

FULL RESERVE STUDY

Hembstead Homeowners' Association, Inc.



Charlotte, North Carolina

May 21, 2018



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Long-term thinking. Everyday commitment.

Hembstead Homeowners' Association, Inc.
Charlotte, North Carolina

Dear Board of Directors of Hembstead Homeowners' Association, Inc.:

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Full Reserve Study* of Hembstead Homeowners' Association, Inc. in Charlotte, North Carolina and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, May 21, 2018.

This *Full Reserve Study* exceeds the Association of Professional Reserve Analysts (APRA) standards fulfilling the requirements of a "Level I Full Reserve Study."

An ongoing review by the Board and an Update of this Reserve Study are necessary to ensure an equitable funding plan since a Reserve Study is a snapshot in time. We recommend the Board budget for an Update to this Reserve Study in two years. We look forward to continuing to help Hembstead Homeowners' Association, Inc. plan for a successful future.

As part of our long-term thinking and everyday commitment to our clients, we are available to answer any questions you may have regarding this study.

Respectfully submitted on June 5, 2018 by

Reserve Advisors Engineering, PLLC (P-1327)

Visual Inspection and Report by: Colin Niemeyer
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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.



Long-term thinking. Everyday commitment.

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1. RESERVE STUDY EXECUTIVE SUMMARY

Client: Hembstead Homeowners' Association, Inc. (Hembstead)

Location: Charlotte, North Carolina

Reference: 180655

Property Basics: Hembstead Homeowners' Association, Inc. is a planned unit development which is responsible for the common elements shared by 222 single family homes. The common elements of the Association were built in 1988.

Reserve Components Identified: 30 Reserve Components.

Inspection Date: May 21, 2018.

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 2029 due to replacement of the pool plaster and tile.

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
- 1.8% 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:

- \$208,256 as of March 31, 2018. At the request of Management we use the operating balance as the starting balance of the Reserve Fund.
- The Association did not budget Reserve Contributions in 2018.

Project Prioritization: We recommend the Association prioritize the following projects in the next five years based on the conditions identified:

- Pool, Renovation
- Asphalt Pavement, Total Replacement, Parking Lot

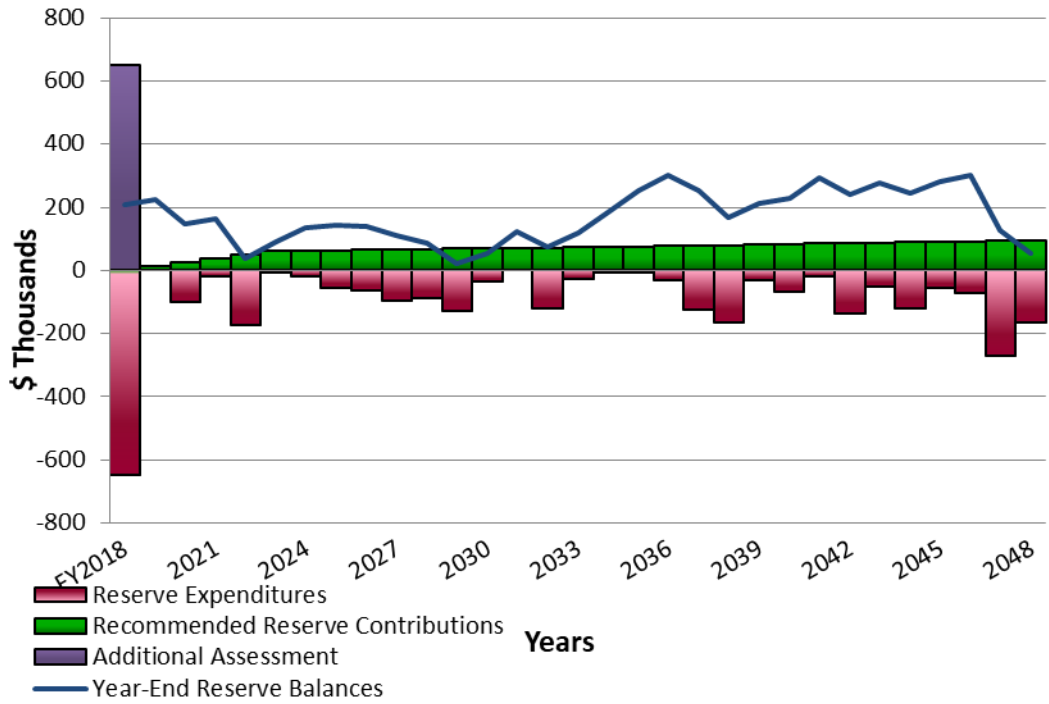
Recommended Reserve Funding: We recommend the following in order to achieve a stable and equitable Funding Plan:

- Phased increases of \$12,000 from 2019 through 2023
- Additional annual assessment of \$650,000 in 2018 to fund the pool and clubhouse renovation
- Inflationary increases from 2024 through 2048, the limit of this study's Cash Flow Analysis
- Initial adjustment in Reserve Contributions of \$12,000 represents an average monthly increase of \$4.50 per homeowner and about a seven percent (6.9%) adjustment in the 2018 total Operating Budget of \$173,832.
- Additional assessment of \$650,000 in 2018 through is equivalent to an average monthly Additional Assessment of approximately \$244 per homeowner

Hembstead

Recommended Reserve Funding Table and Graph

Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)
2019	12,000	224,724	2029	66,800	23,056	2039	79,800	213,121
2020	24,000	148,901	2030	68,000	52,862	2040	81,200	227,954
2021	36,000	163,873	2031	69,200	123,112	2041	82,700	291,861
2022	48,000	39,655	2032	70,400	74,156	2042	84,200	241,026
2023	60,000	92,242	2033	71,700	117,037	2043	85,700	277,333
2024	61,100	133,744	2034	73,000	182,323	2044	87,200	246,870
2025	62,200	141,902	2035	74,300	252,413	2045	88,800	282,781
2026	63,300	141,146	2036	75,600	299,845	2046	90,400	302,515
2027	64,400	110,087	2037	77,000	253,728	2047	92,000	126,164
2028	65,600	86,170	2038	78,400	165,967	2048	93,700	53,969



2. RESERVE STUDY REPORT

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Full Reserve Study* of

Hembstead Homeowners' Association, Inc.

Charlotte, North Carolina

and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, May 21, 2018.

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
- **Reserve Component Detail** - Describes the reserve components, includes photographic documentation of the condition of various property elements, describes our recommendations for repairs or replacement, and includes detailed solutions and procedures for replacements for the benefit of current and future board members
- **Methodology** - Lists the national standards, methods and procedures used to develop the Reserve Study
- **Definitions** - Contains definitions of terms used in the Reserve Study, consistent with national standards
- **Professional Service Conditions** - Describes Assumptions and Professional Service Conditions
- **Credentials and Resources**

IDENTIFICATION OF PROPERTY



Our investigation includes Reserve Components or property elements as set forth in your Declaration. The Expenditure tables in Section 3 list the elements contained in this study. 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 and the management team 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 Management. 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 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:

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

Long-Lived Property Elements may not have predictable Remaining Useful Lives or their replacement may occur beyond the 30-year scope of the study. 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.

- Electrical Systems, Common
- Foundation, Pool House
- Pipes, Interior Building, Domestic Water, Sanitary Waste, Vent, Pool House Common
- Pipes, Subsurface Utilities
- Shade Structures, Pool
- Soffit and Fascia, Pool House (~2013)
- Structural Frames

The operating budget provides money for the repair and replacement of certain Reserve Components. The Association may develop independent criteria for use of operating and reserve funds. For purposes of calculating appropriate Reserve Contributions, we identify the following list of Operating Budget Funded Repairs and Replacements:

- General Maintenance to the Common Elements
- Expenditures less than \$4,000 (These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.)
- Air Handling and Condensing Unit, Split System, Pool House
- Basketball Hoop
- Bridges, Paint Finishes
- Concrete Flatwork
- Landscape
- Paint Finishes, Touch Up
- Shutters, Vinyl, Pool House
- Volleyball Court
- Walls, Masonry, Inspections and Capital Repairs, Pool House
- Other Repairs normally funded through the Operating Budget

Certain items have been designated as the responsibility of the homeowners to repair or replace at their cost. Property Maintained by Homeowners, including items billed back to Homeowners, relates to:

- Asphalt Pavement, Private Drive

- Homes and Lots

Certain items have been designated as the responsibility of others to repair or replace. Property Maintained by Others relates to:

- Light Poles and Fixtures, Streets and Parking Lot (Duke Energy)
- Street Systems (City)

3. RESERVE EXPENDITURES and FUNDING PLAN

The tables following this introduction present:

Reserve Expenditures

- Line item numbers
- Total quantities
- Quantities replaced per phase (in a single year)
- Reserve component inventory
- Estimated first year of event (i.e., replacement, application, etc.)
- Life analysis showing
 - useful life
 - remaining useful life
- 2018 local cost of replacement
 - Per unit
 - Per phase
 - Replacement of total quantity
- 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
- Predicted reserves based on current funding level

Financial statements prepared by your association, by you or others might rely in part on information contained in this section. For your convenience, we have provided an electronic data file containing the tables of ***Reserve Expenditures*** and ***Reserve Funding Plan***.

RESERVE EXPENDITURES

**Hembstead
Homeowners' Association, Inc.**
Charlotte, North Carolina

Explanatory Notes:

- 1) **1.8%** is the estimated future Inflation Rate for estimating Future Replacement Costs.
- 2) FY2018 is Fiscal Year beginning January 1, 2018 and ending December 31, 2018.

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$				RUL = 0 FY2018	1 2019	2 2020	3 2021	4 2022	5 2023	6 2024	7 2025	8 2026	9 2027	10 2028	11 2029	12 2030	13 2031	14 2032	15 2033							
						Useful	Remaining	Unit (2018)	Per Phase (2018)	Total (2018)	30-Year Total (Inflated)																							
Property Site Elements																																		
4.020	2,800	2,800	Square Yards	Asphalt Pavement, Crack Repair, Patch, Seal Coat and Striping, Parking Lot	2024	3 to 5	6	1.90	5,320	5,320	43,989							5,921			6,359					6,829								
4.040	2,800	2,800	Square Yards	Asphalt Pavement, Mill and Overlay, Parking Lot	2040	15 to 20	22	14.50	40,600	40,600	60,114																							
4.045	2,800	2,800	Square Yards	Asphalt Pavement, Total Replacement, Parking Lot	2020	15 to 20	2	30.00	84,000	84,000	87,051		87,051																					
4.080	5,000	1,667	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Phased	2022	10 to 15	4 to 14	40.00	66,667	200,000	543,157				71,598					78,278						85,581								
4.105	1,600	1,600	Square Feet	Bridges, Wood (2020 is Structure Repairs)	2020	15 to 25	2	35.00	56,000	56,000	172,191		15,000											68,142										
4.640	5,910	5,910	Square Feet	Perimeter Walls, Masonry, Inspections and Capital Repairs	2025	8 to 12	7	0.85	5,024	5,024	20,627								5,692															
4.660	1	1	Allowance	Playground Equipment	2026	15 to 20	8	45,000.00	45,000	45,000	126,060									51,903														
4.735	840	840	Square Feet	Retaining Walls, Concrete, Inspection and Capital Repairs	2034	10 to 15	16	8.50	7,140	7,140	20,853																							
4.800	1	1	Allowance	Signage, Entrance Monuments, Renovation	2021	15 to 20	3	11,700.00	11,700	11,700	29,360				12,343																			
4.815	1	1	Allowance	Streams, Erosion Control	2021	to 15	3	10,000.00	10,000	10,000	24,337				10,550																			
4.830	1,640	1,640	Square Yards	Tennis Court, Color Coat	2027	4 to 6	9	9.70	15,908	15,908	85,837										18,679					20,421								
4.840	490	490	Linear Feet	Tennis Court, Fence	2022	to 25	4	40.00	19,600	19,600	53,931					21,050																		
4.850	4	4	Each	Tennis Court, Light Poles and Fixtures	2022	to 35	4	2,200.00	8,800	8,800	24,214					9,451																		
4.860	1,640	1,640	Square Yards	Tennis Court, Surface Replacement	2022	to 25	4	40.50	66,420	66,420	182,758					71,333																		
Pool House Elements																																		
5.490	800	800	Square Feet	Deck and Gazebo	2025	to 20	7	37.00	29,600	29,600	81,453								33,537															
5.500	1	1	Allowance	Interior, Renovation, Complete	2038	to 20	20	47,500.00	47,500	47,500	67,866																							
5.510	1	1	Each	Interior, Renovation, Partial	2029	to 10	11	6,000.00	6,000	6,000	7,301														7,301									
5.590	2	2	Each	Rest Rooms, Renovation	2029	to 25	11	16,500.00	33,000	33,000	40,155														40,155									
5.600	45	45	Squares	Roofs, Asphalt Shingles (Includes Gutters and Downspouts)	2030	15 to 20	12	360.00	16,200	16,200	20,067															20,067								
5.790	1	1	Allowance	Security System	2033	to 15	15	8,400.00	8,400	8,400	25,322																10,977							
5.800	240	240	Square Feet	Windows and Doors	2026	to 40	8	50.00	12,000	12,000	13,841									13,841														
Pool Elements																																		
6.200	8,200	8,200	Square Feet	Concrete Deck, Inspections, Partial Replacements and Repairs	2029	8 to 12	11	1.50	12,300	12,300	32,857														14,967									
6.300	4,150	4,150	Square Feet	Cover, Vinyl	2025	6 to 8	7	3.50	14,525	14,525	57,332								16,457								18,982							
6.400	420	420	Linear Feet	Fence, Aluminum	2043	to 25	25	55.00	23,100	23,100	36,083																							
6.500	2	1	Allowance	Furniture, Phased	2024	to 12	6 to 12	7,500.00	7,500	15,000	52,293							8,347							9,290									
6.560	5	5	Each	Light Poles and Fixtures	2043	to 25	25	2,100.00	10,500	10,500	16,402																							
6.600	2	1	Allowance	Mechanical Equipment, Phased	2023	to 15	5 to 12	7,500.00	7,500	15,000	39,942						8,200								9,290									
6.801	4,150	4,150	Square Feet	Pool Finish, Plaster and Tile	2028	8 to 12	10	17.00	70,550	70,550	305,611													84,329										
6.850	1	1	Allowance	Pool Renovation	2018	N/A	0	650,000.00	650,000	650,000	650,000	650,000																						
6.870	4	4	Each	Shade, Canvas Replacements	2024	6 to 8	6	1,500.00	6,000	6,000	33,511							6,678								7,702								
Anticipated Expenditures, By Year																																		
											\$2,954,515	650,000	0	102,051	22,893	173,432	8,200	20,946	55,686	65,744	96,957	90,688	130,565	38,647	0	120,533	29,959							

RESERVE EXPENDITURES

**Hembstead
Homeowners' Association, Inc.**
Charlotte, North Carolina

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$				16 2034	17 2035	18 2036	19 2037	20 2038	21 2039	22 2040	23 2041	24 2042	25 2043	26 2044	27 2045	28 2046	29 2047	30 2048
						Useful	Remaining	Unit (2018)	Per Phase (2018)	Total (2018)	30-Year Total (Inflated)															
Property Site Elements																										
4.020	2,800	2,800	Square Yards	Asphalt Pavement, Crack Repair, Patch, Seal Coat and Striping, Parking Lot	2024	3 to 5	6	1.90	5,320	5,320	43,989			7,335							8,460				9,085	
4.040	2,800	2,800	Square Yards	Asphalt Pavement, Mill and Overlay, Parking Lot	2040	15 to 20	22	14.50	40,600	40,600	60,114				60,114											
4.045	2,800	2,800	Square Yards	Asphalt Pavement, Total Replacement, Parking Lot	2020	15 to 20	2	30.00	84,000	84,000	87,051															
4.080	5,000	1,667	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Phased	2022	10 to 15	4 to 14	40.00	66,667	200,000	543,157			93,566			102,295							111,839		
4.105	1,600	1,600	Square Feet	Bridges, Wood (2020 is Structure Repairs)	2020	15 to 25	2	35.00	56,000	56,000	172,191										89,049					
4.640	5,910	5,910	Square Feet	Perimeter Walls, Masonry, Inspections and Capital Repairs	2025	8 to 12	7	0.85	5,024	5,024	20,627		6,803									8,132				
4.660	1	1	Allowance	Playground Equipment	2026	15 to 20	8	45,000.00	45,000	45,000	126,060												74,157			
4.735	840	840	Square Feet	Retaining Walls, Concrete, Inspection and Capital Repairs	2034	10 to 15	16	8.50	7,140	7,140	20,853	9,499									11,354					
4.800	1	1	Allowance	Signage, Entrance Monuments, Renovation	2021	15 to 20	3	11,700.00	11,700	11,700	29,360					17,017										
4.815	1	1	Allowance	Streams, Erosion Control	2021	to 15	3	10,000.00	10,000	10,000	24,337			13,787												
4.830	1,640	1,640	Square Yards	Tennis Court, Color Coat	2027	4 to 6	9	9.70	15,908	15,908	85,837				22,327			24,410								
4.840	490	490	Linear Feet	Tennis Court, Fence	2022	to 25	4	40.00	19,600	19,600	53,931													32,881		
4.850	4	4	Each	Tennis Court, Light Poles and Fixtures	2022	to 35	4	2,200.00	8,800	8,800	24,214													14,763		
4.860	1,640	1,640	Square Yards	Tennis Court, Surface Replacement	2022	to 25	4	40.50	66,420	66,420	182,758													111,425		
Pool House Elements																										
5.490	800	800	Square Feet	Deck and Gazebo	2025	to 20	7	37.00	29,600	29,600	81,453											47,916				
5.500	1	1	Allowance	Interior, Renovation, Complete	2038	to 20	20	47,500.00	47,500	47,500	67,866				67,866											
5.510	1	1	Each	Interior, Renovation, Partial	2029	to 10	11	6,000.00	6,000	6,000	7,301															
5.590	2	2	Each	Rest Rooms, Renovation	2029	to 25	11	16,500.00	33,000	33,000	40,155															
5.600	45	45	Squares	Roofs, Asphalt Shingles (Includes Gutters and Downspouts)	2030	15 to 20	12	360.00	16,200	16,200	20,067															
5.790	1	1	Allowance	Security System	2033	to 15	15	8,400.00	8,400	8,400	25,322													14,345		
5.800	240	240	Square Feet	Windows and Doors	2026	to 40	8	50.00	12,000	12,000	13,841															
Pool Elements																										
6.200	8,200	8,200	Square Feet	Concrete Deck, Inspections, Partial Replacements and Repairs	2029	8 to 12	11	1.50	12,300	12,300	32,857					17,890										
6.300	4,150	4,150	Square Feet	Cover, Vinyl	2025	6 to 8	7	3.50	14,525	14,525	57,332							21,893								
6.400	420	420	Linear Feet	Fence, Aluminum	2043	to 25	25	55.00	23,100	23,100	36,083										36,083					
6.500	2	1	Allowance	Furniture, Phased	2024	to 12	6 to 12	7,500.00	7,500	15,000	52,293			10,340				11,508						12,808		
6.560	5	5	Each	Light Poles and Fixtures	2043	to 25	25	2,100.00	10,500	10,500	16,402										16,402					
6.600	2	1	Allowance	Mechanical Equipment, Phased	2023	to 15	5 to 12	7,500.00	7,500	15,000	39,942				10,526							11,926				
6.801	4,150	4,150	Square Feet	Pool Finish, Plaster and Tile	2028	8 to 12	10	17.00	70,550	70,550	305,611				100,798										120,484	
6.850	1	1	Allowance	Pool Renovation	2018	N/A	0	650,000.00	650,000	650,000	650,000															
6.870	4	4	Each	Shade, Canvas Replacements	2024	6 to 8	6	1,500.00	6,000	6,000	33,511						8,884							10,247		
Anticipated Expenditures, By Year											\$2,954,515	9,499	6,803	31,462	126,419	168,664	34,907	68,998	21,893	138,213	52,485	120,789	56,048	74,157	270,908	166,969

RESERVE FUNDING PLAN

CASH FLOW ANALYSIS

Hembstead

Homeowners' Association, Inc.

Charlotte, North Carolina

Individual Reserve Budgets & Cash Flows for the Next 30 Years

	FY2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Reserves at Beginning of Year (Note 1)	208,256	210,130	224,724	148,901	163,873	39,655	92,242	133,744	141,902	141,146	110,087	86,170	23,056	52,862	123,112	74,156
Plus Recommended Reserve Contributions	0	12,000	24,000	36,000	48,000	60,000	61,100	62,200	63,300	64,400	65,600	66,800	68,000	69,200	70,400	71,700
Plus Additional Assessment	650,000															
Total Recommended Reserve Contributions (Note 2)	650,000	12,000	24,000	36,000	48,000	60,000	61,100	62,200	63,300	64,400	65,600	66,800	68,000	69,200	70,400	71,700
Plus Estimated Interest Earned, During Year (Note 3)	1,874	2,594	2,228	1,865	1,214	787	1,348	1,644	1,688	1,498	1,171	651	453	1,050	1,177	1,140
Less Anticipated Expenditures, By Year	(650,000)	0	(102,051)	(22,893)	(173,432)	(8,200)	(20,946)	(55,686)	(65,744)	(96,957)	(90,688)	(130,565)	(38,647)	0	(120,533)	(29,959)
Anticipated Reserves at Year End	\$210,130	\$224,724	\$148,901	\$163,873	\$39,655	\$92,242	\$133,744	\$141,902	\$141,146	\$110,087	\$86,170	\$23,056	\$52,862	\$123,112	\$74,156	\$117,037

(NOTE 5)

(continued)

Individual Reserve Budgets & Cash Flows for the Next 30 Years, Continued

	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Reserves at Beginning of Year	117,037	182,323	252,413	299,845	253,728	165,967	213,121	227,954	291,861	241,026	277,333	246,870	282,781	302,515	126,164
Total Recommended Reserve Contributions	73,000	74,300	75,600	77,000	78,400	79,800	81,200	82,700	84,200	85,700	87,200	88,800	90,400	92,000	93,700
Plus Estimated Interest Earned, During Year	1,785	2,593	3,294	3,302	2,503	2,261	2,631	3,100	3,178	3,092	3,126	3,159	3,491	2,557	1,074
Less Anticipated Expenditures, By Year	(9,499)	(6,803)	(31,462)	(126,419)	(168,664)	(34,907)	(68,998)	(21,893)	(138,213)	(52,485)	(120,789)	(56,048)	(74,157)	(270,908)	(166,969)
Anticipated Reserves at Year End	\$182,323	\$252,413	\$299,845	\$253,728	\$165,967	\$213,121	\$227,954	\$291,861	\$241,026	\$277,333	\$246,870	\$282,781	\$302,515	\$126,164	\$53,969

(NOTE 4)

Explanatory Notes:

- 1) Year 2018 starting reserves are as of March 31, 2018; FY2018 starts January 1, 2018 and ends December 31, 2018.
- 2) Reserve Contributions for 2018 are the remaining budgeted 9 months; 2019 is the first year of recommended contributions.
- 3) 1.2% is the estimated annual rate of return on invested reserves; 2018 is a partial year of interest earned.
- 4) Accumulated year 2048 ending reserves consider the age, size, overall condition and complexity of the property.
- 5) Threshold Funding Year (reserve balance at critical point).

4. RESERVE COMPONENT DETAIL

The Reserve Component Detail of this *Full Reserve Study* includes enhanced solutions and procedures for select significant components. This section describes the Reserve Components, documents specific problems and condition assessments, 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.*

Property Site Elements

Asphalt Pavement, Crack Repair, Patch, Seal Coat and Striping

Line Item: 4.020

Quantity: Approximately 2,800 square yards at the pool house parking lot

History: Original

Condition: Fair overall with surface and alligator cracks evident throughout

Useful Life: Three- to five-years

Component Detail Notes: Proposals for seal coat applications should include crack repairs and patching. The contractor should only apply seal coat applications after repairs are completed. A seal coat does not bridge or close cracks, therefore, unrepaired cracks render the seal coat applications useless.

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost includes an allowance for crack repairs and patching of up to two percent (2%) of the pavement.

Asphalt Pavement, Repaving

Line Items: 4.040 and 4.045

Quantity: Approximately 2,800 square yards at the pool house parking lot

History: Original

Condition: Fair overall with surface and alligator cracks evident throughout



Asphalt pavement overview – alligator cracks evident



Example of alligator cracks



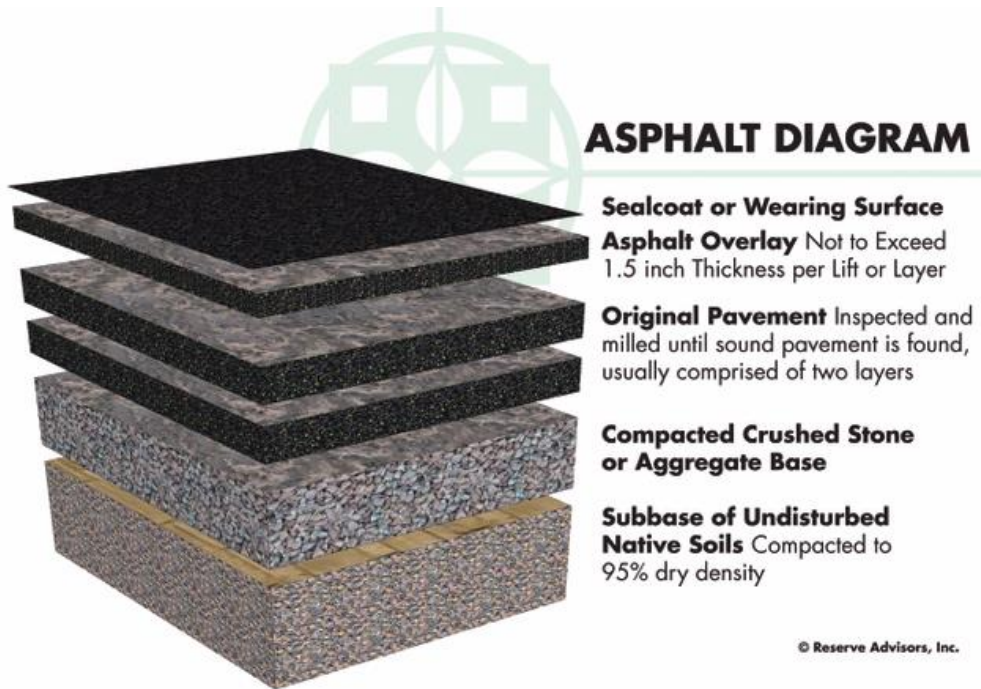
Asphalt pavement overview – surface cracks evident



Deteriorated pavement at edge of parking lot

Useful Life: 15- to 20-years

Component Detail Notes: 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 the typical components although it may not reflect the actual configuration at Hembstead:



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. 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 mill and overlayment on asphalt pavement that exhibits normal deterioration and wear. 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 and configuration of the asphalt pavement, we recommend the mill and overlay method for initial repaving followed by the total replacement method for subsequent repaving at Hembstead.

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for milling and overlayment includes area patching of up to ten percent (10%).

Asphalt Pavement, Repaving, Walking Paths

Line Item: 4.080

Quantity: Approximately 5,000 square yards throughout the community

History: Partial replacements in 2017

Condition: Good to fair overall with surface cracks and asphalt deterioration evident



Overview of walking path – replacements evident



Walking path overview- surface cracks and deterioration evident



Surface cracks at walking path

Useful Life: The need to maintain a safe pedestrian surface results in a useful life of 10- to 15-years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We depict replacement in a phased manner allocated for replacement of up to thirty three percent (33%) of the walking paths per event.

Bridges, Wood

Line Item: 4.105

Quantity: 8 wood balconies which comprise a total of 1,600 square feet

History: Repairs made as needed

Condition: Good to fair overall with areas of washout at the structure



Overview of typical wood bridge



Area that has been washed out by the stream at the footer



Bridge structure

Useful Life: 15- to 25-years with proper maintenance.

Component Detail Notes: Balcony construction includes the following:

- Wood railings with vertical pickets
- Wood column supported frames
- Exposed concrete footings
- Metal joist hanger fasteners
- Cross bracing exists to stabilize the frames

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We depict a near term event to address the issue of areas that have washed out at the concrete footings. 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/stain

Perimeter Walls, Masonry

Line Item: 4.640

Quantity: Approximately 5,910 square feet of surface area

History: Original

Condition: Good to fair overall with minor mortar deterioration evident



Perimeter wall overview



Example of mortar deterioration



Perimeter wall overview

Useful Life: Indefinitely long with periodic inspections and repairs every 15 years to forestall deterioration.

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost includes an inspection and repointing of up to one percent (1%), or about 60 square feet of masonry.

Playground Equipment

Line Item: 4.660

History: Unknown

Condition: Good overall



Playground at rear of pool



Playground at rear of pool

Useful Life: 15- to 20-years

Component Detail Notes: Safety is the major purpose for maintaining playground equipment. We recommend an annual inspection of the playground equipment to identify and repair as normal maintenance loose connections and fasteners or damaged elements. We suggest the Association learn more about the specific requirements of playground equipment at PlaygroundSafety.org. We recommend the use of a specialist for the design or replacement of the playground equipment environment.

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We include an allowance in the unit cost for replacement of the safety surface.

Retaining Walls, Concrete

Line Item: 4.735

Quantity: 840 square feet

History: Original

Condition: Fair overall with cracks evident throughout



Retaining wall at pool deck – cracks evident



Cracks evident at retaining wall

Useful Life: Concrete retaining walls have indeterminate useful lives. However, we recommend the Association plan for inspections and capital repairs every 10- to 15-years to forestall deterioration.

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

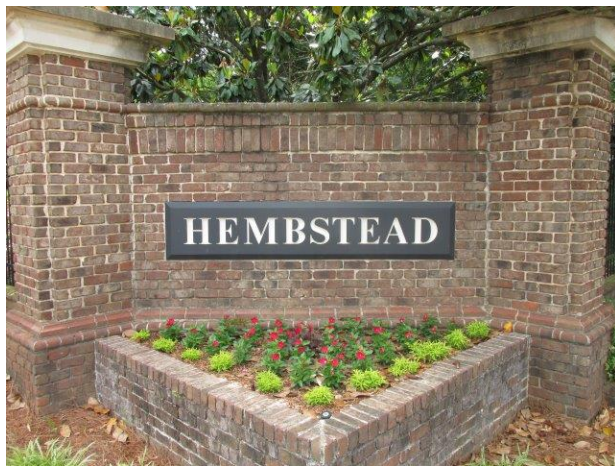
Signage

Line Item: 4.800

Quantity: Three property identification signs

History: Original

Condition: Fair to poor overall with masonry damage evident



Entrance monument



Damage to the masonry evident



Cracks at masonry evident



Mortar deterioration evident

Useful Life: 15- to 20-years

Component Detail Notes: Community signage contributes to the overall aesthetic appearance of the property to owners and potential buyers. Renovation or replacement

of community signs is often predicated upon the desire to "update" the perceived identity of the community rather than for utilitarian concerns. Therefore, the specific times for replacement or renovation are discretionary. The signage includes the following elements:

- Light fixtures
- Fences
- Masonry, Brick

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for renovation includes repointing and repairs to the masonry and replacement of the remaining components listed above.

Streams, Erosion Control

Line Item: 4.815

Condition: Erosion evident at streams along walking path



Exposed bridge footer due to erosion at the bridge

Useful Life: Shorelines are subject to fluctuations in water levels, increased plant growth and migrating storm and ground water resulting in the need for erosion control measures up to every 15 years.

Component Detail Notes: The steep shoreline embankments are likely to exacerbate soil movement and erosion. The use and maintenance of landscape, natural vegetation and/or stone rip rap along the stream shorelines will help maintain an attractive appearance and prevent soil erosion.

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We include an allowance of \$10,000 every 10 years for slope remediation and installation of rip rap along the shorelines.

Tennis Courts, Color Coat

Line Item: 4.830

Quantity: 1,640 square yards comprising two tennis courts

History: Color coated in 2013, crack repairs performed in 2017.

Condition: Fair overall with surface cracks evident



Tennis court overview



Surface cracks evident



Surface cracks evident

Useful Life: Four- to six-years

Component Detail Notes: Prior to the application of the color coat, the Association should require the contractor to rout and fill all cracks with hot emulsion. This deters water infiltration and further deterioration of the asphalt playing surface.

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Tennis Courts, Fence

Line Item: 4.840

Quantity: 490 linear feet

History: Original

Condition: Fair overall



Chain link fence overview



Chain link fence overview

Useful Life: Up to 25 years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Tennis Courts, Light Poles and Fixtures

Line Item: 4.850

Quantity: Four each

History: Original

Condition: Fair overall



Typical light pole and fixture

Useful Life: Up to 35 years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Tennis Courts, Surface

Line Item: 4.860

Quantity: 1,640 square yards of asphalt comprising two tennis courts

History: Color coated in 2013, crack repairs performed in 2017.

Condition: Fair overall with surface cracks evident

Useful Life: Up to 25 years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Pool House Elements



Pool house overview

Deck and Gazebo

Line Item: 5.490

Quantity: One wood deck and gazebo comprises approximately 840 square feet

History: Original

Condition: Fair overall



Deck overview



Gazebo overview

Useful Life: Up to 20 years with proper maintenance.

Component Detail Notes: Deck construction includes the following:

- Wood railings with vertical pickets
- Wood column supported frames
- Exposed concrete footings
- Metal joist hanger fasteners
- Cross bracing exists to stabilize the frames
- Asphalt shingle roof at gazebo

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We depict a near term event to address the issue of areas that have washed out at the concrete footings. 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/stain

Interior Renovations

Line Items: 5.500 and 5.510

History: Original

Condition: Good overall



Pool house entrance



Kitchen at pool house



Fire place and seating area

Useful Life: Complete interior renovation every 20 years and partial renovations every 10 years

Component Detail Notes: The clubhouse interior comprises approximately 0 square feet of finished area which includes:

- Carpet and tile floor coverings
- Paint finishes on the walls and ceilings
- Plumbing fixtures
- Light fixtures including exit and emergency lights
- Kitchen cabinets and countertops
- Furnishings including sofas, tables, chairs and bureaus
- Various appliances including a stove, refrigerator and microwave

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. At the request of the Association we include a near term event for a complete renovation of the pool house. The complete renovation should include replacement of all the interior components listed above.

These partial renovations should include the following:

- Application of paint finish to all surfaces
- Replacement of the carpet
- Replacement of up to fifty percent (50%) of the appliances and furnishings

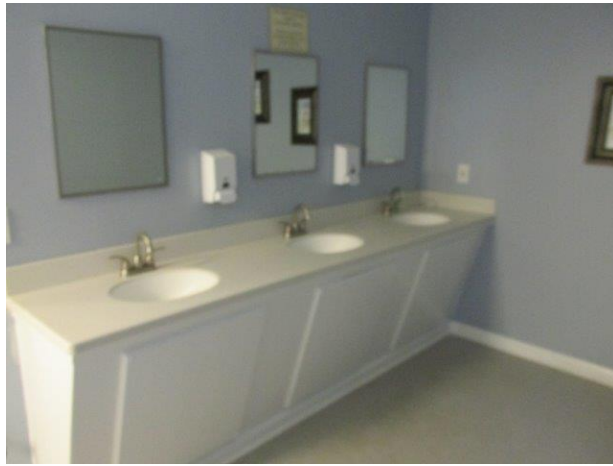
Rest Rooms

Line Item: 25.590

Quantity: Two common located at the pool house

History: Components are original

Condition: Good overall



Bathroom overview



Shower cubicles

Useful Life: Renovation up to every 25 years

Component Detail Notes: Components include:

- Painted walls and ceilings
- Concrete floor
- Light fixtures
- Plumbing fixtures

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Roof, Asphalt Shingles

Line Item: 5.600

Quantity: 45 squares¹

History: Unknown

Condition: Good overall

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



Asphalt shingle roof overview



Enclosed full weaved valleys at asphalt shingle roof

Useful Life: 15- to 20-years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost estimate includes an allowance for the full replacement of the gutters and downspouts.

Security System

Line Item: 3.820

Quantity: Hembstead utilizes the following security system components:

- Cameras
- Multiplexer
- Recorder

History: Original

Condition: Reported in satisfactory operational condition



Example of typical security camera at the pool house

Useful Life: Up to 15 years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. The Association should anticipate replacement of all of the security system components per event.

Windows and Doors

Line Item: 5.800

Quantity: Approximately 240 square feet

History: Original

Condition: Good condition



Front entrance at pool house

Useful Life: Up to 40 years

Component Detail Notes: Construction of the windows and doors at the clubhouse includes the following:

- Wood frames
- Dual pane glass
- Fixed windows
- Hinged doors

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Pool Elements



Pool overview

Concrete Deck

Line Item: 6.200

Quantity: 8,200 square feet

History: Original

Condition: Fair overall with surface cracks evident throughout



Concrete deck overview – previous crack repair evident



Concrete deck overview – surface cracks evident



Concrete deck overview – surface cracks evident

Useful Life: The useful life of a concrete pool deck is up to 60 years or more with timely repairs. We recommend the Association conduct inspections, partial replacements and repairs to the deck every 8- to 12-years.

Component Detail Notes: We recommend the Association budget for the following:

- Selective cut out and replacements of up to ten percent (10%) of concrete
- Crack repairs as needed
- Mortar joint repairs
- Caulk replacement

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Cover, Vinyl

Line Item: 6.300

Quantity: 4,150 square feet

History: Replaced in recent years

Condition: Reported in good condition

Useful Life: Six- to eight-years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Fence, Aluminum

Line Item: 6.400

Quantity: 420 linear feet

History: Unknown

Condition: Good to fair overall



Aluminum fence at pool perimeter



Masonry deterioration at column



Aluminum fence at pool perimeter

Useful Life: Up to 25 years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Furniture

Line Item: 6.500

Quantity:

- Chairs (80)
- Lounges (20)
- Tables (3)
- Ladders and life safety equipment

History: Original

Condition: Good overall

Useful Life: Up to 12 years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend interim re-strapping, refinishing, cushion replacements, reupholstering and other repairs to the furniture as normal maintenance to maximize its useful life.

Light Poles and Fixtures

Line Item: 6.560

Quantity: Five poles with light fixtures

History: Original

Condition: Fair overall

Useful Life: Up to 25 years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Mechanical Equipment

Line Item: 6.600

Quantity:

- Automatic chlorinator
- Controls
- Filters
- Interconnected pipe, fittings and valves
- Pumps

History: Original

Condition: Reported in satisfactory operational condition



Pool pump and filters



Spa pump and filter

Useful Life: Up to 15 years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Failure of the pool mechanical equipment as a single event is unlikely. Therefore, we include replacement of up to fifty percent (50%) of the equipment per event. We consider interim replacement of motors and minor repairs as normal maintenance.

Pool Finishes, Plaster and Tile

Line Item: 6.801

Quantity: 4,150 square feet of plaster based on the horizontal surface area and approximately 730 linear feet of tile

History: Unknown

Condition: Good to fair overall



Plaster and tile at pool perimeter



Plaster and tile at pool perimeter

Useful Life: 8-to 12-years for the plaster and tile

Component Detail Notes: Removal and replacement provides the opportunity to inspect the pool structure and to allow for partial repairs of the underlying concrete surfaces as needed. To maintain the integrity of the pool structure, we recommend the Association budget for the following:

- Removal and replacement of the plaster finish
- Partial replacements of the scuppers and coping as needed
- Replacement of tiles as needed
- Replacement of joint sealants as needed
- Concrete structure repairs as needed

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend the Association budget for full tile replacement every plaster replacement event.

Shade, Canvas Replacements

Line Item: 6.870

Quantity: Four shade structures

History: Replaced in recent years

Condition: Good overall



Shade structure overview

Useful Life: Canvas replacements every six- to eight-years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Pool Renovation

Line Item: 6.850

History: Management informs us of plans to completely renovate the pool area in 2018.

Condition: Fair overall

Useful Life: N/A

Component Detail Notes: We take the following items into consideration for the pool renovation:

- Fence, Aluminum, Pool
- Interior Renovation, Complete, Pool House
- Light Poles and Fixtures, Pool
- Pool Finish, Plaster and tile
- Retaining Walls, Concrete, Pool Deck
- Security System, Pool House
- Structure and Deck, Pool

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost estimate for replacement is based on

information provided to us by the Association. Management informs us that the Association plans to cover the cost of the renovation with a special assessment.

Shade, Canvas Replacement

Line Item: 6.870

Quantity: Four total

History: Last replaced in 2016

Condition: Good overall



Example of typical shade structure

Useful Life: Six- to eight-years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Reserve Study Update

An ongoing review by the Board and an Update of this Reserve Study 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. We recommend the Board budget for an Update to this Reserve Study in two years. 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.

5.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.

Hembstead 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 the 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:

- 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 Charlotte, North Carolina at an annual inflation rate. Isolated or regional markets of

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

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

greater construction (development) activity may experience slightly greater rates of inflation for both construction materials and labor.

- The past and current maintenance practices of Hembstead and their effects on remaining useful lives
- Financial information provided by the Association pertaining to the cash status of the reserve fund and budgeted reserve contribution
- The anticipated effects of appreciation of the reserves over time in accord with a return or yield on investment of your cash equivalent assets. (We did not consider the costs, if any, of Federal and State Taxes on income derived from interest and/or dividend income).
- 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.

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

6. CREDENTIALS

HISTORY AND DEPTH OF SERVICE

Reserve Advisors Engineering, PLLC is the leading provider of reserve studies and other engineering consulting services.

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 bachelor's 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 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, 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. 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 has conducted reserve studies for a multitude of different communities and building types, and routinely inspects buildings with various types of mechanical systems such as simple electric heat, to complex systems with air handlers, chillers, boilers, elevators, and life safety and 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.

QUALIFICATIONS
THEODORE J. SALGADO
Principal Owner

CURRENT CLIENT SERVICES

Theodore J. Salgado is the founder of Reserve Advisors Engineering, PLLC. He is responsible for the production, management, review, and quality assurance of all reserve studies, property inspection services and consulting services. Under his direction, the firm conducts reserve study services for community associations.



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, Rivers Point Row Property Owners Association, Inc. in Charleston, South Carolina 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 - Certified Construction Inspector

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

Community Associations Institute - Member and Volunteer Leader of multiple chapters

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

Milwaukee School of Engineering - Member, Corporation Board

Professional Engineer, Wisconsin (1982) and North Carolina (2014)

Ted continually maintains his professional skills through American Society of Civil Engineers, ASHRAE, Association of Construction Inspectors, and continuing education to maintain his professional engineer licenses.



COLIN A. NIEMEYER
Responsible Advisor

CURRENT CLIENT SERVICES

Colin Niemeyer, a Chemical Engineer, is an Engineer for Reserve Advisors. Mr. Niemeyer 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 Colin Niemeyer demonstrating his breadth of experiential knowledge of community associations in construction and related buildings systems.

Heron Lake Villas at Homeowners Association, Inc. – This apartment community located in Myrtle Beach, South Carolina was constructed in 1995 and comprises three buildings constructed with fiber cement siding, asphalt shingle roofs, and wood decks. The property is situated in the middle of a golf course allowing for wonderful views.

Brookhaven Citizens Assembly, Inc. - This single family home community contains over 550 residential homes and is located in Matthews, North Carolina. The Master Association maintains the shared common elements including a luxurious clubhouse, a pool featuring a massive waterslide, as well as multiple recreational courts.

Rozzelles Landing Homeowners Association, Inc. - This townhome and single family home community in Huntersville, North Carolina comprises 157 townhome units in 27 buildings in addition to 129 single family homes. Expenditures of this property include large quantities parking areas and streets, large retaining walls, a pool with an adjoining pool house, and retention pond. The townhomes comprise a combination of brick and vinyl siding construction, featuring multiple different styles. Several of the townhomes feature attached garages.

Del Webb Carolina Orchards Community Association - A lavish single family home community located just outside of Rock Hill, South Carolina. Features of this property include an extravagant amenities center, including multiple conference rooms, a spa, yoga and fitness rooms. This property includes both an indoor and outdoor pool with pool house.

The Cape Townhomes Owners Association, Inc. - This townhome community built in the early 2000's is located in Hickory, NC that is adjacent to a public park. The property contains 12 units comprising 8 buildings, featuring multiple different style units, ranging from single family homes to triplexes.

Atlantic Towers Condominium - Located next to the sandy beaches of Carolina Beach, North Carolina, this apartment building contains 137 residential units. The townhomes are comprised of brick, fiber cement siding, asphalt shingle roofs and wood balconies at the unit rears. The community includes a pool, pool house, ponds, and a large quantity of stone retaining walls.

PRIOR RELEVANT EXPERIENCE

Before joining Reserve Advisors, Mr. Niemeyer successfully completed the bachelors program in Chemical Engineering at West Virginia University. In the past, he has worked for multiple engineering companies covering a wide variety of roles but with a concentration in improving efficiency and optimization with a focus on Lean and Six Sigma strategies. He has also spent time working in design engineering for one the Nation's leading construction companies.

EDUCATION

West Virginia University – B.S. in Chemical Engineering



ALAN M. EBERT, P.E., PRA, RS
Director of Quality Assurance

CURRENT CLIENT SERVICES

Alan M. Ebert, a Professional Engineer, is the Director of Quality Assurance for Reserve Advisors. Mr. Ebert is responsible for the management, review and quality assurance of reserve studies. In this role, he assumes the responsibility of stringent report review analysis to assure report accuracy and the best solution for Reserve Advisors' clients.

Mr. Ebert has been involved with thousands of Reserve Study assignments. 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, 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 Engineering License – Wisconsin, North Carolina, Illinois

Reserve Specialist (RS) - Community Associations Institute

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

RESOURCES

Reserve Advisors Engineering, PLLC 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 www.iami.org. Several advisors and a Principal of Reserve Advisors Engineering, PLLC 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 www.ashrae.org. Reserve Advisors Engineering, PLLC 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 www.marshallswift.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 www.rsmeans.com.

Reserve Advisors Engineering, **PLLC**, 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.

7. DEFINITIONS

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.

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 Hembstead 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) Hembstead 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.

8. PROFESSIONAL SERVICE CONDITIONS

Our Services - Reserve Advisors Engineering, PLLC (RA) performs its services as an independent contractor in accordance with our professional practice standards and its compensation is not contingent upon our conclusions. The purpose of our reserve study is to provide a budget planning tool that identifies the current status of the reserve fund, and an opinion recommending an annual funding plan to create reserves for anticipated future replacement expenditures of the property.

Our inspection and analysis of the subject property is limited to visual observations, is noninvasive and is not meant to nor does it include investigation into statutory, regulatory or code compliance. RA inspects sloped roofs from the ground and inspects 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 inspection. RA may note visible physical defects in our report. The inspection is made by employees generally familiar with real estate and building construction but in the absence of invasive testing RA cannot opine on, nor is RA responsible for, the structural integrity of the property including its conformity to specific governmental code requirements for fire, building, earthquake, and occupancy, or any physical defects that were not readily apparent during the inspection.

RA is not responsible for conditions that have changed between the time of inspection and the issuance of the report. RA does not investigate, nor assume any responsibility for any existence or impact of any hazardous materials, such as asbestos, urea-formaldehyde foam insulation, other chemicals, toxic wastes, environmental mold or other potentially hazardous materials or structural defects that are latent or hidden defects which may or may not be present on or within the property. RA does not make any soil analysis or geological study as part of its services; nor does RA investigate water, oil, gas, coal, or other subsurface mineral and use rights or such hidden conditions. RA assumes no responsibility for any such conditions. The Report contains opinions of estimated costs and remaining useful lives which are neither a guarantee of the actual costs of replacement nor a guarantee of remaining useful lives of any property element.

RA assumes, without independent verification, the accuracy of all data provided to it. You agree to indemnify and hold RA 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 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 director, officer, employee, affiliate, or agent of RA. Liability of RA 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 - RA completes the services in accordance with the Proposal. The Engineering Report represents a valid opinion of RA's findings and recommendations and is deemed complete. RA, however, considers any additional information made available to us within 6 months of issuing the Report if a timely request for a revised Engineering Report is made. RA retains the right to withhold a revised Report if payment for services was not tendered in a timely manner. All information received by RA and all files, work papers or documents developed by RA during the course of the engagement shall remain the property of RA and may be used for whatever purpose it sees fit.

Your Obligations - You agree to provide us access to the subject property for an on-site visual inspection. You agree to provide RA all available, historical and budgetary information, the governing documents, and other information that we request and deem necessary to complete the Report. You agree to pay actual attorneys' fees and any other costs incurred to collect on any unpaid balance for RA's services.

Use of Our Report and Your Name - Use of this Engineering Report is limited to only the purpose stated herein. You hereby acknowledge that any use or reliance by you on the Engineering Report for any unauthorized purpose is at your own risk and you shall hold RA harmless from any consequences of such use. Use by any unauthorized third party is unlawful. The Engineering Report in whole or in part ***is not and cannot be used as a design specification for design engineering purposes or as an appraisal.*** You may show our Engineering Report in its entirety to the following third parties: members of your organization, your accountant, attorney, financial institution and property manager who need to review the information contained herein. Without the written consent of RA, you shall not disclose the Engineering Report to any other third party. The Engineering Report contains intellectual property developed by RA and ***shall not be reproduced or distributed to any party that conducts reserve studies without the written consent of RA.***

RA will include your name in our client lists. RA reserves the right to use property information to obtain estimates of replacement costs, useful life of property elements or otherwise as RA, in its sole discretion, deems appropriate.

Payment Terms, Due Dates and Interest Charges - Retainer payment is due upon authorization and prior to inspection. The balance is due net 30 days from the report shipment date. Any balance remaining 30 days after delivery of the Engineering Report shall accrue an interest charge of 1.5% per month. Any litigation necessary to collect an unpaid balance shall be venued in Milwaukee County Circuit Court for the State of Wisconsin.