

**Precision 20/20
Full Reserve Study
for
Waterway
Pines
Holland, Michigan
March 6, 2012**





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TABLE OF CONTENTS

RESERVE STUDY EXECUTIVE SUMMARY	Page 1.1
RESERVE STUDY REPORT	Page 2.1
IDENTIFICATION OF PROPERTY	Page 2.2
RESERVE EXPENDITURES and FUNDING PLAN	Page 3.1
CONDITION ASSESSMENT	Page 4.1
Exterior Building Elements	Page 4.1
Balconies, Wood	Page 4.1
Doors, Front Entrances	Page 4.2
Doors, Garage	Page 4.2
Gutters and Downspouts	Page 4.2
Roofs, Asphalt Shingles	Page 4.4
Walls, Vinyl Siding	Page 4.11
Windows and Patio Doors	Page 4.13
Property Site Elements	Page 4.17
Asphalt Pavement, Repaving	Page 4.17
Catch Basins	Page 4.21
Concrete Sidewalks and Stoops	Page 4.21
Irrigation System	Page 4.22
Ponds	Page 4.23
Railings, Wood, Stoops	Page 4.29
Reserve Study Update	Page 4.29
PHOTOGRAPHS	Page 5.1
SUPPLEMENTARY INFORMATION FOR FINANCIAL STATEMENTS	Page 6.1
METHODOLOGY	Page 7.1
DEFINITIONS	Page 8.1
CONDITIONS OF OUR SERVICE	Page 9.1
ASSUMPTIONS	Page 9.1
PROFESSIONAL SERVICE CONDITIONS	Page 9.2
CREDENTIALS	Page 10.1

RESERVE STUDY EXECUTIVE SUMMARY

Client: Waterway Pines

Location: Holland, Michigan

Reference: 092237

Property Basics: Waterway Pines is a townhome style development of 148 units in 53 buildings. The exteriors of the buildings comprise asphalt shingle roofs, vinyl siding, vinyl frame windows, doors, and wood balconies. The buildings were built from 1997 to 2005. The development contains asphalt pavement, ponds and an irrigation system.

Reserve Components Identified: 12 Reserve Components.

Inspection Date: March 6, 2012.

Funding Goal: The Funding Goal of this Reserve Study is to maintain reserves above an adequate, not excessive threshold during one or more years of significant expenditures. Our recommended Funding Plan recognizes this threshold funding year in 2041 due to replacement of the vinyl siding, windows and patio doors.

Cash Flow Method: We use the Cash Flow Method to compute the Reserve Funding Plan. This method offsets future variable Reserve Expenditures with existing and future stable levels of reserve funding. Our application of this method also considers:

- current and future *local* costs of replacement
- 1.2% annual rate of return on invested reserves
- 1.3% future Inflation Rate for estimating Future Replacement Costs

Sources for Local Costs of Replacement: Our proprietary database, historical costs and published sources, i.e., R.S. Means, Incorporated.

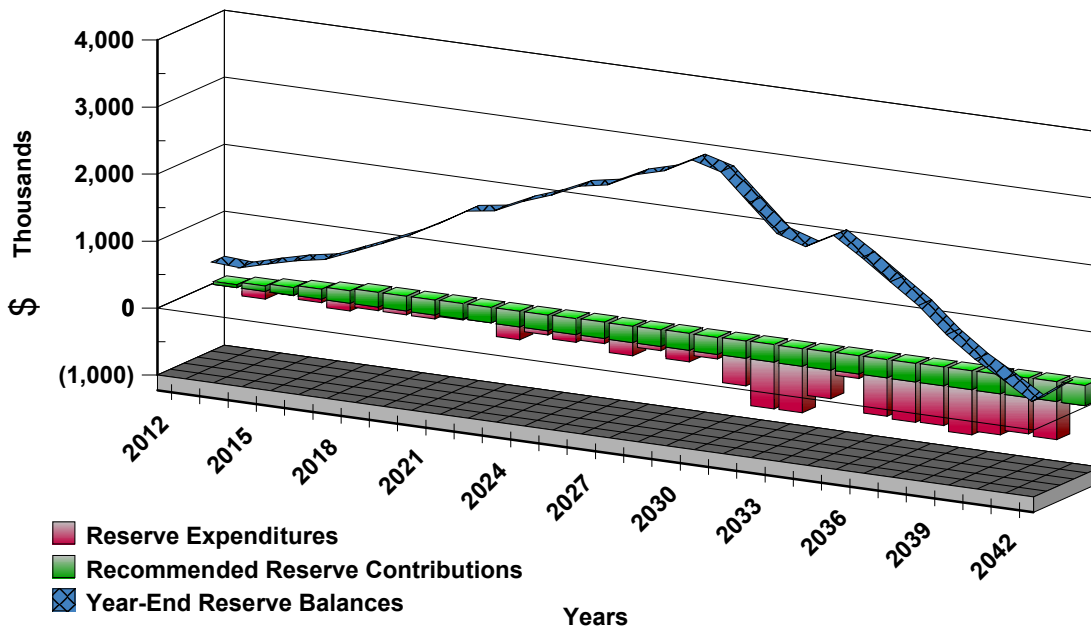
Cash Status of Reserve Fund: \$400,000 as of January 31, 2012. A potential deficit in reserves might occur by 2028 based upon continuation of the most recent annual reserve contribution of \$46,176 and the identified Reserve Expenditures.

Recommended Reserve Funding: The Association budgeted \$46,176 for Reserve Contributions in 2012. We recommend that the Association budget annual phased increases in Reserve Contributions of approximately \$34,600 from 2012 through 2017. Afterwards, the Association should budget gradual annual increases in reserve funding, that in part consider the effects of inflation. The recommended year 2013 Reserve Contribution of \$80,790 is \$34,614 more than the prior budgeted amount and represents about a ten percent (9.7%) adjustment in the 2012 total Operating Budget of \$355,200. This initial adjustment of \$34,614 is equivalent to an average monthly increase of \$19.49 per unit owner.

Certification: This *Precision 20/20 Full Reserve Study* exceeds the Community Associations Institute (CAI) and Association of Professional Reserve Analysts (APRA) standards fulfilling the requirements of a "Level I Full Reserve Study."

Waterway Pines Recommended Reserve Funding Table and Graph

Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)
2013	80,790	420,482	2023	236,100	1,995,987	2033	267,400	1,909,329
2014	115,390	537,486	2024	239,100	2,147,333	2034	270,700	2,137,531
2015	149,990	641,885	2025	242,100	2,338,419	2035	274,100	1,860,621
2016	184,590	718,247	2026	245,100	2,418,439	2036	277,500	1,558,036
2017	219,190	893,098	2027	248,200	2,633,529	2037	281,000	1,266,565
2018	221,900	1,072,096	2028	251,300	2,744,547	2038	284,500	890,588
2019	224,700	1,255,372	2029	254,400	2,968,187	2039	288,100	576,584
2020	227,500	1,484,102	2030	257,600	2,849,943	2040	291,700	333,811
2021	230,300	1,733,593	2031	260,800	2,443,563	2041	295,300	65,226
2022	233,200	1,797,438	2032	264,100	2,044,483	2042	299,000	366,803



Respectfully submitted on July 20, 2012 by
RESERVE ADVISORS, INC.

Jayme Radomski

Jayme R. Radomski, PRA¹, RS², Director of Quality Assurance
Visual Inspection and Report by: Matthew R. Beilman
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¹ PRA (Professional Reserve Analyst) is the professional designation of the Association of Professional Reserve Analysts. Learn more about APRA at <http://www.apra-usa.com>.

² RS (Reserve Specialist) is the reserve provider professional designation of the Community Associations Institute (CAI) representing America's more than 300,000 condominium, cooperative and homeowners associations.



RESERVE STUDY REPORT

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Precision 20/20 Full Reserve Study* of certain property exhibited to us as that of

Waterway Pines

Holland, Michigan

and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, March 6, 2012.

We present our findings and recommendations in the following report sections and spreadsheets:

- **Identification of Property** - Segregates all property into several areas of responsibility for repair or replacement
- **Reserve Expenditures** - Identifies reserve components and related quantities, useful lives, remaining useful lives and future reserve expenditures during the next 30 years
- **Reserve Funding Plan** - Presents the recommended Reserve Contributions and year-end Reserve Balances for the next 30 years
- **Condition Assessment** - Describes the reserve components, documents conditions with photographs, describes our recommendations for repairs or replacement, and includes detailed solutions and procedures for replacements for the benefit of current and future board members
- **Supplementary Information for Financial Statements** - Contains significant unaudited information about existing reserves from the Reserve Components and Expenditures, and estimated current and future replacement costs
- **Methodology** - Lists the national standards, methods and procedures used, financial information relied upon for the Financial Analysis of the Reserve Study
- **Definitions** - Contains definitions of terms used in the Reserve Study, consistent with national standards
- **Conditions of our Service** - Describes Assumptions and Professional Service Conditions
- **Credentials**
- **Resources**

IDENTIFICATION OF PROPERTY

Waterway Pines is a townhome style development of 148 units in 53 buildings. The exteriors of the buildings comprise asphalt shingle roofs, vinyl siding, vinyl frame windows, doors, and wood balconies. The buildings were built from 1997 to 2005. The development contains asphalt pavement, ponds and an irrigation system. We identify 12 major common elements that are likely to require capital repair or replacement during the next 30 years.

Our investigation includes Reserve Components or property elements as set forth in your Declaration. Our analysis begins by segregating the property elements into several areas of responsibility for repair and replacement. Our process of identification helps assure that future boards understand whether reserves, the operating budget or homeowners fund certain replacements and assists in preparation of the annual budget. We derive these segregated classes of property from our review of the information provided by the Association and through conversations with the Board. These classes of property include:

- Reserve Components
- Long-Lived Property Elements
- Operating Budget Funded Repairs and Replacements
- Property Maintained by Homeowners
- Property Maintained by Others

We advise that the Board conduct an annual review of these classes of property to confirm its policy concerning the manner of funding, i.e., from reserves or the operating budget.

The Reserve Study identifies Reserve Components as set forth in your Declaration or which were identified as part of your request for proposed services. Reserve Components are defined by CAI as property elements with:

- Waterway Pines responsibility
- Limited useful life expectancies
- Predictable remaining useful life expectancies
- Replacement cost above a minimum threshold

Long-Lived Property Elements do not have predictable Remaining Useful Lives. The operating budget should fund infrequent repairs. Funding untimely or unexpected replacements from reserves will necessitate increases to Reserve Contributions. Periodic updates of this Reserve Study will help determine the merits of adjusting the Reserve Funding Plan. We identify the following Long-Lived Property Elements as excluded from reserve funding at this time.

- Bridge, Timberlake Crossing
- Drainage Structures, Ponds
- Electrical Systems, Common
- Foundations
- Pipes, Subsurface Utilities
- Structural Frames

The operating budget provides money for the repair and replacement of certain Reserve Components. Operating Budget Funded Repairs and Replacements relate to:

- General Maintenance to the Common Elements
- Expenditures less than \$3,500 (*These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.*)
- Asphalt Pavement, Crack Repair, Patch and Seal Coat
- Balconies, Stain Applications
- Concrete Patios
- Guard Rails, Bridge
- Irrigation System, Controllers
- Landscape
- Light Fixtures, Exterior
- Light Poles and Fixtures
- Mailbox Stations

- Paint Finishes, Wood Trim, Shutters and Front Entry Doors
- Service Doors
- Shutters
- Signage
- Staircases
- Other Repairs normally funded through the Operating Budget

Property Maintained by Homeowners relates to unit:

- Electrical Systems
- Heating, Ventilating and Air Conditioning (HVAC) Units
- Interiors
- Piers
- Pipes, Interior Building, Water and Sewer

Certain items have been designated as the responsibility of others to repair or replace.

Property Maintained by Others relates to:

- Light Poles and Fixtures, Street

RESERVE EXPENDITURES and FUNDING PLAN

The tables following this introduction present:

Reserve Expenditures

- Line item numbers
- Total quantities replaced during the next 30 years
- Quantities replaced per phase (in a single year)
- Reserve component inventory
- Estimated first year of replacement
- Life analysis showing
 - useful life
 - remaining useful life
- Unit cost of replacement
- 2012 local cost of replacement
- Total future costs of replacement anticipated during the next 30 years
- Schedule of estimated future costs for each reserve component including inflation

Reserve Funding Plan

- Reserves at the beginning of each year
- Total recommended reserve contributions
- Estimated interest earned from invested reserves
- Anticipated expenditures by year
- Anticipated reserves at year end

RESERVE EXPENDITURES

for

Waterway Pines
Holland, Michigan

Explanatory Notes:

- 1) **1.3%** is the estimated future Inflation Rate for estimating Future Replacement Costs.
- 2) FY 2012 is Fiscal Year beginning January 1 and ending December 31.

Line Item	<u>Quantities:</u>		Units	Reserve Component Inventory	Estimated 1st Year of Replacement	Life Analysis, Years		Unit Cost, \$	2012 Cost of Replacement per Phase, \$	Total Future Costs of Replacement, \$	(See Notes 1 & 2)																								
	30-Year Total	Per Phase				Useful	Remaining				RUL = 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
Exterior Building Elements																																			
1.120	14,480	1,810	Square Feet	Balconies, Wood, Phased	2022	20 to 25	10	29.00	52,490	496,793									59,433	60,176	60,928	61,690	62,461	63,241	64,032	64,832									
1.180	148	74	Each	Doors, Front Entrances, Phased	2026	to 30	14	600.00	44,400	106,997													52,834		54,163										
1.200	148	37	Each	Doors, Garage, Metal Sectional, Phased	2022	20 to 25	10	1,200.00	44,400	208,808									50,273		51,538		52,834		54,163										
1.240	16,920	4,230	Linear Feet	Gutters and Downspouts, Phased	2030	20 to 25	18	9.50	40,185	204,819																50,254	50,883	51,519							
1.280	3,440	860	Squares	Roofs, Asphalt Shingles, Phased	2030	20 to 25	18	335.00	288,100	1,468,413																	360,291	364,795	369,355						
1.920	245,700	35,100	Square Feet	Walls, Vinyl Siding, Phased	2035	to 40	23	4.70	164,970	1,595,540																									
1.980	47,320	6,760	Square Feet	Windows and Patio Doors, Phased	2035	to 40	23	32.00	216,320	2,092,182																									
Property Site Elements																																			
4.040	16,700	16,700	Square Yards	Asphalt Pavement, Mill and Overlay, Streets	2013	15 to 20	1	6.65	111,055	112,443	112,443																								
4.045	16,700	8,350	Square Yards	Asphalt Pavement, Total Replacement, Streets, Phased	2031	15 to 20	19	24.00	200,400	510,668																	253,748	256,920							
4.046	19,500	1,950	Square Yards	Asphalt Pavement, Total Replacement, Driveways, Phased	2015	15 to 20	3	26.00	50,700	611,392			52,625	53,283	53,949	54,623	55,306																		
4.100	24	12	Each	Catch Basins, Inspections and Capital Repairs	2031	15 to 20	19	790.00	9,480	24,158																	12,004	12,154							
4.140	5,700	1,140	Square Feet	Concrete Sidewalks and Stoops, Partial	2020	to 65	8	12.00	13,680	86,554								15,109				16,078					17,322								
4.420	222,000	111,000	Square Feet	Irrigation System, Phased	2038	35 to 40	26	0.50	55,500	154,276																									
4.710	1	1	Allowance	Pond, Dredging and Erosion Control, Partial, North	2016	to 30	4	60,000.00	60,000	63,057			63,057																						
4.712	1	1	Allowance	Pond, Dredging and Erosion Control, Partial, South	2022	to 30	10	50,000.00	50,000	56,614												56,614													
4.800	1,330	665	Linear Feet	Railings, Wood, Stoops, Phased	2022	20 to 25	10	32.00	21,280	49,417												24,095		25,322											
		1	Allowance	Reserve Study Update with Site Visit	2014	2	2	4,100.00	4,100	4,100			4,100																						
Anticipated Expenditures, By Year									\$7,846,231	0	112,443	4,100	52,625	116,340	53,949	54,623	55,306	15,109	0	190,415	60,176	112,466	77,768	193,451	63,241	172,358	64,832	410,545	698,752	689,948					

RESERVE EXPENDITURES

for

Waterway Pines

Holland, Michigan

Line Item	Reserve Component Inventory	21 2033	22 2034	23 2035	24 2036	25 2037	26 2038	27 2039	28 2040	29 2041	30 2042
<u>Exterior Building Elements</u>											
1.120	Balconies, Wood, Phased										
1.180	Doors, Front Entrances, Phased										
1.200	Doors, Garage, Metal Sectional, Phased										
1.240	Gutters and Downspouts, Phased	52,163									
1.280	Roofs, Asphalt Shingles, Phased	373,972									
1.920	Walls, Vinyl Siding, Phased			219,528	222,273	225,051	227,864	230,712	233,596	236,516	
1.980	Windows and Patio Doors, Phased			287,861	291,459	295,102	298,791	302,526	306,307	310,136	
<u>Property Site Elements</u>											
4.040	Asphalt Pavement, Mill and Overlay, Streets										
4.045	Asphalt Pavement, Total Replacement, Streets, Phased										
4.046	Asphalt Pavement, Total Replacement, Driveways, Phased		66,634	67,467	68,311	69,165	70,029				
4.100	Catch Basins, Inspections and Capital Repairs										
4.140	Concrete Sidewalks and Stoops, Partial				18,432					19,613	
4.420	Irrigation System, Phased						76,659	77,617			
4.710	Pond, Dredging and Erosion Control, Partial, North										
4.712	Pond, Dredging and Erosion Control, Partial, South										
4.800	Railings, Wood, Stoops, Phased										
Reserve Study Update with Site Visit											
Anticipated Expenditures, By Year		426,135	66,634	574,856	600,475	589,318	673,343	610,855	539,903	566,265	0

RESERVE FUNDING PLAN

CASH FLOW ANALYSIS

Waterway Pines Holland, Michigan		Individual Reserve Budgets & Cash Flows for the Next 30 Years															
		FY2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Reserves at Beginning of Year (Note 1)		400,000	446,961	420,482	537,486	641,885	718,247	893,098	1,072,096	1,255,372	1,484,102	1,733,593	1,797,438	1,995,987	2,147,333	2,338,419	2,418,439
Total Recommended Reserve Contributions (Note 2)		42,328	80,790	115,390	149,990	184,590	219,190	221,900	224,700	227,500	230,300	233,200	236,100	239,100	242,100	245,100	248,200
Plus	Estimated Interest Earned, During Year (Note 3)	4,633	5,174	5,714	7,034	8,112	9,610	11,721	13,882	16,339	19,191	21,060	22,625	24,712	26,754	28,371	30,131
Less	Anticipated Expenditures, By Year	0	(112,443)	(4,100)	(52,625)	(116,340)	(53,949)	(54,623)	(55,306)	(15,109)	0	(190,415)	(60,176)	(112,466)	(77,768)	(193,451)	(63,241)
Anticipated Reserves at Year End		<u>\$446,961</u>	<u>420,482</u>	<u>537,486</u>	<u>641,885</u>	<u>718,247</u>	<u>893,098</u>	<u>1,072,096</u>	<u>1,255,372</u>	<u>1,484,102</u>	<u>1,733,593</u>	<u>1,797,438</u>	<u>1,995,987</u>	<u>2,147,333</u>	<u>2,338,419</u>	<u>2,418,439</u>	<u>2,633,529</u>
Predicted Reserves based on 2012 funding level of: \$46,176		446,961	386,000	433,000	432,000	367,000	364,000	360,000	355,000	391,000	442,000	302,000	292,000	229,000	200,000	54,000	37,000

(continued)

(continued)		Individual Reserve Budgets & Cash Flows for the Next 30 Years, Continued															
		2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	
Reserves at Beginning of Year		2,633,529	2,744,547	2,968,187	2,849,943	2,443,563	2,044,483	1,909,329	2,137,531	1,860,621	1,558,036	1,266,565	890,588	576,584	333,811	65,226	
Total Recommended Reserve Contributions		251,300	254,400	257,600	260,800	264,100	267,400	270,700	274,100	277,500	281,000	284,500	288,100	291,700	295,300	299,000	
Plus	Estimated Interest Earned, During Year	32,076	34,072	34,701	31,572	26,768	23,581	24,136	23,846	20,390	16,847	12,866	8,751	5,430	2,380	2,577	
Less	Anticipated Expenditures, By Year	(172,358)	(64,832)	(410,545)	(698,752)	(689,948)	(426,135)	(66,634)	(574,856)	(600,475)	(589,318)	(673,343)	(610,855)	(539,903)	(566,265)	0	
Anticipated Reserves at Year End		<u>2,744,547</u>	<u>2,968,187</u>	<u>2,849,943</u>	<u>2,443,563</u>	<u>2,044,483</u>	<u>1,909,329</u>	<u>2,137,531</u>	<u>1,860,621</u>	<u>1,558,036</u>	<u>1,266,565</u>	<u>890,588</u>	<u>576,584</u>	<u>333,811</u>	<u>65,226</u>	<u>366,803</u>	
Predicted Reserves based on 2012 funding level of: \$46,176		(89,000)	(109,000)	(477,000)	(1,139,000)										(NOTE 5)	(NOTE 4)	

Explanatory Notes:

- 1) Year 2012 reserves are as of January 31, 2012; FY 2012 starts January 1 and ends December 31.
- 2) Reserve Contributions for 2012 are the remaining budgeted 11 months; 2013 is the first year of recommended contributions.
- 3) 1.2% is the estimated annual rate of return on invested reserves; 2012 is a partial year of interest earned.
- 4) Accumulated year 2042 ending reserves consider the age, size, overall condition and complexity of the property.
- 5) Threshold Funding Year (reserve balance at critical point).

**ALTERNATE
RESERVE EXPENDITURES**

The Alternate Reserve Expenditures and Life Analysis are provided at the request of the Board and do not represent the recommendations of Reserve Advisors, Inc.

for

Waterway Pines
Holland, Michigan

Explanatory Notes:

- 1) 1.3% is the estimated future Inflation Rate for estimating Future Replacement Costs.
- 2) FY 2012 is Fiscal Year beginning January 1 and ending December 31.

Line Item	Quantities:		Units	Reserve Component Inventory	Estimated 1st Year of Replacement	Life Analysis, Years		Unit Cost, \$	2012 Cost of Replacement per Phase, \$	Total Future Costs of Replacement, \$	(See Notes 1 & 2)													20						
	30-Year Total	Per Phase				Useful	Remaining				RUL = 0	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18
Exterior Building Elements																														
1.280	3440	860	Squares	Roofs, Asphalt Shingles, Phased	2030	20 to 25	18	335.00	288,100	1,468,413																360291	364795	369355		
1.920	245700	35100	Square Feet	Walls, Vinyl Siding, Phased	2035	to 40	23	4.70	164,970	1,595,540																				
Property Site Elements																														
4.040	16700	16700	Square Yards	Asphalt Pavement, Mill and Overlay, Streets	2013	15 to 20	1	6.65	111,055	112,443	112443																			
4.045	16700	8350	Square Yards	Asphalt Pavement, Total Replacement, Streets, Phased	2031	15 to 20	19	24.00	200,400	510,668																	253748	256920		
4.046	19500	1950	Square Yards	Asphalt Pavement, Total Replacement, Driveways, Phased	2015	15 to 20	3	26.00	50,700	611,392			52625	53283	53949	54623	55306													
4.100	24	12	Each	Catch Basins, Inspections and Capital Repairs	2031	15 to 20	19	790.00	9,480	24,158																12004	12154			
4.140	5700	1140	Square Feet	Concrete Sidewalks and Stoops, Partial	2020	to 65	8	12.00	13,680	86,554							15109				16078							17322		
4.420	222000	111000	Square Feet	Irrigation System, Phased	2038	35 to 40	26	0.50	55,500	154,276																				
4.710	1	1	Allowance	Pond, Dredging and Erosion Control, Partial, North	2016	to 30	4	60,000.00	60,000	63,057			63057																	
4.712	1	1	Allowance	Pond, Dredging and Erosion Control, Partial, South	2022	to 30	10	50,000.00	50,000	56,614										56614										
4.800	1330	665	Linear Feet	Railings, Wood, Stoops, Phased	2022	20 to 25	10	32.00	21,280	49,417										24095			25322							
		1	Allowance	Reserve Study Update with Site Visit	2014	2	2	4,100.00	4,100	4,100			4100																	
									Anticipated Expenditures, By Year																					
									\$4,736,632	0	112443	4100	52625	116340	53949	54623	55306	15109	0	80709	0	0	16078	25322	0	0	0	360291	647869	638429

ALTERNATE
RESERVE EXPENDITURES
for

Waterway Pines
Holland, Michigan

Line Item	Reserve Component Inventory	21 2033	22 2034	23 2035	24 2036	25 2037	26 2038	27 2039	28 2040	29 2041	30 2042
<u>Exterior Building Elements</u>											
1.280	Roofs, Asphalt Shingles, Phased	373,972									
1.920	Walls, Vinyl Siding, Phased			219,528	222,273	225,051	227,864	230,712	233,596	236,516	
<u>Property Site Elements</u>											
4.040	Asphalt Pavement, Mill and Overlay, Streets										
4.045	Asphalt Pavement, Total Replacement, Streets, Phased										
4.046	Asphalt Pavement, Total Replacement, Driveways, Phased		66,634	67,467	68,311	69,165	70,029				
4.100	Catch Basins, Inspections and Capital Repairs										
4.140	Concrete Sidewalks and Stoops, Partial				18,432					19,613	
4.420	Irrigation System, Phased						76,659	77,617			
4.710	Pond, Dredging and Erosion Control, Partial, North										
4.712	Pond, Dredging and Erosion Control, Partial, South										
4.800	Railings, Wood, Stoops, Phased										
Reserve Study Update with Site Visit											
Anticipated Expenditures, By Year		373972	66634	286995	309016	294216	374552	308329	233596	256129	0

RESERVE FUNDING PLAN

ALTERNATE CASH FLOW ANALYSIS

This Alternate Funding Plan is provided at the request of the Board and does not represent the recommendation of Reserve Advisors, Inc.

Waterway Pines Holland, Michigan	Individual Reserve Budgets & Cash Flows for the Next 30 Years															
	FY2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Reserves at Beginning of Year (Note 1)	400,000	446,961	401,569	480,520	527,497	526,835	604,825	684,693	766,442	891,220	1,034,304	1,099,522	1,248,426	1,400,827	1,540,592	1,674,445
Total Alternate Reserve Contributions (Note 2)	42,328	61,990	77,790	93,590	109,390	125,190	126,800	128,400	130,000	131,600	133,200	134,900	136,600	138,300	140,000	141,800
Plus Estimated Interest Earned, During Year (Note 3)	4,633	5,061	5,261	6,012	6,288	6,749	7,691	8,655	9,887	11,484	12,727	14,004	15,801	17,543	19,175	20,944
Less Anticipated Expenditures, By Year	0	(112,443)	(4,100)	(52,625)	(116,340)	(53,949)	(54,623)	(55,306)	(15,109)	0	(80,709)	0	0	(16,078)	(25,322)	0
Anticipated Reserves at Year End	<u>\$446,961</u>	<u>401,569</u>	<u>480,520</u>	<u>527,497</u>	<u>526,835</u>	<u>604,825</u>	<u>684,693</u>	<u>766,442</u>	<u>891,220</u>	<u>1,034,304</u>	<u>1,099,522</u>	<u>1,248,426</u>	<u>1,400,827</u>	<u>1,540,592</u>	<u>1,674,445</u>	<u>1,837,189</u>
Predicted Reserves based on 2012 funding level of: \$46,176	446,961	386,000	433,000	432,000	367,000	364,000	360,000	355,000	391,000	442,000	413,000	464,000	516,000	552,000	580,000	633,000

(continued)

	Individual Reserve Budgets & Cash Flows for the Next 30 Years, Continued															
	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	
Reserves at Beginning of Year	1,837,189	2,003,697	2,174,014	1,985,733	1,507,700	1,035,338	825,263	923,761	803,669	661,995	535,521	328,724	188,077	123,037	36,660	
Total Alternate Reserve Contributions (Note 2)	143,600	145,400	147,200	149,000	150,900	152,800	154,700	156,600	158,600	160,600	162,600	164,600	166,700	168,800	170,900	
Plus Estimated Interest Earned, During Year	22,908	24,917	24,810	20,836	15,167	11,097	10,432	10,303	8,742	7,142	5,155	3,082	1,856	952	1,465	
Less Anticipated Expenditures, By Year	0	0	(360,291)	(647,869)	(638,429)	(373,972)	(66,634)	(286,995)	(309,016)	(294,216)	(374,552)	(308,329)	(233,596)	(256,129)	0	
Anticipated Reserves at Year End	<u>2,003,697</u>	<u>2,174,014</u>	<u>1,985,733</u>	<u>1,507,700</u>	<u>1,035,338</u>	<u>825,263</u>	<u>923,761</u>	<u>803,669</u>	<u>661,995</u>	<u>535,521</u>	<u>328,724</u>	<u>188,077</u>	<u>123,037</u>	<u>36,660</u>	<u>209,025</u>	
Predicted Reserves based on 2012 funding level of: \$46,176	687,000	742,000	435,000	(165,000)	(763,000)	(1,102,000)	(1,136,000)							(NOTE 5)	(NOTE 4)	

Explanatory Notes:

- 1) Year 2012 reserves are as of January 31, 2012; FY 2012 starts January 1 and ends December 31.
- 2) Reserve Contributions for 2011 are budgeted; 2012 is the first year of alternate contributions.
- 3) 1.2% is the estimated annual rate of return on invested reserves; 2012 is a partial year of interest earned.
- 4) Accumulated year 2042 ending reserves consider the age, size, overall condition and complexity of the property.
- 5) Threshold Funding Year (reserve balance at critical point).

CONDITION ASSESSMENT

The Condition Assessment of this *Precision 20/20 Full Reserve Study* includes *Enhanced Solutions and Procedures (ESP)* for select significant components. These narratives describe the Reserve Components, document specific problems and conditions, and may include detailed solutions and procedures for necessary capital repairs and replacements for the benefit of current and future board members. We advise the Board use this information to help define the scope and procedures for repair or replacement when soliciting bids or proposals from contractors. *However, the Report in whole or part is not and should not be used as a design specification or design engineering service.*

Exterior Building Elements

Balconies, Wood - The Association is responsible for the replacement of the 139 wood balconies which comprise a total of 14,480 square feet. The balconies are in good to fair overall condition at ages of 7- to 15-years. The Board informs us that the Association has replaced a limited quantity of deteriorated wood components. Wood balcony materials treated with a protective finish have useful lives of 20- to 25-years with proper maintenance. Proper maintenance should include the following activities funded through the operating budget:

- Annual inspections to identify and correct any unsafe conditions
- Securing of loose fasteners and replacement of deteriorated fasteners
- Replacement of deteriorated wood components
- Power washing with an algaecide and application of a sealer

The rates and types of deterioration are not uniform due to the nature of wood. Replacement is normally an ongoing process which eventually leads to a complete replacement



for economic or aesthetic reasons. We recommend the Association anticipate a phased replacement of the balconies beginning by 2022 and concluding by 2029. We depict this information on Line Item 1.120 of *Reserve Expenditures*.

Doors, Front Entrances - Waterway Pines maintains 148 front entrance metal common doors. These doors are in good condition at ages of 7- to 15-years. Periodic maintenance of the entry doors should include applications of protective paint finish, funded through the operating budget. We anticipate a useful life of up to 30 years for the doors and recommend the Association anticipate a phased replacement of the doors beginning by 2026 and concluding by 2028. We depict this information on Line Item 1.180 of *Reserve Expenditures*.

Doors, Garage - The Association maintains the 148 metal sectional garage doors throughout the development. Homeowners maintain the electric operators. The garage doors are in good to fair overall condition at ages of 7- to 15-years and have a useful life of 20- to 25-years. We recommend the Association anticipate a phased replacement of the garage doors beginning by 2022 and concluding by 2028 with insulated doors to provide structural rigidity to the panels. We note this information on Line Item 1.200 of *Reserve Expenditures*. Waterway Pines should aggregate replacement of the garage doors to ensure their availability and to maintain aesthetic continuity throughout the community.

Gutters and Downspouts - Approximately 16,920 linear feet of aluminum gutters and downspouts drain storm water from the sloped roofs of Waterway Pines. These gutters and downspouts vary in condition from good to fair at ages of up to 15-years. We include the

following solutions and procedures for gutter and downspout maintenance and replacements for present and future board members.

The most common and economical type of gutter profile is the metal roll-formed seamless K-style. The five-inch wide K-style gutter is standard but six-inch wide K-style gutters should be used on larger roofs. The size of the gutter is determined by the *roof's watershed area*, a *roof pitch factor* and the *rainfall intensity number* of the Association's region. We recommend sloping gutters 1/16 inch per linear foot and providing fasteners a maximum of every three feet.

Downspouts can drain 100 square feet of roof area per one square inch of downspout cross sectional area. Downspouts should be of the same material as the gutters. We recommend the use of downspout extensions and splash blocks at the downspout discharge to direct storm water away from the foundations. Downspouts that discharge directly onto roofs cause premature deterioration of the roofs due to the high concentration of storm water. We recommend either routing these downspouts directly to the ground, connecting the downspouts to the gutters of the lower roof or distributing the storm water discharge over a large area.

Maintenance of the gutters and downspouts should include semiannual inspections, repairs at seams and fastening points, verification that the downspouts discharge away from foundations and cleaning. More frequent maintenance may be required for gutters and downspouts in areas of concentrated landscape growth. The Association should fund these expenses through the operating budget. A lack of maintenance resulting in misdirected storm water will result in deterioration of soffits, fascia, siding, foundations, and the gutters and downspouts themselves.

The useful life of gutters and downspouts typically coincides with that of the roofs. Therefore, we recommend the Association budget for the phased replacement of the gutters and downspouts in conjunction with the phased roof replacements beginning by 2030 and concluding by 2033. This will result in the most economical unit price and minimize the possibility of damage to other roof components as compared to separate replacements. Due to the varied ages, we recommend the Association anticipate the need to replace limited quantities of gutters and downspouts prior to the complete phased replacement through the operating budget. We depict this information on Line Item 1.240 of *Reserve Expenditures*.

Roofs, Asphalt Shingles - Approximately 3,440 *squares*¹ of asphalt shingles comprise the roofs of Waterway Pines over 32 duplex and 21 fourplex buildings. The roofs are in good overall condition at an age of three years. Our visual inspection from the ground notes proper installation of flashings, drip edge flashing, and ridge vents. Soffit vents provide for additional attic ventilation. The useful life of asphalt shingle roofs in Holland is from 20- to 25-years. We include the following solutions and procedures pertaining to the *components* of an asphalt shingle roof system, *times* of replacement, recommended *method of replacement* and *coordination* of other related work for the benefit of present and future board members.

Insulation and *ventilation* are two major *components* of a sloped roof system. Together, proper insulation and ventilation help to control attic moisture and maintain an energy efficient building. Both insulation and ventilation prevent moisture buildup which can cause wood rot, mold and mildew growth, warp sheathing, deteriorate shingles, and eventually damage building

¹We quantify the roof area in *squares* where one square is equal to 100 square feet of surface area.

interiors. Sufficient insulation helps to minimize the quantity of moisture that enters the attic spaces and adequate ventilation helps to remove any moisture that enters the attic spaces. These two roof system components also help to reduce the amount of energy that is required to heat and cool a building. Proper attic insulation minimizes heat gain and heat loss between the residential living spaces and attic spaces. This reduces energy consumption year-round. Proper attic ventilation removes excessive heat from attic spaces that can radiate into residential living spaces and cause air conditioners to work harder. Properly installed attic insulation and ventilation work together to maximize the useful life of sloped roof systems.

In addition to moisture control and energy conservation, proper attic insulation and ventilation are essential components to prevent the formation of ice dams. Ice dams occur when warm air accumulates at the peak of an attic while the roof eaves remain cold. Warm air from the attic melts the snow at the ridge of the roof and the water runs down the slope of the roof. At the cold roof eaves, the water refreezes and forms a buildup of snow and ice. This buildup often traps water that can prematurely deteriorate asphalt shingles and ultimately seep under the shingles and cause water damage to the roof deck and building interiors. Proper insulation minimizes the amount of heat that enters attic spaces in the winter and adequate ventilation helps to remove any heat that enters the attic spaces. Together, these components prevent ice dams with a cold roof deck that melts snow and ice evenly.

Roof vents provide ventilation to the attic space through the combined use of soffit vents and ridge vents. The Association should periodically ensure that the soffit vents are clear of debris and are not blocked from above by attic insulation. If the soffit vents are blocked from above, the Association should install polystyrene vent spaces or baffles between the roof joists at

these locations to ensure proper ventilation. Waterway Pines should fund this ongoing maintenance through the operating budget.

Certain characteristics of condition govern the *times of replacement*. Replacement of an asphalt shingle roof becomes necessary when there are multiple or recurring leaks and when the shingles begin to cup, curl and lift. These conditions are indications that the asphalt shingle roof is near the end of its useful life. Even if the shingles are largely watertight, the infiltration of water in one area can lead to permanent damage to the underlying roof sheathing. This type of deterioration requires replacement of saturated sections of sheathing and greatly increases the cost of roof replacement. Roof leaks may occur from interrelated roof system components, i.e., flashings. Therefore, the warranty period, if any, on the asphalt shingles, may exceed the useful life of the roof system.

Warranties are an indication of product quality and are not a product guarantee. Asphalt shingle product warranties vary from 20-to 50-years and beyond. However, the scope is usually limited to only the material cost of the shingles as caused by manufacturing defects. Warranties may cover defects such as thermal splitting, granule loss, cupping, and curling. Labor cost is rarely included in the remedy so if roof materials fail, the labor to tear off and install new shingles is extra. Other limitations of warranties are exclusions for "incidental and consequential" damages resulting from age, hurricanes, hail storms, ice dams, severe winds, tornadoes, earthquakes, etc. There are some warranties which offer no dollar limit for replacement at an additional cost (effectively an insurance policy) but again these warranties also have limits and may not cover all damages other than a product defect. We recommend a review of the manufacturers' warranties as part of the evaluation of competing proposals to replace a

roof system. This evaluation should identify the current costs of remedy if the roof were to fail in the near term future. A comparison of the costs of remedy to the total replacement cost will assist in judging the merits of the warranties.

Our estimate of remaining useful life considers this possibility and the Association should anticipate the need for capital repairs to the shingles and other roof system components to achieve or maximize the remaining useful life of the roofs. The Association should fund ongoing roof repairs as normal maintenance from the operating budget.

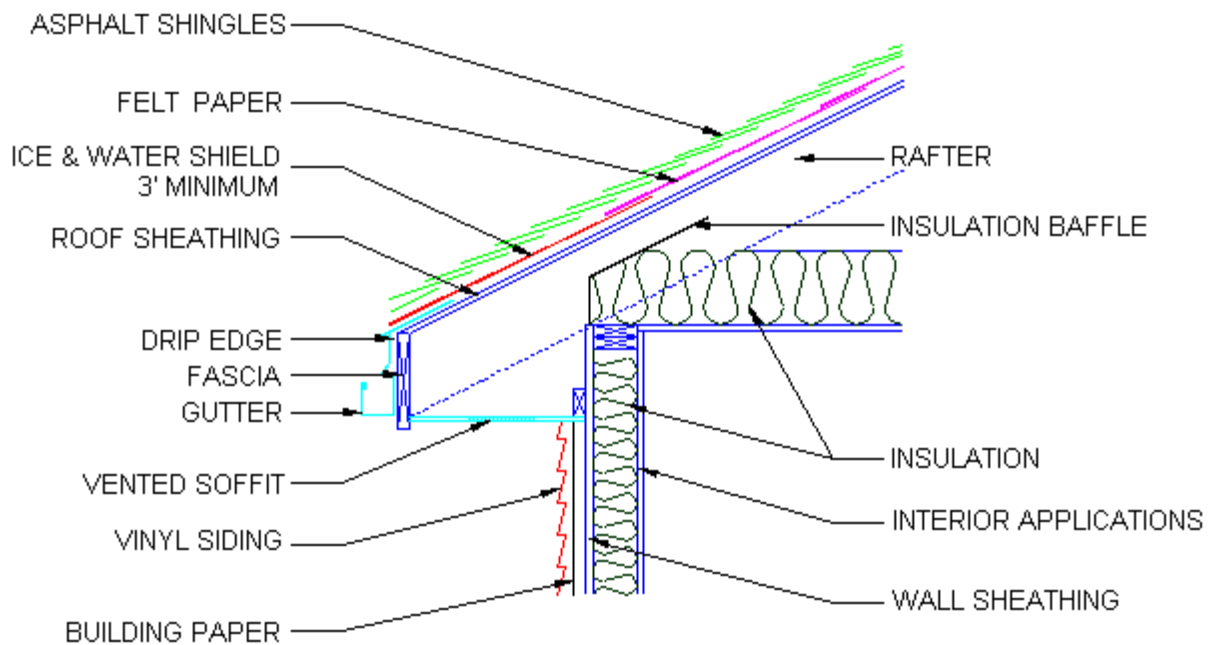
Contractors use one of two *methods of replacement* for sloped roofs, either an *overlayment* or a *tear-off*. *Overlayment* is the application of new shingles over an existing roof. Although this method is initially more economical, the following disadvantages exist for this type of replacement:

1. Overlaid shingles hide condition defects of the roof system and do not allow for replacement of critical flashings, underlayments and ventilation.
2. Additional layers of shingles absorb and store more heat resulting in premature deterioration of the new shingles and continued deterioration of the underlying shingles and other roof system components.
3. New shingles installed over deteriorated shingles may result in an uneven appearance.

The above disadvantages result in a shorter useful life of 10- to 15-years for overlaid roofs. This shortened useful life and the inevitable eventual replacement of both shingle layers will actually result in increased long-term replacement costs. The costs of an eventual total replacement are deferred onto future homeowners thereby conflicting with the purpose of a reserve study to ensure that homeowners pay their “fair share” of the weathering and aging of this

commonly owned property. Therefore, we recommend only the tear-off method of replacement. The advantages of the tear-off method include the correction of hidden or latent defects and extend the useful life of the new roof.

The *tear-off* method of replacement includes removal of the existing shingles, flashings if required and underlayments. The contractor should then inspect the roof sheathing for areas of water damage and partially replace the sheathing as needed. Once the roof sheathing is repaired, the contractor can begin installation of the new underlayments, flashings and shingles. The following cross-sectional schematic illustrates an asphalt shingle roof system.



The two types of underlayment most often used in an asphalt shingle roof system are ice and water shield membrane, and organic felt paper of varying weights depending on local building codes. Both types of underlayment protect the roof sheathing from moisture damage and wind-driven ice and snow. They have a low vapor resistance that impedes the accumulation

of moisture between the underlayment and the roof sheathing. Ice and water shield membrane is thicker than organic paper and is used in areas that are subject to ice dams and standing water. The contractor should install ice and water shield membranes (often a modified bitumen product) at the outer 36 inches of the gutter and rake edge roof eaves, and in the roof valleys. Standard 15-pound organic felt paper should provide sufficient protection over the remaining portions of the roof. Underlayments work in conjunction with flashings to form a watertight roof system.

The function of flashing is to provide a watertight junction between the roofing material and the other parts of the structure and between roof sections. Flashing material is usually galvanized metal, although some roofs use copper or synthetic rubber. The Association *should require the contractor* to augment existing flashings or replace deteriorated flashings at the time of roof replacement at the following locations:

- Changes in the slope
- Valleys
- Roof intersections with a wall, vertical structure, roof penetration, i.e., vent stacks
- Rakes (sloped edges of the roof) and soffits (lower roof edges)

Another critical type of flashing is drip edge flashing. This important flashing sheds water off the edges of the roofs. The roofs have this L-shaped component. The drip edge flashing allows storm water to run off the roof into the gutters without coming into contact with the underlayment and eave board. The special profile of a metal drip edge also prevents or minimizes the possibility of rain water blowing back under the shingles. The contractor should install this flashing at the gutter edge *before* the installation of underlayment and at the rake edge *after* the installation of underlayment.

Asphalt shingles include both fiberglass shingles and organic mat shingles. Both shingle types are made with asphalt. Fiberglass shingles use a fiberglass reinforcing mat while organic shingles use a wood based cellulose fiber mat. Fiberglass shingles are thinner, lighter and carry a better fire rating than organic shingles. Organic-mat shingles are more durable and stay more flexible in cold weather. The contractor should install the shingles atop the underlayment and in conjunction with certain types of flashing, i.e., chimney flashing. Based on a better fire rating, we suggest Waterway Pines use a standard strip, fiberglass, Class A, minimum weight class of 210 pounds per square self-sealing shingle at the time of replacement. The self-sealing strip affixes to the lower exposed edges of the shingles. Heat from ambient weather and sunlight activates the shingle adhesive material and seals the two adjacent courses of shingles together. Contractor proposals should specify the types of proposed materials and types of proposed fasteners. The Association should require the use of nail fasteners, not staples, at the time of replacement. Nail guns are acceptable. Staples are of lesser quality and might not withstand wind forces as well as nails.

The Association should plan to *coordinate* the replacement of gutters and downspouts with the adjacent roofs. This will result in the most economical unit price and minimize the possibility of damage to other roof components as compared to separate replacements.

Based on their age and condition, we recommend that Waterway Pines plan to replace the roofs beginning by 2030 and concluding by 2033. We note this information on Line Item 1.280 of *Reserve Expenditures*. The Association should fund any repairs prior to the complete replacement of the roofs through the operating budget.

Walls, Vinyl Siding - Vinyl siding comprises approximately 245,700 square feet of the entire exterior walls. This quantity includes the aluminum soffit and fascia. The siding is in good overall condition at ages of 7- to 15-years. We note isolated sections of gaps, loose siding and organic growth. Pages 5.8 and 5.9 of *Photographs* depict these conditions. In addition, we note a lack of building wrap beneath the vinyl siding which may diminish the useful life. We elaborate on solutions and procedures necessary for maintenance and replacement of vinyl siding in the following discussion.

Vinyl siding has a useful life of up to 40 years. Consideration of appearance largely governs the decision to replace, in whole or partially, prior to the end of its useful life. Maintenance and partial replacements of the siding may extend the useful life. Normal deterioration mainly relates to discoloration of the exterior finish from exposure to sunlight, weathering and air pollutants. Vinyl siding gets damaged from forces which cause it to warp and crack, such as lawn care equipment, wind-driven objects, etc.

The lack of water-vapor permeable building paper underneath the siding can result in premature loosening of the siding fasteners from water damage to the substrate sheathing. The siding at Waterway Pines does not utilize a water-vapor permeable building paper. Therefore, the Association should anticipate a decreased useful life due to the lack of water proofing beneath the siding. The lack of replacement pieces matching the color and profile of the existing siding may result in the need for a premature replacement. These variables may affect the need for partial and complete replacements.

The Association should install new vinyl siding as recommended by the *Vinyl Siding Institute*. We briefly summarize these recommendations in the following narrative:

Weather Resistant Barrier - Vinyl siding should be installed over a continuous weather resistant barrier. Vinyl siding is an exterior cladding that is not watertight. The weather resistant barrier should include water-vapor permeable building paper and properly integrated flashing around all penetrations.

Fasteners - Vinyl siding fasteners include nails, staples and screws. Only aluminum, galvanized steel or other corrosion-resistant fasteners should be used. The fasteners should penetrate a minimum of $\frac{3}{4}$ of an inch into the framing.

Fastening - The fasteners should allow $\frac{1}{32}$ of an inch clearance between the fastener head and the siding, and the fasteners should be installed in the center of the nailing slot in the nailing flange. This will allow for the thermal expansion and contraction of the siding. Overtight fasteners will cause the siding to buckle. Fasteners should be spaced a maximum of 16 inches apart for horizontal siding, 12 inches for vertical siding and 8- to 10-inches for vinyl siding accessories.

Installation - Siding panels should overlap by approximately one inch. Joints should be staggered so that no two courses are aligned vertically, unless separated by at least three courses. The siding should not be caulked where the siding meets trim accessories, such as J-channel, or at overlap joints. J-channel should be installed a minimum of $\frac{1}{2}$ inch off of roof lines.

With consideration of the age and existing condition of the siding, we recommend the Association anticipate a phased replacement of the siding beginning by 2035 and concluding by 2041. We note this information on Line Item 1.920 of *Reserve Expenditures*.

Vinyl siding is relatively maintenance free. However, the Association should periodically clean the vinyl siding with a water hose. A nonabrasive household cleaner or manufacturer specified vinyl siding cleaner will remove more intense stains. The Association should fund these ongoing expenses through the operating budget.

Windows and Patio Doors - Waterway Pines maintains approximately 32,710 square feet of windows and 14,610 square feet of patio doors. These components are in good condition at ages of 7- to 15-years. The windows and doors at Waterway Pines are vinyl frame. Properly maintained vinyl frame windows and doors have a useful life of up to 40 years. The useful life of the windows and doors is dependent on the occurrence of water infiltration, thermal inefficiencies compared to present technology, type of frame, availability of replacement parts and aesthetics. We include the following discussion pertaining to replacement of windows and doors for the benefit of present and future board members.

Properly designed window and door assemblies anticipate the penetration of some storm water beyond the gaskets. This infiltrated storm water collects in an internal drainage system and drains, or exits, the frames through weep holes. These weep holes can become clogged with dirt or if a sealant is applied, resulting in trapped storm water. We recommend Waterway Pines periodically verify all weep holes are unobstructed and fund this expense through the operating budget. However, as window frames, gaskets and sealants deteriorate, leaks into the interior can result. The windows and doors will eventually need replacement or major capital repairs to prevent water infiltration and damage from wind driven rain.

The thermal efficiencies of the window and door assemblies are affected by their design and construction components. These components include glazings, thickness of air space between glazings, low-conductivity gas, tinted coatings, low-e coatings and thermal barriers. We discuss each component of an effective design below.

Glazing - Glazing is the glass surface, or pane, in the assembly. An increase in the number of glazings results in an increase in thermal efficiency. Dual glazing insulates

nearly twice as well as single glazing. Adding a third or fourth layer of glazing results in further improvement but also increases the cost of the system. We recommend the use of dual glazing (dual pane windows) as the most cost effective and thermal efficient replacement system. An additional layer of glass, often as storm windows, provides increased thermal efficiencies and additional protection from storm water.

Thickness of Air Space - As the thickness of the air space between dual panes increases, the thermal efficiency of the system also increases. The ideal air space thickness is about one-half inch or more. However, if the air space is too wide a convection loop between the layers of glazing occurs. An air space thickness beyond approximately one inch *does not* result in an increased energy performance.

Low Conductivity Gas - The use of a denser, lower conductivity gas, such as argon, in the space between dual panes results in an increase in thermal efficiency. Argon is the most cost effective type of low conductivity gas. Argon is inexpensive, nontoxic, nonreactive, clear and odorless. Krypton is also a low conductivity gas occasionally used in window and door assemblies. Krypton is more thermally efficient. However, it is also more expensive to produce.

Tinted Glass Coatings - Tinted glass coatings reduce solar heat gain without reducing visibility. These coatings are typically used in climates with a need for building cooling.

Low-e Coatings - The use of thin, transparent coatings of silver or tin oxide permit visible light to pass through the glazings and reflect infrared heat radiation back into the building. A variety of types of low-e (low emissivity) glass are available to suit different climate zones. Low-e glass with high solar heat gain coefficients are appropriate for northern climates while low-e glass with low solar heat gain coefficients are appropriate for southern climates.

Thermal Barriers - Thermal barriers are typically comprised of rigid polyurethane, silicone foam or butyl rubber. Conductivity is a primary concern with aluminum frame windows. Aluminum has extremely high conductivity and therefore provides a *thermal bridge* for the exchange of heated or cooled air between the inside and outside temperatures. Thermal barriers interrupt this thermal bridge and improve the thermal efficiency of the aluminum assembly.

A combination of the above design and construction components will greatly increase the thermal efficiency of the assembly. The Association should thoroughly investigate these component options at the time of replacement. Some manufacturers may include these components as part of the *standard product* and other manufacturers may consider these components as *options* for an additional cost. Waterway Pines should review the specifications

provided by the manufacturers to understand the thermal design and construction components of the proposed assemblies. For reserve budgetary purposes, we use a unit cost for replacements with typical thermal efficiencies and quality of construction to achieve a useful life of up to 40 years.

The frames of windows and doors are typically constructed of wood, vinyl, aluminum and fiberglass. We discuss the advantages and disadvantages of these frame types in the following narrative.

Wood - Wood is the traditional frame material because of its availability and ease of milling into complex shapes. Wood is typically preferred in wood frame, low rise residential applications because of its appearance and traditional place in home design. Wood frame assemblies offer good thermal qualities but require periodic paint applications to maximize their useful life. Vinyl or aluminum *cladding*, or coverings, can be applied to the exterior of the wood frame to minimize maintenance.

Vinyl - Vinyl, or polyvinyl chloride (PVC), frames have good insulating values. Vinyl frames are resistant to moisture and are maintenance free. Normal deterioration mainly relates to discoloration of the exterior finish from exposure to sunlight, weathering and air pollutants. Vinyl frames are also susceptible to damage, primarily as the frames age and become brittle.

Aluminum - Aluminum frames are light, strong, durable and can be extruded into complex shapes. These frames are available in anodized and factory-baked enamel finishes that are durable and low-maintenance. However, these types of frames do not offer good thermal qualities due to aluminum's high conductivity. Thermal barriers within the frames increase the thermal efficiencies of the system as discussed in a previous narrative.

Fiberglass - Fiberglass frames are the most energy efficient frames available. Fiberglass frames are resistant to moisture, are maintenance free and can also be painted. In addition, fiberglass frames expand and contract at nearly the same rate as the glass, minimizing seal failures. However, fiberglass frames are relatively new, are not yet widely available, their long term performance is unknown and they are more expensive than the previously listed frames.

The frames of the windows and doors at Waterway Pines are constructed of vinyl. Replacement with similar vinyl frame windows would likely be a cost effective and efficient option for Waterway Pines

Smooth operation of the patio doors relies on rollers. Exposure of the rollers to dust and debris causes deterioration of the rollers and difficult door operation. As the doors age, scarcity of parts due to obsolescence makes replacement of the entire door more desirable. Therefore, the doors may have a potentially shorter useful life than the windows. However, for budgetary purposes, we currently anticipate a coordinated replacement of the windows and doors. Updates of this Reserve Study would consider possible changes in the anticipated time of door replacement. The Association should fund replacement of the rollers, maintenance of the door operable components, reattachment of handles and other maintenance activities through the operating budget.

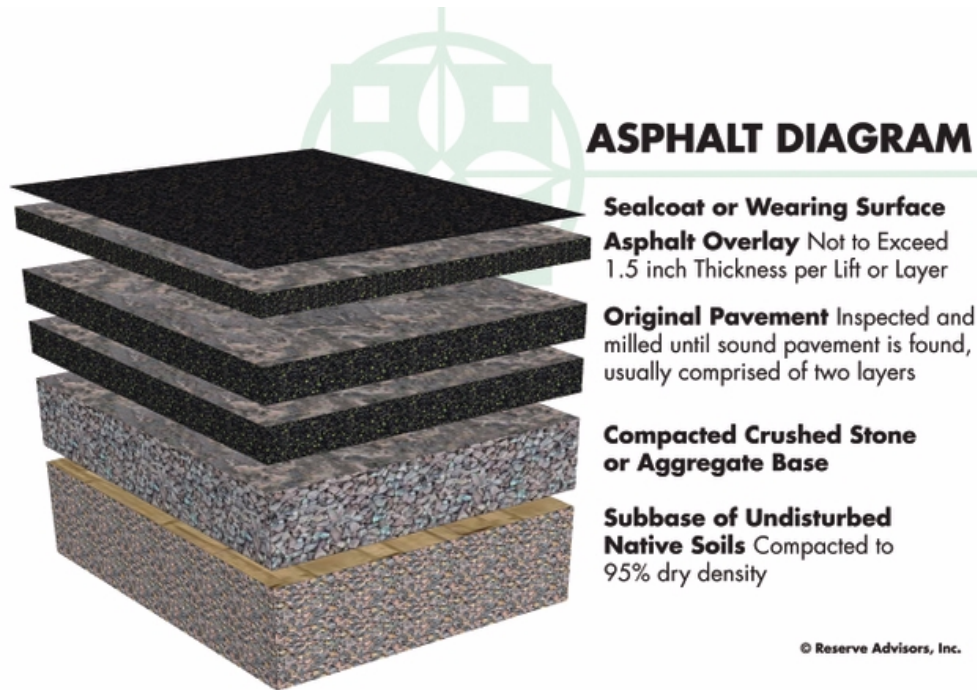
Aesthetics can be the primary reason for replacement of windows and doors. With a useful life of up to 40 years, the windows and doors will eventually appear outdated and worn. The frame finish will eventually deteriorate, resulting in an unpleasant appearance. This discretionary time of replacement can have a significant impact on the remaining useful life.

Based on the above factors, we recommend the Association budget for a phased replacement of the windows and doors in conjunction with the vinyl siding beginning by 2035 and concluding by 2041. We note this information on Line Item 1.980 of *Reserve Expenditures*.

Property Site Elements

Asphalt Pavement, Repaving - The 16,700 square yards of asphalt streets, parking areas and driveways throughout the community are in fair overall condition at an age of approximately 15 years. We note widespread areas of previous crack repair, edge cracks, centerline cracks and transverse cracks in the street pavement, and surface deterioration and developing fatigue cracks in the driveway pavement. Pages 5.11 through 5.13 of *Photographs* depict these conditions. The useful life of pavement in Holland is from 15- to 20-years. We include the following solutions and procedures pertaining to *components* of the pavement, the *manner of repaving*, *time* of repaving and *coordination* of other possible replacements with the repaving for the benefit of the present and future board members.

Components of asphalt pavement include native soil, aggregate and asphalt. First the contractor creates a base course of aggregate or crushed stone and native soil. The base course is individually compacted to ninety-five percent (95%) dry density prior to the application of the asphalt. Compaction assures a stable base for the asphalt that reduces the possibility of settlement. The initial installation of asphalt uses at least two lifts, or two separate applications of asphalt, over the base course. The first lift is the binder course. The second lift is the wearing course. The wearing course comprises a finer aggregate for a smoother more watertight finish. The following diagram depicts these components.



The *manner of repaving* is either a *mill and overlay* or *total replacement*. A mill and overlay is a method of repaving where cracked, worn and failed pavement is mechanically removed or milled until sound pavement is found. A new layer of asphalt is overlaid atop the remaining base course of pavement. Because of the milling, the new layer of pavement will be flush with adjacent catch basins and driveways. Total replacement includes the removal of all existing asphalt down to the base course of aggregate and native soil followed by the application of two or more new lifts of asphalt. We recommend overlayment on asphalt that exhibits normal deterioration and wear and lacks adjacent driveways or catch basins. We recommend total replacement of asphalt pavement that exhibits severe deterioration, inadequate drainage, pavement that has been overlaid multiple times in the past or where the configuration makes overlayment not possible. Based on the apparent visual condition of the asphalt pavement, absence adjacent curbs, and a bid provided by the Board, we recommend the *mill and overlay*

method of repaving for the streets at Waterway Pines. In addition, we recommend the *total replacement* method for subsequent street repaving and repaving of the asphalt driveways.

A variety of repairs are necessary to deteriorated pavement prior to the application of an overlay. The contractor should use a combination of area patching, crack repair and milling before the overlayment. The contractor should patch areas that exhibit potholes, alligator or spider web pattern cracks and areas of pavement that are severely deteriorated from oil and gasoline deposits from parking vehicles. Area patching requires total replacement of isolated areas of pavement. The contractor should mechanically rout and fill all cracks with hot emulsion. Crack repair minimizes the chance of the underlying cracks transmitting through the overlayment. In addition to area patching and crack repair, the contractor should mill the sections of the pavement prior to overlayment. Properly milled pavement removes part of the existing pavement and permits the overlay to match the elevation of adjacent driveways and other areas not subject to repaving. Milling also allows the contractor to make adjustments to the slope of the pavement to ensure proper drainage. The contractor should clean the milled pavement to ensure proper bonding of the new overlayment. We recommend an overlayment thickness that averages 1½ inches (not less than one inch or more than two inches). Variable thicknesses are often necessary to create an adequate slope for proper drainage. The contractor should identify and quantify areas of pavement that require area patching, crack repair and milling to help the Association compare proposed services.

Total replacement requires the removal of all existing asphalt. For area patching, we recommend the contractor use a rectangular saw cut to remove the deteriorated pavement. For larger areas such as entire parking areas or driveways, we recommend the contractor grind, mill

or pulverize the existing pavement to remove it. The contractor should then augment and compact the existing aggregate and native soil to create a stable base. Finally the contractor should install the new asphalt in at least two lifts.

The *time* of replacement is dependent on the useful life, age and condition of the pavement. The useful life of 15- to 20-years is dependent in part on the maintenance applied to the pavement, the amounts and concentration of auto solvents that penetrate the pavement, the exposure to sunlight and detrimental effects of inclement weather. Waterway Pines should repair any isolated areas of deteriorated pavement concurrent with periodic seal coat applications, funded through the operating budget. Based on the existing age of up to 15 years, the fair overall condition of the pavement, and at the request of the Board, we estimate a remaining useful life of two years. We recommend the Association plan for a milling and overlayment of the pavement with area patching of up to ten percent (10%) in 2013. A phased total replacement of the street pavement is likely beginning by 2031 and concluding by 2032. In addition, we recommend the Association plan for a phased total replacement of the asphalt driveways beginning by 2015 and concluding by 2019. A subsequent phased total replacement of the asphalt driveways is likely beginning by 2034 and concluding by 2038. We depict this information on Line Items 4.040 through 4.046 of *Reserve Expenditures*. Our expenditure on Line Item 4.040 is based on a bid cost provided by the Board. The Association should *coordinate* asphalt repaving with related activities such as capital repairs to catch basins.

Ideally, the asphalt driveways would be replaced prior to the street pavement if the condition permits. This would prevent damage to newly repaved street pavement from heavy

equipment used for repaving of the driveways. We base our recommended timing of replacement on the current condition of the street and driveway pavement.

Catch Basins - Twenty-four catch basins collect storm water from the pavement and conduct it into the storm water system. The overall condition of the catch basins is good with only minor settlement visually apparent. The useful life of catch basins is up to 60 years. However, achieving this useful life usually requires interim capital repairs or partial replacements every 15- to 20-years.

The Association should anticipate the occasional displacement or failure of a catch basin and the surrounding pavement from erosion. Erosion causes settlement around the collar of catch basins. Left unrepaired, the *entire catch basin* will shift and need replacement. Waterway Pines should plan to repair or replace any displaced or failed catch basins concurrently with surrounding pavement. The exact times and amount of capital repairs or replacements are dependent upon variable natural forces. Based on the age and condition of the catch basins, we recommend the Association anticipate the inspection, capital repair or partial replacement of the 24 catch basins in conjunction with the phased total replacement of the street pavement beginning by 2031 and concluding by 2032. We include this information on Line Item 4.100 of *Reserve Expenditures*. Based on a bid provided by the Board, we anticipate any necessary near term catch basin repairs will be performed in conjunction with the overlay of the street pavement.

Concrete Sidewalks and Stoops - The Association maintains various applications of concrete including *sidewalks* and *stoops* at the front unit entries. These applications of concrete

have useful lives of up to 65 years although isolated deterioration of limited areas of concrete is common. Inclement weather, inadequate subsurface preparation and improper concrete mixtures or finishing techniques can result in premature deterioration such as settlement, chips, cracks and spalls. Variable conditions like these result in the need to plan for periodic partial replacements of the concrete flatwork throughout the next 30 years.

Concrete sidewalks and stoops comprise 22,800 square feet throughout the community. The sidewalks and stoops are in good to fair overall condition. We estimate that up to 5,700 square feet of concrete sidewalks and stoops, or twenty-five percent (25%) of the total, will require replacement during the next 30 years. We recommend the Association budget for replacement of 1,140 square feet of concrete sidewalks and stoops, or an average of seven units, every five years beginning by 2020. Line Item 4.140 of *Reserve Expenditures* notes our estimate of future costs and anticipated times of replacements. We recommend an annual inspection of the sidewalks to identify potential trip hazards. We suggest that the Association grind down or mark these hazards with orange safety paint prior to replacement and fund this ongoing activity through the operating budget.

Irrigation System - An irrigation system waters approximately 222,000 square feet of the lawn and landscaped areas. Irrigation systems typically include the following components:

- Electronic controls (timer)
- Impact rotors
- Network of supply pipes
- Pop-up heads
- Valves

Water pressure activates the lawn spray pop-up heads. Controls operate the main water flow valves. The exact amounts and locations of system components were not ascertained due to the nature of the underground construction and the non-invasive nature of the inspection.

The overall condition of the irrigation system is good to fair. The Board informs us that half of the heads were replaced and isolated repairs to the system were performed through the operating budget and that the remaining half of the heads will be repaired in the near term through the operating budget. The system as a whole has a useful life of 35- to 40-years. The system network supply pipes will dislodge as tree roots grow and soil conditions change. Waterway Pines should anticipate interim and partial replacements of the system network supply pipes and other components, including controllers, as normal maintenance to maximize the useful life of the irrigation system. The Association should fund these ongoing seasonal repairs through the operating budget. In addition, we recommend Waterway Pines budget for a complete phased replacement of the system beginning by 2038 and concluding by 2039. We note this information on Line Item 4.420 of *Reserve Expenditures*.

Ponds - The Association maintains a north pond and a south pond located near the center of the property. The health or condition of a pond is reflected in the clarity of the water, balance of plant life, the ability of the water to retain life giving gases and the health of the fish in larger bodies of water. Three factors which affect the health of ponds are erosion, build up of silt and algae blooms. We note isolated and minor erosion along the natural grass shoreline. Page 5.15 of *Photographs* depicts this condition. The Board does not report any problems with algae

blooms. We include the following solutions and procedures as a summary of the minimum requirements for successful pond management for present and future board members.

The objective of water quality management in small bodies of water is to prevent, slow or reverse eutrophication. Eutrophication is a process in which a pond becomes more shallow and more biologically productive. Algae are the base of the food chain and supply food for other water life. Therefore, the productivity of a pond is based on the amount of algae present. The aesthetic quality of a pond diminishes as its productivity increases.

All ponds go through a natural eutrophication process over time. Human or animal activity often increases the rate of eutrophication. Erosion and storm water deposit fines or silt into the ponds and affect the rate of eutrophication. The amount of erosion that enters from the surrounding watershed and shorelines is variable. The amount and intensity of rainfall, soil saturation levels and ground cover all affect the amount of deposits into the ponds. Run-off from construction excavations is another contributor to changes in the depth of the ponds.

Lawn fertilizers are another source of nutrients that contribute to eutrophication. Fertilizers often contain nitrogen and phosphorous which exacerbate nutrient loads into the water system. Introduction of these chemicals and the run off of fertilizers results in a high nutrient loading. Storm water runoff from impervious areas carries this fertilizer into the ponds and contributes substantially to the overall nutrient build-up in the water. We advise that Waterway Pines consider the use of fertilizers with low or no phosphorus content for areas adjacent to the ponds. The correct use of acceptable fertilizers adjacent to the ponds will result in better overall water quality and potentially decrease lawn maintenance costs.

As previously noted, algae is partially the result of an abundance of nutrients and an indicator of the productivity of the ponds. The Association should limit the source of nutrients that enter the ponds to reduce the productivity of the water and slow the process of eutrophication. Minimization of suspended or dissolved nutrients is important in the long-term management of the ponds. There are several ways the Association can administer the concentration of nutrients in the ponds. These management methods include aeration, chemical treatments, dredging, erosion control and pond liners. We discuss each management method below.

Aeration - Associations often consider the use of small pumps, motors and aerators to circulate pond water. These devices increase the amount of entrained oxygen in the water, increase water quality and reduce algae growths. Waterway Pines presently utilizes aerators from April through September annually. Aeration will increase the overall water quality and help reduce the accumulation of algae in the ponds during the warm summer months. Use of aerators will not likely affect the timing or need for dredging the ponds as this activity is largely dependent on the accumulation of silt and other debris in the water.

Chemical Treatments - Another method to slow eutrophication is the use of algae-killing chemical treatments. Introduction of metal compounds, such as copper sulfate, to the water renders the nutrients inactive to the algae. Chemical treatments reduce suspended solids, decrease the turbidity and improve the color of the water. Typically, moderate to high levels of algae growth are most common in summer months and often due to high levels of nutrients or fertilizers used on the adjacent lawns. Nutrients significantly

contribute to the growth of algae blooms. If necessary, we recommend the Association fund the use of chemical treatments to control algae growth in the ponds through the operating budget. The Association should first obtain all permits necessary for the use of chemical treatments.

Dredging - The gradual build-up of natural debris, including tree leaves, branches and silt, may eventually change the topography of areas of the ponds. Dredging of a pond becomes necessary if this accumulation alters the quality of the pond water. Dredging is the optimal but also the most capital intensive method of pond management. Excavation equipment used for dredging includes clamshells, draglines and suction pipe lines. Dredging can also include shoreline regrading. Regrading includes removal of collapsed and eroded soil, and redefining the shoreline.

Determining the amount of silt to dredge is difficult to estimate but is dependent on the surface area of the body of water and depth of sediment to remove. The surface area of a body of water can be easily estimated with relatively reasonable accuracy. However, difficulties arise in determining the depth of dredging, where to dredge and the cost per cubic yard. We discuss each of these three factors in the following three paragraphs.

Silt typically accumulates at inlets, outlets and areas of shoreline erosion. A visual inspection of a body of water cannot reveal the amount of accumulated silt. This is especially true on larger bodies of water. It is therefore inaccurate to assume an entire body of water will require dredging. It is more cost effective to spot dredge in areas of intense silt accumulation as noted through bathymetric surveys. The amount or depth of

silt is determined through prodding into the silt until a relatively solid base is found or through bathymetric surveys. A bathymetric survey establishes a base of data about the depth of the body of water over many locations against which the data of future surveys is compared. These invasive procedures are beyond the scope of a Reserve Study and require multiple visits to the site. We recommend Waterway Pines contract with a local engineer for annual bathymetric surveys. Future updates of the Reserve Study can incorporate future anticipated expenditures based on the results of the bathymetric surveys.

Unit costs per cubic yard to dredge can vary significantly based on the type of equipment used, quantity of dredged material and disposal of dredged material. Dredging costs must also include mobilization, or getting the equipment to and from the site. Mobilization costs to position the equipment on the water surface are much higher compared to dredging with a back hoe from the shoreline. Also, the portion of the overall cost to dredge associated with mobilization varies based on the volume dredged. For example, if mobilization costs are \$15,000 and the total cost to dredge is \$30,000, mobilization equates to fifty percent (50%) of the cost to dredge. Whereas if the total cost to dredge is \$150,000, mobilization equates to only ten percent (10%) of the cost. Therefore, the unit cost to dredge decreases as the volume of dredging increases. Costs for sediment disposal also vary depending on the site. Compact sites will require hauling and in some cases disposal fees.

The north pond comprises approximately 18,560 square yards of water surface area and the south pond comprises approximately 10,390 square yards of water surface area.

Based on the visual condition of the ponds, adjacent deciduous trees and visibly apparent erosion around the pond, we recommend the Association anticipate the need to dredge the ponds. For reserve budgeting purposes, we estimate the need to dredge twenty percent (20%) of the surface area of each pond an average depth of one yard. However, the actual volume of material to dredge may vary dependent upon an invasive analysis at the time of dredging. We conservatively recommend that the Association budget for this variable but probable activity by 2016 at the north pond and 2022 at the south pond. We base our timing of dredging on conversations with the Board. The time and cost of this maintenance activity may vary. However, we judge the amount shown on Line Items 4.710 and 4.712 of *Reserve Expenditures* sufficient to budget appropriate reserves.

The pond shorelines comprise approximately 3,585 linear feet of grass and a limited quantity of stone rip rap. Shorelines are subject to fluctuations in water levels, increased plant growth and migrating storm and ground water. We note isolated and minor erosion at the shoreline of the ponds. The use and maintenance of landscape, natural vegetation and/or stone rip rap along the pond shoreline will help maintain an attractive appearance and prevent soil erosion. We include an allowance for regrading of approximately fifteen percent (15%) of the shorelines in conjunction with dredging.

Pond Liners - Synthetic pond liners prevent the exchange of nutrients from the bottom of a pond into the above water and therefore decrease the ability of algae to grow. A pond liner can trap air or other dissolved gases beneath the liner. This can cause the liner to float to the surface, although liners are available with pores for gas migration. The use of

a pond liner offers good temporary control, but requires the periodic removal and clearing of any growth. We do not consider a pond liner necessary or desirable for the subject pond.

The above management methods will help to maintain the pond and potentially reduce more costly future maintenance expenditures.

Railings, Wood, Stoops - The Association is responsible for the replacement of the wood railings at the front stoops which comprise a total of 1,330 linear feet. The wood railings are in good overall condition at ages of 7- to 15-years. Wood materials treated with a protective finish have useful lives of 20- to 25-years with proper maintenance. Proper maintenance should include periodic paint finishes funded through the operating budget. Due to their varied ages, we recommend the Association anticipate a phased replacement of the railings beginning by 2022 and concluding by 2026. We depict this information on Line Item 1.120 of *Reserve Expenditures*.

Reserve Study Update - An ongoing review by the Board and an Update of this Reserve Study in two- to three- years are necessary to ensure an equitable funding plan since a Reserve Study is a snapshot in time. Many variables change after the study is conducted that may result in significant overfunding or underfunding the reserve account. Variables that may affect the Reserve Funding Plan include, but are not limited to:

- Deferred or accelerated capital projects based on Board discretion
- Changes in the interest rates on reserve investments
- Changes in the *local* construction inflation rate



- Additions and deletions to the Reserve Component Inventory
- The presence or absence of maintenance programs
- Unusually mild or extreme weather conditions
- Technological advancements

Periodic updates incorporate these variable changes since the last Reserve Study or Update.

The Association can expense the fee for an Update with site visit from the reserve account. This fee is included in the Reserve Funding Plan. We base this budgetary amount on updating the same property components and quantities of this Reserve Study report. Budgeting for an Update demonstrates the Board's objective to continue fulfilling its fiduciary responsibility to maintain the commonly owned property and to fund reserves appropriately.

PHOTOGRAPHS

Photographs document the conditions of various property components as of the date of our visual inspection, March 6, 2012. The Condition Assessment contains references to these photographs.

The following is an overview image of the subject property:



The next pages contain the photographs related to Section 4 - Condition Assessment



Front elevation, duplex units



Side elevation, typical



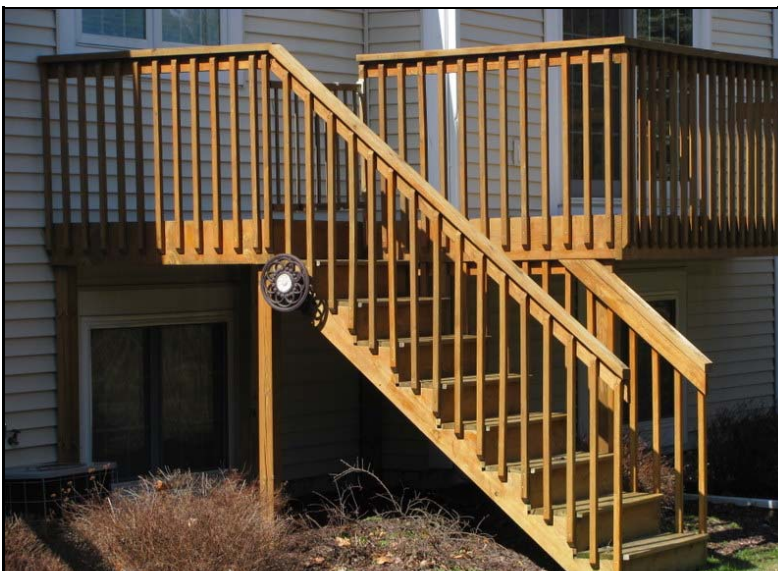
Rear elevation, fourplex units



Wood balcony



Minor deterioration at balcony joist



Wood balcony staircase



Wood balcony framing



Deck boards, note minor stain deterioration



Unit entrance



Metal sectional garage door



Gutter and downspout assembly,
note kick-out flashing to direct
stormwater into gutters



Light fixture at garage service
door



Asphalt shingle roof overview



Valley flashing at roof



Roof overview



Asphalt shingle roof



Roof overview



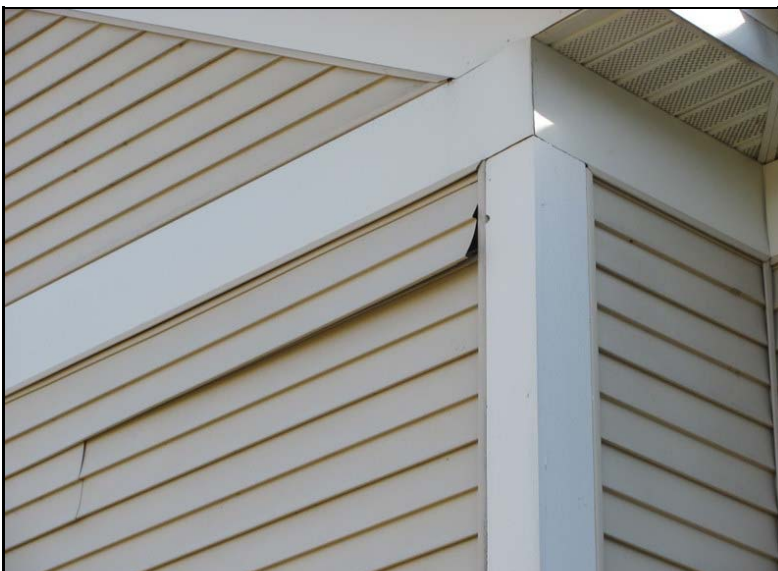
Drip edge flashing at roof



Decorative shutters



Metal spiral staircase at rear balcony



Isolated section of loose vinyl siding, 412 Timber Lake West



Gap in vinyl siding, note lack of building wrap



Organic growth at vinyl siding

Fund periodic cleaning through operating budget



Vinyl siding with aluminum soffits



Vinyl frame windows



Patio door



Asphalt pavement overview at
Timber Crossing bridge



Edge crack and previous crack repair at asphalt street



Edge cracks



Longitudinal and transverse crack repair



Asphalt parking area



Asphalt driveway overview



Surface deterioration at driveway



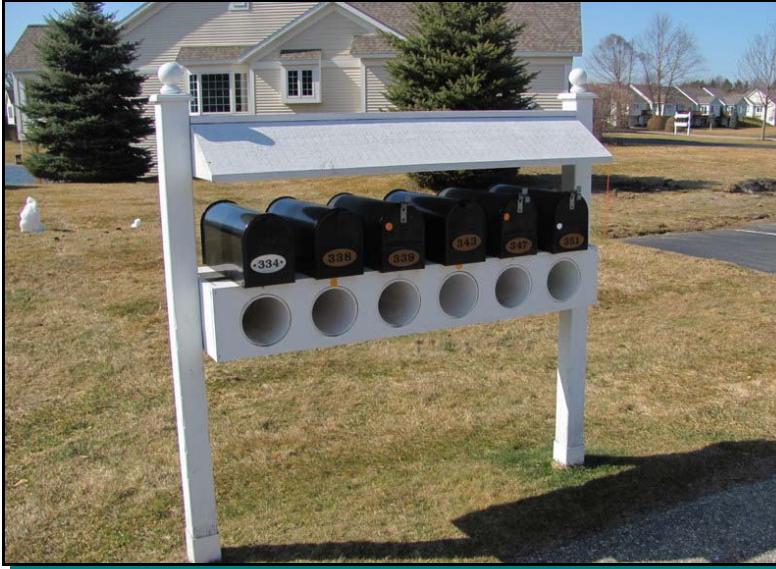
Surface deterioration and developing fatigue cracks at asphalt driveway



Catch basin



Light pole finish deterioration



Mailbox station



North pond overview



South pond overview



Minor shoreline erosion



Concrete drainage structure

Long-lived element



SUPPLEMENTARY INFORMATION FOR FINANCIAL STATEMENTS

The Reserve Funding Plan uses the Cash Flow Method to determine an appropriate funding plan with the following unaudited financial information furnished by the Association.

Unaudited Supplemental Information on Future Major Repairs and Replacements

<i>Reserve Component Categories</i>	<i>Total Current Replacement Costs</i>	<i>Total Future or Inflated Replacement Costs</i>	<i>% of Total Future Replacements</i>	<i>Component of Projected 2012 YE Fund Balance</i>
Exterior Building Elements	\$4,668,490	\$6,173,552	78.7%	\$351,677
Property Site Elements	\$1,369,775	\$1,668,579	21.3%	\$95,051
Reserve Study Update	\$4,100	\$4,100	0.1%	\$234
Totals	\$6,042,365	\$7,846,231	100%	\$446,961

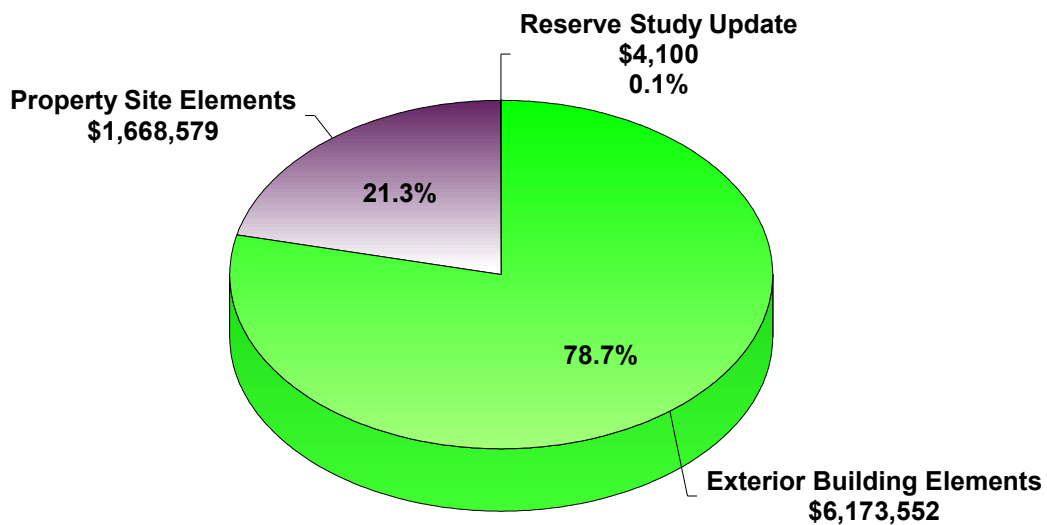
The *Audit and Accounting Guide for Common Interest Realty Associations* presents recommendations on Supplementary Information on Future Major Repairs and Replacements in end of fiscal year Audits of Financial Statements for community associations¹. Accountants use discretion and judgment on how to present the Supplementary Information on Future Major Repairs and Replacements. However, the Supplementary Information on Future Major Repairs and Replacements often references and includes excerpts from our Reserve Studies. The following table excerpts significant unaudited information from the Reserve Expenditures about Reserve Component categories and estimated current and future replacement costs based on inflation at an annual rate of 1.3%.

The information included in the table above may be included as part of the Supplementary Information on Future Major Repairs and Replacements. *However, Reserve Advisors, Inc. does not certify that the information in the table will fully satisfy the recommendations of the AICPA guideline.*

¹ American Institute of Certified Public Accountants (AICPA) Audit and Accounting Guide - *Common Interest Realty Associations*; American Institute of Certified Public Accountants, Inc.; 2003

The most important category of Reserve Components noted in *Reserve Expenditures* is the Exterior Building Elements. The following chart illustrates the relative importance of the Reserve Expenditures and relative funding during the next 30 years.

Future Expenditures Relative Cost Illustration Waterway Pines



METHODOLOGY

Reserves for replacement are the amounts of money required for future expenditures to repair or replace Reserve Components that wear out before the entire facility or project wears out. Reserving funds for future repair or replacement of the Reserve Components is also one of the most reliable ways of protecting the value of the property's infrastructure and marketability.

Waterway Pines can fund capital repairs and replacements in any combination of the following:

- 1) Increases in the operating budget during years when the shortages occur
- 2) Loans using borrowed capital for major replacement projects
- 3) Level monthly reserve assessments annually adjusted upward for inflation to increase reserves to fund the expected major future expenditures
- 4) Special assessments

We do not advocate special assessments or loans unless near term circumstances dictate otherwise. Although loans provide a gradual method of funding a replacement, the costs are higher than if the Association were to accumulate reserves ahead of the actual replacement. Interest earnings on reserves also accumulate in this process of saving or reserving for future replacements, thereby defraying the amount of gradual reserve collections. We advocate the third method of *Level Monthly Reserve Assessments* with relatively minor annual adjustments. The method ensures that homeowners pay their "fair share" of the weathering and aging of the commonly owned property each year. Level reserve assessments preserve the property and enhance the resale value of the homes.



This Reserve Study is in compliance with and exceeds the National standards¹ set forth by Community Associations Institute (CAI) and the Association of Professional Reserve Analysts (APRA) fulfilling the requirements of a “Full Reserve Study.” These standards require a Reserve Component to have a “predictable remaining Useful Life.” Estimating Remaining Useful Lives and Reserve Expenditures beyond 30 years is often indeterminate. Long-Lived Property Elements are necessarily excluded from this analysis. We considered the following factors in our analysis:

Information Furnished by the Association	
January 31, 2012 unaudited Cash Status of the Reserve Fund	\$400,000
Remaining 2012 Budgeted Reserve Contributions	\$42,328
Anticipated Interest on Reserve Fund	\$4,633
Less Anticipated Reserve Expenditures	\$0
Projected 2012 Year-End Reserve Balance	\$446,961

The Cash Flow Method to compute, project and illustrate the 30-year Reserve Funding Plan

Local² costs of material, equipment and labor

Current and future costs of replacement for the Reserve Components

Costs of demolition as part of the cost of replacement

Local economic conditions and a historical perspective to arrive at our estimate of long term future inflation for *construction costs* in Holland, Michigan at an annual inflation rate of 1.3%. Isolated or regional markets of greater construction (development) activity may experience slightly greater rates of inflation for both construction materials and labor.

The past and current maintenance practices of Waterway Pines and their effects on remaining useful lives

¹ Identified in the APRA “Standards - Terms and Definitions” and the CAI “Terms and Definitions”.

² See *Credentials* for addition information on our use of published sources of cost data.



The Funding Plan excludes necessary operating budget expenditures. It is our understanding that future operating budgets will provide for the ongoing normal maintenance of Reserve Components

The anticipated effects of appreciation of the reserves over time in accord with an anticipated future return or yield on investment of your cash equivalent assets at an annual rate of 1.2% (We did not consider the costs, if any, of Federal and State Taxes on income derived from interest and/or dividend income)

Interest rates on reserves are steady or increasing in concert with the certificates of deposit and money market rates. Slight increases exist in the savings rates of one, two or three-year CDs. Without significant differences in these savings rates, shorter term investments are the choice of many investors. We recommend consultation with a professional investment adviser before investing reserves to determine an appropriate investment strategy to maximize a safe return on reserve savings. The following table summarizes rates of inflation and key rates for government securities, generally considered as safe investment alternatives.

Interest Rate and Inflation Data								
Average or Last Actual = (A)	2010:1 (A)	2010:2 (A)	2010:3 (A)	2010:4 (A)	2011:1 (A)	2011:2 (A)	2011:3 (A)	2011:4 (E)
90-Day Treasury Bill	0.050%	0.10%	0.10%	0.15%	0.05%	0.40%	0.2%	0.2%
1-Year Treasury Bill	0.30	0.34	0.26	0.22	0.30	0.15	0.10	0.10
10-Year Treasury Note	3.50	3.30	2.67	2.50	2.50	2.25	2.20	1.85
30-Year Treasury Bond	4.50	4.20	3.79	3.90	4.50	4.50	3.60	2.80
Consumer Price Index (annualized rate)	0.01	1.2%	1.2%	0.8%	2.1%	4%	4%	3%
Residential Construction Inflation, Bureau of Labor Statistics (2-year ave.)		\$0		2.2%	2.9%	2.7%	4.1%	3.0%
National Market Savings Rates as found	0.10%	for Money Market Savings			0.8%	for 2-Year Certificate of Deposit		
in http://www.bankrate.com	0.4%	for 1-Year Certificate of Deposit			1.2%	for 3-Year Certificate of Deposit		
Estimated Near Term Yield Rate for Reserve Savings	1.2%							
Estimated Near Term Inflation Rate for Future Capital Expenditures	1.3%							

Updates to this Reserve Study will continue to monitor historical facts and trends concerning the external market conditions.

DEFINITIONS¹

Cash Flow Method - A method of calculating Reserve Contributions 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 anticipated schedule of reserve expenses until the desired funding goal is achieved.

Component Method - A method of developing a Reserve Funding Plan with the total contribution is based on the sum of the contributions for individual components.

Current Cost of Replacement - That amount required today derived from the quantity of a *Reserve Component* and its unit cost to replace or repair a Reserve Component using the most current technology and construction materials, duplicating the productive utility of the existing property at current *local* market prices for *materials, labor* and manufactured equipment, contractors' overhead, profit and fees, but without provisions for building permits, overtime, bonuses for labor or premiums for material and equipment. We include removal and disposal costs where applicable.

Fully Funded Balance - The Reserve balance that is in direct proportion to the fraction of life "used up" of the current Repair or Replacement cost similar to Total Accrued Depreciation

Funding Goal (Threshold) - The stated purpose of this Reserve Study is to determine the adequate, not excessive, minimal threshold reserve balances.

Future Cost of Replacement - *Reserve Expenditure* derived from the inflated current cost of replacement or current cost of replacement as defined above, with consideration given to the effects of inflation on local market rates for materials, labor and equipment.

Long-Lived Property Component - Property component of Waterway Pines responsibility not likely to require capital repair or replacement during the next 30 years with an unpredictable remaining Useful Life beyond the next 30 years.

Percent Funded - The ratio, at a particular point of time (typically the beginning of the Fiscal Year), of the actual (or projected) Reserve Balance to the Fully Funded Balance, expressed as a percentage.

Remaining Useful Life - The estimated remaining functional or useful time in years of a *Reserve Component* based on its age, condition and maintenance.

Reserve Component - Property elements with: 1) Waterway Pines responsibility; 2) limited Useful Life expectancies; 3) predictable Remaining Useful Life expectancies; and 4) a replacement cost above a minimum threshold.

Reserve Component Inventory - Line Items in *Reserve Expenditures* that identify a *Reserve Component*.

Reserve Contribution - An amount of money set aside or *Reserve Assessment* contributed to a *Reserve Fund* for future *Reserve Expenditures* to repair or replace *Reserve Components*.

Reserve Expenditure - *Future Cost of Replacement* of a *Reserve Component*.

Reserve Fund Status - The accumulated amount of reserves in dollars at a given point in time, i.e., at year end.

Reserve Funding Plan - The portion of the Reserve Study identifying the *Cash Flow Analysis* and containing the recommended Reserve Contributions and projected annual expenditures, interest earned and reserve balances.

Reserve Study - A budget planning tool that identifies the current status of the reserve fund and a stable and equitable Funding Plan to offset the anticipated future major common area expenditures.

Useful Life - The anticipated total time in years that a *Reserve Component* is expected to serve its intended function in its present application or installation.

¹ Definitions are derived from the standards set forth by the Community Associations Institute (CAI) representing America's 305,000 condominium and homeowners associations and cooperatives, and the Association of Professional Reserve Analysts, setting the standards of care for reserve study practitioners.



CONDITIONS OF OUR SERVICE ASSUMPTIONS

To the best of our knowledge, all data set forth in this report are true and accurate. Although gathered from reliable sources, we make no guarantee nor assume liability for the accuracy of any data, opinions, or estimates identified as furnished by others that we used in formulating this analysis.

We did not make any soil analysis or geological study with this report; nor were any water, oil, gas, coal, or other subsurface mineral and use rights or conditions investigated.

Substances such as asbestos, urea-formaldehyde foam insulation, other chemicals, toxic wastes, environmental mold or other potentially hazardous materials could, if present, adversely affect the validity of this study. Unless otherwise stated in this report, the existence of hazardous substance, that may or may not be present on or in the property, was not considered. Our opinions are predicated on the assumption that there are no hazardous materials on or in the property. We assume no responsibility for any such conditions. We are not qualified to detect such substances, quantify the impact, or develop the remedial cost.

We have made a visual inspection of the property and noted visible physical defects, if any, in our report. Our inspection and analysis was made by employees generally familiar with real estate and building construction; however, we did not do any invasive testing. Accordingly, we do not opine on, nor are we responsible for, the structural integrity of the property including its conformity to specific governmental code requirements, such as fire, building and safety, earthquake, and occupancy, or any physical defects that were not readily apparent during the inspection.

Our opinions of the remaining useful lives of the property elements do not represent a guarantee or warranty of performance of the products, materials and workmanship.



PROFESSIONAL SERVICE CONDITIONS

Our Services - Reserve Advisors, Inc. will perform its services as an independent contractor in accordance with our professional practice standards. Our compensation is not contingent upon our conclusions.

Our inspection and analysis of the subject property is limited to visual observations and is noninvasive. We will inspect sloped roofs from the ground. We will inspect flat roofs where safe access (stairs or ladder permanently attached to the structure) is available. The report is based upon a “snapshot in time” at the moment of our observation. Conditions can change between the time of inspection and the issuance of the report. Reserve Advisors does not investigate, nor assume any responsibility for any existence or impact of any hazardous materials, structural, latent or hidden defects which may or may not be present on or within the property. Our opinions of estimated costs and remaining useful lives are not a guarantee of the actual costs of replacement, a warranty of the common elements or other property elements, or a guarantee of remaining useful lives.

We assume, without independent verification, the accuracy of all data provided to us. You agree to indemnify and hold us harmless against and from any and all losses, claims, actions, damages, expenses or liabilities, including reasonable attorneys' fees, to which we may become subject in connection with this engagement, because of any false, misleading or incomplete information which we have relied upon as supplied by you or others under your direction, or which may result from any improper use or reliance on the report by you or third parties under your control or direction. Your obligation for indemnification and reimbursement shall extend to any controlling person of Reserve Advisors, Inc., including any director, officer, employee, affiliate, or agent. Liability of Reserve Advisors, Inc. and its employees, affiliates, and agents for errors and omissions, if any, in this work is limited to the amount of its compensation for the work performed in this engagement.

Report - Reserve Advisors, Inc. will complete the services in accordance with the Proposal. We will consider any additional information made available to us in the interest of promptly issuing a Final Report (if requested). However, the Report represents a valid opinion of our findings and recommendations and is deemed complete and final if no Final Report or changes are requested within six months of our inspection. We retain the right to withhold the Report or Final Report if payment for services is not rendered in a timely manner. All files, work papers or documents developed by us during the course of the engagement remains our property.

Your Obligations - You agree to provide us access to the subject property during our on-site visual inspection and tour. You will provide to us to the best of your ability and if reasonably available, historical and budgetary information, the governing documents, and other information that we request and deem necessary to complete our Study. You agree to pay our actual attorneys' fees and any other costs incurred in the event we have to initiate litigation to collect on any unpaid balance for our services.

Use of Our Report and Your Name - Use of our Report(s) is limited to only the purpose stated herein. Any use or reliance for any other purpose, by you or third parties, is invalid. Our Reserve Study Report in whole or part ***is not and can not be used as a design specification, design engineering services or an appraisal.*** You may show our report in its entirety to those third parties who need to review the information contained herein. The Client and other third parties viewing this report should not reference our name or our report, in whole or in part, in any document prepared and/or distributed to third parties without our written consent. ***This report*** contains intellectual property developed by Reserve Advisors, Inc. specific to this engagement and ***can not be reproduced or distributed to those who conduct reserve studies without the written consent of Reserve Advisors, Inc.***



We reserve the right to include our client's name in our client lists, but we will maintain the confidentiality of all conversations, documents provided to us, and the contents of our reports, subject to legal or administrative process or proceedings. These conditions can only be modified by written documents executed by both parties.

Payment Terms, Due Dates, and Interest Charges - The retainer payment is due upon authorization and prior to shipment of the report. The final payment of the fee is due immediately upon receipt of the Report. Subsequent changes to the report can be made for up to six months from the initial report date. Any outstanding balance after 30 days of the invoice date is subject to an interest charge of 1.5% per month. Any litigation necessary to collect an unpaid balance shall be venued in Milwaukee County Circuit Court in the State of Wisconsin.



CREDENTIALS

HISTORY AND DEPTH OF SERVICE

Founded in 1991, Reserve Advisors, Inc. is the leading provider of reserve studies, insurance appraisals, developer turnover transition studies, expert witness services, and other engineering consulting services. Clients include community associations, resort properties, hotels, clubs, non-profit organizations, apartment building owners, religious and educational institutions, and office/commercial building owners in 48 states, Canada and throughout the world.

The **architectural engineering consulting firm** was formed to take a leadership role in helping fiduciaries, boards, and property managers manage their property like a business with a long range master plan known as a Reserve Study.

Reserve Advisors employs the **largest staff of Reserve Specialists** with bachelors degrees in engineering dedicated to Reserve Study services. Our principals are founders of Community Associations Institute's (CAI) Reserve Committee, that developed national standards for reserve study providers. One of our principals is a Past President of the Association of Professional Reserve Analysts (APRA). Our vast experience with a variety of building types and ages, on-site examination and a historical analyses are keys to determining accurate remaining useful life estimates of building components.

No Conflict of Interest - As consulting specialists, our **independent opinion** eliminates any real or perceived conflict of interest because we do not conduct or manage capital projects.

TOTAL STAFF INVOLVEMENT

Several staff members participate in each assignment. The responsible advisor involves the staff through a Team Review, exclusive to Reserve Advisors, Inc., and by utilizing the experience of other staff members, each of whom has served hundreds of clients. We conduct Team Reviews, an internal quality assurance review of each assignment, including: the inspection; building component costing; lifing; and technical report phases of the assignment. Each Team Review requires the attendance of several engineers, a Review Coordinator, Director of Quality Assurance and other participatory peers. Due to our extensive experience with building components, we do not have a need to utilize subcontractors.

OUR GOAL

To help our clients fulfill their fiduciary responsibilities to maintain property in good condition.

VAST EXPERIENCE WITH A VARIETY OF BUILDINGS

Reserve Advisors, Inc. has conducted reserve studies for a multitude of different communities and building types. We've analyzed thousands of buildings, from as small as a 3,500 square-foot day care center to the 100-story John Hancock Center in Chicago. We also routinely inspect buildings with various types of mechanical systems such as simple electric heat, to complex systems with air handlers, chillers, boilers, elevators, and life safety security systems.

We're familiar with all types of building exteriors as well. Our well versed staff regularly identifies optimal repair and replacement solutions for such building exterior surfaces such as adobe, brick, stone, concrete, stucco, EIFS, wood products, stained glass and aluminum siding, and window wall systems.

OLD TO NEW

Reserve Advisors experience includes ornate and vintage buildings as well as modern structures. Our specialists are no strangers to older buildings. We're accustomed to addressing the unique challenges posed by buildings that date to the 1800's. We recognize and consider the methods of construction employed into our analysis. We recommend appropriate replacement programs that apply cost effective technologies while maintaining a building's character and appeal.



THEODORE J. SALGADO, P.E., PRA
Principal

Theodore J. Salgado is a co-founder of Reserve Advisors, Inc., which is dedicated to serving community associations, city and country clubs, religious organizations, educational facilities, and public and private entities throughout the United States. He is responsible for the production, management, review, and quality assurance of all reserve studies, defect identification transition studies, and consulting services for a nationwide portfolio of more than 5,000 clients. Under his direction, the firm conducts reserve study services for apartment complexes, churches, hotels, resorts, office towers and vintage architecturally ornate buildings.



PRIOR RELEVANT EXPERIENCE

Before founding Reserve Advisors, Inc. in 1991, Mr. Salgado, a professional engineer registered in the State of Wisconsin, served clients for over 15 years through American Appraisal Associates, the world's largest full service valuation firm. Mr. Salgado conducted facilities analyses of hospitals, steel mills and various other large manufacturing and petrochemical facilities and casinos.

He has served clients throughout the United States and in foreign countries, and frequently acted as project manager on complex valuation, and federal and state tax planning assignments. His valuation studies led to negotiated settlements on property tax disputes between municipalities and property owners.

Mr. Salgado has authored articles on the topic of reserve studies and facilities maintenance. He also co-authored "Reserves", an educational videotape produced by Reserve Advisors on the subject of Reserve Studies and maintaining appropriate reserves. Mr. Salgado has also written in-house computer applications manuals and taught techniques relating to valuation studies.

EXPERT WITNESS

Mr. Salgado has testified successfully before the Butler County Board of Tax Revisions in Ohio. His depositions in pretrial discovery proceedings relating to reserve studies of Crestview Estates Condominium Association in Wauconda, Illinois and the North Shore Club Associations in South Bend, Indiana have successfully assisted the parties in arriving at out of court settlements.

EDUCATION

Milwaukee School of Engineering - B.S. Architectural Engineering

PROFESSIONAL AFFILIATIONS/DESIGNATIONS

American Association of Cost Engineers - Past President, Wisconsin Section

Association of Construction Inspectors - Senior Designated Member and Certified Construction Inspector

Association of Professional Reserve Analysts - Past President, and Professional Reserve Analyst (PRA)

Community Associations Institute - Member and Volunteer Leader of multiple chapters throughout the United States

Concordia Seminary, St. Louis - Member, National Steering Committee

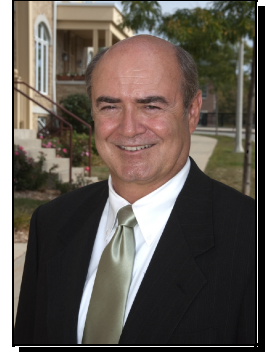
Milwaukee School of Engineering - Member, Corporation Board

Professional Engineer, Wisconsin - Registered in 1982

JOHN P. POEHLMANN, RS
Principal

John P. Poehlmann is a co-founder of Reserve Advisors, Inc. He is responsible for the finance, accounting, marketing, and overall administration of Reserve Advisors, Inc. He also regularly participates in internal Quality Control Team Reviews of Reserve Study reports.

Mr. Poehlmann directs corporate marketing, including business development, advertising, press releases, conference exhibiting, and direct mail promotions. He frequently speaks throughout the country at seminars and workshops on the benefits of future planning and budgeting for capital repairs and replacements of building components and other assets.



Mr. Poehlmann served on the national Board of Trustees of Community Associations Institute. Community Associations Institute (CAI) is a national, nonprofit 501(c)(6) trade association created in 1973 to provide education and resources to America's 305,000 residential condominium, cooperative and homeowner associations and related professionals and service providers. The Institute is dedicated to fostering vibrant, responsive, competent community associations that promote harmony, community, and responsible leadership.

He is a founding member of the Institute's Reserve Committee. The Reserve Committee developed national standards and the Reserve Specialist (RS) Designation Program for Reserve Study providers. Mr. Poehlmann has authored numerous articles on the topic of Reserve Studies, including Planning for Replacement of Property Doesn't Have to Be Like a Trip to the Dentist, Reserve Studies for the First Time Buyer, Sound Association Planning Parallels Business Concepts, and Reserve Studies Minimize Liability. He has worked with a variety of publications, including the Chicago Tribune, The Milwaukee Journal/Sentinel, Common Ground, Common Interest, and Condo Management. He also co-authored "Reserves", an educational videotape produced by Reserve Advisors on the subject of Reserve Studies and the benefits of maintaining appropriate reserves. The videotape is available through Reserve Advisors or CAI's website, www.caionline.org and libraries in the State of Virginia.

INDUSTRY SERVICE AWARDS

CAI National Rising Star Award - To an individual whose leadership abilities and professional contributions have earmarked them for even greater accomplishments in the future.

CAI Michigan Chapter Award - "Given to the individual who contributed their time, expertise, and resources toward improving the quality of services offered by the chapter. Mr. Poehlmann was unanimously selected as the winner of the CAI Michigan Chapter Award."

EDUCATION

University of Wisconsin-Milwaukee - Master of Science Management
University of Wisconsin - Bachelor of Business Administration

PROFESSIONAL AFFILIATIONS

Community Associations Institute (CAI) - Founding member of Reserve Committee; former member of National Board of Trustees; Reserve Specialist (RS) designation; Member of multiple chapters

Association of Condominium, Townhouse, & Homeowners Associations (ACTHA) - member



QUALIFICATIONS
Jayme R. Radomski, P.E., PRA, RS
Director of Quality Assurance

CURRENT CLIENT SERVICES

Jayme R. Radomski, an Architectural Engineer, is the Director of Quality Assurance for *Reserve Advisors, Inc.* Ms. Radomski is responsible for the management, review and quality assurance of all reserve studies. In this role, she assumes the responsibility of stringent report review analysis to assure report accuracy and the best solution for Reserve Advisors' clients.

Ms. Radomski has been involved with hundreds of Reserve Study assignments. The following is a partial list of clients served by Jayme Radomski demonstrating her breadth of experiential knowledge of community associations in construction and related buildings systems.

Sun City Community Association of Huntley, Inc. This planned unit development is located in Huntley, Illinois. The development features common elements shared by 5,481 homeowners. Common elements include a 114,000-square foot community center, a 19,000-square foot clubhouse, an aquatic center, a woodshop, a tennis center, ponds and other amenities. The buildings comprise complex asphalt shingle and flat roof assemblies, complex mechanical systems, furnishings, fixtures and kitchen equipment. The development comprises single family homes and eight townhome style neighborhoods.

Carroll House Condominium This unique architectural development located in historic Baltimore, Maryland comprises 23 residential units in four unique buildings. The buildings were constructed in the mid-1800s. The development comprises two mid-rise buildings and two single-story carriage homes.

Ballston Park Condominium This 137 unit, nine story, high rise building is located in Arlington, Virginia. This development features flat roof assemblies, brick masonry walls, balconies, mechanical systems, interior finishes, a parking garage and an elevated terrace.

Church of the Resurrection Located in New Albany, Ohio, this recently expanded church includes a church, and a social hall and classrooms. These two unique buildings comprise asphalt shingle and metal roof assemblies, brick masonry walls, complex mechanical systems, audio visual and sound equipment, and a kitchen.

Brookfield Academy This five building campus is located in Brookfield, Wisconsin. This independent school consists of students from levels K4 to 12. The campus includes various buildings and an athletic complex.

Turnberry Village Condominium Association A townhome style condominium development of 90 units in 13 buildings located in Ann Arbor, Michigan. The buildings feature complex roof designs, masonry veneer, and wood and aluminum siding.

PRIOR RELEVANT EXPERIENCE

Before joining *Reserve Advisors, Inc.*, Ms. Radomski was a Designer for Ahern Fire Protection in Menomonee Falls, WI. She was responsible for designing and drafting of fire protection systems in accordance with all applicable codes while selecting the most efficient fabrication, installation and stocklisting techniques, and performing hydraulic calculations to ensure proper flow and pressure of sprinkler systems.

EDUCATION

Milwaukee School of Engineering - M.S. Environmental Engineering, B.S. Architectural Engineering
University of Wisconsin-Madison - B.S. Consumer Science

PROFESSIONAL AFFILIATIONS

Professional Engineering License (P.E.) - Wisconsin 2008
Reserve Specialist (RS) - Community Associations Institute
Professional Reserve Analyst (PRA) - Association of Professional Reserve Analysts
American Society of Civil Engineers (ASCE)



QUALIFICATIONS
Alan M. Ebert, PRA, RS
Quality Assurance Review Coordinator

CURRENT CLIENT SERVICES

Alan M. Ebert, a Geological Engineer, is an Advisor for *Reserve Advisors, Inc.* Mr. Ebert is responsible for the inspection and analysis of the condition of clients' properties, and recommending engineering solutions to prolong the lives of the components. He also forecasts capital expenditures for the repair and/or replacement of the property components and prepares technical reports on assignments. He is responsible for conducting Life Cycle Cost Analyses and Capital Replacement Forecast services and the preparation of Reserve Study Reports for condominiums, townhomes and homeowner associations.

The following is a partial list of clients served by Alan Ebert demonstrating his breadth of experiential knowledge of community associations in construction and related buildings systems.

Brownsville Winter Haven Located in Brownsville, Texas, this unique homeowners association contains 525 units. The Association maintains three pools and pool houses, a community and management office, landscape and maintenance equipment, and nine irrigation canals with associated infrastructure.

Rosemont Condominiums This unique condominium is located in Alexandria, Virginia and dates to the 1940's. The two mid-rise buildings utilize decorative stone and brick masonry. The development features common interior spaces, multi-level wood balconies and common asphalt parking areas.

Stillwater Homeowners Association Located in Naperville, Illinois, Stillwater Homeowners Association maintains four tennis courts, an Olympic sized pool and an upscale ballroom with commercial-grade kitchen. The community also maintains three storm water retention ponds and a detention basin.

Birchfield Community Services Association This extensive Association comprises seven separate parcels which include 505 townhome and single family homes. This Community Services Association is located in Mt. Laurel, New Jersey. Three lakes, a pool, a clubhouse and management office, wood carports, aluminum siding, and asphalt shingle roofs are a few of the elements maintained by the Association.

Oakridge Manor Condominium Association Located in Londonderry, New Hampshire, this Association includes 104 units at 13 buildings. In addition to extensive roads and parking areas, the Association maintains a large septic system and significant concrete retaining walls.

Memorial Lofts Homeowners Association This upscale high rise is located in Houston, Texas. The 20 luxury units include large balconies and decorative interior hallways. The 10-story building utilizes a painted stucco facade and TPO roof, while an on-grade garage serves residents and guests.

PRIOR RELEVANT EXPERIENCE

Mr. Ebert earned his Bachelor of Science degree in Geological Engineering from the University of Wisconsin-Madison. His relevant course work includes foundations, retaining walls, and slope stability. Before joining Reserve Advisors, Inc., Mr. Ebert was an oilfield engineer and tested and evaluated hundreds of oil and gas wells throughout North America.

EDUCATION - University of Wisconsin-Madison - B.S. Geological Engineering

PROFESSIONAL AFFILIATIONS/DESIGNATIONS - Professional Reserve Analyst (PRA), Reserve Specialist (RS)



QUALIFICATIONS

Matthew R. Beilman, Civil Engineer
Responsible Advisor

CURRENT CLIENT SERVICES

Matthew Beilman, a Civil Engineer, is an Advisor for *Reserve Advisors, Inc.* Mr. Beilman is responsible for the inspection and analysis of the condition of clients' property, and recommending engineering solutions to prolong the lives of the components. He also forecasts capital expenditures for the repair and/or replacement of the property components and prepares technical reports on assignments. He is responsible for conducting Life Cycle Cost Analysis and Capital Replacement Forecast services and the preparation of Reserve Study Reports for condominiums, townhomes and homeowner associations.

The following is a partial list of clients served by Matthew Beilman demonstrating his breadth of experiential knowledge of community associations in construction and related buildings systems.

Hedingham Community Association Located in Raleigh, North Carolina, this unique townhome comprises 759 units in 379 buildings. The exteriors of the buildings include masonry veneer, vinyl siding and asphalt shingle roofs

Runnymede Farms Association Located in Newton Square, Pennsylvania, this attractive master association includes an extensive landscape, a swimming pool, tennis courts, concrete retaining walls, entrance monuments, asphalt pavement and a pavilion containing a concrete balcony and pool mechanical equipment.

Beaumont Residential Association This expansive master association, located in the rolling hills of Lexington, Kentucky, is responsible for several miles of asphalt trails, miles of horse fencing, street signs, numerous and elaborate entrance monuments, and light poles and fixtures.

Fairfield Village Community Association A unique community association located in Cypress, Texas, comprises nine lakes, perimeter fences, retaining walls and tennis courts. A fitness center with gymnasium, daycare center and a pool provide additional amenities to more than 5,000 community residents.

Arboretum Village Located in Chanhassen, Minnesota, this extensive development includes four separate townhome associations which contain 342 units in 85 buildings. Detailed architectural exteriors utilize a variety of building materials while common interior components include complex and extensive fire suppression systems.

Creekside Meadows Association Comprises two phases, built in 2002 and 2006, this elegant townhome association located in Waukesha, Wisconsin contains 18 units in nine buildings. In addition to the building exteriors, the Association is responsible for site amenities including asphalt pavement, wells and pumps, and complex septic systems with leech fields.

Smithfield Greene Condominium Association Located in Louisville, Kentucky, this association contains 28 units in four buildings. Characteristic of upscale architectural design, the exteriors of the buildings include masonry veneer and complex roof designs. The development encompasses attractive landscape, large retaining walls supporting asphalt pavement, masonry perimeter walls and several thousand square feet of brick pavers.

Villas of Crimson Oaks A distinguished community located in Lake St. Louis, Missouri, this association contains 44 units in 23 buildings. The custom buildings involve steep and elaborate roofing assemblies, masonry, vinyl siding, patios, and wood and composite decks including complex multistory framing. Features of the site involve several large retaining walls, pavement, fences and a large retention pond.

PRIOR RELEVANT EXPERIENCE

Before joining Reserve Advisors, Inc., Mr. Beilman attended the University of Wisconsin in Madison, Wisconsin where he attained his Bachelor of Science degree in Civil Engineering with a second major in Economics. His studies focused on construction engineering, project estimating and structural analysis.

EDUCATION - University of Wisconsin - B.S. Civil Engineering



QUALIFICATIONS
Justin J. Maier, P.E., RS, PRA
Review Coordinator

CURRENT CLIENT SERVICES

Justin Maier, an Architectural / Structural Engineer, is an Advisor for *Reserve Advisors, Inc.* Mr. Maier is responsible for the inspection and analysis of the common property's current condition, recommending engineering solutions to prolong the lives of building components, forecasting capital expenditures for the repair and/or replacement of the property components, and technical report preparation on assignments. Justin Maier frequently serves as the *Quality Assurance Review Coordinator* for all types of developments.

The following is a partial list of clients served by Justin Maier demonstrating his breadth of experiential knowledge of community associations in architecture, civil construction and related buildings systems.

Park Row at Burnham Place Elegant, historicist townhome development exemplifying the city's redevelopment efforts in the South Loop of Chicago. Part of the Mayor's effort to "cul-de-sac the city."

Valley Ranch Home of the Dallas Cowboys and Dallas Stars, Valley Ranch has almost 4,000 single family homes and 21 apartment communities. Residents of this attractive community enjoy nearly five miles of lushly landscaped canal walkways, association parks and an extravagant irrigation system.

Crystal Mountain Resort Family resort development of 232 condominiums, townhomes and hotel suites within 33 buildings. Multiple building styles, materials and functions. Resort Property located in the shadow of Crystal Mountain in Northern Michigan.

St. Andrews Located in the heart of the St. Andrews Country Club in Delray Beach, Florida, this multiple Association development embraces both townhomes and condominium units. Homes boast views of either the intercoastal waterway or the Atlantic Ocean.

Shaker Courts Historic development from the early 1940's within walking distance of Cleveland's historic Shaker Square. Stately buildings with elegant rooftop gardens and first floor garage parking.

Whitehall Community of exclusive townhomes and high rise buildings overlooking a swimming pool located within the northwest Washington, D.C. Beltway. Homes are conditioned by centralized boilers and cooling towers.

Fishhawk Lake Recreation Club, Inc. Located in Northwest Oregon, this man-made lake development includes 305 platted lots on approximately 300 acres of land. Components of the property maintained by the Association include a sewage treatment plant, potable water treatment plant, earthen dam and site amenities.

860-880 Lake Shore Drive Designed by Ludwig Mies van der Rohe and built between 1949 and 1951, this twin 26-story Chicago Landmark is said to have set the standard by which all subsequent glass and steel high rises are judged.

Southwood Shores Quiet luxury on the man-made Lake of the Ozarks. Fronted by a seawall, this development prizes townhomes, multiple swimming pools, a clubhouse, boat docks, recreational facilities and maintains its own lift stations, water treatment plant and water softener equipment.

PRIOR RELEVANT EXPERIENCE

Before joining *Reserve Advisors, Inc.*, Mr. Maier was an Assistant Engineer for Crest Consulting Engineers, P.C., in Oak Brook, Illinois. He was responsible for the evaluation and analysis of construction defects, design of remedial construction repairs and implementation of the repairs by the contractor. Mr. Maier has designed structural and architectural repairs for projects throughout the greater Chicago area.

EDUCATION - Milwaukee School of Engineering - B.S. Architectural Engineering

PROFESSIONAL AFFILIATIONS

Professional Engineering License - WI, MI, IL, PA, VA, OH, MD, NY, DC, MN, TX

Professional Reserve Analyst (PRA) - Association of Professional Reserve Analysts

Reserve Specialist (RS) - Community Associations Institute

RESOURCES

Reserve Advisors, Inc. utilizes numerous resources of national and local data to conduct its Professional Services. A concise list of several of these resources follows:

Association of Construction Inspectors, (ACI) the largest professional organization for those involved in construction inspection and construction project management. ACI is also the leading association providing standards, guidelines, regulations, education, training, and professional recognition in a field that has quickly become important procedure for both residential and commercial construction, found on the web at <http://www.iami.org>. Several advisors and a Principal of Reserve Advisors, Inc. hold Senior Memberships with ACI.

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., (ASHRAE) the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., devoted to the arts and sciences of heating, ventilation, air conditioning and refrigeration; recognized as the foremost, authoritative, timely and responsive source of technical and educational information, standards and guidelines, found on the web at <http://www.ashrae.org>. Reserve Advisors, Inc. actively participates in its local chapter and holds individual memberships.

Community Associations Institute, (CAI) America's leading advocate for responsible communities noted as the only national organization dedicated to fostering vibrant, responsive, competent community associations. Their mission is to assist community associations in promoting harmony, community, and responsible leadership.

Marshall & Swift / Boeckh, (MS/B) the worldwide provider of building cost data, co-sourcing solutions, and estimating technology for the property and casualty insurance industry found on the web at <http://www.msbinfo.com>

R.S. Means CostWorks, North America's leading supplier of construction cost information. As a member of the Construction Market Data Group, Means provides accurate and up-to-date cost information that helps owners developers, architects, engineers, contractors and others to carefully and precisely project and control the cost of both new building construction and renovation projects found on the web at <http://www.rsmeans.com>

Reserve Advisors, Inc., library of numerous periodicals relating to reserve studies, condition analyses, chapter community associations, and historical costs from thousands of capital repair and replacement projects, and product literature from manufacturers of building products and building systems.