The Management Trust

Barrington Heights
West Linn, Oregon
Account 2019 Offsite Update -- Version 1
September 24, 2018

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Barrington Heights

PART I • INFORMATION ABOUT YOUR RESERVE STUDY

Barrington Heights
West Linn, Oregon
TR Trust Reserves Funding Model Summary

Report Date	September 24, 2018
Account Number	2019 Offsite Update
Version	1
Budget Year Beginning	January 01, 2019
Budget Year Ending	December 31, 2019
Total Units	259

Report Parameters

Inflation	3.00%
Interest Rate on Reserve Deposit	0.50%
2019 Beginning Balance	$50,494

Disclosures:

Physical Analysis - An on-site reserve study was performed. Observations were limited to visual observations only. Destructive testing (invasive testing) was not performed. Any items that were not clearly visible at the time of the site observation were not viewed, and therefore were not included in the drafting of this reserve study.

Measurements - Measuring and inventory (+/- 10%) were identified via a combination of onsite physical measurements, previous reserve study and/or drawing take-offs. Drawing sets (if used) were provided by the property manager or Declarant for our use relating only to the reserve study scope of work.

Reliance on Client Data - Data received from property management, association representatives and/or Declarant is deemed reliable by ReserveTrust / The Management Trust. Such data may include financial information, physical deficiencies or physical conditions, quantity of physical assets, or historical issues.

Scope - The Reserve Study is a reflection of information provided to the Consultant and assembled for the Association's use, not for the purpose of performing an audit, quality/forensic analysis, or background checks of historical records.

Reserve Balance - The actual or projected (estimated) total presented in this reserve study is based upon information provided or collected and was not audited.

Reserve Projects -Information provided or collected for the purpose of this reserve study will be considered reliable and should not be considered a project audit or quality inspection.

Adjustments to Reserve Study - Should components suggested by Consultant be removed from the reserve study or any life

cycles or costs other than current bids, engineering construction standards, or current component history be used in this reserve study, the Client accepts full responsibility for the results of the reserve study and is not warranted by Consultant.

- Information Provided - Quantity, design and material information included in this report was provided in part by the Association and is subject to course of construction changes.

- Limitations on Inventory -The following items, but not limited to, are not included in the physical analysis because they have a useful life greater than 30 years. Grading/drainage, foundations/footings, party walls, bearing and shear walls, perimeter walls, beams, columns and girders, sub floors, unfinished floors, concrete stair surfaces, windows, exterior doors, window and door frames, plumbing system, flues (chimneys), air delivery or return systems, ducts, chutes, conduits, pipes, plumbing, sanitary sewage and storm drains, wire, telephone, cable, central television system, sprinkler systems and internet lines.

- Warranty or Guaranty - This reserve study and its recommendations should not be construed in any way to constitute a warranty or guaranty regarding the current or future performance of the components. Components will be replaced as required, not necessarily in their expected replacement year.

- Annual Updates - Often times there can be a significant expenditure in those years that exceeds the life of the reserve study. Hence, annual updates should be performed to allow adjustments in the reserve contribution each year if required.

- Ongoing Maintenance - The reserve study component life cycles assumes that assets are inspected and maintained on an ongoing scheduled basis funded with operating budget funds and/or reserve funds set aside for this work. For example, an asphalt overlay surface should have a seal coating applied every 4 to 5 years in order to achieve the estimated expected life cycle of 30 years. Failure to perform maintenance per the recommended schedule may adversely impact the condition of said assets and have undesired affects on reserve funding.

- Tax Consequences - The tax consequences are not considered in this reserve study due to the uncertainty of all factors affecting net taxable income and the election of the tax form to be filed.

- We recommend a building envelope (water intrusion) inspection for the Building every two years and a roofing inspection every six years (not funded in the reserve).

- House Bill 955 (HB 955), in Oregon since 1/1/2006, specifically calls for the provision of a reserve study, reserve study update, maintenance plan and reserve summary. ORS 94.595 states that: "The board of directors of the association annually shall conduct a reserve study, or review and update an existing reserve study to determine the reserve study requirements". In

addition ORS 94.595 (3)(B)(c) and ORS 100.175 (3)(C)(c) further require that a Reserve Study Update be done each year.

House Bill 2665 (Chapter 409, Oregon Laws 2007) revises portions on SB 955 by removing the requirement for a maintenance plan from the reserve study and makes it a separate requirement. Also, after 9/27/2007 HB 2665 no longer requires that owners be provided a reserve summary of the reserve study or any revisions thereto.

Further House Bill 2665 makes windows and unit access doors, except for glazing and screening, general common elements, unless Declaration provides otherwise, (Sec 5).

Preparation of a Reserve Study:

Data is collected from several sources to prepare a reserve study and a variety of document reviews, interviews, and site observations are required to adequately fulfill our duties as a reserve provider. The following sources, but not limited to, and methods were utilized in the preparation of this reserve study document:

- Property Management Personnel Interviews
- As built Plans and Specifications Document Reviews
- On-site Observations - If Applicable
- Discussions with Engineering or Architectural Consultants
- RS Means Facilities Maintenance & Repair Cost Data, 16th Edition (2009) printed manual
- Interviewing General Contractor Consultants

A tabular list of commonly owned items has been developed and given a current condition grade, expected useful life, and remaining useful life. A portion of that data will determine in what year it is estimated the component should be replaced.

The percent funded ratings recognized by industry standards is:

0-30% - poor

31-70% - fair

71-100% - good

Trust Assessment Funding Model Summary of Calculations

Required Annual Contribution	$20,588.00
$79.49 per unit annually	
Average Net Annual Interest Earned	$139.11
Total Annual Allocation to Reserves	$20,727.11
$80.03 per unit annually	

Barrington Heights
TR Trust Reserves Funding Model Projection

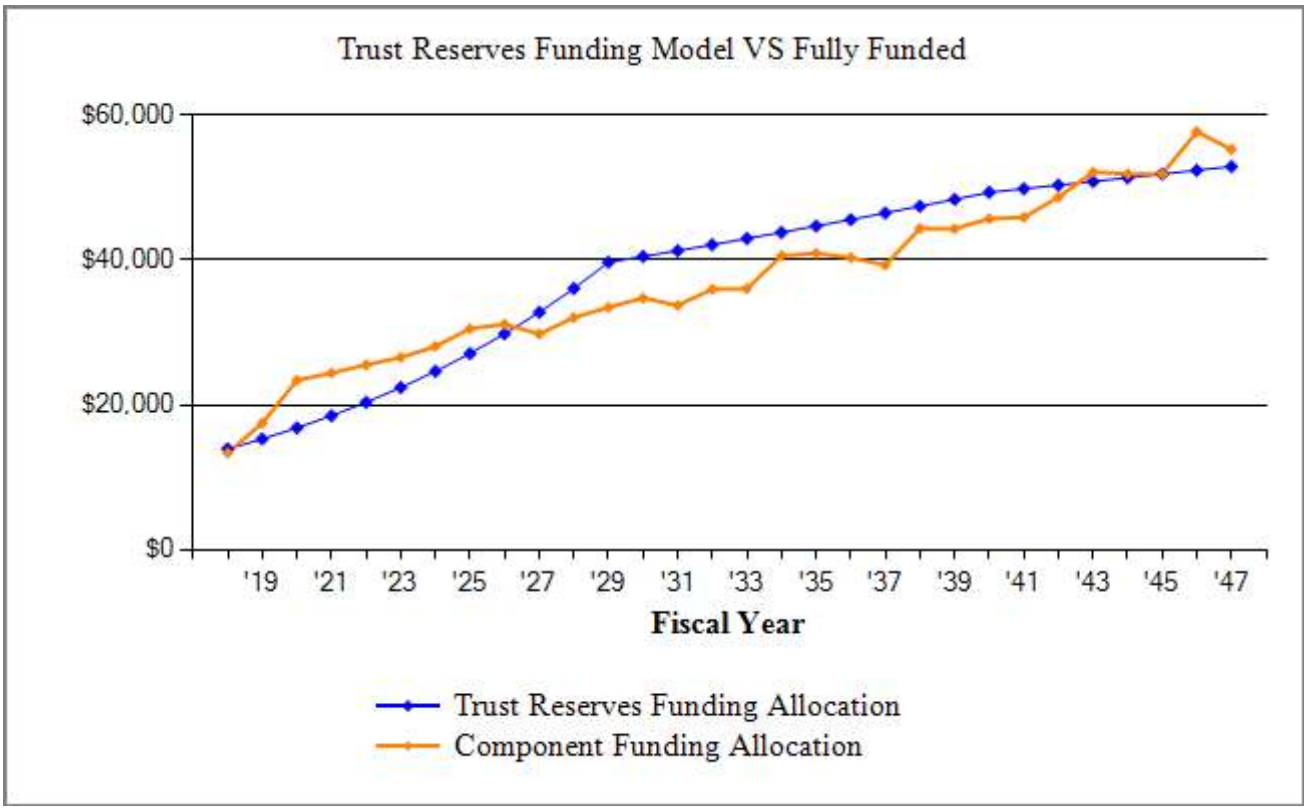
Beginning Balance: $50,494

Year	Current Cost	Annual Contribution	Annual Interest	Annual Expenditures	Projected Ending Reserves	Fully Funded Reserves	Percent Funded
2019	184,188	20,588	139	43,260	27,961	99,430	28%
2020	189,189	23,059	150	21,105	30,064	116,022	26%
2021	194,339	25,826	152	25,457	30,585	129,165	24%
2022	199,644	28,925	132	33,197	26,444	135,284	20%
2023	205,109	32,396	104	38,052	20,892	137,155	15%
2024	210,737	36,283	78	41,587	15,666	137,273	11%
2025	216,534	36,646	138	24,736	27,714	155,397	18%
2026	222,505	37,012	106	43,604	21,228	155,290	14%
2027	211,155	37,383	90	40,695	18,005	123,330	15%
2028	217,490	37,756	272	1,305	54,729	149,708	37%
2029	224,015	38,134	367	19,487	73,743	158,925	46%
2030	230,735	38,515	281	56,061	56,477	131,736	43%
2031	237,657	38,900	236	48,102	47,512	112,703	42%
2032	244,787	39,289	209	45,033	41,977	97,814	43%
2033	252,131	39,682	370	7,563	74,467	121,915	61%
2034	259,694	39,881	517	10,906	103,959	144,165	72%
2035	267,485	40,080	554	33,314	111,279	144,897	77%
2036	275,510	40,280	553	40,867	111,247	138,793	80%
2037	283,775	40,482	641	23,604	128,765	151,236	85%
2038	292,288	40,684	712	27,141	143,020	161,387	89%
2039	301,057	40,888	669	50,138	134,439	149,163	90%
2040	310,089	41,092	772	21,133	155,170	167,484	93%
2041	319,391	41,298	982		197,450	209,190	94%
2042	328,973	41,504	910	56,968	182,897	194,571	94%
2043	338,842	41,712	937	37,119	188,427	201,091	94%
2044	349,008	41,920	1,016	27,219	204,144	219,171	93%
2045	359,478	42,130	1,102	25,832	221,544	240,425	92%
2046	370,262	42,340	1,034	57,143	207,775	231,304	90%
2047	381,370	42,552	827	84,939	166,215	194,556	85%
2048	392,811	42,765	1,024	4,242	205,762	241,137	85%

Barrington Heights
TR Distribution by Percentage of Ideally Funded

Description	Remaining Life	Ideally Funded	Beginning Balance	Percent Funded	Assessment Distributed	Interest Distributed	Expenditures	Ending Balance
General								
Backflow Device	19	1,037	259	25%	201	1		462
Bench Maintenance	3	459	115	25%	89	1		205
Brick Mailboxes	13	2,000	499	25%	388	3		890
Brick Mailboxes-Rebuild	0	17,500	14,081	80%	3,397	23	17,500	0
Brick Structures	3	5,146	1,285	25%	999	7		2,291
Bridge Maintenance	10	2,059	514	25%	400	3		916
Concrete Maintenance	1	2,429	606	25%	471	3		1,081
Fence & Gates - Wrought Iron - Painting	5	3,422	855	25%	664	4		1,523
Fence - Wrought Iron	11	11,711	2,925	25%	2,273	15		5,213
Gates - Wrought Iron - Pedestrian	6	1,227	306	25%	238	2		546
Holiday Lighting	0	18,260	14,692	80%	3,544	24	18,260	0
Irrigation Controllers - Battery	1	750	187	25%	146	1		334
Irrigation Controllers - Electric	0	2,500	2,012	80%	485	3	2,500	0
Lighting - Fixtures	27	600	150	25%	116	1		267
Lighting - High Voltage	2	6,500	1,623	25%	1,262	9		2,893
Lighting - Low Voltage	7	4,867	1,216	25%	945	6		2,167
Monument - Cast Aluminum Sign Maint	5	467	117	25%	91	1		208
Monument Maintenance	12	700	175	25%	136	1		312
Roof Maintenance - Covered Arch	3	400	100	25%	78	1		178
Street Lights	5	5,056	1,263	25%	981	7		2,250
Tree Work	0	5,000	4,023	80%	970	7	5,000	0
Underground Utilities	11	11,250	2,809	25%	2,183	15		5,008
Valves - Irrigation	6	2,736	683	25%	531	4		1,218
General - Total		$106,076	$50,494	48%	$20,588	$139	$43,260	$27,961
Grand - Total		$106,076	$50,494		$20,588	$139	$43,260	$27,961

Barrington Heights
TR Trust Reserves Funding Model VS Fully Funded Chart



The Trust Reserves Funding Model is based on the cashflow, parameters, and reserve fund balance. Because it is calculated using the cashflow, it will give the accurate projection of how well the association is funded for the next 30 years of planned reserve expenditures.

Barrington Heights
TR Category Detail Index

Total Funded Assets	23
Total Unfunded Assets	0
Total Assets	23

Backflow Device - 2038

		10 Each	@ $350.00
Asset ID	1001	Asset Cost	$3,500.00
		Percent Replacement	100%
	General	Future Cost	$6,137.27
Placed in Service	October 2011	Assigned Reserves	$201.28
Useful Life	27		
Replacement Year	2038	Annual Assessment	$201.28
Remaining Life	19	Interest Contribution	$1.36
		Reserve Allocation	$202.63

Remarks:

Pressure test the integrity of gaskets and device functionality once a year. Typically, a properly tested and maintained backflow device will have a life expectancy of approximately twenty five (25) to thirty (30) years.

Bench Maintenance - 2022

		1 Allowance	@ $500.00
Asset ID	1003	Asset Cost	$500.00
		Percent Replacement	100%
	General	Future Cost	$546.36
Placed in Service	January 1985	Assigned Reserves	$89.17
Useful Life	30		
Adjustment	7	Annual Assessment	$89.17
Replacement Year	2022	Interest Contribution	$0.60
Remaining Life	3	Reserve Allocation	$89.78

Remarks:

This is an allowance to paint and maintain the metal bench as needed.

Brick Mailboxes - 2032

		1 Allowance	@ $15,000.00
Asset ID	1004	Asset Cost	$15,000.00
		Percent Replacement	100%
	General	Future Cost	$22,028.01
Placed in Service	July 2017	Assigned Reserves	$388.17
Useful Life	10		
Adjustment	5	Annual Assessment	$388.17
Replacement Year	2032	Interest Contribution	$2.62
Remaining Life	13	Reserve Allocation	$390.80

Remarks:

Brick & masonry has an estimated life of more than thirty (30) years. This is an allowance. Maintenance should include sealcoating, pressure washing, and replacement of broken areas as needed. Maintenance would also include replace faulty hinges or replacement of the mailbox clusters.

Wellington Ct-Repairs in 2017 at a cost of $1200.00

2067 Riverknoll Ct-Repairs in 2017 at a cost of $4500.00

3360 Barrington Dr-Repairs in 2017 at a cost of $4500.00

Brick Mailboxes continued...

2870 Beacon Hill Dr-Repairs in 2017 at a cost of $4500.00

3320 Barrington Dr- Repairs in 2018 at a cost of $4200.00

3457 Barrington Dr-Repairs in 2018 at a cost of $4500.00

2919 Beacon Hill Dr-Repairs in 2018 at cost of $4500.00

Brick Mailboxes-Rebuild - 2019

		1 Allowance	@ $17,500.00
Asset ID	1027	Asset Cost	$17,500.00
		Percent Replacement	100%
	General	Future Cost	$17,500.00
Placed in Service	October 2017	Assigned Reserves	$3,396.52
Useful Life	1		
Replacement Year	2019	Annual Assessment	$3,396.52
Remaining Life	0	Interest Contribution	$22.95
		Reserve Allocation	$3,419.47

Remarks:

This line item is to fund the plan to rebuild each of the mailbox clusters over the next 8 years.

Wellington Ct-Repairs in 2017 at a cost of $1200.00

2067 Riverknoll Ct-Repairs in 2017 at a cost of $4500.00

3360 Barrington Dr-Repairs in 2017 at a cost of $4500.00

2870 Beacon Hill Dr-Repairs in 2017 at a cost of $4500.00

3320 Barrington Dr- Repairs in 2018 at a cost of $4200.00

Brick Mailboxes-Rebuild continued...

3457 Barrington Dr-Repairs in 2018 at a cost of $4500.00

2919 Beacon Hill Dr-Repairs in 2018 at cost of $4500.00

Brick Structures - 2022

		1 Allowance	@ $12,865.00
Asset ID	1005	Asset Cost	$12,865.00
		Percent Replacement	100%
	General	Future Cost	$14,057.93
Placed in Service	November 2017	Assigned Reserves	$998.77
Useful Life	5		
Replacement Year	2022	Annual Assessment	$998.77
Remaining Life	3	Interest Contribution	$6.75
		Reserve Allocation	$1,005.52

Remarks:

Brick & masonry has an estimated life of more than thirty (30) years. This is an allowance. Maintenance would include sealcoating, pressure washing, and replacement of broken areas as needed.

Sussex Entrance wall repaired in 2018 at a cost of $1200.00.

Bridge Maintenance - 2029

		1 Allowance	@ $5,000.00
Asset ID	1006	Asset Cost	$5,000.00
		Percent Replacement	100%
	General	Future Cost	$6,719.58
Placed in Service	October 2012	Assigned Reserves	$399.59
Useful Life	15		
Adjustment	2	Annual Assessment	$399.59
Replacement Year	2029	Interest Contribution	$2.70
Remaining Life	10	Reserve Allocation	$402.29

Remarks:

This is an allowance for any maintenance or repairs as needed. Check structural integrity on a regular cycle.

Concrete Maintenance - 2020

		1 Allowance	@ $2,500.00
Asset ID	1019	Asset Cost	$2,500.00
		Percent Replacement	100%
	General	Future Cost	$2,575.00
Placed in Service	January 1985	Assigned Reserves	$471.35
Useful Life	15		
Adjustment	20	Annual Assessment	$471.35
Replacement Year	2020	Interest Contribution	$3.18
Remaining Life	1	Reserve Allocation	$474.54

Remarks:

This is an alllowance to repair cracks and breaks that can occur as the ground underneath the cement settles over the years. Inspect sidewalk and staircases for tripping hazards. Grind down and replace selected sections as needed.

Fence & Gates - Wrought Iron - Painting - 2024

		1 Event	@ $11,978.00
Asset ID	1008	Asset Cost	$11,978.00
		Percent Replacement	100%
	General	Future Cost	$13,885.78
Placed in Service	October 2017	Assigned Reserves	$664.22
Useful Life	7		
Replacement Year	2024	Annual Assessment	$664.22
Remaining Life	5	Interest Contribution	$4.49
		Reserve Allocation	$668.71

Remarks:

The black paint on the wrought iron gate can start to fade and oxidize. To maintain a clean and fresh appearance, expect to paint the wrought iron gate every seven (7) years, or as needed.

Fence - Wrought Iron - 2030

		310 LF	@ $50.00
Asset ID	1007	Asset Cost	$15,500.00
		Percent Replacement	100%
	General	Future Cost	$21,455.62
Placed in Service	January 1985	Assigned Reserves	$2,272.97
Useful Life	30		
Adjustment	15	Annual Assessment	$2,272.97
Replacement Year	2030	Interest Contribution	$15.36
Remaining Life	11	Reserve Allocation	$2,288.33

Remarks:

Expect replacement of wrought iron every thirty (30) years, or as needed.

Gates - Wrought Iron - Pedestrian - 2025

		2 Each	@ $750.00
Asset ID	1024	Asset Cost	$1,500.00
		Percent Replacement	100%
	General	Future Cost	$1,791.08
Placed in Service	January 1992	Assigned Reserves	$238.20
Useful Life	30		
Adjustment	3	Annual Assessment	$238.20
Replacement Year	2025	Interest Contribution	$1.61
Remaining Life	6	Reserve Allocation	$239.81

Remarks:

Inspect hinge integrity and maintain as necessary. Expect replacement of wrought iron every thirty (30) years, or as needed.

Holiday Lighting - 2019

		1 Total	@ $18,260.00
Asset ID	1025	Asset Cost	$18,260.00
		Percent Replacement	100%
	General	Future Cost	$18,260.00
Placed in Service	January 2015	Assigned Reserves	$3,544.02
Useful Life	4		
Replacement Year	2019	Annual Assessment	$3,544.02
Remaining Life	0	Interest Contribution	$23.95
		Reserve Allocation	$3,567.97

Remarks:

This item is for the replacement of the holiday lighting throughout the trees in the association. Expect replacement every four (4) years, or as needed.

Cost obtained from work completed by Innovative Nightscapes LLC in 2015. Cost includes the cost of the lifts necessary to install the lighting into the larger trees.

Irrigation Controllers - Battery - 2020

		1 Allowance	@ $1,000.00
Asset ID	1010	Asset Cost	$1,000.00
		Percent Replacement	100%
	General	Future Cost	$1,030.00
Placed in Service	July 2016	Assigned Reserves	$145.56
Useful Life	4		
Replacement Year	2020	Annual Assessment	$145.56
Remaining Life	1	Interest Contribution	$0.98
		Reserve Allocation	$146.55

Remarks:

Check for blockages and controller integrity. Industry standards is battery irrigation controllers have a life expectancy of four (4) years.

Irrigation Controllers - Electric - 2019

		1 Allowance	@ $2,500.00
Asset ID	1011	Asset Cost	$2,500.00
		Percent Replacement	100%
	General	Future Cost	$2,500.00
Placed in Service	January 2008	Assigned Reserves	$485.22
Useful Life	10		
Replacement Year	2019	Annual Assessment	$485.22
Remaining Life	0	Interest Contribution	$3.28
		Reserve Allocation	$488.50

Remarks:

Check for blockages and controller integrity. Industry standards is electric irrigation controllers have a life expectancy of four (4) years.

Lighting - Fixtures - 2046

		20 Each	@ $300.00
Asset ID	1013	Asset Cost	$6,000.00
		Percent Replacement	100%
	General	Future Cost	$13,327.73
Placed in Service	August 2016	Assigned Reserves	$116.45
Useful Life	30		
Replacement Year	2046	Annual Assessment	$116.45
Remaining Life	27	Interest Contribution	$0.79
		Reserve Allocation	$117.24

Remarks:

Inspect light fixtures and replace light bulbs, globes, and fixtures as needed. Expect replacement of light fixtures every thirty (30) years, or as needed.

Lighting - High Voltage - 2021

		30 Each	@ $250.00
Asset ID	1014	Asset Cost	$7,500.00
		Percent Replacement	100%
	General	Future Cost	$7,956.75
Placed in Service	January 2006	Assigned Reserves	$1,261.56
Useful Life	15		
Replacement Year	2021	Annual Assessment	$1,261.56
Remaining Life	2	Interest Contribution	$8.52
		Reserve Allocation	$1,270.09

Remarks:

Inspect light fixture and test light sensor and replace bulb as needed. Expect replacement of light fixture every fifteen (15) years, or as needed.

Lighting - Low Voltage - 2026

		1 Total	@ $16,225.00
Asset ID	1015	Asset Cost	$16,225.00
		Percent Replacement	100%
	General	Future Cost	$19,954.70
Placed in Service	July 2016	Assigned Reserves	$944.72
Useful Life	10		
Replacement Year	2026	Annual Assessment	$944.72
Remaining Life	7	Interest Contribution	$6.38
		Reserve Allocation	$951.10

Remarks:

Inspect light fixture and test light sensor and replace light bulb as needed. Expect replacement of light fixture every ten (10) years, or as needed.

Cost obtained from work completed by Innovative Nightscapes LLC.

Monument - Cast Aluminum Sign Maint - 2024

		1 Allowance	@ $800.00
Asset ID	1018	Asset Cost	$800.00
		Percent Replacement	100%
	General	Future Cost	$927.42
Placed in Service	July 2012	Assigned Reserves	$90.57
Useful Life	8		
Adjustment	4	Annual Assessment	$90.57
Replacement Year	2024	Interest Contribution	$0.61
Remaining Life	5	Reserve Allocation	$91.19

Remarks:

Clean as needed. Expect painting every eight (8) years, or as needed.

Monument Maintenance - 2031

		1 Allowance	@ $3,500.00
Asset ID	1017	Asset Cost	$3,500.00
		Percent Replacement	100%
	General	Future Cost	$4,990.16
Placed in Service	June 2016	Assigned Reserves	$135.86
Useful Life	15		
Replacement Year	2031	Annual Assessment	$135.86
Remaining Life	12	Interest Contribution	$0.92
		Reserve Allocation	$136.78

Remarks:

This is a provision for possible maintenance to the monument. Clean, seal, or replace lettering as needed.

Roof Maintenance - Covered Arch - 2022

		1 Allowance	@ $1,000.00
Asset ID	1020	Asset Cost	$1,000.00
		Percent Replacement	100%
	General	Future Cost	$1,092.73
Placed in Service	November 2017	Assigned Reserves	$77.63
Useful Life	5		
Replacement Year	2022	Annual Assessment	$77.63
Remaining Life	3	Interest Contribution	$0.52
		Reserve Allocation	$78.16

Remarks:

Maintenance of roof would include replacing missing and damaged shingles, and removing moss as required.

Street Lights - 2024

		1 Allowance	@ $7,000.00
Asset ID	1021	Asset Cost	$7,000.00
		Percent Replacement	100%
	General	Future Cost	$8,114.92
Placed in Service	January 2006	Assigned Reserves	$981.22
Useful Life	5		
Adjustment	13	Annual Assessment	$981.22
Replacement Year	2024	Interest Contribution	$6.63
Remaining Life	5	Reserve Allocation	$987.85

Remarks:

Anticipate regular repairs and replacement of streelight components. Expect to replace streetlights every thirty (30) years, or as needed. Base replacement costs include: steel or aluminum pole, fixture, lamp, globe, and ballast. This component also includes lighting on the monuments.

Tree Work - 2019

		1 Allowance	@ $5,000.00
Asset ID	1026	Asset Cost	$5,000.00
		Percent Replacement	100%
	General	Future Cost	$5,000.00
Placed in Service	January 2007	Assigned Reserves	$970.43
Useful Life	7		
Adjustment	5	Annual Assessment	$970.43
Replacement Year	2019	Interest Contribution	$6.56
Remaining Life	0	Reserve Allocation	$976.99

Remarks:

Expect major pruning, maintenance, and/or replacement of some trees by a professional arborist every seven (7) years, or as needed.

Underground Utilities - 2030

		1 Allowance	@ $25,000.00
Asset ID	1022	Asset Cost	$25,000.00
		Percent Replacement	100%
	General	Future Cost	$34,605.85
Placed in Service	January 2010	Assigned Reserves	$2,183.48
Useful Life	20		
Replacement Year	2030	Annual Assessment	$2,183.48
Remaining Life	11	Interest Contribution	$14.75
		Reserve Allocation	$2,198.23

Remarks:

This line item is a provision for the ongoing maintenance of the underground conduits serving the community. This includes but is not limited to; electrical wiring and underground water conduits. These assets should be replaced and maintained as needed.

Valves - Irrigation - 2025

		6 Each	@ $760.00
Asset ID	1023	Asset Cost	$4,560.00
		Percent Replacement	100%
	General	Future Cost	$5,444.88
Placed in Service	January 2010	Assigned Reserves	$531.02
Useful Life	15		
Replacement Year	2025	Annual Assessment	$531.02
Remaining Life	6	Interest Contribution	$3.59
		Reserve Allocation	$534.61

Remarks:

This item is for the ongoing maintenance for the valves in the irrigation system.

Detail Report Summary

Grand Total

Assigned Reserves	$71,082.00
Annual Contribution	$20,588.00
Annual Interest	$242.05
Annual Allocation	$20,830.05

Barrington Heights
TR Annual Expenditure Detail

Description	Expenditures
Replacement Year 2019	
Brick Mailboxes-Rebuild	17,500
Holiday Lighting	18,260
Irrigation Controllers - Electric	2,500
Tree Work	5,000
Total for 2019	**$43,260**
Replacement Year 2020	
Brick Mailboxes-Rebuild	17,500
Concrete Maintenance	2,575
Irrigation Controllers - Battery	1,030
Total for 2020	**$21,105**
Replacement Year 2021	
Brick Mailboxes-Rebuild	17,500
Lighting - High Voltage	7,957
Total for 2021	**$25,457**
Replacement Year 2022	
Bench Maintenance	546
Brick Mailboxes-Rebuild	17,500
Brick Structures	14,058
Roof Maintenance - Covered Arch	1,093
Total for 2022	**$33,197**
Replacement Year 2023	
Brick Mailboxes-Rebuild	17,500
Holiday Lighting	20,552
Total for 2023	**$38,052**
Replacement Year 2024	
Brick Mailboxes-Rebuild	17,500
Fence & Gates - Wrought Iron - Painting	13,886
Irrigation Controllers - Battery	1,159
Monument - Cast Aluminum Sign Maint	927
Street Lights	8,115
Total for 2024	**$41,587**

Barrington Heights
TR Annual Expenditure Detail

Description	Expenditures
Replacement Year 2025	
Brick Mailboxes-Rebuild	17,500
Gates - Wrought Iron - Pedestrian	1,791
Valves - Irrigation	5,445
Total for 2025	**$24,736**
Replacement Year 2026	
Brick Mailboxes-Rebuild	17,500
Lighting - Low Voltage	19,955
Tree Work	6,149
Total for 2026	**$43,604**
Replacement Year 2027	
Brick Structures	16,297
Holiday Lighting	23,131
Roof Maintenance - Covered Arch	1,267
Total for 2027	**$40,695**
Replacement Year 2028	
Irrigation Controllers - Battery	1,305
Total for 2028	**$1,305**
Replacement Year 2029	
Bridge Maintenance	6,720
Irrigation Controllers - Electric	3,360
Street Lights	9,407
Total for 2029	**$19,487**
Replacement Year 2030	
Fence - Wrought Iron	21,456
Underground Utilities	34,606
Total for 2030	**$56,061**
Replacement Year 2031	
Fence & Gates - Wrought Iron - Painting	17,078
Holiday Lighting	26,034
Monument Maintenance	4,990
Total for 2031	**$48,102**

Barrington Heights
TR Annual Expenditure Detail

Description	Expenditures
Replacement Year 2032	
Brick Mailboxes	22,028
Brick Structures	18,893
Irrigation Controllers - Battery	1,469
Monument - Cast Aluminum Sign Maint	1,175
Roof Maintenance - Covered Arch	1,469
Total for 2032	**$45,033**
Replacement Year 2033	
Tree Work	7,563
Total for 2033	**$7,563**
Replacement Year 2034	
Street Lights	10,906
Total for 2034	**$10,906**
Replacement Year 2035	
Concrete Maintenance	4,012
Holiday Lighting	29,302
Total for 2035	**$33,314**
Replacement Year 2036	
Irrigation Controllers - Battery	1,653
Lighting - High Voltage	12,396
Lighting - Low Voltage	26,817
Total for 2036	**$40,867**
Replacement Year 2037	
Brick Structures	21,902
Roof Maintenance - Covered Arch	1,702
Total for 2037	**$23,604**
Replacement Year 2038	
Backflow Device	6,137
Fence & Gates - Wrought Iron - Painting	21,003
Total for 2038	**$27,141**

Barrington Heights
TR Annual Expenditure Detail

Description	Expenditures
Replacement Year 2039	
Holiday Lighting	32,980
Irrigation Controllers - Electric	4,515
Street Lights	12,643
Total for 2039	**$50,138**
Replacement Year 2040	
Irrigation Controllers - Battery	1,860
Monument - Cast Aluminum Sign Maint	1,488
Tree Work	9,301
Valves - Irrigation	8,483
Total for 2040	**$21,133**
No Replacement in 2041	
Replacement Year 2042	
Brick Mailboxes	29,604
Brick Structures	25,390
Roof Maintenance - Covered Arch	1,974
Total for 2042	**$56,968**
Replacement Year 2043	
Holiday Lighting	37,119
Total for 2043	**$37,119**
Replacement Year 2044	
Bridge Maintenance	10,469
Irrigation Controllers - Battery	2,094
Street Lights	14,656
Total for 2044	**$27,219**
Replacement Year 2045	
Fence & Gates - Wrought Iron - Painting	25,832
Total for 2045	**$25,832**
Replacement Year 2046	
Lighting - Fixtures	13,328
Lighting - Low Voltage	36,040

Barrington Heights
TR Annual Expenditure Detail

Description	Expenditures
Replacement Year 2046 continued...	
Monument Maintenance	7,775
Total for 2046	**$57,143**
Replacement Year 2047	
Brick Structures	29,434
Holiday Lighting	41,778
Roof Maintenance - Covered Arch	2,288
Tree Work	11,440
Total for 2047	**$84,939**
Replacement Year 2048	
Irrigation Controllers - Battery	2,357
Monument - Cast Aluminum Sign Maint	1,885
Total for 2048	**$4,242**

Barrington Heights
TR Spread Sheet

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Backflow Device										
Bench Maintenance				546						
Brick Mailboxes										
Brick Mailboxes-Rebuild	17,500	17,500	17,500	17,500	17,500	17,500	17,500	17,500		
Brick Structures				14,058					16,297	
Bridge Maintenance										
Concrete Maintenance		2,575								
Fence & Gates - Wrought Iron - Painting						13,886				
Fence - Wrought Iron										
Gates - Wrought Iron - Pedestrian							1,791			
Holiday Lighting	18,260				20,552				23,131	
Irrigation Controllers - Battery		1,030				1,159				1,305
Irrigation Controllers - Electric	2,500									
Lighting - Fixtures										
Lighting - High Voltage			7,957							
Lighting - Low Voltage								19,955		
Monument - Cast Aluminum Sign Maint						927				
Monument Maintenance										
Roof Maintenance - Covered Arch				1,093					1,267	
Street Lights						8,115				
Tree Work	5,000							6,149		
Underground Utilities										
Valves - Irrigation							5,445			
Year Total:	**43,260**	**21,105**	**25,457**	**33,197**	**38,052**	**41,587**	**24,736**	**43,604**	**40,695**	**1,305**

Barrington Heights
TR Spread Sheet

Description	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Backflow Device										6,137
Bench Maintenance										
Brick Mailboxes				22,028						
Brick Mailboxes-Rebuild										
Brick Structures				18,893					21,902	
Bridge Maintenance	6,720									
Concrete Maintenance							4,012			
Fence & Gates - Wrought Iron - Painting			17,078							21,003
Fence - Wrought Iron		21,456								
Gates - Wrought Iron - Pedestrian										
Holiday Lighting			26,034				29,302			
Irrigation Controllers - Battery				1,469				1,653		
Irrigation Controllers - Electric	3,360									
Lighting - Fixtures										
Lighting - High Voltage								12,396		
Lighting - Low Voltage								26,817		
Monument - Cast Aluminum Sign Maint				1,175						
Monument Maintenance			4,990							
Roof Maintenance - Covered Arch				1,469					1,702	
Street Lights	9,407					10,906				
Tree Work					7,563					
Underground Utilities		34,606								
Valves - Irrigation										
Year Total:	**19,487**	**56,061**	**48,102**	**45,033**	**7,563**	**10,906**	**33,314**	**40,867**	**23,604**	**27,141**

Barrington Heights
TR Spread Sheet

Description	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Backflow Device										
Bench Maintenance										
Brick Mailboxes				29,604						
Brick Mailboxes-Rebuild										
Brick Structures				25,390					29,434	
Bridge Maintenance						10,469				
Concrete Maintenance										
Fence & Gates - Wrought Iron - Painting							25,832			
Fence - Wrought Iron										
Gates - Wrought Iron - Pedestrian										
Holiday Lighting	32,980				37,119				41,778	
Irrigation Controllers - Battery		1,860				2,094				2,357
Irrigation Controllers - Electric	4,515									
Lighting - Fixtures								13,328		
Lighting - High Voltage										
Lighting - Low Voltage								36,040		
Monument - Cast Aluminum Sign Maint		1,488								1,885
Monument Maintenance								7,775		
Roof Maintenance - Covered Arch				1,974					2,288	
Street Lights	12,643					14,656				
Tree Work		9,301							11,440	
Underground Utilities										
Valves - Irrigation		8,483								
Year Total:	**50,138**	**21,133**		**56,968**	**37,119**	**27,219**	**25,832**	**57,143**	**84,939**	**4,242**

Barrington Heights
West Linn, Oregon
TR Threshold Funding Model Summary

Report Date	September 24, 2018
Account Number	2019 Offsite Update
Version	1
Budget Year Beginning	January 01, 2019
Budget Year Ending	December 31, 2019
Total Units	259

Report Parameters

Inflation	3.00%
Annual Assessment Increase	3.00%
Interest Rate on Reserve Deposit	0.50%
2019 Beginning Balance	$50,494

Disclosures:

Physical Analysis - An on-site reserve study was performed observations were limited to visual observations only. Destructive testing (invasive testing) was not performed. Any items that were not clearly visible at the time of the site observation were not viewed, and therefore were not included in the drafting of this reserve study.

Measurements - Measuring and inventory (+/- 10%) were identified via a combination of onsite physical measurements, previous reserve study and/or drawing take-offs. Drawing sets (if used) were provided by the property manager or Declarant for our use relating only to the reserve study scope of work.

Reliance on Client Data - Data received from property management, association representatives and/or Declarant is deemed reliable by ReserveTrust / The Management Trust. Such data may include financial information, physical deficiencies or physical conditions, quantity of physical assets, or historical issues.

Scope - The Reserve Study is a reflection of information provided to the Consultant and assembled for the Association's use, not for the purpose of performing an audit, quality/forensic analysis, or background checks of historical records.

Reserve Balance - The actual or projected (estimated) total presented in this reserve study is based upon information provided or collected and was not audited.

Reserve Projects -Information provided or collected for the purpose of this reserve study will be considered reliable and should not be considered a project audit or quality inspection.

Adjustments to Reserve Study - Should components suggested by Consultant be removed from the reserve study or any life

cycles or costs other than current bids, engineering construction standards, or current component history be used in this reserve study, the Client accepts full responsibility for the results of the reserve study and is not warranted by Consultant.

- Information Provided - Quantity, design and material information included in this report was provided in part by the Association and is subject to course of construction changes.

- Limitations on Inventory -The following items, but not limited to, are not included in the physical analysis because they have a useful life greater than 30 years. Grading/drainage, foundations/footings, party walls, bearing and shear walls, perimeter walls, beams, columns and girders, sub floors, unfinished floors, concrete stair surfaces, windows, exterior doors, window and door frames, plumbing system, flues (chimneys), air delivery or return systems, ducts, chutes, conduits, pipes, plumbing, sanitary sewage and storm drains, wire, telephone, cable, central television system, sprinkler systems and internet lines.

- Warranty or Guaranty - This reserve study and its recommendations should not be construed in any way to constitute a warranty or guaranty regarding the current or future performance of the components. Components will be replaced as required, not necessarily in their expected replacement year.

- Annual Updates - Often times there can be a significant expenditure in those years that exceeds the life of the reserve study. Hence, annual updates should be performed to allow adjustments in the reserve contribution each year if required.

- Ongoing Maintenance - The reserve study component life cycles assumes that assets are inspected and maintained on an ongoing scheduled basis funded with operating budget funds and/or reserve funds set aside for this work. For example, an asphalt overlay surface should have a seal coating applied every 4 to 5 years in order to achieve the estimated expected life cycle of 30 years. Failure to perform maintenance per the recommended schedule may adversely impact the condition of said assets and have undesired affects on reserve funding.

- Tax Consequences - The tax consequences are not considered in this reserve study due to the uncertainty of all factors affecting net taxable income and the election of the tax form to be filed.

- We recommend a building envelope (water intrusion) inspection for the Building every two years and a roofing inspection every six years (not funded in the reserve).

- House Bill 955 (HB 955), in Oregon since 1/1/2006, specifically calls for the provision of a reserve study, reserve study update, maintenance plan and reserve summary. ORS 94.595 states that: "The board of directors of the association annually shall conduct a reserve study, or review and update an existing reserve study to determine the reserve study requirements". In

addition ORS 94.595 (3)(B)(c) and ORS 100.175 (3)(C)(c) further require that a Reserve Study Update be done each year.

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Further House Bill 2665 makes windows and unit access doors, except for glazing and screening, general common elements, unless Declaration provides otherwise, (Sec 5).

Preparation of a Reserve Study:

Data is collected from several sources to prepare a reserve study and a variety of document reviews, interviews, and site observations are required to adequately fulfill our duties as a reserve provider. The following sources, but not limited to, and methods were utilized in the preparation of this reserve study document:

- Property Management Personnel Interviews
- As built Plans and Specifications Document Reviews
- On-site Observations - If Applicable
- Discussions with Engineering or Architectural Consultants
- RS Means Facilities Maintenance & Repair Cost Data, 16th Edition (2009) printed manual
- Interviewing General Contractor Consultants

A tabular list of commonly owned items has been developed and given a current condition grade, expected useful life, and remaining useful life. A portion of that data will determine in what year it is estimated the component should be replaced.

The percent funded ratings recognized by industry standards is:

0-30% - poor

31-70% - fair

71-100% - good

Threshold Funding Model Summary of Calculations

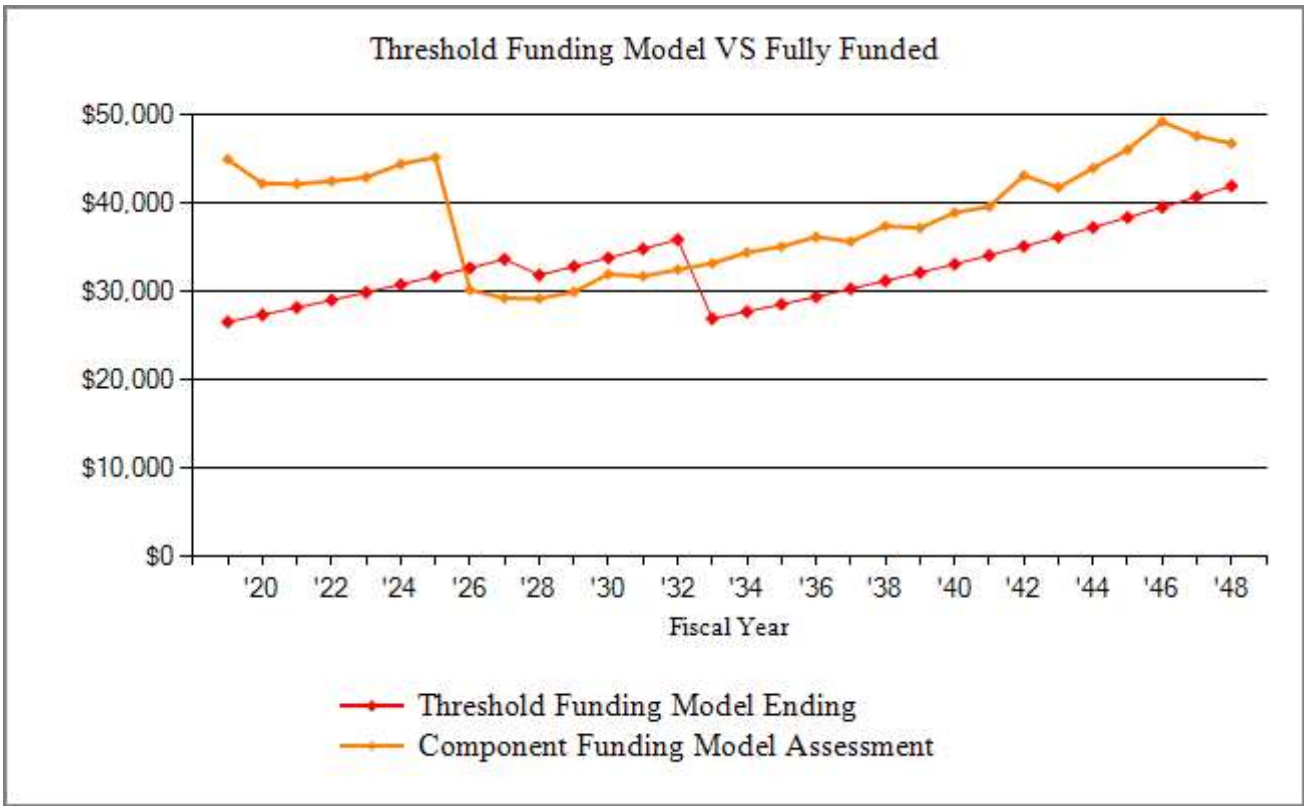
Required Annual Contribution	$26,565.83
$102.57 per unit annually	
Average Net Annual Interest Earned	$169.00
Total Annual Allocation to Reserves	$26,734.83
$103.22 per unit annually	

Barrington Heights
TR Threshold Funding Model Projection

Beginning Balance: $50,494

Year	Current Cost	Annual Contribution	Annual Interest	Annual Expenditures	Projected Ending Reserves	Fully Funded Reserves	Percent Funded
2019	184,188	26,566	169	43,260	33,969	99,430	34%
2020	189,189	27,363	201	21,105	40,428	116,022	35%
2021	194,339	28,184	216	25,457	43,370	129,165	34%
2022	199,644	29,029	196	33,197	39,399	135,284	29%
2023	205,109	29,900	156	38,052	31,403	137,155	23%
2024	210,737	30,797	103	41,587	20,716	137,273	15%
2025	216,534	31,721	139	24,736	27,839	155,397	18%
2026	222,505	32,673	85	43,604	16,993	155,290	11%
2027	211,155	33,653	50	40,695	10,000	123,330	8%
2028	217,490	31,871	203	1,305	40,769	149,708	27%
2029	224,015	32,827	271	19,487	54,381	158,925	34%
2030	230,735	33,812	161	56,061	32,292	131,736	25%
2031	237,657	34,827	95	48,102	19,111	112,703	17%
2032	244,787	35,871	50	45,033	10,000	97,814	10%
2033	252,131	26,918	147	7,563	29,502	121,915	24%
2034	259,694	27,726	232	10,906	46,553	144,165	32%
2035	267,485	28,557	209	33,314	42,006	144,897	29%
2036	275,510	29,414	153	40,867	30,706	138,793	22%
2037	283,775	30,297	187	23,604	37,586	151,236	25%
2038	292,288	31,205	208	27,141	41,859	161,387	26%
2039	301,057	32,142	119	50,138	23,982	149,163	16%
2040	310,089	33,106	180	21,133	36,135	167,484	22%
2041	319,391	34,099	351		70,585	209,190	34%
2042	328,973	35,122	244	56,968	48,983	194,571	25%
2043	338,842	36,176	240	37,119	48,280	201,091	24%
2044	349,008	37,261	292	27,219	58,614	219,171	27%
2045	359,478	38,379	356	25,832	71,517	240,425	30%
2046	370,262	39,530	270	57,143	54,174	231,304	23%
2047	381,370	40,716	50	84,939	10,000	194,556	5%
2048	392,811	41,938	238	4,242	47,934	241,137	20%

Barrington Heights
TR Threshold Funding Model VS Fully Funded Chart



The **Threshold Funding Model** calculates the minimum reserve assessments, with the restriction that the reserve balance is not allowed to go below $0 or other predetermined threshold, during the period of time examined. All funds for planned reserve expenditures will be available on the first day of each fiscal year. The **Threshold Funding Model** allows the client to choose the level of conservative funding they desire by choosing the threshold dollar amount.

Barrington Heights
West Linn, Oregon
TR Component Funding Model Summary

Report Date	September 24, 2018
Account Number	2019 Offsite Update
Version	1
Budget Year Beginning	January 01, 2019
Budget Year Ending	December 31, 2019
Total Units	259

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Contingency	3.00%
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31-70% - fair

71-100% - good

Component Funding Model Summary of Calculations

Required Annual Contribution	$44,966.35
$173.62 per unit annually	
Average Net Annual Interest Earned	$261.00
Total Annual Allocation to Reserves	$45,227.36
$174.62 per unit annually	

Barrington Heights
TR Component Funding Model Projection

Beginning Balance: $50,494

Year	Current Cost	Annual Contribution	Annual Interest	Annual Expenditures	Projected Ending Reserves	Fully Funded Reserves	Percent Funded
2019	184,188	44,966	261	43,260	52,461	102,505	51%
2020	189,189	42,220	368	21,105	73,945	119,610	62%
2021	194,339	42,180	453	25,457	91,121	133,159	68%
2022	199,644	42,493	502	33,197	100,919	139,468	72%
2023	205,109	42,929	529	38,052	106,325	141,397	75%
2024	210,737	44,443	546	41,587	109,726	141,518	78%
2025	216,534	45,189	651	24,736	130,830	160,203	82%
2026	222,505	30,185	587	43,604	117,998	160,092	74%
2027	211,155	29,244	533	40,695	107,079	127,144	84%
2028	217,490	29,213	675	1,305	135,662	154,338	88%
2029	224,015	29,956	731	19,487	146,862	163,840	90%
2030	230,735	31,967	614	56,061	123,381	135,811	91%
2031	237,657	31,731	535	48,102	107,545	116,189	93%
2032	244,787	32,483	475	45,033	95,470	100,839	95%
2033	252,131	33,193	605	7,563	121,705	125,686	97%
2034	259,694	34,427	726	10,906	145,953	148,624	98%
2035	267,485	35,083	739	33,314	148,460	149,379	99%
2036	275,510	36,173	719	40,867	144,485	143,086	101%
2037	283,775	35,654	783	23,604	157,317	155,913	101%
2038	292,288	37,414	838	27,141	168,428	166,378	101%
2039	301,057	37,196	777	50,138	156,265	153,776	102%
2040	310,089	38,930	870	21,133	174,932	172,663	101%
2041	319,391	39,605	1,073		215,609	215,659	100%
2042	328,973	43,145	1,009	56,968	202,796	200,588	101%
2043	338,842	41,776	1,037	37,119	208,490	207,310	101%
2044	349,008	43,972	1,126	27,219	226,369	225,949	100%
2045	359,478	46,079	1,233	25,832	247,850	247,860	100%
2046	370,262	49,253	1,200	57,143	241,160	238,458	101%
2047	381,370	47,614	1,019	84,939	204,853	200,573	102%
2048	392,811	46,771	1,237	4,242	248,619	248,595	100%

Important Information

This document has been provided pursuant to an agreement containing restrictions on its use. No part of this document may be copied or distributed, in any form or by any means, nor disclosed to third parties without the expressed written permission of Trust Reserves. The client shall have the right to reproduce and distribute copies of this report, or the information contained within, as may be required for compliance with all applicable regulations.

This reserve analysis study and the parameters under which it has been completed are based upon information provided to us in part by representatives of the association, its contractors, assorted vendors, specialist and independent contractors, the Community Association Institute, and various construction pricing and scheduling manuals including, but not limited to: Marshall & Swift Valuation Service, RS Means Facilities Maintenance & Repair Cost Data, RS Means Repair & Remodeling Cost Data, National Construction Estimator, National Repair & Remodel Estimator, Dodge Cost Manual and McGraw-Hill Professional. Additionally, costs are obtained from numerous vendor catalogues, actual quotations or historical costs, and our own experience in the field of property management and reserve study preparation.

It has been assumed, unless otherwise noted in this report, that all assets have been designed and constructed properly and that each estimated useful life will approximate that of the norm per industry standards and/or manufacturer's specifications. In some cases, estimates may have been used on assets, which have an indeterminable but potential liability to the association. The decision for the inclusion of these as well as all assets considered is left to the client.

We recommend that your reserve analysis study be updated on an annual basis due to fluctuating interest rates, inflationary changes, and the unpredictable nature of the lives of many of the assets under consideration. All of the information collected during our inspection of the association and computations made subsequently in preparing this reserve analysis study are retained in our computer files. Therefore, annual updates may be completed quickly and inexpensively each year.

Trust Reserves would like to thank you for using our services. We invite you to call us at any time, should you have questions, comments or need assistance. In addition, any of the parameters and estimates used in this study may be changed at your request, after which we will provide a revised study.

This reserve analysis study is provided as an aid for planning purposes and not as an accounting tool. Since it deals with events yet to take place, there is no assurance that the results enumerated within it will, in fact, occur as described.

Part II

Introduction

Preparing the annual budget and overseeing the association's finances are perhaps the most important responsibilities of board members. The annual operating and reserve budgets reflect the planning and goals of the association and set the level and quality of service for all of the association's activities.

Funding Options

When a major repair or replacement is required in a community, an association has essentially four options available to address the expenditure:

The first, and only logical means that the Board of Directors has to ensure its ability to maintain the assets for which it is obligated, is by **assessing an adequate level of reserves** as part of the regular membership assessment, thereby distributing the cost of the replacements uniformly over the entire membership. The community is not only comprised of present members, but also future members. Any decision by the Board of Directors to adopt a calculation method or funding plan which would disproportionately burden future members in order to make up for past reserve deficits, would be a breach of its fiduciary responsibility to those future members. Unlike individuals determining their own course of action, the board is responsible to the "community" as a whole.

Whereas, if the association was setting aside reserves for this purpose, using the vehicle of the regularly assessed membership dues, it would have had the full term of the life of the roof, for example, to accumulate the necessary moneys. Additionally, those contributions would have been evenly distributed over the entire membership and would have earned interest as part of that contribution.

The second option is for the association to **acquire a loan** from a lending institution in order to effect the required repairs. In many cases, banks will lend to an association using "future homeowner assessments" as collateral for the loan. With this method, the current board is pledging the future assets of an association. They are also incurring the additional expense of interest fees along with the original principal amount. In the case of a $150,000 roofing replacement, the association may be required to pay back the loan over a three to five year period, with interest.

The third option, too often used, is simply to **defer the required repair or replacement**. This option, which is not recommended, can create an environment of declining property values due to expanding lists of deferred maintenance items and the association's financial inability to keep pace with the normal aging process of the common area components. This, in turn, can have a seriously negative impact on sellers in the association by making it difficult, or even impossible, for potential buyers to obtain financing from lenders. Increasingly, lending institutions are requesting copies of the association's most recent reserve study before granting loans, either for the association itself, a prospective purchaser, or for an individual within such an association.

The fourth option is to pass a "**special assessment**" to the membership in an amount required to cover the expenditure. When a special assessment is passed, the association has the authority and responsibility to collect the assessments, even by means of foreclosure, if necessary. However, an association considering a special assessment cannot guarantee that an assessment, when needed, will be passed. Consequently, the association cannot guarantee its ability to perform the required repairs or replacements to those major components for which it is obligated when the need arises. Additionally, while relatively new communities require very little in the way of major "reserve" expenditures, associations reaching 12 to 15 years of age and older, find many components reaching the end of their effective useful lives. These required expenditures, all accruing at the same time, could be devastating to an association's overall budget.

Types of Reserve Studies

Most reserve studies fit into one of three categories:

Full Reserve Study;

Update with site inspection; and

Update without site inspection.

In a **Full Reserve Study**, the reserve provider conducts a component inventory, a condition assessment (based upon on-site visual observations), and life and valuation estimates to determine both a "fund status" and "funding plan".

In an **Update with site inspection**, the reserve provider conducts a component inventory (verification only, not quantification unless new components have been added to the inventory), a condition assessment (based upon on-site visual observations), and life and valuation estimates to determine both the "fund status and "funding plan."

In an **Update without site inspection**, the reserve provider conducts life and valuation estimates to determine the "fund status" and "funding plan."

The Reserve Study: A Physical and a Financial Analysis

There are two components of a reserve study: a physical analysis and a financial analysis.

Physical Analysis

During the physical analysis, a reserve study provider evaluates information regarding the physical status and repair/replacement cost of the association's major common area components. To do so, the provider conducts a component inventory, a condition assessment, and life and valuation estimates.

Developing a Component List

The budget process begins with full inventory of all the major components for which the association is responsible. The determination of whether an expense should be labeled as operational, reserve, or excluded altogether is sometimes subjective. Since this labeling may have a major impact on the financial plans of the association, subjective determinations should be minimized. We suggest the following considerations when labeling an expense.

Operational Expenses

Occur at least annually, no matter how large the expense, and can be budgeted for effectively each year. They are characterized as being reasonably predictable, both in terms of frequency and cost. Operational expenses include all minor expenses, which would not otherwise adversely affect an operational budget from one year to the next. Examples of ***operational expenses*** include:

Utilities:
- Electricity
- Gas
- Water
- Telephone
- Cable TV

Administrative:
- Supplies
- Bank Service Charges
- Dues & Publications
- Licenses, Permits & Fees
- Insurance(s)

Services:
- Landscaping
- Pool Maintenance
- Street Sweeping
- Accounting
- Reserve Study

Repair Expenses:
- Tile Roof Repairs
- Equipment Repairs
- Minor Concrete Repairs
- Operating Contingency

Reserve Expenses

These are major expenses that occur other than annually, and which must be budgeted for in advance in order to ensure the availability of the necessary funds in time for their use. Reserve expenses are reasonably predictable both in terms of frequency and cost. However, they may include significant assets that have an indeterminable but potential liability that may be demonstrated as a likely occurrence. They are expenses that, when incurred, would have a significant effect on the smooth operation of the budgetary process from one year to the next, if they were not reserved for in advance. Examples of reserve expenses include:

- Roof Replacements
- Painting
- Deck Resurfacing
- Fencing Replacement
- Asphalt Seal Coating
- Asphalt Repairs
- Asphalt Overlays
- Equipment Replacement
- Interior Furnishings
- Park/Play Equipment
- Pool/Spa Re-plastering
- Pool Equipment Replacement
- Pool Furniture Replacement
- Tennis Court Resurfacing
- Lighting Replacement
- Insurance(s)
- Reserve Study

Budgeting is Normally Excluded for:

Repairs or replacements of assets which are deemed to have an estimated useful life equal to or exceeding the estimated useful life of the facility or community itself, or exceeding the legal life of the community as defined in an association's governing documents. Examples include the complete replacement of elevators, tile roofs, wiring and plumbing. Also excluded are insignificant expenses that may be covered either by an operating or reserve contingency, or otherwise in a general maintenance fund. Expenses that are necessitated by acts of nature, accidents or other occurrences that are more properly insured for, rather than reserved for, are also excluded.

Financial Analysis

The financial analysis assesses the association's reserve balance or "fund status" (measured in cash or as percent fully funded) to determine a recommendation for the appropriate reserve contribution rate in the future, known as the "funding plan".

Preparing the Reserve Study

Once the reserve assets have been identified and quantified, their respective replacement costs, useful lives and remaining lives must be assigned so that a funding schedule can be constructed. Replacement costs and useful lives can be found in published manuals such as construction estimators, appraisal handbooks, and valuation guides. Remaining lives are calculated from the useful lives and ages of assets and adjusted according to conditions such as design, manufactured quality, usage, exposure to the elements and maintenance history.

By following the recommendations of an effective reserve study, the association should avoid any major shortfalls. However, to remain accurate, the report should be updated on an annual basis to reflect such changes as shifts in economic parameters, additions of phases or assets, or expenditures of reserve funds. The association can assist in simplifying the reserve analysis update process by keeping accurate records of these changes throughout the year.

Funding Methods

From the simplest to the most complex, reserve analysis providers use many different computational processes to calculate reserve requirements. However, there are two basic processes identified as industry standards: the cash flow method and the component method.

The cash flow method develops a reserve-funding plan where contributions to the reserve fund are designed to offset the variable annual expenditures from the reserve fund. Different reserve funding plans are tested against the actual anticipated schedule of reserve expenses until the desired funding goal is achieved. This method sets up a "window" in which all future anticipated replacement costs are computed, based upon the individual lives of the components under consideration. The Trust Reserves Threshold and the Trust Reserves Current Assessment funding models are based upon the cash flow method.

The component method develops a reserve-funding plan where the total contribution is based upon the sum of contributions for individual components. The component method is the more conservative of the two funding options, and assures that the association will achieve and maintain an ideal level of reserve over time. This method also allows for computations on individual components in the analysis. The Trust Reserves Component Funding model is based upon the component methodology.

Funding Strategies

Once an association has established its funding goals, the association can select an appropriate funding plan. There are four basic strategies from which most associations select. It is recommended that associations consult professionals to determine the best strategy or combination of plans that best suit the association's need. Additionally, associations should consult with their financial advisor to determine the tax implications of selecting a particular plan. Further, consultation with the American Institute of Certified Public Accountants (AICPA) for their reporting requirements is advisable. The four funding plans and descriptions of each are detailed below. Associations will have to update their reserve studies more or less frequently depending on the funding strategy they select.

Full Funding---Given that the basis of funding for reserves is to distribute the costs of the replacements over the lives of the components in question, it follows that the ideal level of reserves would be proportionately related to those lives and costs. If an association has a component with an expected estimated useful life of ten years, it would set aside approximately one-tenth of the replacement cost each year. At the end of three years, one would expect three-tenths of the replacement cost to have accumulated, and if so, that component would be "fully-funded." This model is important in that it is a measure of the adequacy of an association's reserves at any one point of time, and is independent of any particular method which may have been used for past funding or may be under consideration for future funding. This formula represents a snapshot in time and is based upon current replacement cost, independent of future inflationary or investment factors:

Fully Funded Reserves = **Age** divided by **Useful Life** the results multiplied by **Current Replacement Cost**

When an association's total accumulated reserves for all components meet this criterion, its reserves are considered "fully-funded."

The Trust Reserves **Threshold Funding Model (Minimum Funding)**. The goal of this funding method is to keep the reserve cash balance above zero. This means that while each individual component may not be fully funded, the reserve balance overall does not drop below zero during the projected period. An association using this funding method must understand that even a minor reduction in a component's remaining useful life can result in a deficit in the reserve cash balance.

The Trust Reserves **Threshold Funding Model.** This method is based upon the cash flow funding concept. The minimum reserve cash balance in threshold funding, however, is set at a predetermined dollar amount (other than $0).

The Trust Reserves **Assessment Funding Model**. This method is also based upon the cash flow funding concept. The initial reserve assessment is set at the association's current fiscal year funding level and a 30-year projection is calculated to illustrate the adequacy of the current funding over time.

The Trust Reserves **Component Funding Model**. This is a straight-line funding model. It distributes the cash reserves to individual reserve components and then calculates what the reserve assessment and interest contribution (minus taxes) should be, again by each reserve component. The current annual assessment is then determined by summing all the individual component assessments, hence the name "Component Funding Model". This is the most conservative funding model. It leads to or maintains the fully funded reserve position. The following details this calculation process.

Component Funding Model Distribution of Accumulated Reserves

The "Distribution of Accumulated Reserves Report" is a "Component Funding Model" calculation. This distribution **does not** apply to the cash flow funding models.

When calculating reserves based upon the component methodology, a beginning reserve balance must be

allocated for each of the individual components considered in the analysis, before the individual calculations can be completed. When this distribution is not available, or of sufficient detail, the following method is suggested for allocating reserves:

The first step the program performs in this process is subtracting, from the total accumulated reserves, any amounts for assets that have predetermined (fixed) reserve balances. The user can "fix" the accumulated reserve balance within the program on the individual asset's detail page. If, by error, these amounts total more than the amount of funds available, then the remaining assets are adjusted accordingly. A provision for a contingency reserve is then deducted by the determined percentage used, and if there are sufficient remaining funds available.

The second step is to identify the ideal level of reserves for each asset. As indicated in the prior section, this is accomplished by evaluating the component's age proportionate to its estimated useful life and current replacement cost. Again, the equation used is as follows:

Fully Funded Reserves = (Age/Useful Life) x Current Replacement Cost

The Reserve Analyst© software program performs the above calculations to the actual month the component was placed-in-service. The program projects that the accumulation of necessary reserves for repairs or replacements will be available on the first day of the fiscal year in which they are scheduled to occur.

The next step the program performs is to arrange all of the assets used in the study in ascending order by remaining life, and alphabetically within each grouping of remaining life items. These assets are then assigned their respective ideal level of reserves until the amount of funds available is depleted, or until all assets are appropriately funded. If any assets are assigned a zero remaining life (scheduled for replacement in the current fiscal year), then the amount assigned equals the current replacement cost and funding begins for the next cycle of replacement. If there are insufficient funds available to accomplish this, then the software automatically adjusts the zero remaining life items to one year, and that asset assumes its new grouping position alphabetically in the final printed report.

If, at the completion of this task, there are additional moneys that have not been distributed, the remaining reserves are then assigned, in ascending order, to a level equal to, but not exceeding, the current replacement cost for each component. If there are sufficient moneys available to fund all assets at their current replacement cost levels, then any excess funds are designated as such and are not factored into any of the report computations. If, at the end of this assignment process there are designated excess funds, they can be used to offset the monthly contribution requirements recommended, or used in any other manner the client may desire.

Assigning the reserves in this manner defers the make-up period for any under-funding over the longest remaining life of all assets under consideration, thereby minimizing the impact of any deficiency. For example, if the report indicates an under funding of $50,000, this under-funding will be assigned to components with the longest remaining lives in order to give more time to "replenish" the account. If the $50,000 under-funding were to be assigned to short remaining life items, the impact would be felt immediately.

If the reserves are under-funded, the monthly contribution requirements, as outlined in this report, can be expected to be higher than normal. In future years, as individual assets are replaced, the funding requirements will return to their normal levels. In the case of a large deficiency, a special assessment may be considered. The program can easily generate revised reports outlining how the monthly contributions would be affected by such an adjustment, or by any other changes that may be under consideration.

Funding Reserves

Three assessment and contribution figures are provided in the report, the "Monthly Reserve Assessment Required", the "Average Net Monthly Interest Earned" contribution and the "Total Monthly Allocation to Reserves." The association should allocate the "Monthly Reserve Assessment Required" amount to reserves each month when the interest earned on the reserves is left in the reserve accounts as part of the contribution. Any interest earned on reserve deposits, must be left in reserves and only amounts set aside for taxes should be removed.

The second alternative is to allocate the "Total Monthly Allocation" to reserves (this is the member assessment plus the anticipated interest earned for the fiscal year). This method assumes that all interest earned will be assigned directly as operating income. This allocation takes into consideration the anticipated interest earned on accumulated reserves regardless of whether or not it is actually earned. When taxes are paid, the amount due will be taken directly from the association's operating accounts as the reserve accounts are allocated only those moneys net of taxes.

Users' Guide to your Reserve Analysis Study

Part II of your Trust Reserves Report contains the reserve analysis study for your association. There are seven types of reports in the study as described below.

Report Summaries

The Report Summary for all funding models lists all of the parameters that were used in calculating the report as well as the summary of your reserve analysis study.

Index Reports

The **Distribution of Accumulated Reserves** report lists all assets in remaining life order. It also identifies the ideal level of reserves that should have accumulated for the association as well as the actual reserves available. This information is valid only for the "Component Funding Model" calculation.

The **Component Listing/Summary** lists all assets by category (i.e. roofing, painting, lighting, etc.) together with their remaining life, current cost, monthly reserve contribution, and net monthly allocation.

Detail Reports

The Detail Report itemizes each asset and lists all measurements, current and future costs, and calculations for that asset. Provisions for percentage replacements, salvage values, and one-time replacements can also be utilized. These reports can be sorted by category or group.

The numerical listings for each asset are enhanced by extensive narrative detailing factors such as design, manufactured quality, usage, exposure to elements and maintenance history.

The Trust Reserves Detail Index is an alphabetical listing of all assets, together with the page number of the asset's detail report, the projected replacement year, and the asset number.

Projections

Thirty-year projections add to the usefulness of your reserve analysis study.

Definitions

Report I.D.
Includes the Report Date (example: November 15, 1992), Account Number (example: 9773), and Version (example: 1.0). Please use this information (displayed on the summary page) when referencing your report.

Budget Year Beginning/Ending
The budgetary year for which the report is prepared. For associations with fiscal years ending December 31st, the monthly contribution figures indicated are for the 12-month period beginning 1/1/20xx and ending 12/31/20xx.

Number of Units and/or Phases
If applicable, the number of units and/or phases included in this version of the report.

Inflation
This figure is used to approximate the future cost to repair or replace each component in the report. The current cost for each component is compounded on an annual basis by the number of remaining years to replacement, and the total is used in calculating the monthly reserve contribution that will be necessary to accumulate the required funds in time for replacement.

Annual Assessment Increase
This represents the percentage rate at which the association will increase its assessment to reserves at the end of each year. For example, in order to accumulate $10,000 in 10 years, you could set aside $1,000 per year. As an alternative, you could set aside $795 the first year and increase that amount by 5% each year until the year of replacement. In either case you arrive at the same amount. The idea is that you start setting aside a lower amount and increase that number each year in accordance with the planned percentage. Ideally this figure should be equal to the rate of inflation. It can, however, be used to aide those associations that have not set aside appropriate reserves in the past, by making the initial year's allocation less formidable.

Investment Yield Before Taxes

The average interest rate anticipated by the association based upon its current investment practices.

Taxes on Interest Yield
The estimated percentage of interest income that will be set aside to pay income taxes on the interest earned.

Projected Reserve Balance
The anticipated reserve balance on the first day of the fiscal year for which this report has been prepared. This is based upon information provided and not audited.

Percent Fully Funded
The ratio, at the beginning of the fiscal year, of the actual (or projected) reserve balance to the calculated fully funded balance, expressed as a percentage.

Phase Increment Detail and/or Age
Comments regarding aging of the components on the basis of construction date or date of acceptance by the association.

Monthly Assessment
The assessment to reserves required by the association each month.

Interest Contribution (After Taxes)
The interest that should be earned on the reserves, net of taxes, based upon their beginning reserve balance and monthly contributions for one year. This figure is averaged for budgeting purposes.

Total Monthly Allocation
The sum of the monthly assessment and interest contribution figures.

Group and Category
The report may be prepared and sorted either by group (location, building, phase, etc.) or by category (roofing, painting, etc.). The standard report printing format is by category.

Percentage of Replacement or Repairs
In some cases, an asset may not be replaced in its entirety or the cost may be shared with a second party. Examples are budgeting for a percentage of replacement of streets over a period of time, or sharing the expense to replace a common wall with a neighboring party.

Placed-In-Service Date
The month and year that the asset was placed-in-service. This may be the construction date, the first escrow closure date in a given phase, or the date of the last servicing or replacement.

Estimated Useful Life
The estimated useful life of an asset based upon industry standards, manufacturer specifications, visual inspection, location, usage, association standards and prior history. All of these factors are taken into consideration when tailoring the estimated useful life to the particular asset. For example, the carpeting in a hallway or elevator (a heavy traffic area) will not have the same life as the identical carpeting in a seldom-used meeting room or office.

Adjustment to Useful Life
Once the useful life is determined, it may be adjusted, up or down, by this separate figure for the current cycle of replacement. This will allow for a current period adjustment without affecting the estimated replacement cycles for future replacements.

Estimated Remaining Life
This calculation is completed internally based upon the report's fiscal year date and the date the asset

was placed-in-service.

Replacement Year
The year that the asset is scheduled to be replaced. The appropriate funds will be available by the first day of the fiscal year for which replacement is anticipated.

Annual Fixed Reserves
An optional figure which, if used, will override the normal process of allocating reserves to each asset.

Fixed Assessment
An optional figure which, if used, will override all calculations and set the assessment at this amount. This assessment can be set for monthly, quarterly or annually as necessary.

Salvage Value
The salvage value of the asset at the time of replacement, if applicable.

One-Time Replacement
Notation if the asset is to be replaced on a one-time basis.

Current Replacement Cost
The estimated replacement cost effective at the beginning of the fiscal year for which the report is being prepared

Future Replacement Cost
The estimated cost to repair or replace the asset at the end of its estimated useful life based upon the current replacement cost and inflation.

Component Inventory
The task of selecting and qualifying reserve components. This task can be accomplished through on-site visual, review of association design and organizational documents, a review of established association precedents, and discussion with appropriate association representative(s).

A Multi-Purpose Tool

Your Trust Reserves Report is an important part of your association's budgetary process. Following its recommendations should ensure the association's smooth budgetary transitions from one fiscal year to the next, and either decrease or eliminate the need for "special assessments".

In addition, your Trust Reserves reserve study serves a variety of useful purposes:

- Following the recommendations of a reserve study performed by a professional consultant can protect the Board of Directors in a community from personal liability concerning reserve components and reserve funding.
- A reserve analysis study is required by your accountant during the preparation of the association's annual audit.
- The Trust Reserves reserve study is often requested by lending institutions during the process of loan applications, both for the community and, in many cases, the individual owners.
- Your Trust Reserves Report is also a detailed inventory of the association's major assets and serves as a management tool for scheduling, coordinating and planning future repairs and replacements.
- Your Trust Reserves Report is a tool that can assist the Board in fulfilling its legal and fiduciary obligations for maintaining the community in a state of good repair. If a community is operating on a special assessment basis, it cannot guarantee that an assessment, when needed, will be passed. Therefore, it cannot guarantee its ability to perform the required repairs or replacements to those major components for which the association is obligated.
- Since the Trust Reserves reserve analysis study includes measurements and cost estimates of the client's assets, the detail reports may be used to evaluate the accuracy and price of contractor bids when assets are due to be repaired or replaced.
- The Trust Reserves reserve study is an annual disclosure to the membership concerning the financial condition of the association, and may be used as a "consumers' guide" by prospective purchasers.
- The Trust Reserves Owners' Summary meets the disclosure requirements of the California Civil Code and also the recently adopted ECHO standards.
- Your Trust Reserves Report provides a record of the time, cost, and quantities of past reserve replacements. At times the association's management company and board of directors are transitory which may result in the loss of these important records.