario shows contribution increases of 5% per year, including inflation, for 29 years, followed by increases due to inflation only thereafter. Other contributions are included as required. The Reserve Fund Balance remains positive over the next thirty years, with a minimum balance of approximately \$27,965 in fiscal year 2017. For details, please see the 30 Year Reserve Fund Cash Flow Table for Scenario 2.

	2014	2015	2016	2017
Annual Reserve Contribution*	\$24,700	\$25,935	\$27,232	\$28,593
% Increase	n/a	5.0%	5.0%	5.0%
Average Increase per Unit	n/a	\$34.31	\$36.02	\$37.82
Average Annual CRF Contribution per Unit	\$686.11	\$720.42	\$756.44	\$794.26
Total Other Contributions**	\$85,000	\$85,000	\$85,000	\$85,000
Average Other Contribution per Unit	\$2,361.11	\$2,361.11	\$2,361.11	\$2,361.11

Scenario 3

This Scenario shows contribution increases of 10% per year, including inflation, for 9 years, followed by increases due to inflation only thereafter. Other contributions are included as required. The Reserve Fund Balance remains positive over the next thirty years, with a minimum balance of approximately \$21,066 in fiscal year 2029. For details, please see the 30 Year Reserve Fund Cash Flow Table for Scenario 3.

	2014	2015	2016	2017
Annual Reserve Contribution*	\$24,700	\$27,170	\$29,887	\$32,876
% Increase	n/a	10.0%	10.0%	10.0%
Average Increase per Unit	n/a	\$68.61	\$75.47	\$83.02
Average Annual CRF Contribution per Unit	\$686.11	\$754.72	\$830.19	\$913.21
Total Other Contributions**	\$85,000	\$85,000	\$85,000	\$85,000
Average Other Contribution per Unit	\$2,361.11	\$2,361.11	\$2,361.11	\$2,361.11

*Annual Reserve Contribution refers to the amount contributed each year to the reserve fund from the monthly common expenses.

** Total Other Contributions refers to other contributed amounts including special assessments or surplus funds transferred from other sources (i.e. operating budget or contingency fund).



4. CLOSURE

Thank you for trusting Morrison Hershfield to complete this study. We recommend you review this deprecation report with your accountants as another step to confirm it meets the needs of your Corporation and is in keeping with their accepted principles.

At a minimum, you are required to complete a Depreciation Update within three years of the date of this study. Circumstances that could accelerate this timeline are discussed in Appendix E.

Please contact us at any time if you wish to update this study or to pursue the recommended investigations and/or capital projects. We would be pleased to provide a proposal to perform any of the additional investigations identified. We also provide full engineering design, tender, construction management and contract administration services for major repair or replacement projects required at your site, and welcome the opportunity to provide Engineering services to assist you with these undertakings.

If you have any questions, please contact the undersigned.

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Yours truly,

MORRISON HERSHFIELD LIMITED

Jacquelyn White, P.Eng. Principal, Project Manager Reviewed by:

Jeremy Takada Balden, AScT, Leed AP O+M Building Envelope Consultant



APPENDIX A: Building Data Sheet



BUILDING DATA SHEET

Strata Name: Mountain Gate, NW2040											
Address:	9040 to 9093 Moorside Place, 9215 - 9299 Braemoor Place, 9120 - 9155 Ridgemoor Place, Burnaby, BC										
Units:	36	Stories:	3								
Recreation	None	Constructed:	circa 1983								
Facilities:		Garage:	Attached Carports								

Common Elements:

- Structural systems
- Exterior walls, all components up to the back-side of the interior gypsum wall board,
- Windows, to the interior unfinished surface
- Roofing systems
- Mechanical systems (components that serve more than one unit)
- Electrical systems (components that serve more than one unit)
- Roadways, Sidewalks
- Bridges



Shared Facilities:

• None

Not part of this property (not covered in this document):

None



APPENDIX B: Completed Start Up Questionnaire



Strata Corp. NW 2040 MH Project No. 5140285.00

DEPRECIATION REPORT **PROJECT START-UP QUESTIONNAIRE**

Please complete the following questionnaire at your earliest convenience so that we may commence preparation of the Depreciation Report. We will conduct our site visits once we receive a completed questionnaire.

General Information

Current Fiscal Year

Current Fiscal Year Start Date (year/month/date)

Present Contribution to Reserve Fund

Reserve Fund Balance at Current Fiscal Year Start Date

Operating Budget for Current Fiscal Year

Number of Units

Minimum Expense Cost for Reserve Fund

fund \$ 80,000 It has been our experience that most Strata Corporations choose to cover small capital expenditures out of the operating budget. Please indicate a threshold dollar value for items to be covered by the operating budget - it will be assumed by MH that expenses greater than this amount will be budgeted for in the Reserve Fund.

* We attempt

OF

Threshold value of expense for operating budget

Minimum Balance

Any of the sample funding scenarios that will be presented to the client will consider a Reserve Fund to be adequate where the closing balance in every year of the study is positive.

We request that the council direct us regarding a minimum balance to be maintained during the study period. In the absence of direction, we will maintain a balance equal to 25% of the operating budget as per the strata act.

Minimum Balance Year 1-10	\$ 31,124.
Minimum Balance Year 11-20	\$ 60,000
Minimum Balance Year 21-30	\$ 80,000.

2014/08/31 /ear

10,000

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Strata Corp. NW 2040 MH Project No. 5140285.00

DEPRECIATION REPORT PROJECT START-UP QUESTIONNAIRE

We assume that the above values shall not be adjusted for future value. Example, if you indicate \$250,000 as the minimum balance throughout the study period, we will not inflate this value to future dollars.

Interest and Inflation Rates

For the preparation of this Reserve Fund Study, we propose to use an **Inflation Rate of 2.0** percent and an **Interest rate of 2.0** %. Please advise if the strata would like us to use different rates.

Interest Rate	%
Inflation Rate	%

Repair History

Please provide details of any reserve fund elements replaced or repaired since the last Reserve Fund Study (or since original construction):

Roof Replacement Completed 2012 (included ceptacing guitters).
Roof Repairs Minimal since 2012.
Complete Window Replacement
<u>Window Repairs</u> <u>Drigoing loplacement of foggy windows</u> - most recent 2013(Sept) Recaulking
Recaulking
Exterior Wall Repairs MGDING
Thermopane replacement (avg. per year) NLQ.
<u>Boilers</u> Mla. <u>Pipe Replacement (old water riping replacement in 1 of 9 buildings</u> <u>Hot water tanks</u> Mla.
Pipe Replacement Cold water riping replacement in 1 of 9 buildings.
Hot water tanks NLA.
Other All decks were replaced in 2013 (summer).
Dors (exterior painted 2013)

m.

Strata Corp. NW 2040 MH Project No. 5140285.00

DEPRECIATION REPORT PROJECT START-UP QUESTIONNAIRE

Current Year Reserve Fund Expenses

List estimated expenditures that have been, or will be, charged to the Reserve Fund in the Current Fiscal Year, and estimated date of expense:

replacements for all units: state Cost will be split Star railing Fiscal your -budgetted \$100,000 Dul hes tais and Aug/Sept 2014 deate stimated start 40 complete 10

APPENDIX C: Condition Assessment



						4: Discretionary, items where the timing and scope of work of the renewal is at the owner's dis									
	COMPON	ENT	CONDITION ASSESSMENT			RECOMMENDAT	ION			LIFECY	CLE DATA		В	UDGET	
Label	Components	Location	Description & History	Condition	Actual or Estimated Year of Acquisition	Recommendation	Type	Priority	Age in 2014	Typical Life Cycle	Estimated Remaining Life	Years Over Which Project is Phased	Include Y/N	Recommended Budget in 2014 Dollars	
	BELOW GRADE	SYSTEMS													
BG01	Slab on Grade	Ground floor at building.	The ground floor at each building is a slab on grade which extends out through the carport. Only the carports could be reviewed and no significant cracking was noted. Drawings indicate assembly consists of 4" concrete slab on vapour barrier on compacted gravel.	Good	1983	The slab on grade is expected to last the life of the complex with regular maintenance. No anticipated capital expenses.	Not Applicable	Not Applicable	31				Ν		
	ABOVE GRADE														
AG01	Wood Framing	All buildings	All nine buildings in the complex are wood framed on a curb wall. Carports are provided below the units and are open. No issues have been reported or noted; however, no exploratory openings were made to assess the condition of the framing. Attics accessed appeared to be clean and dry with no significant staining on the wood strapping or plywood. Balconies have exposed framing which was reinforced during recent renewals of the membrane.	Good	1983	The wood framing is expected to last the life of the building. No capital expenditures are anticipated.	Not Applicable	Not Applicable	31				Ν		
AG02	Wood Entry Steps		All units in the complex have wood entry steps with wood railings. They terminate at the entry landings which are painted cedar. It is our understanding that the strata is planning to renew all stairs and railings in Summer 2014.	Fair	2014	It is assumed that once replaced, regular maintenance will include replacement of corroded fasteners and other minor repairs below the threshold of this report. Replacement cost is as per provided quote for wood treads and aluminum rails with wood latice.		3	0	35	0	2	Y	\$90,000	
	EXTERIOR W	ALLS													
EW01	Cedar Siding	Exterior walls	Horizontal cedar siding makes up the majority of the wall cladding. Wood trim is used around windows and at floor levels and corners. Overall, cladding appears to be in relatively good condition, considering its age. No issues were reported, and repairs have been ongoing as required. Drawings indicate wall assembly to consist of horizontal wood siding on building paper, on 3/8" sheathing with wood studs, batt insulation, vapour barrier and interior drywall.	Fair	1983	Replacement of cedar siding may become necessary when repairs become onerous, or if damage to the wall assembly is widespread. At this time, budget allowance is for localized replacements as needed. Future updates and studies may determine that full replacement is warranted.	Repair Allowance	2 3	31	5	5	1	Y	\$54,000	
EW02	Chimneys	Above Roof Level	Strata reports that repairs to all chimneys have been completed. The scope of work for chimney repairs typically includes removing chimney cap and cedar siding; replacing sill plates at base of chimney (plus any other damage found); new weather barrier; new fibre cement siding; new chimney caps.	Good	2011	No capital expenses anticipated. Painting included in EW03.	Not Applicable	Not Applicable	3				N		
EW03	Siding-Painting	Exterior walls	Paint on fibre cement is in good condition. Cedar siding has been painted in stages and condition varies. Wood trims around all windows and doors are painted.	Fair	Various	Repaint all cladding, including trims.	Renewal	3	Varies	12	2	2	Y	\$137,000	
	WINDOW AND DOO														
WD01	Exterior Windows	All Elevations	The windows and sliding glass doors used throughout the complex are aluminum framed with double glazed insulating glass units (IGU's). Frames are origina; IGU's have been replaced as required.	Fair	1983	Allowance to replace failed IGU's, repair hardware.	Repair Allowance	3	31	2	1	1	Y	\$2,000	
	Exterior Windows	All Elevations	As per above. At this time, it is not known if the windows are causing any damage to the wall assembly. This type of window has a history of leakage at the mitre joints that can cause damage to the wall assembly. Further review of the wall assembly below windows should be undertaken. Refer to PS02.	Fair	1983	Consideration should be given to complete replacement to improve thermal comfort. Timing and priority will depend on outcome of wall review.	Renewal	3	31	35	10	10	Y	\$553,000	
	Exterior Glazed Swing Doors	Second floor balconies	Balconies are accessed by glazed swing doors in wood frames. In general, they are in serviceable condition and painted regularly.	Good	1983	Repair (and weatherstripping) is covered under window maintenance allowance. Complete replacement in conjunction with window renewals.	Renewal	3	31	35	10	2	Y	\$10,000	
WD04	Sliding Glass Doors	Ground floor patios	All patios are accessed are accessed by aluminum framed, double glazed sliding doors.	Fair	1983	Repair is covered under window maintenance allowance. Complete replacement in conjunction with window renewals.	Renewal	3	31	35	10	10	Y	\$76,000	

Priority Ratings: 1: Immediate, items that require immediate repair or replacement because of either a code deficiency or a safety concern.

2: Deferred Maintenance, required to restore functionality.

3: Renewal, items that will require future repair or replacement to maintain functionality (life cycle replacement).



						4: Discretionary, items where the timing and scope of work of the renewal is at the owner's dis									
	COMPONE	NT	CONDITION ASSESSMENT			RECOMMENDAT	TION			LIFECY	CLE DATA		В	UDGET	
Label	Components	Location	Description & History	Condition	Actual or Estimated Year of Acquisition	Recommendation	Type	Priority	Age in 2014	Typical Life Cycle	Estimated Remaining Life	Years Over Which Project is Phased	Include Y/N	Recommended Budget in 2014 Dollars	
WD05	Main Entry Doors		Units are accessed by swing doors in wood frames. In general, they are in serviceable condition and were painted in 2013.	Good	1983	Unit entry are well protected and will likely last the life of the complex with any localized repairs/replacement to be covered under operating.	Not Applicable	Not Applicable	31				N		
WD06	Carport Entry Doors	Carport	Units are accessed by the car port by metal skin swing doors.	Good	1983	Doors are well protected and will likely last the life of the complex with any localized repairs/replacement to be covered under operating.	Not Applicable	Not Applicable	31				N		
	Electrical Closet Doors		There are electrical closets provided for each cluster, accessed by painted wood shed doors. The doors are in good condition considering age and material use.	Good	1983	Any cladding renewal program will include these doors. Accounted for in EW01.	Renewal	3	31				Y		
B601	BALCONY SYS Balcony Membranes		The framed balconies are protected with a fibre reinforced membrane. A	Good	2013	Replace membrane at end of service life (framing	a Renewal	3	1	12	11	4	V	\$38,000	
8501	Balcony Memoranes		full balcony rebuild including framing, support columns, wall tie in and membrane was undertaken in 2013. It is assumed that any deterioration in the adjacent wall areas was addressed at that time. The underside has exposed framing.	Good	2013	assumed to assumed to last the remaining life of the complex). Cost includes surface preparation and overcoating.		3	1	12	11	Ĭ	Ŷ	\$38,000	
BS02	Balcony Guardrails	Select Units	Balcony guardrails are face mounted, aluminum framed with pickets.	Good	2013	Replace at end of service life.	Renewal	3	1	35	34	1	Y	\$15,000	
	ROOF SYSTE	MS													
RS01	Sloped Roofs		The townhouses roofs are sloped and protected with asphalt shingles. A phased roof replacement including gutters was undertaken in 2011 and 2012. It was reported that shingles are manufactured by CertainTeed and have a 30 year warranty. The shingles are provided with an anti-algae agent.	Good	2011	Replacement at end of service life includes all associated work such as flashing replacement and joint sealing.	Renewal	3	3	30	27	2	Y	\$192,000	
RS02	Flat Roofs	Select Units	There are small areas of flat roofs, protected with a 2-ply SBS membrane installed in 2011 and 2012. Original drawings indicate that the insulation is in the joist space. The roofs are drained via a scupper to the sloped roof area.	Good	2011	Replace at end of service life in conjunction with sloped roofs.	Renewal	3	3	30	27	2	Y	\$30,000	
	Gutters and Downspouts/ Metal		Metal sheet gutters are installed along the roof perimeter to direct rainwater to the downspout to the perimeter drain system. These are assumed to have been replaced in conjunction with the sloped roof replacement. Gutters are provided with leaf protection.	Good	2011	Replace in conjunction with roof shingle replacement.	Renewal	3	3	30	27	2	Y	\$24,000	
RS04	Aluminum Soffit		Perforated aluminum soffit panels are installed on the underside of roof overhangs. Original drawings indicate wood soffits, so these are assumed to have been replaced at some point.	Good	2000	Aluminum is likely to last the life of the complex, but it is prudent to budget for some replacement as required.	Contingency	3	14	5	5	1	Y	\$3,000	
RS05	Board Soffit	Bay Windows, Front Entrances	Soffit panels on the underside of bay windows and front entries are a combination of original tongue and groove and newer cementious boards. The cementious boards have been installed within the last 5 years as required. We note that they are not vented and we are not aware of the construction assembly.	Fair	Various	Budget for continued replacement at end of service life as required.	Contingency	3	Varies	3	1	1	Y	\$8,000	
	SITE DEVELOF	MENT													
	Aggregate Patios and Walkways		There are exposed aggregate concrete walkways between buildings and at patios. Localized repairs appear to be undertaken as required. Some cracking was noted.	Fair	1983	An allowance for localized replacement and resetting.	Repair Allowance	2	31	4	1	1	Y	\$2,000	
SD02	Brick sidewalks	roadways and at pedestrian bridge	Brick sidewalks are provided along the roadways and at pedestrian paths. Localized repairs appear to be undertaken as required. There are some significant areas around the bridge and due to tree roots where cracking has become a tripping hazard.	Fair	1983	An allowance for localized replacement and resetting.	Repair Allowance	2	31	2	0	1	Y	\$3,000	
SD03	Privacy Screen	Between patios	Wood privacy lattice screens are provided between the patios. Replacement is being undertaken on an as needed basis.	Good	1983	Budget for continued replacement at end of service life as required.	Contingency	4	31	20	2	1	Y	\$23,000	

Priority Ratings: 1: Immediate, items that require immediate repair or replacement because of either a code deficiency or a safety concern.

2: Deferred Maintenance, required to restore functionality.

3: Renewal, items that will require future repair or replacement to maintain functionality (life cycle replacement).



						4: Discretionary, items where the timing and scop		enewal is at the	e owner's di					
	COMPON	ENT	CONDITION ASSESSMENT			RECOMMENDAT	ION			LIFEC	YCLE DATA		В	UDGET
Label	Components	Location	Description & History	Condition	Actual or Estimated Year of Acquisition	Recommendation	Type	Priority	Age in 2014	Typical Life Cycle	Estimated Remaining Life	Years Over Which Project is Phased	Include Y/N	Recommended Budget in 2014 Dollars
SD04	Guardrails	Bridges	Lattice fencing is provided at bridges as a guardrail over the stream below. It is unknown if this fencing meets the requirements for a guardrail for a roadway over water.	Not Applicable	N/A	We recommend that the requirements of a guardrail along side the road be further reviewed by a structural engineer.	Study	1	N/A	99	0	1	Y	\$5,000
SD05	Guardrails	Bridges		Not Applicable	N/A	Pending outcome of study, a contingency allowance is recommended for replacing guardrails.	Contingency	Not Applicable	N/A	99	0	1	Y	\$20,000
SD06	Roadways	Asphalt Roads & Parking	Asphalt roadways run throughout the complex providing access to each driveway. A few parking stalls are also paved. The asphalt generally appeared to be in fair condition with localized repairs being undertaken as required. Some areas of heaving due to tree roots were noted. Concrete curbs are provided adjacent to the roadway and are in good condition.	Fair	1983	Sectional phased replacement at end of service life (which will depend on the sub base supporting the asphalt and the level of maintenance completed). Concrete curbs are expected to last as long as the asphalt driveways and are included in the cost of the asphalt pavement replacement.	Repair Allowance	4	3	1 40	9	5	Y	\$105,000
SD07	Driveways	Each Unit	Each unit is provided with a concrete slab on grade parking area. They are	Good	1983	An allowance for localized repairs.	Repair	4	3	1 5	3	1	Y	\$3,000
	MECHANICAL S	Veteme	generally in good condition.				Allowance							
MS01	Domestic Water	Distribution to	The water distribution system consists of below-grade water mains. They	Not Reviewed	1983	Assumes the continued replacement of piping for	Contingency	3	3	1 35	1	1	V	\$189,000
Weet	Mains	Units	distribute domestic water to each cluster. The main city shut-off is on Ash Grove and each cluster has a shut-off. According to drawings, the water main is 3" PVC with 2" PVC branches to clusters complete with a pressure reducing valve. To date issues have been reported and one cluster has had the 2" PVC piping replaced including a shut off for each unit.		1000	the remaining buildings. Assumes 2 clusters per year at quote provided for work done to date.	Contingency					-		φ100,000
	Domestic Water Pipes and Fittings	Within Units	All pipes and fittings within units are the responsibility of the individual owners.		1983	No anticipated capital costs as owner responsibility.	Not Applicable	Not Applicable	3	1			N	
MS03	D3020 Sanitary Sewer		The underground sanitary service and sanitary systems to each unit was not accessible for review. According to the drawings the sanitary drainage system collects from each unit and drains with gravity to the existing municipal system located on Ash Grove Road. All sanitary sewer material pipes are 6" PVC.	Not Reviewed	1983	Contingency for repairs or replacement of underground sanitary piping, starting at year 40.	Contingency	3	3	1 15	9	5	Y	\$16,000
MS04	D3030 Storm Sewer	Underground	The storm water discharges to grade via eaves troughs and downspouts. According to the drawings the storm drainage system drains with gravity to the municipal system located on Ash Grove Road. All storm sewer pipes material are 10" PVC.	Not Reviewed	1983	Contingency for repairs or replacement of underground sanitary piping, starting at year 40.	Contingency	3	3	1 15	9	5	Y	\$16,000
MS05	Hose bibbs	Back Patio	Each unit is provided with hose bibbs that are the responsibility of the individual owners.	Not Reviewed	1983	No capital expenses.	Not Applicable	Not Applicable	3	1		1	Y	
	ELECTRICAL S	YSTEMS												
ES01	BC Hydro Service	BC Hydro Service	Several 12.5kV - 120/240V step-down transformers are provided throughout the complex.	Not Applicable	1983	Maintenance, service and replacement by BC Hydro. No capital expenses anticipated.	Not Applicable	Not Applicable	3	1		1	Y	
ES02	Electrical Service and Distribution	Electrical Room	There are 9 electrical rooms in the complex. Each has a 200A disconnect switch and metering center dedicated to each unit meter/breaker combo. Service is 200A 120/240 V 1 phase 3W.	Good	1983	Replace disconnect switch and metering center. May last service life of complex with regular maintenance. Conservative life expectancy is 30 years.	Contingency	3	3	1 30	10	1	Y	\$48,000
ES03	Load centers	Units	Individual load centers are located in each unit and are assumed to be the responsibility of individual owners.	Not Reviewed	1983	No capital expenses.	Not Applicable	Not Applicable	3	1			N	
ES04	Outdoor Lighting	throughout	Each unit has a wall-mounted lighting fixture at the entrance and back patio. Some light standards are located throughout the complex. Signage is illuminated by ground lights.	Good	1983	An allowance to replace light fixtures is provided.	Contingency	3	3	1 5	5	1	Y	\$2,000
ES05	Electrical Service Cleaning	Electrical Room	Cleaning and infrared scanning in each electrical room is recommended every 5 years. Electrical closets should be cleaned of all debris and not used as storage space.	Not Applicable	1983	The infrared scan, maintenance and cleaning should be done every 5 years.	Repair Allowance	3	3	1 5	0	1	Y	\$5,000
ES06	Communications and Security	d Telephone and TV cable	Located in the electrical rooms.	Not Applicable	1983	Maintenance and replacement of the equipment by service provider. No capital expenses anticipated.	Not Applicable	Not Applicable	3	1			N	

Priority Ratings: 1: Immediate, items that require immediate repair or replacement because of either a code deficiency or a safety concern.

2: Deferred Maintenance, required to restore functionality.

3: Renewal, items that will require future repair or replacement to maintain functionality (life cycle replacement).



	COMPONENT	CONDITION ASSESSMEN	Г		RECOMMENDATION				LIFECY	Bl	JDGET		
Label	Components Locati	on Description & History	Condition	Actual or Estimated Year of Acquisition	Recommendation	Type	Priority	Age in 2014	Typical Life Cycle	Estimated Remaining Life	Years Over Which Project is Phased	Include Y/N	Recommended Budget in 2014 Dollars
	PROFESSIONAL SERVICES												
PS01	Depreciation Report Updates	Legislation requires updates every 3 years.	Not Applicable	2014	Update depreciation report.	Study	4	0	3	3	1	Y	\$6,000
PS02	Miscellaneous Engineering Reviews	Periodic reviews of the building envelope and mechanical systems are prudent. Specifically, reviews of the envelope will assist in determining if windows are contributing to any damage of the wall assembly. These studies will help determine if planned replacements can be deferred.	Not Applicable	N/A	Recommend regular reviews of building systems as well as prior to any major renewal.	Study	4	N/A	5	2	1	Y	\$6,000

Priority Ratings: 1: Immediate, items that require immediate repair or replacement because of either a code deficiency or a safety concern.

2: Deferred Maintenance, required to restore functionality.

3: Renewal, items that will require future repair or replacement to maintain functionality (life cycle replacement).



APPENDIX D: Capital Plan and Funding Scenarios



Depreciation Report- Capital Plan Mountain Gate Townhouses - Burnaby, BC FINAL - July 2014

	СОМРО	NENT	RECOMMENDAT	ION		CAPITAL	L PLAN / RESERV	/E FUND	EXPENDITURE	E FOR	RECAST																				
						2014	2015 2016	2017	2018 2019			2022	2023 2024	4 2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041 2	2042 2043
Label	Components	Location	Recommendation	Type	Priority	\$78,000	\$104,250 \$147,750	\$126,750	\$58,250 \$68,0	000	\$9,000 \$16,000	\$6,000	\$37,400 \$218,3	300 \$135,30	0 \$105,300	\$105,300	\$134,400	\$203,400	\$73,900	\$72,900	\$74,900	\$72,900	\$67,000	\$10,000	\$40,000	\$43,000	\$15,400	\$82,400	\$77,900	\$211,900 \$1	43,400 \$4,000
	BELOW GRAD	E SYSTEMS																													
BG01 S	blab on Grade	Ground floor at building.	The slab on grade is expected to last the life of the complex with regular maintenance. No anticipated capital expenses.	Not Applicable	Not Applicable																										
	ABOVE GRAD				•																										
AGUI	Nood Framing	All buildings	The wood framing is expected to last the life of the building. No capital expenditures are anticipated.	Not Applicable	Not Applicable																										
AG02	Nood Entry Steps	All buildings	It is assumed that once replaced, regular maintenance will include replacement of corroded fasteners and other minor repairs below the threshold of this report. Replacement cost is as per provided quote for wood treads and aluminum rails	Renewal	3	\$45,000	\$45,000																								
EW(01)	EXTERIOR Cedar Siding		Paplacement of codar siding may become percessary	Popair Allowanco	2				\$54,0	000			¢E4	000				\$E4.000					\$E4.000					\$54,000			
EWOI	Ledar Siding	Exterior walls	Replacement of cedar siding may become necessary when repairs become onerous, or if damage to the wall assembly is widespread. At this time, budget allowance is for localized replacements as needed. Future updates and studies may determine that full replacement is warranted.		3				Ş54,t	000			\$54 <i>,</i>	000				\$54,000					\$54,000					\$54,000			
EW02	Chimneys	Above Roof Level	No capital expenses anticipated. Painting included in EW03.	Not Applicable	Not Applicable																										
EW03	Siding-Painting	Exterior walls	Repaint all cladding, including trims.	Renewal	3		\$68,500	\$68,500									\$68.500	\$68,500											\$68,500	\$68,500	
V	/INDOW AND DO	DOR SYSTEMS																													
WD01	Exterior Windows	All Elevations	Allowance to replace failed IGU's, repair hardware.	Repair Allowance	3		\$2,000	\$2,000	\$2,0	000	\$2,000		\$2,000	\$2,00	0	\$2,000		\$2,000		\$2,000		\$2,000		\$2,000		\$2,000		\$2,000		\$2,000	\$2,000
WD02	Exterior Windows	All Elevations	Consideration should be given to complete replacement to improve thermal comfort. Timing and priority will depend on outcome of wall review.	Renewal	3								\$55,;	300 \$55,30	0 \$55,300	\$55,300	\$55,300	\$55,300	\$55,300	\$55,300	\$55,300	\$55,300									
	Exterior Glazed Swing Doors	Second floor balconies	Repair (and weatherstripping) is covered under window maintenance allowance. Complete replacement in conjunction with window renewals.	Renewal	3								\$5,	000 \$5,00	0																
WD04	Sliding Glass Doo	ors Ground floor patios	Repair is covered under window maintenance allowance. Complete replacement in conjunction with window renewals.	Renewal	3								\$7,0	600 \$7,60	0 \$7,600	\$7,600	\$7,600	\$7,600	\$7,600	\$7,600	\$7,600	\$7,600									
WD05 I	Main Entry Doors	Main Entry	Unit entry are well protected and will likely last the life of the complex with any localized repairs/replacement to be covered under operating.	Not Applicable	Not Applicable																										
WD06	Carport Entry Doo	ors Carport	Doors are well protected and will likely last the life of the complex with any localized repairs/replacement to be covered under operating.	Not Applicable	Not Applicable																										
	Electrical Closet Doors	Electrical Closet	s Any cladding renewal program will include these doors. Accounted for in EW01.	Renewal	3																										
B601	BALCONY S	SYSTEMS nes Select Units	Replace membrane at end of service life	Renewal										\$38,00	0											\$38,000					
B301 1			(framing assumed to assumed to last the remaining life of the complex). Cost includes surface preparation and overcoating.	Renewal	3									\$30,00												\$38,000					
BS02		Is Select Units	Replace at end of service life.	Renewal	3																										
RS01	ROOF SY Sloped Roofs	All Units	Replacement at end of service life includes all associated work such as flashing replacement and joint sealing.	Renewal	3																									\$96,000 \$	96,000
RS02	Flat Roofs	Select Units	Replace at end of service life in conjunction with sloped roofs.	Renewal	3																									\$15,000 \$	15,000
	Gutters and Downspouts/ Met		Replace in conjunction with roof shingle replacement.	Renewal	3													*					A0 5 5 5							\$12,000 \$	12,000
KS04	Aluminum Soffit	Roofs	Aluminum is likely to last the life of the complex, but it is prudent to budget for some replacement as required.		3				\$3,0	UUU			\$3,0					\$3,000					\$3,000					\$3,000			

This report should be reviewed in conjunction with the Objectives, Terms of Reference, Limitations, and Methodology described in the main body of the report. M:\PROJ\5140285\Depreciation Report\Mountaingate Draft Table, 7/7/2014

Depreciation Report- Capital Plan Mountain Gate Townhouses - Burnaby, BC FINAL - July 2014

	COMPON	ENT	RECOMMENDAT	TION		CAPITAL	L PLAN / RESERVE	E FUND E)	XPENDITU	RE FORECA	ST																					
					Y	2014	2015 2016	2017	2018 20	019 2020	2021	2022	2023	2024 202	25 2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Label	Components	Location	Recommendation	Type	Priorit	\$78,000	\$104,250 \$147,750	\$126 750	\$58,250 \$6	\$8,000 \$9,00	0 \$16,000	\$6,000	\$37,400 \$	218 300 \$135	5,300 \$105,300	\$105 300	\$134.400	\$203.400	\$73.900	\$72,000	\$74,900	\$72,900	\$67,000	\$10,000	\$40,000	\$43,000	\$15,400	\$82,400	\$77.900	\$211,000	\$143,400	\$4,000
					_	Ψ70,000				φο,000 φο,00		φ0,000			,500 \$105,500		φ104,400	φ200,400		ψ12,300	φ/ 4,300		φ07,000	φ10,000		φ-3,000	ψ10,400		φ/7,300	φ211,300		ψ 1 ,000
RS05	Board Soffit	Bay Windows, Front Entrances	Budget for continued replacement at end of service life as required.	Contingency	3		\$8,000		\$8,000		\$8,000			\$8,000		\$8,000			\$8,000			\$8,000			\$8,000			\$8,000			\$8,000	
	SITE DEVELO	PMENT																														
	Aggregate Patios and Walkways	Unit patios and between buildings	An allowance for localized replacement and resetting.	Repair Allowance	2		\$2,000		\$	\$2,000			\$2,000			\$2,000				\$2,000				\$2,000				\$2,000				\$2,000
	,		Ŭ																													
SD02	Brick sidewalks	Adjacent to roadways and at	An allowance for localized replacement and resetting.	Repair Allowance	2	\$3,000	\$3,000		\$3,000	\$3,00	0	\$3,000		\$3,000	\$3,000		\$3,000		\$3,000		\$3,000		\$3,000		\$3,000		\$3,000		\$3,000		\$3,000	
		pedestrian bridge																														
SD03	Privacy Screen	Between patios	Budget for continued replacement at end of service life as required.	Contingency	4		\$23,000																		\$23,000							
SD04	Guardrails	Bridges	We recommend that the requirements of a	Study	1	\$5,000																									—	
			guardrail along side the road be further reviewed by a structural engineer.																													
SD05	Guardrails	Bridges	Pending outcome of study, a contingency allowance is recommended for replacing guardrails.	Contingency	Not Applicable	\$20,000																										
SD06	Roadways		Sectional phased replacement at end of service		4								\$21,000	\$21,000 \$21	,000 \$21,000	\$21,000															—	
		Parking	life (which will depend on the sub base supporting the asphalt and the level of maintenance completed). Concrete curbs are expected to last as long as the asphalt driveways and are included in the cost of the asphalt pavement replacement.	Allowance																												
SD07	Driveways	Each Unit	An allowance for localized repairs.	Repair Allowance	4			\$3,000				\$3,000				\$3,000					\$3,000					\$3,000					\$3,000	
	MECHANICAL S																															
MS01	Domestic Water Mains	Distribution to Units	Assumes the continued replacement of piping for the remaining buildings. Assumes 2 clusters per year at quote provided for work done to date.	Contingency	3		\$47,250 \$47,250	\$47,250	\$47,250																							
	Domestic Water Pipes and Fittings	Within Units	No anticipated capital costs as owner responsibility.	Not Applicable	Not Applicable																											
	ip oo alla tillingo																															
MS03	D3020 Sanitary Sewer	Underground	Contingency for repairs or replacement of underground sanitary piping, starting at year 40.	Contingency	3								\$3,200	\$3,200 \$3	,200 \$3,200	\$3,200											\$3,200	\$3,200	\$3,200	\$3,200	\$3,200	
MS04	D3030 Storm Sewer	r Underground	Contingency for repairs or replacement of underground sanitary piping, starting at year 40.	Contingency	3								\$3,200	\$3,200 \$3	9,200 \$3,200	\$3,200											\$3,200	\$3,200	\$3,200	\$3,200	\$3,200	
MS05	Hose bibbs	Back Patio	No capital expenses.	Not Applicable	Not Applicable																											
					Аррісаріе																											
ES01	ELECTRICAL S BC Hydro Service		Maintenance, service and replacement by BC	Not Applicable																												
			Hydro. No capital expenses anticipated.		Applicable																											
	Electrical Service and Distribution	Electrical Room	Replace disconnect switch and metering center. May last service life of complex with regular maintenance. Conservative life expectancy is 30 years.		3									\$48,000																		
ES03	_oad centers	Units	No capital expenses.	Not Applicable	Not																											
ES04	Outdoor Lighting	Units and throughout	An allowance to replace light fixtures is provided.	. Contingency	Applicable 3				\$	32,000				\$2,000				\$2,000					\$2,000					\$2,000				
		complex																														
	Electrical Service Cleaning	Electrical Room	The infrared scan, maintenance and cleaning should be done every 5 years.	Repair Allowance	3	\$5,000			\$	5,000				\$5,000				\$5,000					\$5,000					\$5,000				
	Communications an Security	d Telephone and TV cable	 Maintenance and replacement of the equipment by service provider. No capital expenses anticipated. 	Not Applicable	Not Applicable																											
	PROFESSIONAL							A-													*			*						*		
	Depreciation Report Jpdates		Update depreciation report.	Study	4			\$6,000		\$6,00	U		\$6,000		\$6,000			\$6,000			\$6,000			\$6,000			\$6,000			\$6,000		
	Miscellaneous Engineering Review	's	Recommend regular reviews of building systems as well as prior to any major renewal.	Study	4		\$6,000				\$6,000				\$6,000					\$6,000					\$6,000					\$6,000		

30 Year Reserve Fund Cash Flow Table Scenario 1 - FINAL - July 2014 Current Contribution (Fully Funded by Other Contributions)

Assumed Interest Rate 2.0%	ò
Assumed Inflation Rate 2.0%	ó
Reserve Fund Balance at Start of 2014 Fiscal Year \$52,142	
Present Annual Contribution to the Reserve Fund (budgeted operating surplus) \$24,700	
Minimum Reserve Fund Balance \$30,190	

Year Ending In	Opening Balance	Annual CRF Contribution *	Percent Increase over Previous Year	Other Contribution **	Estimated Future Inflated Expenditures	Projected Interest Earned	Closing Balance	Average Annual CRF Contribution Per Unit
2014	\$52,142	\$24,700		\$40,000	\$78,000	\$510	\$39,352	\$1,797
2015	\$39,352	\$25,194	2.0%	\$80,000	\$106,335	\$0	\$38,211	\$2,922
2016	\$38,211	\$25,698	2.0%	\$120,000	\$153,719	\$0	\$30,190	\$4,047
2017	\$30,190	\$26,212	2.0%	\$110,000	\$134,508	\$0	\$31,893	\$3,784
2018	\$31,893	\$26,736	2.0%	\$35,000	\$63,052	\$275	\$30,852	\$1,715
2019	\$30,852	\$27,271	2.0%	\$100,000	\$75,077	\$139	\$83,185	\$3,535
2020	\$83,185	\$27,816	2.0%		\$10,135	\$1,841	\$102,706	\$773
2021	\$102,706	\$28,373	2.0%		\$18,379	\$2,154	\$114,854	\$788
2022	\$114,854	\$28,940	2.0%		\$7,030	\$2,516	\$139,280	\$804
2023	\$139,280	\$29,519	2.0%		\$44,696	\$2,634	\$126,736	\$820
2024	\$126,736	\$30,109	2.0%	\$200,000	\$266,106	\$175	\$90,913	\$6,392
2025	\$90,913	\$30,711	2.0%	\$150,000	\$168,229	\$443	\$103,839	\$5,020
2026	\$103,839	\$31,326	2.0%	\$100,000	\$133,546	\$1,055	\$102,674	\$3,648
2027	\$102,674	\$31,952	2.0%	\$75,000	\$136,217	\$1,011	\$74,420	\$2,971
2028	\$74,420	\$32,591	2.0%	\$150,000	\$177,338	\$41	\$79,714	\$5,072
2029	\$79,714	\$33,243	2.0%	\$250,000	\$273,750	\$0	\$89,207	\$7,868
2030	\$89,207	\$33,908	2.0%	\$65,000	\$101,449	\$1,109	\$87,775	\$2,747
2031	\$87,775	\$34,586	2.0%	\$75,000	\$102,078	\$1,081	\$96,364	\$3,044
2032	\$96,364	\$35,278	2.0%	\$75,000	\$106,976	\$1,210	\$100,876	\$3,063
2033	\$100,876	\$35,983	2.0%	\$60,000	\$106,202	\$1,315	\$91,973	\$2,666
2034	\$91,973	\$36,703	2.0%	\$100,000	\$99,558	\$1,211	\$130,328	\$3,797
2035	\$130,328	\$37,437	2.0%		\$15,157	\$2,829	\$155,438	\$1,040
2036	\$155,438	\$38,186	2.0%		\$61,839	\$2,872	\$134,657	\$1,061
2037	\$134,657	\$38,949	2.0%		\$67,807	\$2,405	\$108,204	\$1,082
2038	\$108,204	\$39,728	2.0%		\$24,770	\$2,314	\$125,476	\$1,104
2039	\$125,476	\$40,523	2.0%	\$100,000	\$135,186	\$1,563	\$132,376	\$3,903
2040	\$132,376	\$41,333	2.0%	\$75,000	\$130,359	\$1,757	\$120,108	\$3,231
2041	\$120,108	\$42,160	2.0%	\$280,000	\$361,689	\$0	\$80,579	\$8,949
2042	\$80,579	\$43,003	2.0%	\$210,000	\$249,663	\$0	\$83,919	\$7,028
2043	\$83,919	\$43,863	2.0%		\$7,103	\$2,046	\$122,725	\$1,218
	TOTALS	\$1,002,032		\$2,450,000				

* The term "annual contribution" refers to the amount contributed each year to the reserve fund from the monthly expenses.

** Total Other Contributions refers to other contributed amounts including special assessments or surplus funds transferred from other sources (i.e. operating budget or contingency fund).

*** Expenditures are presented as future dollars (based on 2% inflation), and are considered Class D estimates (+/-50%)



30 Year Reserve Fund Cash Flow Table Scenario 2 - FINAL - July 2014 Gradual Contribution Increase + Equal Annual Contributions

Assumed Interest Rate	2.0%
Assumed Inflation Rate	2.0%
Reserve Fund Balance at Start of 2014 Fiscal Year	\$52,142
Present Annual Contribution to the Reserve Fund	\$24,700
Minimum Reserve Fund Balance	\$27,965

Year Ending In	Opening Balance	Annual CRF Contribution*	Percent Increase over Previous Year	Other Contribution **	Estimated Future Inflated Expenditures	Projected Interest Earned	Closing Balance	Average Annual CRF Contribution Per Unit
2014	\$52,142	\$24,700		\$85,000	\$78,000	\$510	\$84,352	\$3,047
2015	\$84,352	\$25,935	5.0%	\$85,000	\$106,335	\$883	\$89,835	\$3,082
2016	\$89,835	\$27,232	5.0%	\$85,000	\$153,719	\$532	\$48,879	\$3,118
2017	\$48,879	\$28,593	5.0%	\$85,000	\$134,508	\$0	\$27,965	\$3,155
2018	\$27,965	\$30,023	5.0%	\$85,000	\$63,052	\$229	\$80,165	\$3,195
2019	\$80,165	\$31,524	5.0%	\$85,000	\$75,077	\$1,168	\$122,779	\$3,237
2020	\$122,779	\$33,100	5.0%	\$85,000	\$10,135	\$2,685	\$233,429	\$3,281
2021	\$233,429	\$34,755	5.0%	\$85,000	\$18,379	\$4,832	\$339,638	\$3,327
2022	\$339,638	\$36,493	5.0%	\$85,000	\$7,030	\$7,087	\$461,189	\$3,375
2023	\$461,189	\$38,318	5.0%	\$85,000	\$44,696	\$9,160	\$548,970	\$3,425
2024	\$548,970	\$40,234	5.0%	\$85,000	\$266,106	\$8,721	\$416,818	\$3,479
2025	\$416,818	\$42,245	5.0%	\$85,000	\$168,229	\$7,077	\$382,911	\$3,535
2026	\$382,911	\$44,358	5.0%	\$85,000	\$133,546	\$6,766	\$385,490	\$3,593
2027	\$385,490	\$46,576	5.0%	\$85,000	\$136,217	\$6,813	\$387,662	\$3,655
2028	\$387,662	\$48,904	5.0%	\$85,000	\$177,338	\$6,469	\$350,697	\$3,720
2029	\$350,697	\$51,350	5.0%	\$85,000	\$273,750	\$4,790	\$218,087	\$3,787
2030	\$218,087	\$53,917	5.0%	\$85,000	\$101,449	\$3,886	\$259,441	\$3,859
2031	\$259,441	\$56,613	5.0%	\$85,000	\$102,078	\$4,734	\$303,711	\$3,934
2032	\$303,711	\$59,443	5.0%	\$85,000	\$106,976	\$5,599	\$346,778	\$4,012
2033	\$346,778	\$62,416	5.0%	\$85,000	\$106,202	\$6,498	\$394,489	\$4,095
2034	\$394,489	\$65,536	5.0%		\$99,558	\$7,550	\$368,017	\$1,820
2035	\$368,017	\$68,813	5.0%		\$15,157	\$7,897	\$429,570	\$1,911
2036	\$429,570	\$72,254	5.0%		\$61,839	\$8,696	\$448,681	\$2,007
2037	\$448,681	\$75,867	5.0%		\$67,807	\$9,054	\$465,795	\$2,107
2038	\$465,795	\$79,660	5.0%		\$24,770	\$9,865	\$530,550	\$2,213
2039	\$530,550	\$83,643	5.0%		\$135,186	\$10,096	\$489,102	\$2,323
2040	\$489,102	\$87,825	5.0%		\$130,359	\$9,357	\$455,925	\$2,440
2041	\$455,925	\$92,216	5.0%		\$361,689	\$6,424	\$192,876	\$2,562
2042	\$192,876	\$96,827	5.0%		\$249,663	\$2,329	\$42,369	\$2,690
2043	\$42,369	\$101,669	5.0%		\$7,103	\$1,793	\$138,727	\$2,824
	TOTALS	\$1,641,040		\$1,700,000	\$3,415,953			

* The term "annual contribution" refers to the amount contributed each year to the reserve fund from the monthly expenses.

** Total Other Contributions refers to other contributed amounts including special assessments or surplus funds transferred from other sources (i.e. operating budget or contingency fund).

*** Expenditures are presented as future dollars (based on 2% inflation), and are considered Class D estimates (+/-50%)



30 Year Reserve Fund Cash Flow Table Scenario 3 - FINAL - July 2014 10 Years at 10% Contribution Increase + Other Contributions as Required

Assumed Interest Rate	2.0%
Assumed Inflation Rate	2.0%
Reserve Fund Balance at Start of 2014 Fiscal Year	\$52,142
Present Annual Contribution to the Reserve Fund	\$24,700
Minimum Reserve Fund Balance	\$21,066

Year Ending In	Opening Balance	Annual CRF Contribution*	Percent Increase over Previous Year	Other Contribution **	Estimated Future Inflated Expenditures	Projected Interest Earned	Closing Balance	Average Annual CRF Contribution Per Unit
2014	\$52,142	\$24,700		\$85,000	\$78,000	\$510	\$84,352	\$3,047
2015	\$84,352	\$27,170	10.0%	\$85,000	\$106,335	\$895	\$91,082	\$3,116
2016	\$91,082	\$29,887	10.0%	\$85,000	\$153,719	\$583	\$52,833	\$3,191
2017	\$52,833	\$32,876	10.0%	\$85,000	\$134,508	\$40	\$36,241	\$3,274
2018	\$36,241	\$36,163	10.0%	\$85,000	\$63,052	\$456	\$94,809	\$3,366
2019	\$94,809	\$39,780	10.0%		\$75,077	\$1,543	\$61,054	\$1,105
2020	\$61,054	\$43,758	10.0%		\$10,135	\$1,557	\$96,234	\$1,215
2021	\$96,234	\$48,133	10.0%		\$18,379	\$2,222	\$128,210	\$1,337
2022	\$128,210	\$52,947	10.0%		\$7,030	\$3,023	\$177,150	\$1,471
2023	\$177,150	\$58,241	10.0%		\$44,696	\$3,678	\$194,374	\$1,618
2024	\$194,374	\$59,406	2.0%	\$100,000	\$266,106	\$1,820	\$89,494	\$4,428
2025	\$89,494	\$60,594	2.0%	\$100,000	\$168,229	\$714	\$82,573	\$4,461
2026	\$82,573	\$61,806	2.0%	\$100,000	\$133,546	\$934	\$111,767	\$4,495
2027	\$111,767	\$63,042	2.0%	\$100,000	\$136,217	\$1,504	\$140,096	\$4,529
2028	\$140,096	\$64,303	2.0%	\$100,000	\$177,338	\$1,672	\$128,733	\$4,564
2029	\$128,733	\$65,589	2.0%	\$100,000	\$273,750	\$493	\$21,066	\$4,600
2030	\$21,066	\$66,901	2.0%	\$100,000	\$101,449	\$76	\$86,594	\$4,636
2031	\$86,594	\$68,239	2.0%	\$100,000	\$102,078	\$1,393	\$154,148	\$4,673
2032	\$154,148	\$69,604	2.0%		\$106,976	\$2,709	\$119,486	\$1,933
2033	\$119,486	\$70,996	2.0%		\$106,202	\$2,038	\$86,318	\$1,972
2034	\$86,318	\$72,416	2.0%	\$20,000	\$99,558	\$1,455	\$80,630	\$2,567
2035	\$80,630	\$73,864	2.0%		\$15,157	\$2,200	\$141,537	\$2,052
2036	\$141,537	\$75,341	2.0%		\$61,839	\$2,966	\$158,005	\$2,093
2037	\$158,005	\$76,848	2.0%		\$67,807	\$3,251	\$170,297	\$2,135
2038	\$170,297	\$78,385	2.0%		\$24,770	\$3,942	\$227,854	\$2,177
2039	\$227,854	\$79,953	2.0%		\$135,186	\$4,005	\$176,626	\$2,221
2040	\$176,626	\$81,552	2.0%		\$130,359	\$3,044	\$130,863	\$2,265
2041	\$130,863	\$83,183	2.0%	\$230,000	\$361,689	\$0	\$82,357	\$8,700
2042	\$82,357	\$84,847	2.0%	\$175,000	\$249,663	\$0	\$92,540	\$7,218
2043	\$92,540	\$86,544	2.0%		\$7,103	\$2,645	\$174,626	\$2,404
	TOTALS	\$1,837,067		\$1,650,000				

* The term "annual contribution" refers to the amount contributed each year to the reserve fund from the monthly expenses.

** Total Other Contributions refers to other contributed amounts including special assessments or surplus funds transferred from other sources (i.e. operating budget or contingency fund).

*** Expenditures are presented as future dollars (based on 2% inflation), and are considered Class D estimates (+/-50%)



Summary of Funding Scenarios FINAL - July 2014

Current Fiscal Year 2014

from September 1, 2013 to	o August 31, 2014		Number of Units
			36
Operating Budget	\$124,498		
Minimum Balance	\$31,125 (Years 1-10)	\$60, 000 (Years 11-20)	\$80,000 (Years 21-30)

Scenario 1

This Scenario is based on the last approved funding plan.

This Scenario shows contribution increases due to inflation only. The Reserve Fund Balance remains positive over the next thirty years, with a minimum balance of approximately \$30,190 in fiscal year 2016. For details, please see the 30 Year Reserve Fund Cash Flow Table for Scenario 1.

	2014	2015	2016	2017
Annual Reserve Contribution*	\$24,700	\$25,194	\$25,698	\$26,212
% Increase	n/a	2.0%	2.0%	2.0%
Average Increase per Unit	n/a	\$13.72	\$14.00	\$14.28
Average Annual CRF Contribution per Unit	\$686.11	\$699.83	\$713.83	\$728.11
Total Other Contributions**	\$40,000	\$80,000	\$120,000	\$110,000
Average Other Contribution per Unit	\$1,111.11	\$2,222.22	\$3,333.33	\$3,055.56

Scenario 2

This Scenario shows contribution increases of 5% per year, including inflation, for 29 years, followed by increases due to inflation only thereafter. Other contributions are included as required. The Reserve Fund Balance remains positive over the next thirty years, with a minimum balance of approximately \$27,965 in fiscal year 2017. For details, please see the 30 Year Reserve Fund Cash Flow Table for Scenario 2.

	2014	2015	2016	2017
Annual Reserve Contribution*	\$24,700	\$25,935	\$27,232	\$28,593
% Increase	n/a	5.0%	5.0%	5.0%
Average Increase per Unit	n/a	\$34.31	\$36.02	\$37.82
Average Annual CRF Contribution per Unit	\$686.11	\$720.42	\$756.44	\$794.26
Total Other Contributions**	\$85,000	\$85,000	\$85,000	\$85,000
Average Other Contribution per Unit	\$2,361.11	\$2,361.11	\$2,361.11	\$2,361.11

Scenario 3

This Scenario shows contribution increases of 10% per year, including inflation, for 9 years, followed by increases due to inflation only thereafter. Other contributions are included as required. The Reserve Fund Balance remains positive over the next thirty years, with a minimum balance of approximately \$21,066 in fiscal year 2029. For details, please see the 30 Year Reserve Fund Cash Flow Table for Scenario 3.

	2014	2015	2016	2017
Annual Reserve Contribution*	\$24,700	\$27,170	\$29,887	\$32,876
% Increase	n/a	10.0%	10.0%	10.0%
Average Increase per Unit	n/a	\$68.61	\$75.47	\$83.02
Average Annual CRF Contribution per Unit	\$686.11	\$754.72	\$830.19	\$913.21
Total Other Contributions**	\$85,000	\$85,000	\$85,000	\$85,000
Average Other Contribution per Unit	\$2,361.11	\$2,361.11	\$2,361.11	\$2,361.11

*Annual Reserve Contribution refers to the amount contributed each year to the reserve fund from the monthly common expenses.

** Total Other Contributions refers to other contributed amounts including special assessments or surplus funds transferred from other sources (i.e. operating budget or contingency fund).



APPENDIX E: General Depreciation Report Information



DEPRECIATION REPORT GENERAL INFORMATION

Objectives

The objective of this study is to provide the Strata Council with sufficient information to enable you to:

- a) Set up a schedule for the anticipated repair and replacement of common element items.
- b) Set up a special account for major repair items and replacement of common elements and assets of the Corporation.
- c) To determine the annual contributions necessary to maintain an adequate balance for the 30 year period of this study.
- d) Satisfy the legislation regarding the *Strata Property Act 1999 with Amendments July 1, 2000 and December 13, 2011* that requires a depreciation report be completed.

Limitations and Assumptions

This report is intended for the sole use of Strata Corporation NW2040, and must not be distributed or used by others without our knowledge (with the exception of disclosure to potential purchasers of NW2040). It is based on the documents and information provided to us and the findings at the time of our on-site investigation.

It is a basic assumption that any correspondence, material, data, evaluations and reports furnished by others are free of latent deficiencies or inaccuracies except for apparent variances discovered during the completion of this report.

Unless specifically noted in this report, no testing, verification of operation of systems, physical review of subsurface conditions or concealed systems and components, review of concealed elements, intrusive openings, opening of system components for internal inspection, detailed analysis or design calculations were conducted, nor were they within the scope of this review.

Some of the findings herein are based on a random sampling visual review of the surface conditions, discussions with the Strata Council and/or their designated representatives, and review of relevant documents. Observations were made only of those areas that were readily accessible during our review. Deficiencies existing but not recorded in this report were not apparent given the level of study undertaken. Components not included have not been reviewed, and if their conditions need to be known, further study will be required.

It is possible that unexpected conditions may be encountered at the building/facility that have not been explored within the scope of this report. Should such an event occur, MH should be notified in order that we may determine if modifications to our conclusions are necessary.

In issuing this report, MH does not assume any of the duties or liabilities of the designers, builders or owners of the subject property. Owners, prospective purchasers, tenants or others who use or rely on the contents of this report do so with the understanding as to the limitations of the documents reviewed and the general visual inspection undertaken, and



understand that MH cannot be held liable for damages they may suffer in respect to the purchase, ownership, or use of the subject property.

Professional judgment was exercised in gathering and analyzing the information obtained and in the formulation of the conclusions. Like all professional persons rendering advice, we do not act as insurers of the conclusions we reach, but we commit ourselves to care and competence in reaching those conclusions. No other warranties, either expressed or implied, are made.

Report Format

A description of the table contents and our approach to assigning ratings is described below:

COLUMN	DESCRIP	TION
Component ID	The component number, as per the ASTM Uniformat II Classification for Building Elements (E1557-09)	
Location / Type	Where appropriate, we have provided a location or other modifier as needed to assist in identifying the specific component is provided. This may refer to an elevation, floor number, room, or material type.	
Description & History	A brief description of the component, deficiencies observed by MH (if any), and problems or previous repairs reported by site staff.	
Condition Rating	We have also provided an overall condition rating for each component, as follows:	
	Excellent	Functioning as intended; as new condition.
	Good	Functioning as intended; limited (if any) deterioration observed.
	Fair	Function and operation exhibiting wear or minor deterioration, normal maintenance frequency.
	Poor	Function and operation failing; significant deterioration and distress observed; increased maintenance attention has been required.
	NR	Not Reviewed –applicable to concealed systems, such as buried services, or where access was not provided to MH to review a component
	NA	Not Applicable – applicable to Studies/Reports/Surveys.



COLUMN	DESCRIPTIO	N
Year of Acquisition	This is assigned based on available data from drawings or reports, readily accessible nameplate information on equipment, or interviews with site staff. Where the year is not known, MH provides an estimate based on observed condition. Year reflects the fiscal year in which the component was acquired, not necessarily the calendar year.	
Recommendation	Our recommended approach for reserve fund budgeting.	
Туре	We have categorized the type of expense as follows:	
	Renewal	Replace like with like (typically at end of service life), allowing for changing contemporary standards.
	Repair	For repairs, typically to extend the life of a component, restore functionality, or for partial replacements of isolated failures.
	Contingency	For repairs likely to be required where the timing and scope cannot be assessed without additional study; or where failure is unpredictable.
	Study	Further study is required to assign more accurate repair/replacement costs or timing for a Contingency item.
	Upgrade	Replace to a higher standard (more efficient, higher quality, etc). Our report may identify upgrades which we believe are worth exploring. In such cases, we have included 0% responsibility since we understand upgrades may not be funded out of the Reserve Fund, and the costs are not considered within the cash- flow.
	New	For new components added to the Depreciation Report, typically to reflect changing legislation.



COLUMN	DESCRIPTION	
Priority	 A Priority Rating is provided to each Recommendation to assist you with budgeting of expenses, and to assess where deferral of an expense may be appropriate. 1. Immediate: items that require immediate repair or replacement because of either a code deficiency, legislative requirement or a safety concern 2. Restore Functionality: items that currently show signs of failure, requiring repair or replacement to restore functionality in the near future. 3. Future Renewal: items that will require future repair or replacement). Most Reserve Fund Expenses will fall under this category. 4. Discretionary Renewal: items where the timing, scope of work and phasing is at the owner's discretion. This is typically limited to cosmetic issues. 	
Age in Current Fiscal Year	The age at the time of the assessment. Where the exact age is unknown, MH provides an estimate based on observed condition.	
Typical Lifecycle	Standard lifespan, assuming normal maintenance, based on our experience and manufacturer's recommendations. A piece of equipment may have a typical lifespan for complete replacement, as well as a typical lifespan for a recommended repair with a much shorter frequency. A lifecycle of 99 shows a one-time project.	
Remaining Life Expectancy	Remaining life of component and/or time to the next major repairs. Based on Age subtracted from Typical Lifespan, but confirmed and adjusted as needed depending on observed condition. A negative value is used to show phased projects already partially complete.	
Years Over Which Project is Phased	Normally projects are completed in one year. Larger projects may be phased over several consecutive years.	
Percent Responsibility	Our understanding of the Corporation's responsibility for shared facilities. Most common elements are budgeted for at 100%, but any exceptions are noted in this column.	



COLUMN	DESCRIPTION
Recommended Budget	This represents our opinion of probable cost, in current fiscal year dollars, including consulting services (design, tendering and construction review) and contingencies where we believe it is appropriate. The cost for these services can vary significantly depending on the size, scope and degree of complexity of the project. Applicable taxes are also included.
	Opinions of probable cost are provided only as an indication of possible cost of remedial work. The repair or replacement costs are based on published construction cost data, recent bid prices on similar work, information provided by the owner, and our professional judgment. More precise opinions of probable cost would require more detailed investigation to define the scope of work.
	The costs in this report are typically referred to as Class D estimates (±50%), defined by the Budget Guidelines for Consulting Engineering Services as: "A preliminary estimate which, due to little or no site information, indicates the approximate magnitude of cost of the proposed project, based on the client's broad requirements. This overall cost estimate may be derived from lump sum or unit costs for a similar project. It may be used in developing long term capital plans and for preliminary discussion of proposed capital projects."
	The opinions of probable cost we have presented can vary due to a number of reasons including changing market conditions, availability of newer materials and systems, and increased or decreased scope of work than we have identified.
	All opinions of probable cost assume that regular annual maintenance and repairs will be performed to all elements at the facility.
	We recommend that costs for consulting services, including design, tendering and construction review, be included in the reserve fund plan. The cost for these services can vary significantly depending on the size, scope and degree of complexity of the project. We have included a variable allowance for consulting fees and contingencies where we believe it is appropriate, and the 5 percent GST. All costs in the Condition Assessment and Capital Plan tables are identified in CURRENT FISCAL YEAR Canadian dollars.

COLUMN	DESCRIPTION
Capital Plan	The tables show MH's opinion of the probable cost to carry out the recommendations (in current fiscal year dollars) during the planning horizon. The repairs and replacements we have forecasted do not represent a fixed schedule for replacements; repairs or replacements may be required sooner or later than we have anticipated.

The **Component Condition Assessment** and **Capital Plan Expenditure Forecast Table** in Appendices C and D show MH's opinion of the probable cost to carry out the recommendations (in current fiscal year dollars) during the depreciation planning period. The repairs and replacements we have forecasted do not represent a fixed schedule for replacements; repairs or replacements may be required sooner or later than we have anticipated.

Review of the Tables reveals several contingencies that occur in a single year of the study period. Though these repairs and replacements will not all take place in one year, and may not be required at all, it is prudent to budget for such repairs since failure of some components is unpredictable.

Financial Terms, Assumptions and Calculations

Inflation

The Government of Canada and the Bank of Canada inflation-control policy is aimed at keeping inflations at agreed to target values. At present the target range is 1 to 3 per cent, with the Bank's monetary policy aimed at keeping inflation at the 2 per cent target midpoint. This policy has continued to be renewed since implementation in 1991, and currently extends to December 31, 2016.

The total annual estimated expenditures are shown in the Capital Plan in current fiscal year dollars. The expenditures shown in the Cash Flow Table are inflated annually by the inflation percentage show.

In the startup questionnaire, MH requested confirmation of the inflation rate to be used over the course of the study. This may not be the actual current inflation rate, but is a reasonable estimate to begin the long term planning.

Interest

In the startup questionnaire, MH requested confirmation of the interest rate to be used over the course of the study. This may not be the actual rate of interest on the Corporation's current investments, but is a reasonable estimate to begin the long term planning.

The interest earned on the Reserve Fund for each year is based on a **Mid-Year Interest Calculation in** accordance with generally accepted accounting practice. Over the 30-year period, the calculated interest is lower than calculating Simple Interest, therefore it is a more conservative method for calculating interest.



With the Mid-Year Interest Calculation, the interest earned on the Reserve Fund is calculated at the middle of the fiscal year assuming that half the expenses have been taken out of the Reserve Fund and half the annual contribution has been deposited into the Reserve Fund. Therefore, Interest is calculated as follows:

 $Interest = InterestRate \times (StartingBalance - \frac{Expenses}{2} + \frac{AnnualContribution}{2})$

Starting Balance

MH requested information regarding the Reserve Fund balance at the start of the current fiscal year in the startup questionnaire. Where appropriate documents are provided, we confirm the opening balance against the financial statements. We assume the Strata Council confirms the starting balance is correct to the best of their knowledge prior to authorizing us to finalize the report.

Contributions

MH requested information regarding the present annual contribution to the Reserve Fund in the startup questionnaire. Where appropriate documents are provided, we confirm the contribution amount against the most recent Notice of Future Funding provided to the Owners. We assume the Strata Council confirms the current annual contribution is correct to the best of their knowledge prior to authorizing us to finalize the report.

Future annual contributions are calculated based on the estimates of life expectancy and opinions of probable cost, Minimum Reserve Fund Balance, and the assumptions for inflation and interest. Sample annual contributions that would result in an adequate Reserve Fund are indicated in the attached Cash Flow Scenarios.

When large expenses are anticipated in the near future and the existing Reserve Fund Balance is relatively low, increases to the annual contribution may not be sufficient. Increasing the annual contribution to an amount that can accommodate the major expenses is typically not considered a suitable funding plan since the Reserve Fund Balance often becomes relatively high for the remainder of the study period. Excess funds in a Reserve Fund cannot be used for any other purpose except for the major repairs and replacements for which they have been budgeted.

In such cases, Other Contributions are considered in the Cash-Flow Plan. These contributions can be in the form of special assessments or surplus funds that the Council has indicated will be available from other sources (i.e. transferred from operating budgets or contingency funds).

Minimum Reserve Fund Balance

MH requests information regarding the desired minimum balance in the startup questionnaire. We assume the Strata Council confirms the minimum balance of the approved scenario is acceptable even if it contradicts original directions provided in the completed questionnaire.

As a guideline, we recommend a minimum balance of 25% of the operating budget, as per Section 6.1 (a)(ii). (See below)



Requirements Under the Act

Contributions

The Annual Reserve Contribution for the first year of this study was provided by the Strata. Future annual contributions are calculated based on the estimates of life expectancy and opinions of probable cost, Minimum Reserve Fund Balance, and the assumptions for inflation and interest.

Contributions may be limited by the Strata Act as provided by Section 6.1, which indicates that the amount of the annual contribution to the contingency reserve fund must be determined as follows:

- (a) if the amount of money in the contingency reserve fund at the end of any fiscal year after the first annual general meeting is less than 25% of the total annual budgeted for the contribution to the operating fund for the fiscal year that has just ended, the annual contribution to the contingency reserve fund for the current fiscal year must be at least the lesser of:
 - i. 10% of the total amount budgeted for the contribution to the operating fund for the current fiscal year; and
 - ii. The amount required to bring the contingency reserve fund to at least 25% of the total amount budgeted for the contribution to the operating fund for the current fiscal year.
- (b) if the amount of money in the contingency reserve fund at the end of any fiscal year after the first annual general meeting is equal to or greater than 25% of the total annual budgeted for the contribution to the operating fund for the fiscal year that has just ended, additional contributions to the contingency reserve fund may be made as part of the annual budget approval process after consideration of the depreciation report, if any, obtained under section 94 of the Act.

Timing of Studies

The Depreciation Report is a dynamic document that will change over time as repairs/replacements are carried out on the common elements and interest/inflation rates change. The repairs and replacements we have forecasted do not represent a fixed schedule for replacements; repairs or replacements may be required sooner or later than we have anticipated. Similarly, the opinions of probable cost we have presented can vary due to a number of reasons including changing market conditions, availability of newer materials and systems, and increased or decreased scope of work than we have identified. As such, regular updates are necessary to re-assess your needs.

The Corporation is required to complete an update with site Inspection within three years of this study.



Glossary of Building Terms

The following is a list of terms and abbreviations which may have been used in the report produced for the noted project. All of the terms and abbreviations used are standard within the industry, but the glossary may be of some aid for those not familiar with construction terms.

Air Barrier:	An assembly of one or more materials, including joints, that prevents the continuous passage of air, and whatever it contains, between different environments under a difference of pressure.
Ampere (A):	The unit of measurement of electric current. The greater the amperage, the larger the size of the conductor required to carry the current.
Annunciator Panel:	A lighted panel that provides information about the location of an activated fire alarm in a building, typically located near the main entrance of a building.
Backflow Preventer:	A device used in plumbing systems to prevent potentially contaminated water from moving back into the clean water supply.
Bitumen:	The term covering numerous mixtures of hydrocarbons such as those found in asphalt and mineral pitch.
Built-Up Roof:	Waterproof membrane constructed of multiple felt layers mopped down with bitumen.
Caulking:	Material with widely different chemical compositions used to make a seam or joint air-tight or watertight.
CCTV:	Closed Circuit Television, a video camera system that transmits video images to specific monitors as opposed to broadcasting the signal over air waves. Typically used in security applications.
CFM	Cubic feet per minute, the common unit of air flow measurement.
Cladding:	Any material that covers an interior or exterior wall.
Control Joint:	Also Movement Joint, a continuous joint in a structure or element, used to regulate the amount of cracking and separation resulting from relative movement.
Condenser:	A device used to remove heat from refrigerating equipment by circulating hot refrigerant gas through coils in the unit and blowing outdoor air across the coils with a fan. Cooling the gas causes it to condense back into a liquid.
Cooling Tower:	A device used to cool condenser water in a chiller by evaporation. Condenser water is sprayed into the top of the cooling tower. The droplets fall through the tower as air is blown upward through the tower, partly evaporating the droplets, which cools the remaining water. Water leaving the cooling tower is typically 10 degrees cooler than when it entered.
Delamination:	A separation along a plane parallel to a surface.
Direct expansion:	A refrigeration method in which an air cooling coil contains refrigerant rather than a secondary coolant glycol or brine.



Drip Edge:	A projection detailed to direct water run-off away from the wall or window face below.
Efflorescence:	Deposits of salt, usually white, due to the migration of salt-laden (in solution) water through concrete or masonry units.
EPDM:	Synthetic rubber membrane usually applied in single-ply applications.
Exhaust Air:	Air mechanically removed from a building to reduce the concentration of moisture, cooking odours and other contaminants from the building.
Fan Coil Unit:	A device consisting of a fan and water coil that can heat an area by circulating hot water through the coil and cool by circulating chilled water through the coil.
Fire Detector:	A fire alarm system component which senses the presence of a possible fire through the presence of smoke particles or heat (i.e. smoke detector, heat detector).
Flashing:	A thin waterproof sheet material, flexible or rigid, used to direct water out of, or away from, the structure.
Glazing:	A generic term for the transparent, or sometimes translucent, material in a window or door. Often, but not always, glass.
Glazing Bead:	A molding or stop around the inside of a frame to hold the glass in place.
Glazing Unit:	That part of a window which includes more than one glazing layer sealed around the outside edge to prevent air or moisture from entering the airspace and eliminating dirt and condensation between glazings.
Heat Exchanger:	A device used to heat a fluid or gas with another fluid or gas without the two streams coming in direct contact with each other and mixing. For example a radiator heats air using hot water. The air and water circulate through the heat exchanger (the radiator) but do are prevented from coming in contact with each other by the radiator.
Heat Pump:	A mechanical device designed to provide both winter heating and summer cooling.
HID:	High Intensity Discharge, a generic term for mercury, vapour, metal halide and high pressure sodium light fixtures. Light in these fixtures is produces by an electric arc between two electrodes.
House Panelboard:	A panelboard which supplies power to common area loads
Hydronic Heating:	A means of heating a space through the use of hot water circulated through heating coils or a radiator in the space
Initiating Device:	A fire alarm system component which initiates a fire alarm (i.e. pull station).
Inverted Roof:	Where the roof membrane is located below the insulation and ballast (also Protected Membrane Roof).
Joist:	One of several parallel, horizontal and relatively closely spaced concrete, wood or steel members directly supporting a floor or roof slab or deck.
kVA:	Kilo-Volt-Ampere, the unit used to measure apparent power. This is what is charged by the utility.



kW:	Kilowatt, the unit used to measure real power. This is power that is actually used by the customer.
Lintel:	A horizontal structural support above an opening in a wall.
Makeup Air:	Fresh, outdoor air that is mechanically introduced to a building to make up for the air removed from buildings by exhaust systems.
Panelboard:	A component of an electrical distribution system which divides an electrical power feed into subsidiary circuits, while providing a protective fuse or circuit breaker for each circuit all contained in a common enclosure.
Refractory:	A ceramic insulating material used in boilers and similar equipment because it can withstand very high temperatures.
Retaining Wall:	A wall constructed to hold back earth, water or other backfill.
Riser:	Pipes or ductwork used to transport water, effluent, air or service cables vertically through a multi-storey building for distribution of services.
Roof Structural Deck	An elevated platform consisting of a variety of materials such as wood planks or metal pans, often supported by structural joists, beams and columns made of steel or wood, all structurally designed to support loads such as a roofing system.
Scaling:	A degradation of the surface of a concrete element, consisting of local flaking or peeling away of the near-to-surface sand and cement portion of hardened concrete or mortar.
Sealant:	A flexible material used on the inside (or outside) of a building to seal gaps in the building envelope in order to prevent uncontrolled air infiltration and exfiltration.
Sealed Units:	Two pieces (lites) of glass sealed around the perimeter, increasing the thermal resistance of the window.
Shear Wall:	A wall that resists horizontal forces applied in the plane of the wall, usually due to wind or seismic effects (also Flexural Wall).
Signaling Device:	A fire alarm system component which visually or audibly alarms (i.e. bell, strobe).
Slab-on-Grade:	A concrete floor slab placed directly on compacted fill and deriving its support from this fill (also Slab-on-Ground).
Spall:	A fragment of concrete or masonry detached from a larger mass by a blow, weather action, internal pressure, or efflorescence within the mass (sub flourescence).
Stucco:	A finish consisting of cement plaster, used for coating exterior building surfaces.
Switchboard:	A board or panel equipped with apparatus for controlling the operation of a system of electric circuits.
Terminal Board:	An insulating base on which terminals for wires or cables have been mounted
Thermographic Scan	ning: Also known as infra-red scanning. A photograph that detects hot spots of electrical equipment or temperature differences at building surfaces.



Tuckpointing:	Also Repointing, the process of removing deteriorated mortar from the joints of masonry and replacing it with new mortar.
Uninterruptible Powe	r Supply: A power electronic device primarily used as a back-up power source for computers and computer networks to ensure on-going operation in the event of a power failure. Sophisticated units also have power conditioning and power monitoring features.
Vapour Barrier:	A material or combination of materials having a high resistance to water vapour diffusion, used to separate a high water vapour pressure environment from a low water vapour pressure environment.
Vent:	An opening placed in a facing wall or window assembly to promote circulation of air within a cavity behind the facing, usually to encourage drying of the cavity and/or to moderate the pressure across the facing.
Volt (V):	A unit of potential energy equal to the potential difference between two points on a conductor carrying a current of 1 ampere.
VRLA	Valve Regulated Lead-Acid, low maintenance batteries which use much less battery acid than traditional lead-acid batteries typically used in UPS applications.
Weather-strip	A strip of material placed around an operating window or door to reduce air leaks.
Weephole:	An opening placed in a wall or window assembly to permit the escape of liquid water from within the assembly. Weepholes can also act as vents.
Weeping Tiles:	Drainage pipes placed at the base of foundation walls.
Window:	A manufactured assembly of a frame, sash, glazing and necessary hardware, made to fit an opening in a wall.
	 Window sill: horizontal member at the base of a window opening
	 Window head: horizontal member at the top of a window opening
	 Window jamb: either of the vertical members at the sides of a window opening
	Mullion: vertical member between glazed units
	Rail: horizontal member between glazed units
	Glazing: The glass portion of the window
	 IGU: Insulated glazing unit. Double or triple panes of glass sealed together to provide insulation value. The still gas between the panes acts as the insulation.
	• Condensation track: a channel at the interior sill level of the window intended to intercept small amounts of water condensing on the interior surface of the glass.