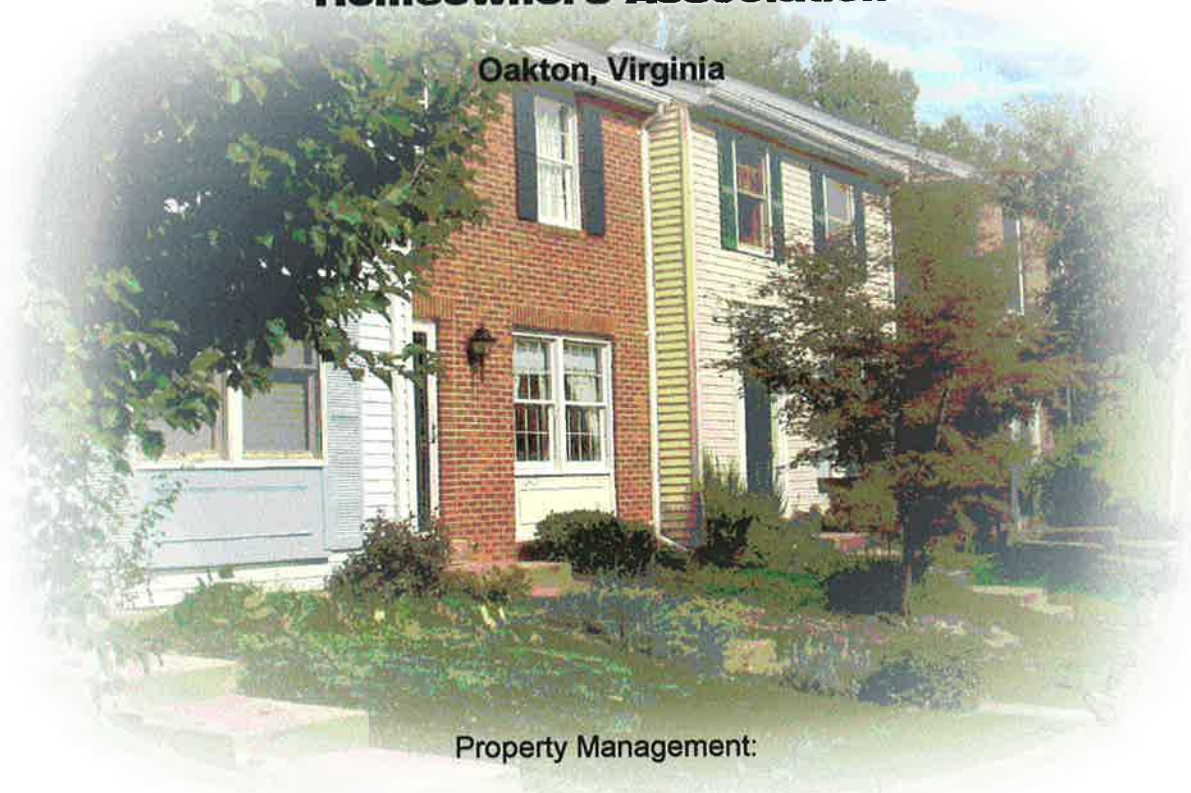


RSTUDY+  
REPLACEMENT RESERVE STUDY  
**FLINT HILL MANOR**  
Homeowners Association

Oakton, Virginia



Property Management:

**KOGER MANAGEMENT, INC.**

Ms. Dee Thompson  
Property Manager

3559 Chain Bridge Road  
Fairfax, Virginia 22030  
Tel: (703) 591-2414 Fax: (703) 591-2417

Consultant:

**RICHARD J. SCHUETZ, AIA**  
**ARCHITECT**

5101 10th Street South, Suite #4  
Arlington, Virginia 22204  
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**November 2003**



# RICHARD J. SCHUETZ, AIA

## ARCHITECT

5101 10th Street South, Suite #4  
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November 2003

Ms. Dee Thompson  
KOGER MANAGEMENT, INC.  
3559 Chain Bridge Road  
Fairfax, Virginia 22030

Dear Ms. Thompson:

Pursuant to your acceptance of our Proposal dated February 10, 2003, we have completed our evaluation of FLINT HILL MANOR in Oakton, Virginia, and have developed the enclosed RSTUDY+ Replacement Reserve Study. The Study includes the following components:

- **Replacement Reserve Report.** The *Report* contains a summary of the financial data calculated by the *Replacement Reserve Analysis*, a general description of the community, a summary of the conditions observed during our site evaluation, and information about the *Replacement Reserve Inventory*.
- **Replacement Reserve Analysis.** The *Analysis* is a tabular and graphical presentation of current Association funding of Reserves, and recommended Reserve Funding, calculated by both standard funding methodologies, the Cash Flow and Component Method.
- **Replacement Reserve Inventory.** The *Inventory* lists the common components of the community evaluated by the *Replacement Reserve Analysis*, and includes estimated replacement costs, normal economic life, and the remaining economic life for each component evaluated.
- **List of Recommended Repairs.** The *Repair List* itemizes defects we observed during our site evaluation. The repairs are categorized by building trade and include estimated costs.
- **Photographs and a Log of Photographs.** The photographs document observations made during the site evaluation.
- **Replacement Reserve Allocations.** The *Replacement Reserve Allocations* suggests allocation of the annual deposits to Replacement Reserves by the Cash Flow and Component Method. Cash Flow contributions are allocated based upon a chronological method recently developed by RSTUDY.
- **Appendix.** The *Appendix* contains definitions and standard procedures.

This Study should be reviewed by the FLINT HILL MANOR, Board of Directors, those responsible for the management of the components included in the *Inventory*, and the accounting professionals employed by the Association. We are prepared to provide revisions to the *Replacement Reserve Analysis* and the *Replacement Reserve Inventory* upon the request of the Board of Directors. Revisions should be requested by the Board of Directors within three (3) months of the date of this Study. If you have any questions regarding this report, please contact Mr. Richard J. Schuetz at (703) 820-1790.

Sincerely,  
RICHARD J. SCHUETZ, AIA  
Architect

Wm. Bruce Bennett  
Senior Reserve Analyst

RSTUDY+  
REPLACEMENT RESERVE STUDY

**TABLE OF CONTENTS**  
**FLINT HILL MANOR**  
**HOMEOWNERS ASSOCIATION**

Oakton, Virginia  
November 2003

**Replacement Reserve Report**

A. General Information	Page	1
B. Financial Summary	Page	3
C. Site Evaluation	Page	5
D. Inventory	Page	7
E. Methodology	Page	9

**Replacement Reserve Analysis**

Summary Sheet	Page	A-1
Cumulative Funding and Expenditures Graph	Page	A-2
Cash Flow Method - Cumulative Receipts and Expenditures	Pages	A-3
Component Method - Cumulative Receipts and Expenditures	Pages	A-4
Current Association Funding - Cumulative Receipts and Expenditures	Pages	A-5
Graph of Annual Replacement Expenditures	Page	A-6

**Replacement Reserve Inventory**

Normal Replacement Components	Pages	1 - 2
Schedule of Replacement, Years One to Thirty	Pages	3 - 4

**List of Recommended Repairs**

Pages 1 - 2

**Replacement Reserve Allocation**

Cash Flow Method	Page	CF - 1
Component Method	Page	CM - 1

**Log of Photographs and Photographs of Site Conditions**

**Appendix**

Pages 1 - 8

# **REPLACEMENT RESERVE REPORT**

# REPLACEMENT RESERVE REPORT

## FLINT HILL MANOR HOMEOWNERS ASSOCIATION

Oakton, Virginia  
November 2003

### A. GENERAL INFORMATION

**Intent.** The intent of this RSTUDY+ Replacement Reserve Study is to provide FLINT HILL MANOR Homeowners Association (hereinafter called the Association), with an inventory of the common components of the community, a general view of the condition of these components, and an effective financial planning tool to address the costs associated with the replacement of community facilities and infrastructure components with limited life.

- **Inventory of commonly owned components.** The attached *Replacement Reserve Inventory* lists the common components of the community which we have scheduled for replacement from the Replacement Reserves. Section D of this *Replacement Reserve Report* provides information about the basis of the *Replacement Reserve Inventory* and the components excluded from the *Inventory*.
- **Condition of common components.** The *Replacement Reserve Inventory* includes our estimates of the normal economic life and the remaining economic life. Section C of this *Replacement Reserve Report* provides additional information about several of these components including recommendations for maintenance and replacements.
- **Financial plan.** Because many components owned by the Association have limited life and will require periodic replacement, it is essential the Association have an effective financial plan to provide funding for the timely replacement of these components, to protect the appearance and value of the community. In conformance with American Institute of Certified Public Accountant guidelines, the *Replacement Reserve Analysis* has calculated the minimum recommended contributions to Replacement Reserves by both the Cash Flow Method and the Component Method. The *Analysis* includes graphic and tabular presentations of these methods and current Association funding.

# REPLACEMENT RESERVE REPORT

**Scope.** FLINT HILL MANOR is a townhouse style residential community in Oakton, Virginia. The community was constructed in 1981. The community consists of 83 residential units and associated improvements. The units are individually owned and are not the responsibility of the Association. These individual homes and non-community owned improvements were not evaluated and were not included in the *Replacement Reserve Inventory* or *Replacement Reserve Analysis*.

Based upon information provided by the Association and our field measurements and evaluations, we have identified community facilities and infrastructure components with limited life. Those component replacements scheduled for funding from Replacement Reserves are listed in the *Replacement Reserve Inventory*. Other components scheduled for funding from other sources are listed and discussed in Section D below.

The major components included in the *Replacement Reserve Inventory* are the asphalt pavement, concrete sidewalks, concrete curb & gutter, street lights, and a tot lot. The enclosed *Inventory* includes components with an estimated value of \$226,041.

We conducted our site evaluation on October 1, 2003. The weather was clear and the temperature was approximately 70 degrees. Our evaluation was visual and nondestructive.

# REPLACEMENT RESERVE REPORT

## B. FINANCIAL SUMMARY

**Current Funding.** The Association reports Replacement Reserves on Deposit as of April 1, 2004, will total \$45,000 and that they are currently not budgeted to contribute to Replacement Reserves.

**Projected Expenditures.** We project that over the next five years (2004 through 2008), the Association has a cash requirement of between \$39,384 and \$44,384. This is based upon \$29,384 of expenditures for replacements listed in the *Inventory* and \$10,000 - \$15,000 of repairs outlined in the *List of Recommended Repairs*. The projects associated with these expenditures are discussed in detail in Section C below. Generally, the projects we anticipate in the *Inventory* and the *List of Recommended Repairs* are normal, reasonable, and necessary for a community of this age.

We have projected annual Association expenditures (not including the *List of Recommended Repairs*) over the next 30 years, based upon the *Replacement Reserve Inventory*. This data is presented as a graph on page A-6 of the *Replacement Reserve Analysis*. It shows that the average annual expenditure over the next 30 years is \$7,548.

**Standard Accounting Methodologies.** The enclosed *Replacement Reserve Analysis* calculates a minimum recommended annual contribution to Replacement Reserves. Based upon the data in the *Replacement Reserve Inventory* and Replacement Reserves reported to be on deposit, the *Replacement Reserve Analysis* has calculated the minimum recommended contribution to Replacement Reserves in 2004 by two methods, the Cash Flow Method, and the Component Method:

\$ 10,628      **Cash Flow Method** - Minimum Recommended Annual Contribution to Replacement Reserves (\$10.67 per unit per month). Briefly, the Cash Flow Method calculates a constant annual contribution to Reserves that will fund the replacements forecast in the *Replacement Reserve Inventory* from a common pool of Replacement Reserves, and prevent Replacement Reserves from dropping below a Minimum Recommended Funding Level (note that this assumes that NO Replacement Reserves will be allocated to fund the \$10,000 - \$15,000 of replacements and repairs outlined in the *List of Recommended Repairs*).

The Cash Flow Method calculations are presented in graph and tabular format on page A-3 of the *Replacement Reserve Analysis*. A detailed explanation of the Cash Flow Method is contained in the *Appendix*.

# REPLACEMENT RESERVE REPORT

\$ 32,279

**Component Method** - Minimum Recommended Annual Contribution to Reserves in Study Year (\$32.41 per unit per month). Briefly, the Component Method treats each component listed in the *Replacement Reserve Inventory* as a separate account and contributions are made annually to each individual account. A fence with a life of ten years and a value of \$1,000, will require a deposit of \$100 per year to Replacement Reserves. Based upon this funding formula, the Association should have \$138,341 on deposit (Current Funding Objective), but the Association reports to having \$45,000, approximately 33 percent funded (note that this assumes that NO Replacement Reserves will be allocated to fund the \$10,000 - \$15,000 of replacements and repairs outlined in the *List of Recommended Repairs*).

The Component Method calculations are presented in graph and tabular format on page A-4 of the *Replacement Reserve Analysis*. A detailed explanation of the Cash Flow Method is contained in the *Appendix*.

**Current Association Funding.** The Association reports that they are currently not budgeted to contribute to Replacement Reserves. Based upon the *Replacement Reserve Inventory*, this level of contribution is insufficient to fund projected replacements beginning in 2009 and throughout all the remaining years of the study. The total shortfall over the 30 year period is \$181,442. Projections of Current Association funding are presented in graph and tabular format on page A-5 of the *Replacement Reserve Analysis*.

**List of Recommended Repairs - Funding.** The enclosed *List of Recommended Repairs* itemizes \$10,000 - \$15,000 of repairs needed presently. The accuracy of the *Replacement Reserve Analysis* is dependent upon repairs being completed within a reasonable time. We have assumed that NO Replacement Reserves will be used to fund the List of Recommended Repairs. If funding is needed from Replacement Reserves, the *Analysis* should be adjusted with the Replacement Reserves reduced by the funds allocated to the repairs.



# REPLACEMENT RESERVE REPORT

## C. SITE EVALUATION

**General.** FLINT HILL MANOR is generally in good condition when compared with similar projects of the same age. The Association is facing several replacement projects that are normal and reasonable for a project built in 1981. The major projects facing the Association over the next five years include:

- Concrete sidewalk and curb & gutter replacements
- Tot lot equipment and border replacement
- Fence replacement at storm water management area

These projects are scheduled in the *Replacement Reserve Inventory* and have an estimated cost of \$29,384 over the next five years.

The *List of Recommended Repairs* outlines between \$10,000 - \$15,000 of defects we observed throughout the community, which need repair now. Most of this amount is associated with the correction of defects and maintenance of the asphalt pavement.

These replacement and repair projects and other issues facing the Association are discussed below:

**Asphalt pavement.** The asphalt pavement throughout the community is generally in good condition. We have assumed that the Association we keep the pavement in service until 2009. If the asphalt is to achieve this projected economic life, the Association will need to repair the defects outlined in the *List of Recommended Repairs*. In addition, the pavement will need an aggressive maintenance program. This program should have three key elements:

- Crack sealing. All cracks should be sealed with an appropriate sealing compound, or where cracking is excessive, the area should be cut out and patched. If defects in the base material or the bearing soils are observed, these materials should be removed and replaced with material capable of properly supporting the asphalt pavement. This repair should be done **annually**.
- Cleaning. Long term exposure to oil and gas breaks down asphalt. Automobiles leaking gas and oil should be immediately removed from the community to prevent damage to the common elements. Spill areas should be cleaned, or if deterioration has penetrated the asphalt, cut out and replaced. Areas with deterioration should be cleaned immediately and general cleaning of areas with minor problems throughout the community should be done **annually**.
- Seal coating. Normally, seal coating should be done **every three to five years**. At FLINT HILL MANOR, we recommend the pavement be sealed after correction of the defects outlined in the *List of Recommended Repairs*. For this maintenance activity to be effective in extending the life the asphalt, the crack sealing and cleaning of the asphalt discussed above, must be done first.

# REPLACEMENT RESERVE REPORT

These are maintenance activities and are generally not funded from Replacement Reserves. Crack sealing and cleaning should be done annually and we recommend they be included as an annual expenditure in the operations budget of the community. We have not included seal coating in the *Replacement Reserve Inventory*, but will do so if requested by the Board of Directors. We have included the cost of these maintenance activities in initial year of the study, in the *List of Recommended Repairs*.

**Concrete components.** Multiple replacements of concrete sidewalks and curb & gutter segments are needed now and these replacements are outlined in the *List of Recommended Repairs*. We observed components that are deteriorated, damaged, cracked, and displaced. Several of the displaced segments of sidewalk are a trip hazard.

In the *Replacement Reserve Inventory*, we have assumed that the Association will conduct another concrete component replacement project in 2009, to coincide with the asphalt pavement replacement project scheduled for that year.

**Tot lot equipment.** The Association has a tot lot with a single piece of equipment. The equipment is wood and steel construction and is at the end of its economic life. Pieces of the equipment are missing and wood is checking (see photo #26). We have included the equipment and border (see photo #27) in the *Replacement Reserve Inventory* for replacement in 2004. We recommend that replacements be made in compliance with the Consumer Product Safety Commission recommendations for playground safety and the installation be monitored by a playground safety specialist.

# REPLACEMENT RESERVE REPORT

## D. INVENTORY

**Basis.** The data contained in the *Replacement Reserve Inventory* is based upon information provided by the Association and our field observations and measurements. No drawings were evaluated in conjunction with the preparation of this Report.

**Fence around storm water collection area.** We observed a storm water collection area (see photo #11) that is possibly on property owned by the Association. The fence around the facility is in poor condition (see photo #12) and we have included the fence in the *Replacement Reserve Inventory*.

**Storm water management system.** In addition to the fence around the storm water collection area discussed above, there is an extensive storm water system installed throughout the community. No drawings detailing the components of the system were available for our review, but the system likely includes inlets, outlets, rip-rap filters, subsurface piping, and other structures. For the purpose of the *Replacement Reserve Inventory*, we have excluded this system, with the exception of the fencing surrounding the storm water collection area, and assumed that any needed replacements will not be funded from Replacement Reserves.

**Domestic water supply mains.** There is an extensive network of domestic water mains installed throughout the community on property owned by the Association. No drawings detailing the components of the system were available for our review. For the purpose of the *Replacement Reserve Inventory*, we have excluded this system and assumed that any needed replacements will not be funded from Replacement Reserves.

**Sanitary sewer mains.** There is an extensive network of sanitary sewer mains installed throughout the community on property owned by the Association. No drawings detailing the components of the system were available for our review. For the purpose of the *Replacement Reserve Inventory*, we have excluded this system and assumed that any needed replacements will not be funded from Replacement Reserves.

**Exclusions.** The following items have been excluded from the *Replacement Reserve Analysis*. If any of these exclusions have been made in error, we will reinsert the component upon the request of the Board of Directors:

**Value.** For ease of administration of the Replacement Reserves and to reflect accurately how Replacement Reserves are administered, components with a dollar value less than \$1,000.00 have been excluded from the *Replacement Reserve Inventory*. Examples of components excluded from the *Replacement Reserve Inventory* by this standard include:

- Property identification signs on Flagpole Lane.
- Mailboxes

**Unit improvements.** We understand that the elements of the project that relate to a single unit are the responsibility of that unit owner. Examples of components excluded from the

# REPLACEMENT RESERVE REPORT

*Replacement Reserve Inventory* by this standard include:

- Utility connections, including water, sewer, gas, and electrical, that serve a single unit, even when they are on property owned by the Association.
- Concrete lead walks behind the edge of the Association owned sidewalks, closest to the townhouses including all replacements resulting from a differential in elevation between individual and community owned components.
- Building exteriors including the decks, concrete steps, stoops, patios, retaining walls, and fences.

**Utilities.** Many improvements owned by utility companies are on property owned by the Association. We have assumed that repairs and replacements of these components will be done at the expense of the appropriate utility company. Examples of components excluded from the *Replacement Reserve Inventory* by this standard include:

- Primary electric feeds and transformers.
- Telephone and cable TV systems.

**Government.** We understand the following improvements will be maintained by a government agency and are not the responsibility of the Association:

- Improvements associated with adjacent State maintained roadways, including the asphalt pavement, curb & gutter, sidewalks, street signs, etc.

**Maintenance activities.** Maintenance activities are normally NOT funded from Replacement Reserves and we have excluded the following from the *Inventory*:

- Asphalt pavement crack sealing, cleaning, and seal coating.
- Painting of curbs and pavement striping.
- Landscaping, landscape maintenance, and site grading.

# REPLACEMENT RESERVE REPORT

## E. METHODOLOGY

The site data used in this *Replacement Reserve Study* is based upon information provided by the Association and our visual survey of the property on the dates stated in the Report. We have estimated the normal economic life, remaining economic life, and replacement cost for each component listed in the *Inventory*. We have used Government standards, published estimating manuals, our experience with similar properties, and engineering judgment to develop these estimates.

Our visual survey of the property did not ascertain compliance with current building codes, but assumed that all components met building code requirements in force at the time of construction. This *Replacement Reserve Study* has been developed with care by experienced persons, but Richard J. Schuetz, AIA, Architect (and/or its representatives) makes no representations that the Study includes, evaluates, and estimates all appropriate components, or discloses all defects, concealed or visible. No warranty or guarantee is expressed or implied.

Actual experience in replacing components may differ significantly from the estimates in the Study because of conditions beyond our control. These differences may be caused by maintenance practices, inflation, variations in pricing and market conditions, future technological developments, regulatory actions, acts of God, and luck. Some components may function normally during our survey and then fail without notice.

The intent of this RSTUDY+ *Replacement Reserve Study* is to provide the Association with an inventory of the common elements of the community, a general view of the condition of these components, and an effective financial planning tool for the replacement of the community facilities and infrastructure components with limited life, for which, the Association is responsible. To be effective, this Study should be reviewed by the FLINT HILL MANOR Board of Directors, those responsible for the management of the components included in the *Inventory*, and the accounting professionals employed by the Association. We are prepared to provide revisions to *Replacement Reserve Inventory* and the *Replacement Reserve Analysis* upon the request of the Board of Directors.

Respectfully Submitted,  
RICHARD J. SCHUETZ, AIA  
ARCHITECT

Wm. Bruce Bennett  
Senior Reserve Analyst

**REPLACEMENT  
RESERVE  
ANALYSIS AND  
INVENTORY**

# REPLACEMENT RESERVE ANALYSIS

FLINT HILL MANOR

November 10, 2003

## GENERAL INFORMATION:

2004	Study Year
\$45,000	Replacement Reserves reported to be on deposit at start of Study Year
\$226,041	Estimated value of all Components included in the Replacement Reserve Inventory

The information shown in this Summary does not account for interest earned on Replacement Reserves on deposit, nor does it include adjustments for inflation. For more information see the attached Appendix.

## REPORTED CURRENT FUNDING DATA:

None REPORTED CURRENT ANNUAL CONTRIBUTION TO REPLACEMENT RESERVES

## CASH FLOW METHOD CALCULATIONS:

<u>\$10,628</u>	MINIMUM RECOMMENDED ANNUAL CONTRIBUTION TO REPLACEMENT RESERVES	
\$10.67	Per unit minimum recommended monthly contribution to Replacement Reserves	
\$11,302	Recommended minimum Replacement Reserve Funding Threshold (5.0 percent)	
2009	First year Reserves fall to minimum recommended level (Design Year)	

## COMPONENT METHOD CALCULATIONS:

<u>\$32,279</u>	MINIMUM RECOMMENDED ANNUAL CONTRIBUTION TO RESERVES (IN STUDY YEAR)	
\$32.41	Per unit minimum recommended monthly contribution to Replacement Reserves	
\$138,331	Current Funding Objective	
32.53%	Funding Percentage	
\$93,331	One time deposit required to fully fund Replacement Reserves	
\$6,644	Annual Contribution to Replacement Reserves if Reserves were fully funded.	

## PROJECT INFORMATION:

PROPERTY MANAGED BY:	MAJOR COMPONENTS IN ANALYSIS:	TYPE OF PROPERTY:
KOGER MANAGEMENT	Asphalt pavement, concrete sidewalks, curb & gutter, street lights, and tot lot.	Townhouse
Ms. Dee Thompson		# OF UNITS:
3559 Chain Bridge Road		83
Fairfax, Virginia 22030	PROPERTY LOCATION:	YEAR BUILT:
703 - 591-2414	Oakton, VA	1981

## NOTES:

1. This Replacement Reserve Analysis complies with the National Reserve Study Standards, adopted by the Community Associations Institute (CAI) in 1998. This Analysis applies to the 2004 accounting year (April 1 to March 31).
2. This Analysis does NOT include funding for the repair and replacement outlined in the List of Recommended Repairs, except as noted in the List of Recommended Repairs.
3. The Association reports Reserves totaling \$45,000 will be on deposit as of April 1, 2004. The Association reports that they are currently NOT contributing to Replacement Reserves.

**Richard J. Schuetz, AIA, Architect**

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page:

A-1

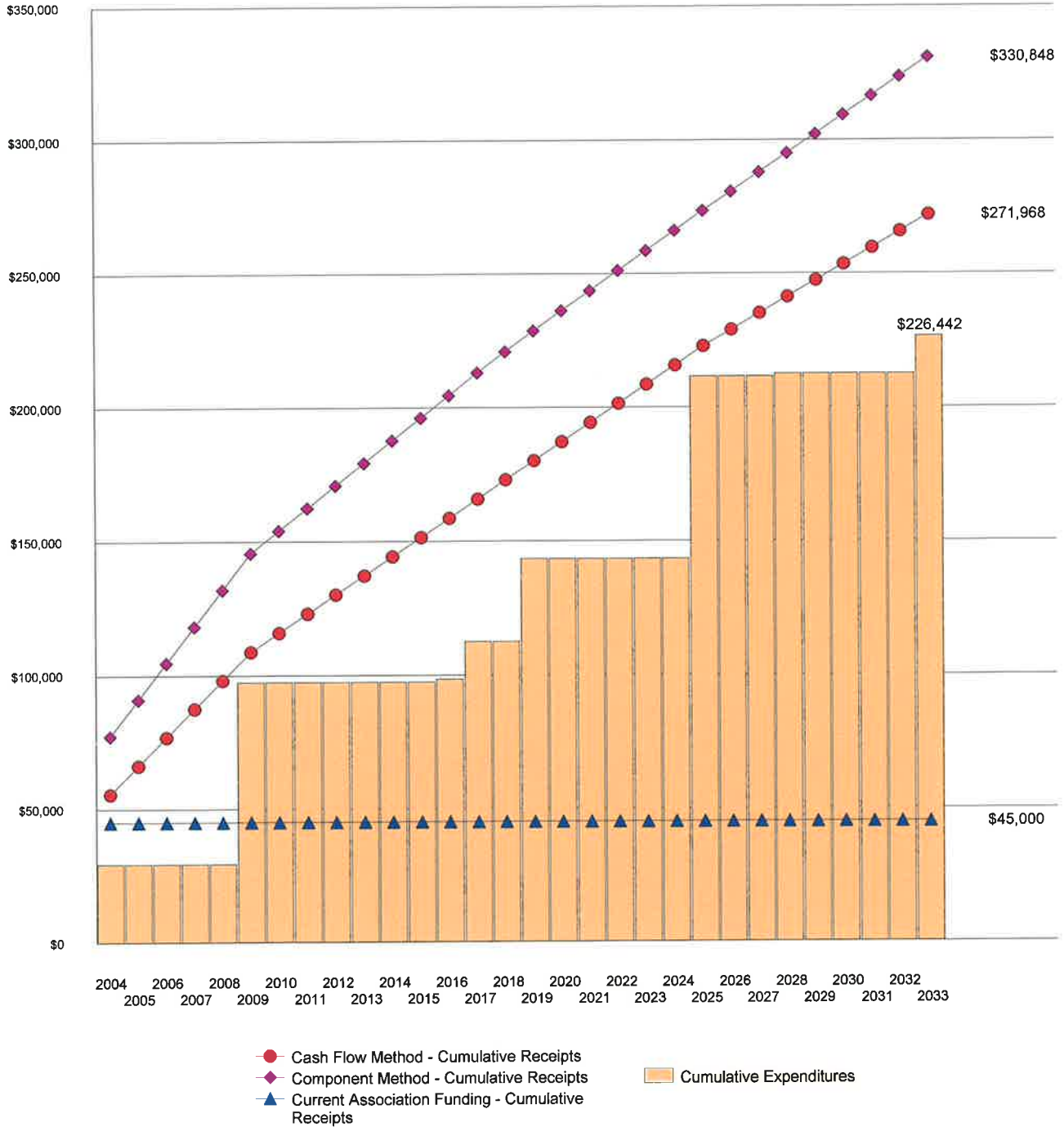
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# REPLACEMENT RESERVE ANALYSIS

FLINT HILL MANOR

November 10, 2003

## Funding Methods Comparison Graph - Cumulative Receipts and Expenditures



**Richard J. Schuetz, AIA, Architect**

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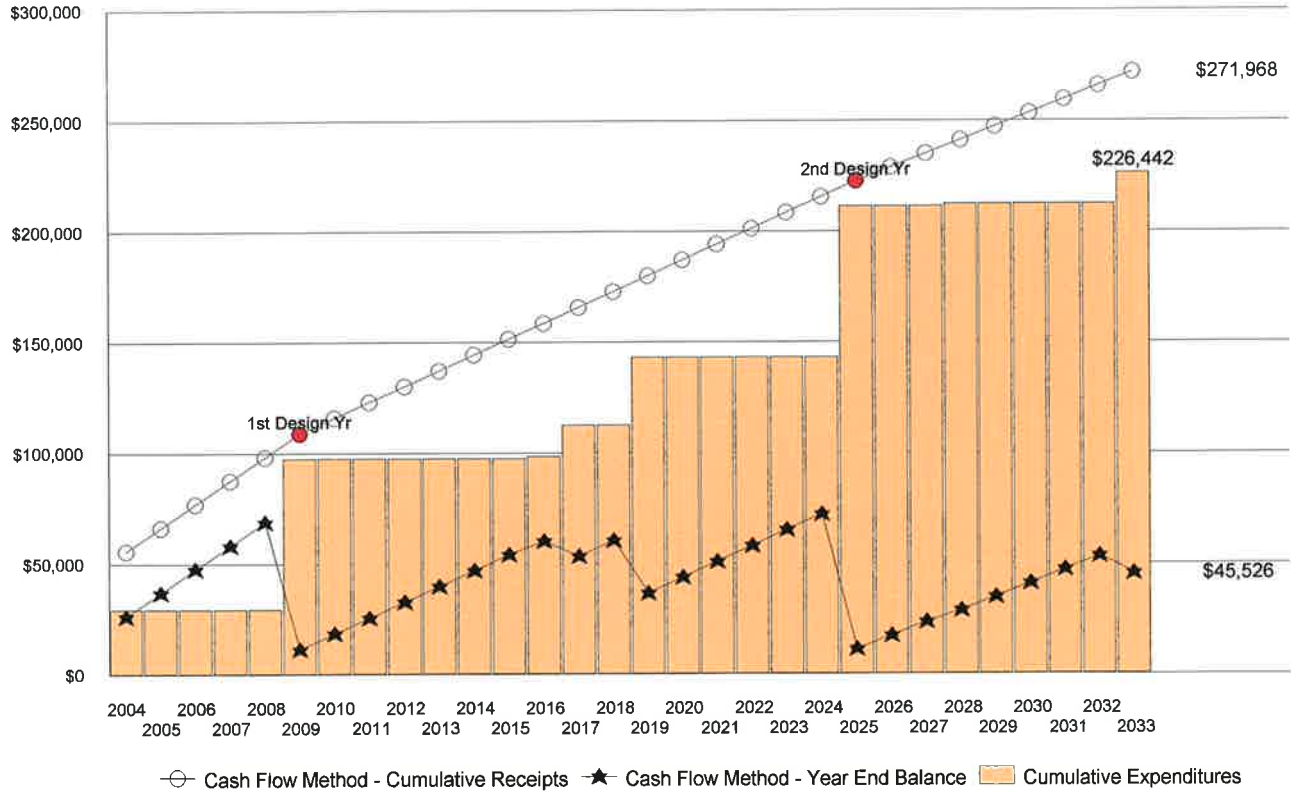


# REPLACEMENT RESERVE ANALYSIS

FLINT HILL MANOR

November 10, 2003

## Cash Flow Method - Cumulative Receipts and Expenditures Graph



## Cash Flow Method Data - Years 1 through 30

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	TEN YEAR SUMMARIES
Starting balance	\$45,000										
Annual deposit	\$10,628	\$10,628	\$10,628	\$10,628	\$10,628	\$10,628	\$7,123	\$7,123	\$7,123	\$7,123	Expenditures: \$97,466 Receipts: \$137,260
Expenditures	\$29,384	\$0	\$0	\$0	\$0	\$68,082	\$0	\$0	\$0	\$0	
Year end balance	\$26,244	\$36,872	\$47,500	\$58,128	\$68,756	\$11,302	\$18,425	\$25,548	\$32,671	\$39,794	
Minimum rec. funding lvl.	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	
Cumulative expenditures	\$29,384	\$29,384	\$29,384	\$29,384	\$29,384	\$29,384	\$97,466	\$97,466	\$97,466	\$97,466	
Cumulative receipts	\$55,628	\$66,256	\$76,884	\$87,512	\$98,140	\$108,768	\$115,891	\$123,014	\$130,137	\$137,260	
1st Design Yr											
Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Expenditures: Receipts:
Annual deposit	\$7,123	\$7,123	\$7,123	\$7,123	\$7,123	\$7,123	\$7,123	\$7,123	\$7,123	\$7,123	\$45,884 \$73,243
Expenditures	\$0	\$0	\$1,000	\$14,009	\$0	\$30,875	\$0	\$0	\$0	\$0	
Year end balance	\$46,917	\$54,039	\$60,162	\$53,276	\$60,399	\$36,647	\$43,770	\$50,892	\$58,015	\$65,138	
Minimum rec. funding lvl.	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	
Cumulative expenditures	\$97,466	\$97,466	\$98,466	\$112,476	\$112,476	\$143,351	\$143,351	\$143,351	\$143,351	\$143,351	
Cumulative receipts	\$144,383	\$151,506	\$158,629	\$165,751	\$172,874	\$179,997	\$187,120	\$194,243	\$201,366	\$208,489	
2nd Design Yr											
Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Expenditures: Receipts:
Annual deposit	\$7,123	\$7,123	\$6,154	\$6,154	\$6,154	\$6,154	\$6,154	\$6,154	\$6,154	\$6,154	\$83,091 \$65,503
Expenditures	\$0	\$68,082	\$0	\$0	\$1,000	\$0	\$0	\$0	\$0	\$14,009	
Year end balance	\$72,261	\$11,302	\$17,456	\$23,610	\$28,764	\$34,919	\$41,073	\$47,227	\$53,381	\$45,526	
Minimum rec. funding lvl.	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	\$11,302	
Cumulative expenditures	\$143,351	\$211,433	\$211,433	\$211,433	\$212,433	\$212,433	\$212,433	\$212,433	\$212,433	\$226,442	
Cumulative receipts	\$215,612	\$222,735	\$228,889	\$235,043	\$241,197	\$247,351	\$253,505	\$259,659	\$265,814	\$271,968	

**Richard J. Schuetz, AIA, Architect**

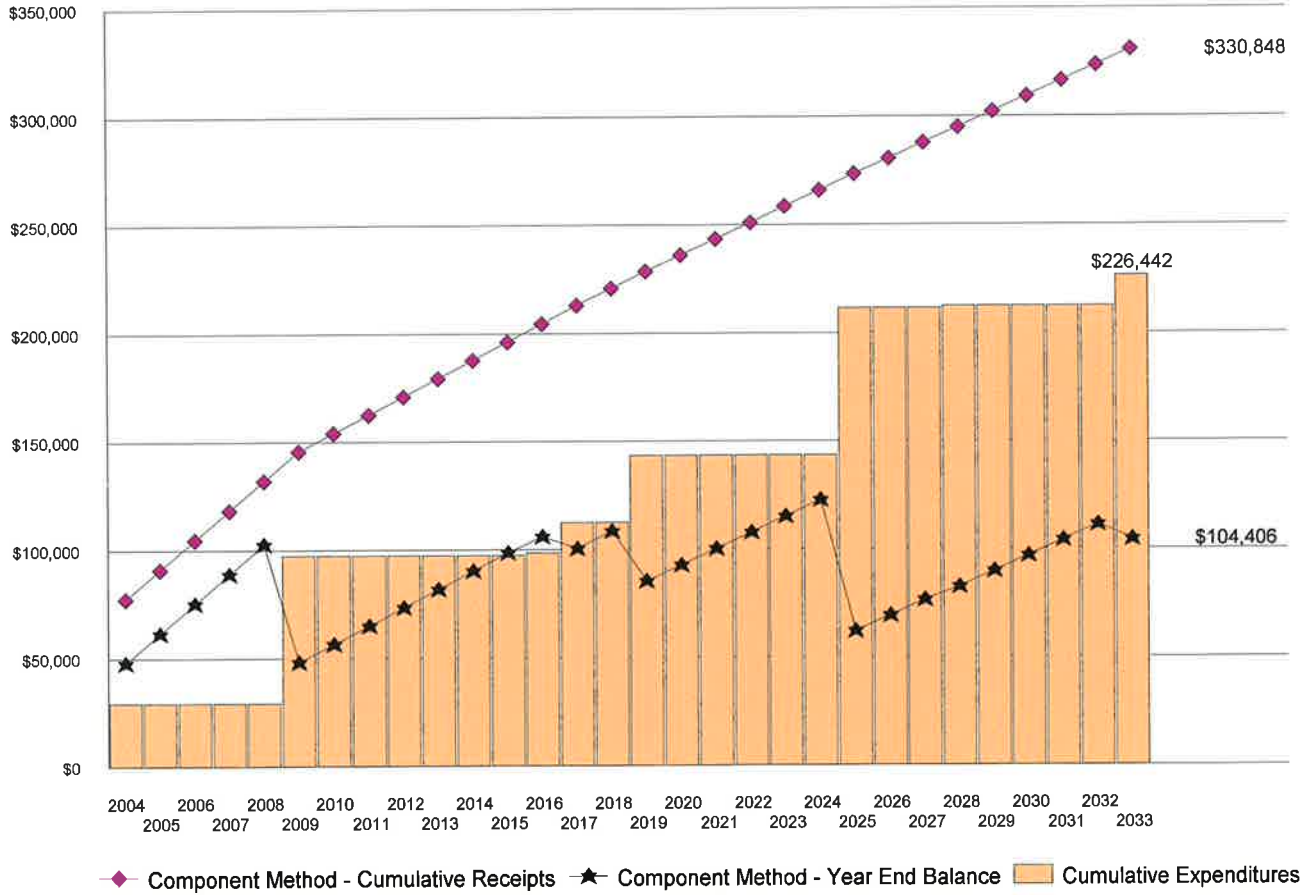
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# REPLACEMENT RESERVE ANALYSIS

FLINT HILL MANOR

November 10, 2003

## Component Method - Cumulative Receipts and Expenditures Graph



### Component Method Data - Years 1 through 30

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	TEN YEAR SUMMARIES
Starting balance	\$45,000										
Annual deposit	\$32,279	\$13,670	\$13,670	\$13,670	\$13,670	\$13,670	\$8,413	\$8,413	\$8,413	\$8,413	
Expenditures	\$29,384	\$0	\$0	\$0	\$0	\$68,082	\$0	\$0	\$0	\$0	Expenditures: \$97,466
Year end balance	\$47,895	\$61,565	\$75,235	\$88,906	\$102,576	\$48,164	\$56,577	\$64,990	\$73,403	\$81,816	Receipts: \$179,282
Cumulative Expenditures	\$29,384	\$29,384	\$29,384	\$29,384	\$29,384	\$97,466	\$97,466	\$97,466	\$97,466	\$97,466	
Cumulative Receipts	\$77,279	\$90,949	\$104,620	\$118,290	\$131,960	\$145,631	\$154,043	\$162,456	\$170,869	\$179,282	
Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Annual deposit	\$8,413	\$8,413	\$8,413	\$8,413	\$7,856	\$7,856	\$7,478	\$7,478	\$7,478	\$7,478	Expenditures: \$45,884
Expenditures	\$0	\$0	\$1,000	\$14,009	\$0	\$30,875	\$0	\$0	\$0	\$0	Receipts: \$81,290
Year end balance	\$90,229	\$98,642	\$106,054	\$100,459	\$108,314	\$85,295	\$92,773	\$100,251	\$107,729	\$115,208	
Cumulative Expenditures	\$97,466	\$97,466	\$98,466	\$112,476	\$112,476	\$143,351	\$143,351	\$143,351	\$143,351	\$143,351	
Cumulative Receipts	\$187,695	\$196,108	\$204,521	\$212,934	\$220,789	\$228,645	\$236,124	\$243,602	\$251,080	\$258,558	
Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
Annual deposit	\$7,478	\$7,478	\$7,167	\$7,167	\$7,167	\$7,167	\$7,167	\$7,167	\$7,167	\$7,167	Expenditures: \$83,091
Expenditures	\$0	\$68,082	\$0	\$0	\$1,000	\$0	\$0	\$0	\$0	\$14,009	Receipts: \$74,314
Year end balance	\$122,686	\$62,082	\$69,249	\$76,415	\$82,582	\$89,749	\$96,915	\$104,082	\$111,249	\$104,406	
Cumulative Expenditures	\$143,351	\$211,433	\$211,433	\$211,433	\$212,433	\$212,433	\$212,433	\$212,433	\$212,433	\$226,442	
Cumulative Receipts	\$266,036	\$273,514	\$280,681	\$287,848	\$295,015	\$302,181	\$309,348	\$316,515	\$323,681	\$330,848	

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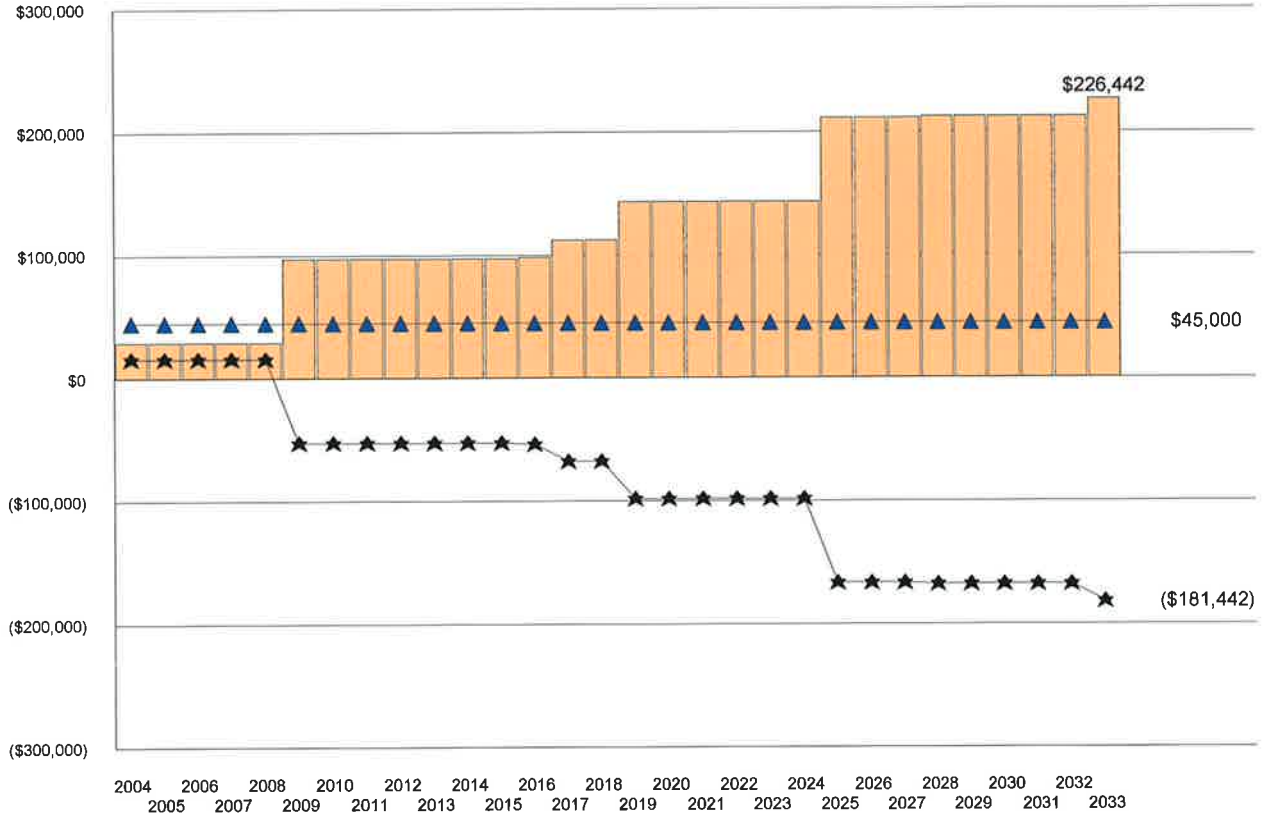
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# REPLACEMENT RESERVE ANALYSIS

FLINT HILL MANOR

November 10, 2003

## Current Association Funding - Cumulative Receipts and Expenditures Graph



▲ Current Association Funding - ★ Current Funding - Year End Balance ■ Cumulative Expenditures

### Current Funding Data - Years 1 through 30

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	TEN YEAR SUMMARIES
Starting balance	\$45,000										
Annual deposit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Expenditures	\$29,384	\$0	\$0	\$0	\$0	\$68,082	\$0	\$0	\$0	\$0	Expenditures: \$97,466
Year end balance	\$15,616	\$15,616	\$15,616	\$15,616	\$15,616	(\$52,466)	(\$52,466)	(\$52,466)	(\$52,466)	(\$52,466)	Receipts: \$45,000
Cumulative Expenditures	\$29,384	\$29,384	\$29,384	\$29,384	\$29,384	\$97,466	\$97,466	\$97,466	\$97,466	\$97,466	
Cumulative Receipts	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	
Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Annual deposit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	Expenditures: \$45,884
Expenditures	\$0	\$0	\$1,000	\$14,009	\$0	\$30,875	\$0	\$0	\$0	\$0	Receipts: \$0
Year end balance	(\$52,466)	(\$52,466)	(\$53,466)	(\$67,476)	(\$67,476)	(\$98,351)	(\$98,351)	(\$98,351)	(\$98,351)	(\$98,351)	
Cumulative expenditures	\$97,466	\$97,466	\$98,466	\$112,476	\$112,476	\$143,351	\$143,351	\$143,351	\$143,351	\$143,351	
Cumulative receipts	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	
Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
Annual deposit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	Expenditures: \$83,091
Expenditures	\$0	\$68,082	\$0	\$0	\$1,000	\$0	\$0	\$0	\$0	\$14,009	Receipts: \$0
Year end balance	(\$98,351)	(\$166,433)	(\$166,433)	(\$166,433)	(\$167,433)	(\$167,433)	(\$167,433)	(\$167,433)	(\$167,433)	(\$181,442)	
Cumulative Expenditures	\$143,351	\$211,433	\$211,433	\$211,433	\$212,433	\$212,433	\$212,433	\$212,433	\$212,433	\$226,442	
Cumulative Receipts	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	

**Richard J. Schuetz, AIA, Architect**

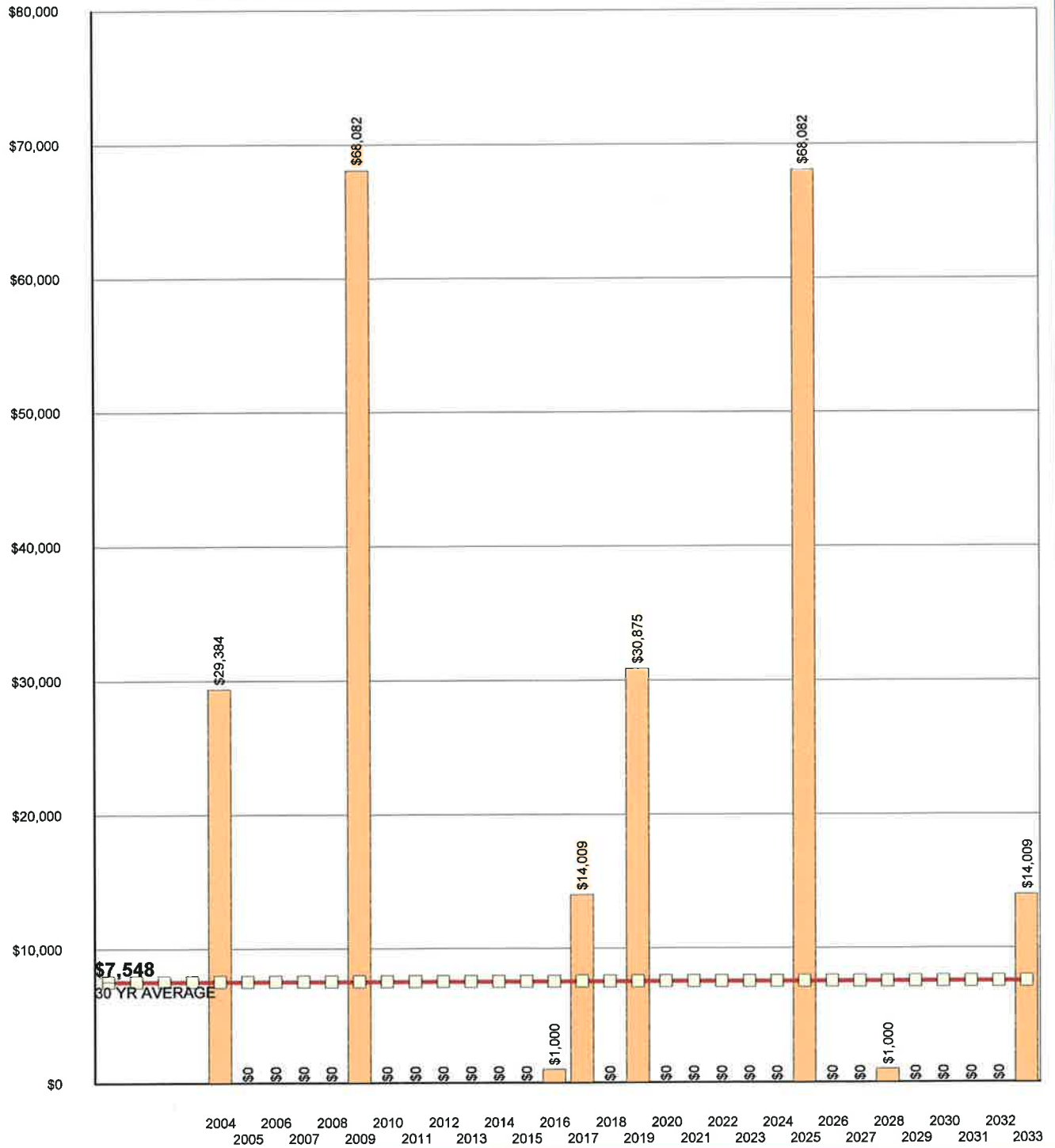
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# REPLACEMENT RESERVE ANALYSIS

FLINT HILL MANOR

November 10, 2003

### Graph of Annual Replacement Expenditures



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page:

**A-6**

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# REPLACEMENT RESERVE INVENTORY

FLINT HILL MANOR

November 10, 2003

## INVENTORY OF COMPONENTS - NORMAL REPLACEMENT

ITEM #		UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	TOTAL REPLACEMENT COST (\$)
<b>CONCRETE COMPONENTS</b>							
1	Concrete pavement (10%)	sf	1,084	\$5.75	80	none	\$6,233
2	Concrete pavement (10%)	sf	1,084	\$5.75	80	5	\$6,233
3	Concrete pavement (10%)	sf	1,084	\$5.75	80	13	\$6,233
4	Concrete pavement (10%)	sf	1,084	\$5.75	80	21	\$6,233
5	Concrete pavement (10%)	sf	1,084	\$5.75	80	29	\$6,233
6	Concrete pavement (10%)	sf	1,084	\$5.75	80	37	\$6,233
7	Concrete pavement (10%)	sf	1,084	\$5.75	80	45	\$6,233
8	Concrete pavement (10%)	sf	1,084	\$5.75	80	53	\$6,233
9	Concrete pavement (10%)	sf	1,084	\$5.75	80	61	\$6,233
10	Concrete pavement (10%)	sf	1,084	\$5.75	80	69	\$6,233
11	Concrete curb & gutter (10%)	ft	317	\$24.50	80	none	\$7,776
12	Concrete curb & gutter (10%)	ft	317	\$24.50	80	5	\$7,776
13	Concrete curb & gutter (10%)	ft	317	\$24.50	80	13	\$7,776
14	Concrete curb & gutter (10%)	ft	317	\$24.50	80	21	\$7,776
15	Concrete curb & gutter (10%)	ft	317	\$24.50	80	29	\$7,776
16	Concrete curb & gutter (10%)	ft	317	\$24.50	80	37	\$7,776
17	Concrete curb & gutter (10%)	ft	317	\$24.50	80	45	\$7,776
18	Concrete curb & gutter (10%)	ft	317	\$24.50	80	53	\$7,776
19	Concrete curb & gutter (10%)	ft	317	\$24.50	80	61	\$7,776
20	Concrete curb & gutter (10%)	ft	317	\$24.50	80	69	\$7,776

### COMMENTS:

Items #1 to 20 - Extensive replacements are need at the present time.

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page:

1

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# REPLACEMENT RESERVE INVENTORY

FLINT HILL MANOR

November 10, 2003

## INVENTORY OF COMPONENTS - NORMAL REPLACEMENT

ITEM #		UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	TOTAL REPLACEMENT COST (\$)
ASPHALT PAVEMENT							
21	Asphalt pavement - Graystone Court	sf	9,492	\$1.10	16	5	\$10,441
22	Asphalt pavement - Silverstone Court	sf	6,685	\$1.10	16	5	\$7,354
23	Asphalt pavement - Granite Creek	sf	32,980	\$1.10	16	5	\$36,278
24	Fence at storm water management	ft	750	\$12.50	15	none	\$9,375
25	Tot lot equipment	ls	1	\$5,000.00	15	none	\$5,000
26	Tot lot wood border	ft	80	\$12.50	12	none	\$1,000
27	Streetlights	ea	10	\$1,650.00	35	15	\$16,500

### COMMENTS:

Items #21 - 23. Maintenance is needed now. See the List of Recommended Repairs.

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page:

2

9228.02

**REPLACEMENT RESERVE INVENTORY****FLINT HILL MANOR****November 10, 2003****SCHEDULE OF REPLACEMENTS - YEARS ONE TO FIFTEEN**

<b>2004</b>		<b>2005</b>	<b>2006</b>
Fence at storm water manageme	\$9,375		
Concrete curb & gutter (10%)	\$7,776		
Concrete pavement (10%)	\$6,233		
Tot lot equipment	\$5,000		
Tot lot wood border	\$1,000		
<b>Total Scheduled Replacements</b>	<b>\$29,384</b>	No Scheduled Replacements	No Scheduled Replacements
<b>2007</b>		<b>2008</b>	<b>2009</b>
			Asphalt pavement - Granite Cree
			Asphalt pavement - Graystone C
			Concrete curb & gutter (10%)
			Asphalt pavement - Silverstone C
			Concrete pavement (10%)
No Scheduled Replacements	No Scheduled Replacements		<b>Total Scheduled Replacements</b>
			<b>\$68,082</b>
<b>2010</b>		<b>2011</b>	<b>2012</b>
No Scheduled Replacements	No Scheduled Replacements	No Scheduled Replacements	No Scheduled Replacements
<b>2013</b>		<b>2014</b>	<b>2015</b>
No Scheduled Replacements	No Scheduled Replacements	No Scheduled Replacements	No Scheduled Replacements
<b>2016</b>		<b>2017</b>	<b>2018</b>
Tot lot wood border	\$1,000	Concrete curb & gutter (10%)	
		Concrete pavement (10%)	
<b>Total Scheduled Replacements</b>	<b>\$1,000</b>	<b>Total Scheduled Replacements</b>	No Scheduled Replacements
		<b>\$14,009</b>	

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page:

**3**

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**REPLACEMENT RESERVE INVENTORY****FLINT HILL MANOR****November 10, 2003****SCHEDULE OF REPLACEMENTS - YEARS SIXTEEN TO THIRTY**

<b>2019</b>		<b>2020</b>	<b>2021</b>
Streetlights	\$16,500		
Fence at storm water manageme	\$9,375		
Tot lot equipment	\$5,000		
<b>Total Scheduled Replacements</b>	<b>\$30,875</b>	No Scheduled Replacements	No Scheduled Replacements
<b>2022</b>		<b>2023</b>	<b>2024</b>
No Scheduled Replacements		No Scheduled Replacements	No Scheduled Replacements
<b>2025</b>		<b>2026</b>	<b>2027</b>
Asphalt pavement - Granite Cree	\$36,278		
Asphalt pavement - Graystone C	\$10,441		
Concrete curb & gutter (10%)	\$7,776		
Asphalt pavement - Silverstone C	\$7,354		
Concrete pavement (10%)	\$6,233		
<b>Total Scheduled Replacements</b>	<b>\$68,082</b>	No Scheduled Replacements	No Scheduled Replacements
<b>2028</b>		<b>2029</b>	<b>2030</b>
Tot lot wood border	\$1,000		
<b>Total Scheduled Replacements</b>	<b>\$1,000</b>	No Scheduled Replacements	No Scheduled Replacements
<b>2031</b>		<b>2032</b>	<b>2033</b>
No Scheduled Replacements		No Scheduled Replacements	Concrete curb & gutter (10%) \$7,776 Concrete pavement (10%) \$6,233
			<b>Total Scheduled Replacements</b> \$14,009

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page:

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**LIST OF  
RECOMMENDED  
REPAIRS**

# LIST OF RECOMMENDED REPAIRS

## FLINT HILL MANOR HOMEOWNERS ASSOCIATION

Oakton, Virginia

November 2003

DESCRIPTION	ESTIMATED COST
1. Asphalt pavement - maintenance and repair	\$6,000 - 8,000
<ul style="list-style-type: none"> <li>• Establish a comprehensive maintenance program for the asphalt pavement, including the roadways and parking areas. Funding for this project in the initial year of the Study is included in the repair cost shown above. The maintenance in the initial year of the Study should include the components discussed below.</li> <li>• Crack seal all small open cracks in asphalt pavement where the bearing soils beneath the pavement do not appear to have been damaged. Damaged areas, large open cracks, (see photos #6 and 30), areas where the base material has failed (see photo #10), and areas that pond water (see photo #15, 18), should be evaluated, and if necessary cut out and replaced.</li> <li>• Clean all asphalt pavement (see photo #31). Any areas that have been damaged by oil and gasoline should be cut out and replaced.</li> <li>• After completion of the repairs discussed above, the asphalt pavement should be seal coated.</li> <li>• After completion of the seal coating, install new striping in the parking areas.</li> <li>• Install utility access points at a proper height so they do not impound water and debris (see photo #19).</li> </ul>	
2. Concrete components	From Reserves
<ul style="list-style-type: none"> <li>• <b>Replace segments of concrete sidewalks, and concrete curb &amp; gutter which are damaged, displaced, or deteriorated (see photos #8, 9, 10, 13, 16, 17, and 28).</b></li> <li>• Replace the damaged and displaced segments of curb &amp; gutter that are impounding water, are allowing water to penetrate into the bearing soils below, and/or are at a level that will prevent the asphalt pavement from being properly graded to move all water to an appropriate component of the storm water management system (see photos #4, 5, and 7).</li> </ul>	

# LIST OF RECOMMENDED REPAIRS

3.	Tot lot equipment	From Reserves
	<ul style="list-style-type: none"> <li>• <b>Replace tot lot equipment (see photo 26). The new tot lot equipment should be in compliance with the Consumer Product Safety Commission recommendations for playground safety and the installation should be monitored by a playground safety specialist.</b></li> <li>• <b>Replace tot lot border. Wood timbers are deteriorated and severely check and which could cause injury (see photo #27).</b></li> <li>• <b>Install proper ground cover (see photos #24 and 27).</b></li> </ul>	
4.	Grading, drainage, and landscape	\$2,000 - 3,000
	<ul style="list-style-type: none"> <li>• Monitor the site for water ponding on sidewalk segments (see photos #2 and 22) and where it is noted, have the landscape contractor make appropriate minor repairs. If defect can not be corrected by grading, the sidewalk should be replaced, installed at an elevation that can be properly graded.</li> </ul>	
5.	Electrical	\$1,000 - 2,000
	<ul style="list-style-type: none"> <li>• Evaluate exterior electrical services for corrosion and deterioration.</li> <li>• Paint deteriorated electrical services (see photo #3 and 29).</li> <li>• Repair damaged streetlights (see photo #20).</li> </ul>	
6.	Miscellaneous	\$1,000 - 2,000
	<ul style="list-style-type: none"> <li>• Restore paint finish on property identification signs (see photos #1 and 14).</li> <li>• Paint signs with failed finish (see photo #21).</li> <li>• Replace tot lot bench slats (see photos #23 and 25).</li> </ul>	
	<b>TOTAL COST OF RECOMMENDED REPAIRS</b>	<b>\$10,000 - 15,000</b>

NOTE: Defects that are potential safety hazards should be repaired immediately to prevent personal injury and to protect the Association from potential liability. We have identified safety hazards in the above List of Recommend Repairs by printing them in **bold**.

**PHOTOGRAPHS  
AND LOG OF  
PHOTOGRAPHS**

**LOG OF PHOTOGRAPHS****FLINT HILL MANOR  
HOMEOWNERS ASSOCIATION**

Oakton, Virginia  
November 2003

1. Property identification sign at corner of White Granite Drive and Flagpole Lane.
2. Grade impounds water on sidewalk, 10411 Graystone Court.
3. Electrical service is in poor condition.
4. Displaced curb segment, Graystone Court.
5. Spalling concrete curb segment, 10425 Graystone Court.
6. Large open crack in asphalt pavement allows water penetration.
7. Water ponding in curb, 10423 Graystone Court.
8. General view of Silverstone Court. Note displaced sidewalk segments.
9. Water ponding in curb, 3201 Silverstone Court.
10. Displaced curb segments at storm water inlet, 3209 Silverstone Court.
11. General view of storm water management facility.
12. Fence around storm water management facility is damaged.
13. Displaced sidewalk segment, 3201 Silverstone.
14. Property identification sign at Flagpole Lane.
15. Water ponding in curb, 10372 Granite Creek Lane.
16. Water ponding in curb, 10360, Granite Creek Lane. Also note displaced sidewalk.
17. Displaced sidewalk segment, Granite Creek Lane.

# LOG OF PHOTOGRAPHS

18. Water ponding in curb, Granite Creek Lane.
19. Depressed utility access, 10317 Granite Creek Lane.
20. Damaged streetlight, 10309 Granite Creek Lane.
21. Street signs need paint.
22. Water is ponding on sidewalks, 10350 Granite Creek Lane. Also note displacement of sidewalk segments.
23. Wood bench slats are in poor condition.
24. General view of tot lot equipment.
25. Wood bench slats are in poor condition.
26. Tot lot equipment is missing components.
27. Tot lot border is in poor condition.
28. Displaced sidewalk segment.
29. Electrical service is in poor condition.
30. Typical mailbox. Note large open crack in asphalt pavement.
31. Typical asphalt pavement damaged by oil/gasoline.
32. Typical residential unit.

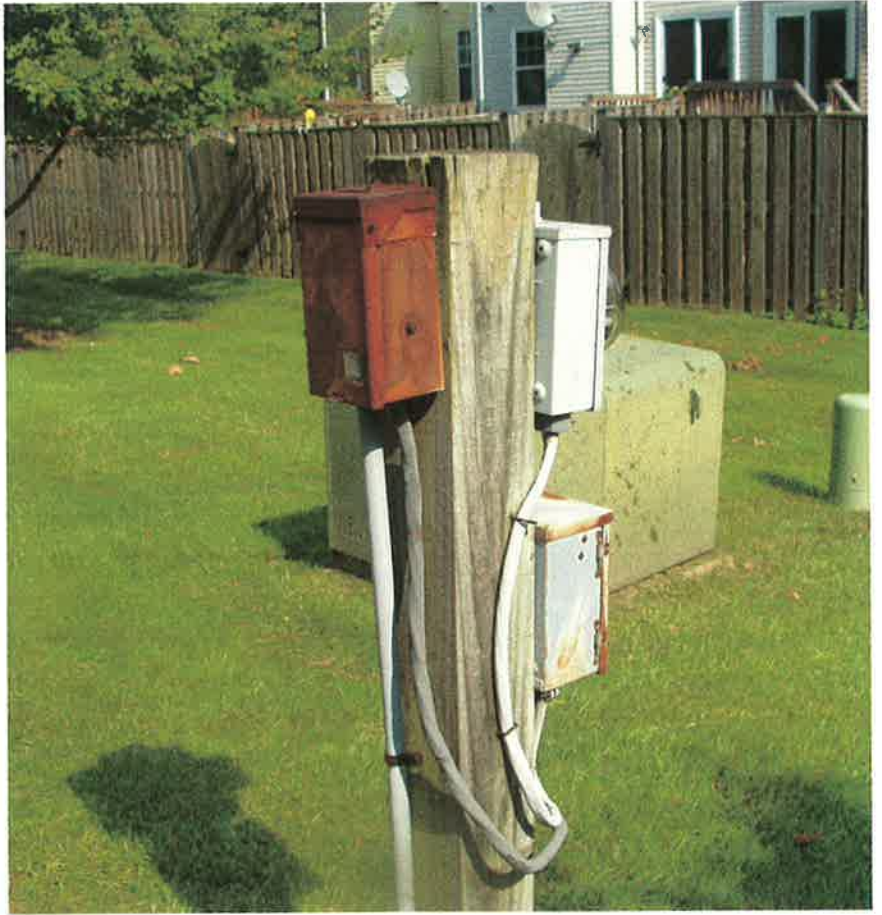
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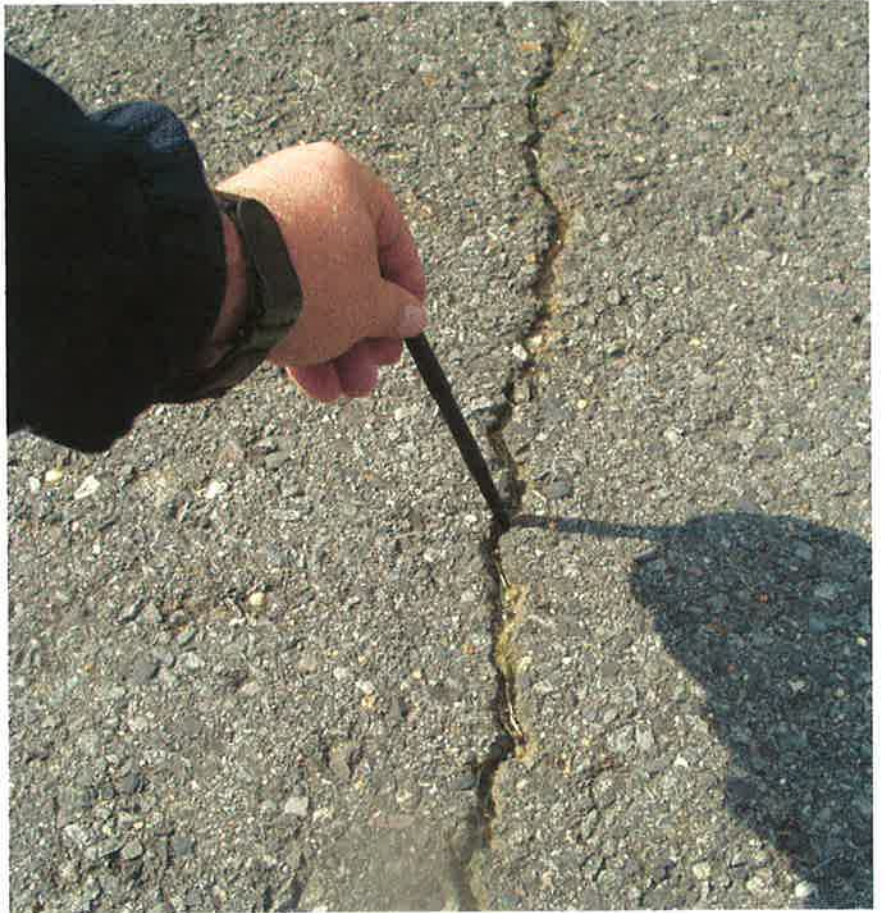




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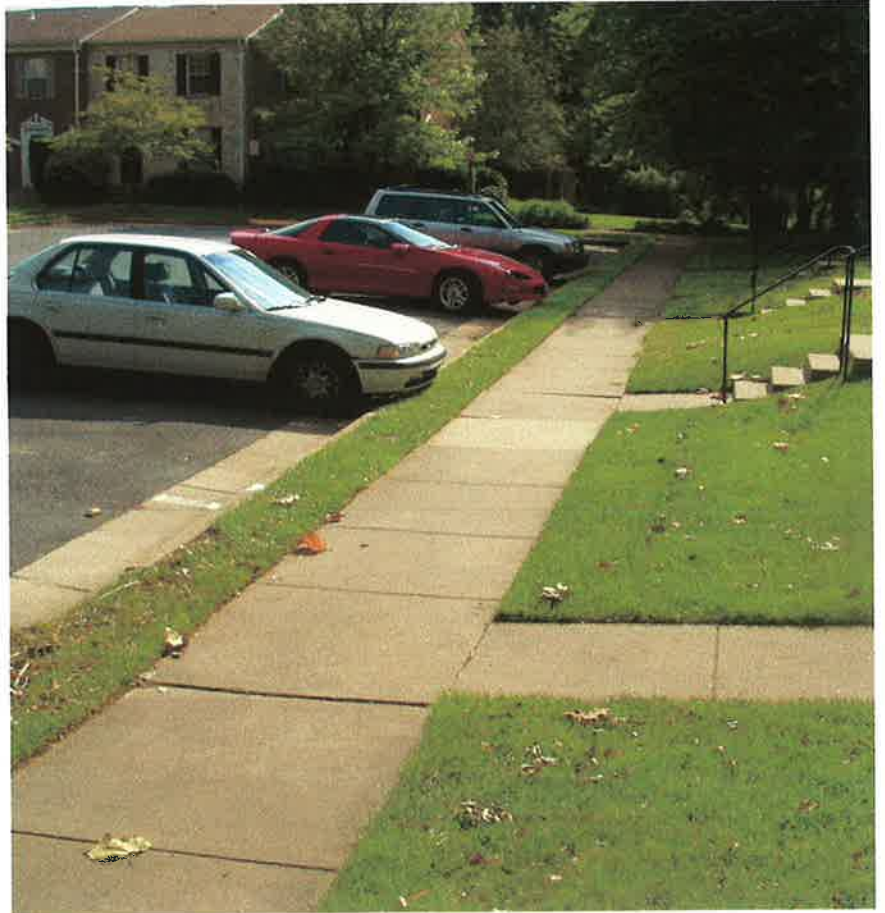
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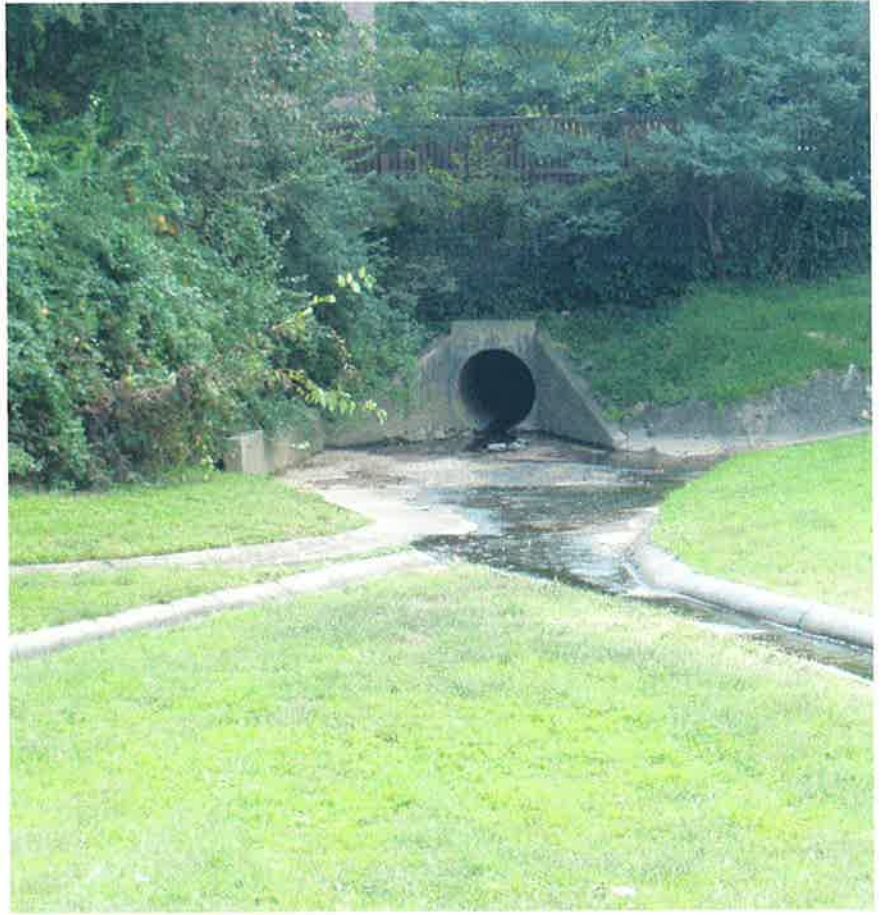
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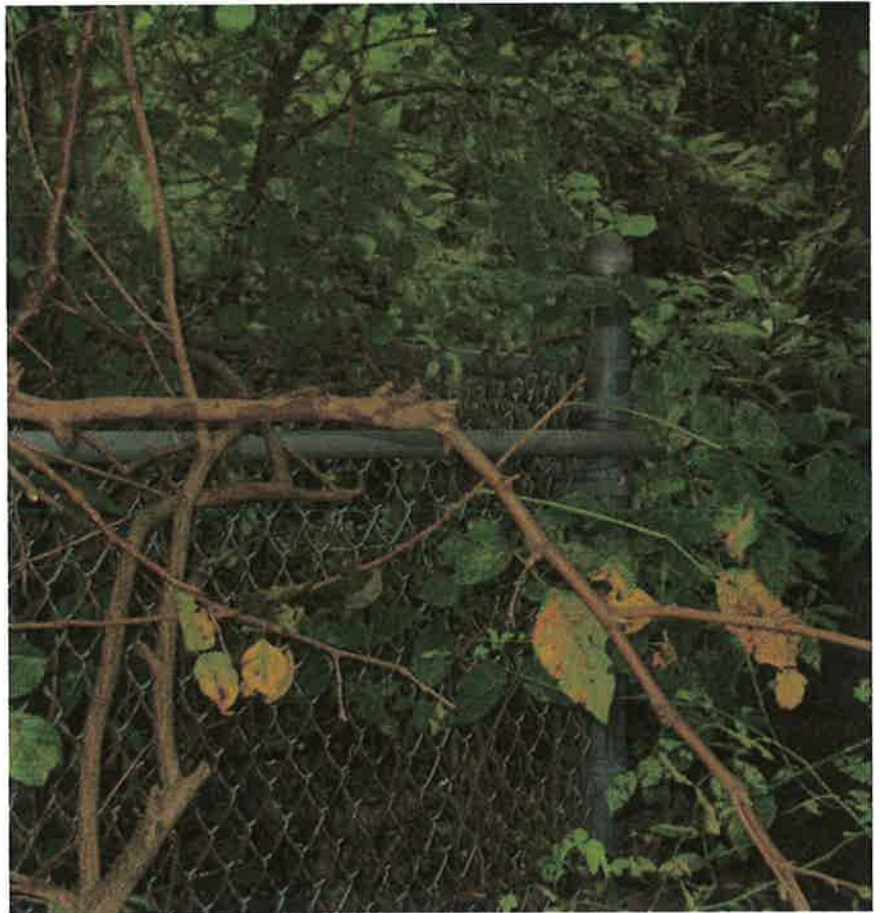
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**11**



**12**



**13**



**14**



**15**



**16**



**17**



**18**



**19**



**20**





**21**



**22**



**23**



**24**



**25**



**26**



**27**



**28**



**29**



**30**



**31**



**32**



**APPENDIX AND  
RESERVE  
ALLOCATIONS**

# REPLACEMENT RESERVE ALLOCATION

**FLINT HILL MANOR**
**November 10, 2003**
**CASH FLOW METHOD - THREE YEAR ALLOCATION OF REPLACEMENT RESERVES**

Item #	Component	Estimated Replacement Cost	Allocation of Reserves on Deposit	2004			2005			2006		
				Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance
NORMAL COMPONENTS												
CONCRETE COMPONENTS												
1	Concrete pavement (10%)	6,233	6,233		(6,233)							
2	Concrete pavement (10%)	6,233	1,430	973		2,403	973		3,376	973		4,349
3	Concrete pavement (10%)	6,233										
4	Concrete pavement (10%)	6,233										
5	Concrete pavement (10%)	6,233										
6	Concrete pavement (10%)	6,233										
7	Concrete pavement (10%)	6,233										
8	Concrete pavement (10%)	6,233										
9	Concrete pavement (10%)	6,233										
10	Concrete pavement (10%)	6,233										
11	Concrete curb & gutter (10%)	7,776	7,776		(7,776)							
12	Concrete curb & gutter (10%)	7,776	1,784	1,214		2,998	1,214		4,211	1,214		5,425
13	Concrete curb & gutter (10%)	7,776										
14	Concrete curb & gutter (10%)	7,776										
15	Concrete curb & gutter (10%)	7,776										
16	Concrete curb & gutter (10%)	7,776										
17	Concrete curb & gutter (10%)	7,776										
18	Concrete curb & gutter (10%)	7,776										
19	Concrete curb & gutter (10%)	7,776										
20	Concrete curb & gutter (10%)	7,776										
ASPHALT PAVEMENT												
21	Asphalt pavement - Graystone Ct	10,441	2,395	1,630		4,025	1,630		5,655	1,630		7,285
22	Asphalt pavement - Silverstone C	7,354	1,687	1,148		2,835	1,148		3,983	1,148		5,130
23	Asphalt pavement - Granite Creel	36,278	8,321	5,663		13,984	5,663		19,647	5,663		25,311
24	Fence at storm water managemer	9,375	9,375		(9,375)							
25	Tot lot equipment	5,000	5,000		(5,000)							
26	Tot lot wood border	1,000	1,000		(1,000)							
27	Streetlights	16,500										

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**REPLACEMENT RESERVE ALLOCATION****FLINT HILL MANOR****November 10, 2003****COMPONENT METHOD - THREE YEAR ALLOCATION OF REPLACEMENT RESERVES**

Item #	Component	Estimated Replacement Cost	Allocation of Reserves on Deposit	2004			2005			2006		
				Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance
<b>NORMAL COMPONENTS</b>												
<b>CONCRETE COMPONENTS</b>												
1	Concrete pavement (10%)	6,233	2,028	4,205	(6,233)	2,602	78	78	78		156	
2	Concrete pavement (10%)	6,233	1,876	726		2,602	726	3,328	726		4,054	
3	Concrete pavement (10%)	6,233	1,673	326		1,999	326	2,324	326		2,650	
4	Concrete pavement (10%)	6,233	1,470	216		1,687	216	1,903	216		2,120	
5	Concrete pavement (10%)	6,233	1,267	166		1,433	166	1,598	166		1,764	
6	Concrete pavement (10%)	6,233	1,065	136		1,201	136	1,337	136		1,473	
7	Concrete pavement (10%)	6,233	862	117		979	117	1,095	117		1,212	
8	Concrete pavement (10%)	6,233	659	103		762	103	865	103		969	
9	Concrete pavement (10%)	6,233	456	93		549	93	643	93		736	
10	Concrete pavement (10%)	6,233	253	85		339	85	424	85		510	
11	Concrete curb & gutter (10%)	7,776	2,530	5,247	(7,776)	(0)	97	97	97		194	
12	Concrete curb & gutter (10%)	7,776	2,340	906		3,246	906	4,152	906		5,058	
13	Concrete curb & gutter (10%)	7,776	2,087	406		2,493	406	2,900	406		3,306	
14	Concrete curb & gutter (10%)	7,776	1,834	270		2,104	270	2,374	270		2,644	
15	Concrete curb & gutter (10%)	7,776	1,581	207		1,788	207	1,994	207		2,201	
16	Concrete curb & gutter (10%)	7,776	1,328	170		1,498	170	1,667	170		1,837	
17	Concrete curb & gutter (10%)	7,776	1,075	146		1,221	146	1,366	146		1,512	
18	Concrete curb & gutter (10%)	7,776	822	129		951	129	1,080	129		1,208	
19	Concrete curb & gutter (10%)	7,776	569	116		685	116	802	116		918	
20	Concrete curb & gutter (10%)	7,776	316	107		423	107	529	107		636	
<b>ASPHALT PAVEMENT</b>												
21	Asphalt pavement - Graystone Cc	10,441	2,123	1,386		3,509	1,386	4,896	1,386		6,282	
22	Asphalt pavement - Silverstone C	7,354	1,495	976		2,471	976	3,448	976		4,424	
23	Asphalt pavement - Granite Creel	36,278	7,376	4,817		12,193	4,817	17,010	4,817		21,827	
24	Fence at storm water managemer.	9,375	3,050	6,325	(9,375)		625	625	625		1,250	
25	Tot lot equipment	5,000	1,627	3,373	(5,000)		333	333	333		667	
26	Tot lot wood border	1,000	325	675	(1,000)		83	83	83		167	
27	Streetlights	16,500	2,914	849		3,763	849	4,612	849		5,461	

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# REPLACEMENT RESERVE STUDY APPENDIX

## 1. COMMON INTEREST DEVELOPMENTS - AN OVERVIEW

Over the past 30 years, the responsibility for community facilities and infrastructure around many of our homes has shifted from the local government and private sector to Community Associations. Thirty years ago, a typical new town house abutted a public street on the front and a public alley on the rear. Open space was provided by a nearby public park and recreational facilities were purchased ala carte from privately owned country clubs, swim clubs, tennis clubs, and gymnasiums. Today, 60% of all new residential construction - townhouses, single family homes, condominiums, and cooperatives - is in Common Interest Developments (CID). In a CID, a homeowner is bound to a Community Association that owns, maintains, and is responsible for periodic replacements of the roads, curbs, sidewalks, playgrounds, street lights, recreational facilities, and other community facilities and infrastructure.

The growth of Community Associations has been explosive. In 1965 there were only 500 Community Associations in the United States. According to the U.S. Census, there were 130,000 Community Associations in 1990. Community Associations Institute (CAI), a national trade association, estimates there will be more than 200,000 Community Associations by the year 2000, and that the number of Community Associations will continue to multiply.

The shift of responsibility for billions of dollars of community facilities and infrastructure from the local government and private sector to Community Associations has generated new and unanticipated problems. Although Community Associations have succeeded in solving many short term problems, many Associations have failed to properly plan for the tremendous expenses of replacing community facilities and infrastructure components with limited life. When inadequate funding results in less than timely replacements of failing components, homeowners are exposed to the burden of special assessments, major increases in Association fees, and a decline in property values.

## 2. REPLACEMENT RESERVE STUDY - RSTUDY+

The financial planning tool designed to provide an Association with the information to plan for the expenses of replacing community facilities and infrastructure components with limited life is a Replacement Reserve Study.

This Replacement Reserve Study format is called RSTUDY+. It is intended to provide an Association with the most effective financial planning tool available. RSTUDY+ consists of the following components:

- **Replacement Reserve Report.** The *Report* contains a summary the financial data calculated by the enclosed *Replacement Reserve Analysis*, a general description of the community, a summary of the conditions observed during our site evaluation, and information about the *Replacement Reserve Inventory*.
- **Replacement Reserve Analysis.** The *Analysis* is a tabular and graphical presentation of current Association funding and the Cash Flow and Component Method Replacement

# REPLACEMENT RESERVE STUDY APPENDIX

Reserve Funding calculations.

- **Replacement Reserve Inventory.** The *Inventory* lists the common components of the community evaluated by the *Replacement Reserve Analysis*, and includes estimated replacement costs, normal economic life and the remaining economic life for each component evaluated.
- **List of Recommended Repairs.** The *Repair List* itemizes defects we observed during our site evaluation. The recommended repairs are categorized by building trade and include an estimated cost.
- **Photographs and a Log of Photographs.** The photographs document observations made during the site evaluation.
- **Appendix.** This Appendix, containing general information, definitions, and standard procedures.

The intent of the RSTUDY+ Replacement Reserve Study is to provide the Association with an inventory of the common components of the community, a general view of the condition of these components, and an effective financial planning tool to address the costs associated with the replacement of community facilities and infrastructure components with limited life.

- **Inventory of commonly owned components.** The *Replacement Reserve Inventory* lists the common components of the community which we have scheduled for replacement from the Replacement Reserves. Section D of the *Replacement Reserve Report* provides information about the basis of the *Replacement Reserve Inventory* and the components excluded from the Inventory.
- **Condition of common components.** The *Replacement Reserve Inventory* includes our estimates of the normal economic life and the remaining economic life. Section C of the *Replacement Reserve Report* provides additional information on several of these components including recommendations for maintenance and replacements.
- **Financial Plan.** Because many of the components owned by the Association have limited life and will require periodic replacement, it is essential the Association have an effective financial plan to provide for the timely replacement of these components, to protect the appearance and value of the community. In conformance with American Institute of Certified Public Accountant guidelines, the *Replacement Reserve Analysis* has calculated the minimum recommended contribution to Replacement Reserves by both the Cash Flow Method and the Component Method. The *Analysis* includes a graphic presentation of these methods and the Associations current funding.

### 3. REPLACEMENT RESERVE INVENTORY

The work on a Replacement Reserve Study starts with the development of the Replacement

# REPLACEMENT RESERVE STUDY APPENDIX

Reserve Inventory. In theory, the Inventory is a detailed listing of each and every component that requires replacement, for which the Association is responsible. In function, the Inventory only includes components whose replacement will be funded from Replacement Reserves.

Replacement of components not included in the Inventory should be funded from sources other than Replacement Reserves.

**Identification of Reserve Components.** The Reserve Analyst has only two methods of identifying Reserve Components, information provided by the Association and observations made at the site. It is important that the Reserve Analyst be provided with all available information detailing the components owned by the Association. It is our policy to request such information prior to bidding on a project and to meet with the individuals responsible for maintaining the community after acceptance of our proposal. After completion of the Study, the Study should be reviewed by the Board of Directors, individuals responsible for maintaining the community, and the Associations accounting professionals. We are dependent upon the Association for correct information, documentation, and drawings.

**Exclusion of Reserve Components.** Every effort has been made to identify all common components, which should be reasonably considered for inclusion in the Replacement Reserve Inventory. This may result in the inclusion of some components in the Inventory that may reasonably be deleted. We will make such deletions at the direction of the Board of Directors. The Board of Directors should understand that future replacement of the deleted components should be funded from sources other than the Replacement Reserves. There are generally three kinds of components for deleted from the Inventory:

- **Small components.** For ease of administration, relatively low cost components are normally funded from the annual operating budget rather than making disbursements from Replacement Reserves. An obvious example is a light bulb, but examples might also include benches, trash cans, or miscellaneous signage. Our policy is to assume the use of operating funds for replacement of any component with a replacement cost less than \$1,000, unless requested otherwise by the Association.
- **Long lasting components.** Some Inventories include components with estimated economic lives exceeding 40 years. Some analysts would omit these components from the schedule entirely on the basis that the economic life of these components approaches the property as a whole. We recommend these components remain in the Inventory because deletion would expose the Association to the potential of a large unfunded liability should the replacements be needed at some time in the future. An example of this type of component is a swimming pool shell.
- **Components incorrectly included.** In an effort to include all reserve components which could reasonably be considered as "common," it is possible some components have been incorrectly included.

**Estimating.** The final step in the development of the Inventory is the estimation of replacement costs, normal economic life, and remaining economic life for each component listed in the

# REPLACEMENT RESERVE STUDY APPENDIX

Inventory. In addition to observations made during site evaluation, Government standards, published estimating manuals, our experience with similar properties, and engineering judgment is used to develop these estimates.

## 4. REPLACEMENT RESERVE ANALYSIS

A Replacement Reserve Analysis is the financial evaluation portion of a Replacement Reserve Study. The enclosed Replacement Reserve Analysis calculates the minimum Recommended Annual Deposit to Reserves by two different methods, the *Component Method* and the *Cash Flow Method*. We recommended the Board of Directors discuss with their accounting professional, which method is more suitable for use by the Association.

- **Component Analysis.** We first calculate a Current Objective, which is the reserve amount that would have been accumulated by now had all of the components on the schedule been included from initial construction at their current replacement costs. We then distribute the actual reserves on hand, as reported by the Association, to the components on the schedule in proportion to the current objective figures. The annual deposit for each component is equal to the difference between the replacement cost and the reserves on hand, divided by the years of life remaining. The analysis is then repeated for as many future years as are covered by the study, assuming that replacements occur as forecasted. The Component Analysis ensures a regular buildup of reserves for every component on the schedule, but usually results in an annual contribution higher than that calculated by the Cash Flow Method.
- **Cash Flow Analysis.** We first determine a recommended Minimum Recommended Reserve Funding Level (defined below). We then distribute the estimated replacement costs for the next 50 years to the future years in which they are projected to occur, and calculate the minimum constant yearly contribution to the reserves necessary to keep the reserves on hand above the minimum reserve level. The Cash Flow Method assumes that the Association has the authority to use all of the reserves on hand for replacements as the need actually occurs. The Cash Flow calculated for annual contribution is normally somewhat less than that developed by the Component Method.

**Interest and Inflation - Adjusted Component and Adjusted Cash Flow Analysis.** It is possible to modify the Replacement Reserve Analysis to include inflation and interest calculations. Attempting to forecast future inflation and interest rates and the impact of changing technology is highly tenuous and we recommend that the Analysis be updated periodically, rather than attempt to project far into the future. We do, however, have the capability to produce an Adjusted Analysis. The inflation and interest rates used must be specified by the Association. We will provide more information on this type of analysis upon your request.

**Repair and maintenance.** The Replacement Reserve Analysis addresses replacements only, not repairs or maintenance. If we develop a repair list, the life left is based on the recommended repairs being accomplished within one year of the study.

# REPLACEMENT RESERVE STUDY APPENDIX

**Revisions.** Revisions will be made to the Replacement Reserve Analysis in accordance with the written instructions of the Board of Directors. There is no fee for the first revision, if requested in writing within three months of the date of the Study.

**Updating.** We recommend the Replacement Reserve Analysis be updated annually, by the Board of Directors, to identify replacements which have actually occurred, the cost of actual replacements, and current Reserves on Deposit.

The Analysis should also be updated annually with information on current construction costs and changes in building technology. This update should be performed by independent, qualified individuals, experienced in the process of updating a Replacement Reserve Analysis. Updating an Analysis after a major replacement is made usually results in a significant reduction in the Minimum Recommended Annual Contribution to Replacement Reserves as calculated by the Component Method.

We also recommend the Board of Directors commission a new Analysis every three to five years. This analysis should be performed by independent, qualified individuals, experienced in the process of developing a Replacement Reserve Analysis.

## 5. LIST OF RECOMMENDED REPAIRS

**List of Recommended Repairs.** The List of Recommended Repairs identifies defects observed during the site evaluation. The repairs required to correct these defects are listed by trade and include the estimated cost of the repair.

**Remaining Economic Life.** The "Remaining Economic Life" listed for each component in the Inventory assumes that all repairs will be completed within the next 12 months, unless specifically stated otherwise. Failure to make timely repairs may result in significant inaccuracies in the Analyses.

**Repair Funding.** The Replacement Reserve Analysis assumes the costs of the repairs listed in the List of Recommended Repairs will NOT be funded from the Replacement Reserves. If the Association intends to fund these repairs from Replacement Reserves, the Analysis should be adjusted with the Replacement Reserves reduced by the funding used for the repairs.

**Trade Grouping.** Repairs are grouped by trade and cost estimates assume that all work by a given trade will be done together as a single project. If repairs are done piecemeal, the costs would be significantly higher.

**Completion of Repairs.** The Replacement Reserve Analysis assumes that all repairs will be completed within the next twelve months unless stated otherwise in the Study. Deletion of certain repairs or delays in the completion of the repairs may result in major inaccuracies in the Replacement Reserve Analysis.

**Estimated Costs.** We used standard estimating manuals. Contractor proposals or actual cost

# REPLACEMENT RESERVE STUDY APPENDIX

experience may be available to the Association. We will adjust the Inventory to conform to your proposals upon the written request of the Board of Directors.

**Safety Issues.** Should be given the highest priority and repairs done immediately.

## Replacement Criteria for frequently observed defects:

- Concrete pavement:
  1. Tripping hazard (0.5" or more height difference)
  2. Severe cracking (numerous or over 1/8 inch wide)
  3. Severe spalling
  4. Uneven riser heights on steps
  5. Steps with risers in excess of 8.25"
  
- Asphalt pavement:
  1. Large cracks, settled or heaved areas. In relatively isolated areas, should be patched by removing the affected asphalt, inspecting and repairing the substrate, and pouring a new top coat. If extensive (more than 25 to 50% of the pavement affected), it is probably more economical to replace the entire section. This situation would be the basis for an early projected replacement in the Replacement Reserve Schedule.
  2. Minor cracking. These cracks should be cleaned of debris and plant growth and then filled with an appropriate sealing compound to prevent water infiltration through the asphalt into the base. This repair should be done now and then on a yearly basis. Note that this is a different process from seal coating discussed below.
  3. Crankcase oil. Long term exposure to oil or gasoline breaks down asphalt. Spill areas should be cleaned, or if deterioration has penetrated the asphalt, patched.
  4. Seal coating. Seal coating should be done every three to five years. To be effective in extending the life of the asphalt, the repairs described above need to be done first. Seal coating is a maintenance item and is not normally included in the Replacement Reserve Inventory or on the List of Recommended Repairs.
  
- Roofing:
  1. Missing, badly worn or limited life shingles or surfaces
  2. Deteriorated fire resistant treated (FRT) sheathing
  3. Inadequate attic ventilation and insulation
  4. Problem gutters, roof drains and downspouts

## 6. DEFINITIONS

**Complete Cycle - Years.** (Interval Replacement only) The number of years after Initial Replacement required to achieve 100% replacement.

# REPLACEMENT RESERVE STUDY APPENDIX

**Current Objective.** As of the study date, the dollars that would have been accumulated in the designated account of a component, had that component been included in the Replacement Reserve Inventory from the time of construction at the current replacement cost. Calculation:

$$\text{Total Replacement Cost} \times [\text{Normal Economic Life} - \text{Remaining Economic Life}]$$

Note that all three elements of this calculation are estimated.

The Total Current Objective is the sum of the current objectives for each component included in the Inventory and would be the Association's Replacement Reserve if they were fully funded by the Component Method.

**Initial Replacement - Years.** (Interval Replacement only) Estimated the number of years until the replacement cycle is expected to begin.

**Interval Replacement Component.** An Interval Replacement Components is not replaced as a whole, but portions of the component are replaced at intervals.

**Minimum Recommended Annual Contribution to Replacement Reserves.** The requirement for annual contribution to reserves calculated by both the Component and Cash Flow Method.

**Minimum Recommended Reserve Funding Level (Cash Flow Analysis only).** The Cash Flow Analysis calculates a Minimum Recommended Annual Contribution to Replacement Reserves that will, based upon the Inventory, prevent Reserves from dropping below this prescribed level. This value is established as a percentage of the Estimated Value of All Reserves Components included in this Analysis by the Reserve Consultant, based on the conditions of the community and considering the effects of a high cost component having a shorter than estimated Remaining Economic Life.

**Normal Economic Life.** Estimated number of years that a new component should last until it has to be replaced.

**Normal Replacement Component.** A component of the property that, after an expected economic life, is replaced in its entirety.

**Number of Years of the Study.** In the Component and Cash Flow Methods, number of years into the future for which expenditures are projected and reserve levels calculated. This number should be large enough to include the projected replacement of every component on the schedule at least once. The RSTUDY+ Analysis projects data over a 50 year period. The graphical presentation includes the first 30 years of this data.

**Remaining Economic Life.** Estimated number of years from the Study Year until the component is expected to require replacement. In theory, this should be the difference between the Normal Economic Life and the age of the component. It may vary because of maintenance practices, solar orientation, technological development, regulatory action, acts of God, or other reasons.



# REPLACEMENT RESERVE STUDY APPENDIX

**Replacement Reserves Reported to be on Deposit.** Amount of accumulated reserves available to the Association.

**Replacement Reserve Study.** An analysis of the components of the common property of the Association for which a need for replacement should be anticipated within the economic life of the property as a whole. The analysis involves estimation for each component of its replacement cost, economic life, and life remaining. The objective of the study is to calculate a recommended annual contribution to the Association's Replacement Reserves.

**Total Replacement Cost.** Total of the Estimated Replacement Costs for all components on the schedule.

**Transition Year.** In the cash flow analysis, a year in which the reserves on hand are projected to fall to the Minimum Recommended Replacement Reserve Funding Level.

**Unit Cost.** Estimated replacement cost for a single unit of a given component on the schedule. We use standard estimating manuals and judgement.

**Unit of Measure.** We use the following abbreviations:

EA: each            LF: lineal feet            LS: lump sum            SF: square feet

# REPLACEMENT RESERVE ANALYSIS

FLINT HILL MANOR

November 10, 2003

## GENERAL INFORMATION:

2004	Study Year
\$45,000	Replacement Reserves reported to be on deposit at start of Study Year
\$226,041	Estimated value of all Components included in the Replacement Reserve Inventory

The information shown in this Summary does not account for interest earned on Replacement Reserves on deposit, nor does it include adjustments for inflation. For more information see the attached Appendix.

## REPORTED CURRENT FUNDING DATA:

None

REPORTED CURRENT ANNUAL CONTRIBUTION TO REPLACEMENT RESERVES

## CASH FLOW METHOD CALCULATIONS:

\$10,628

MINIMUM RECOMMENDED ANNUAL CONTRIBUTION TO REPLACEMENT RESERVES

\$10.67	Per unit minimum recommended monthly contribution to Replacement Reserves
\$11,302	Recommended minimum Replacement Reserve Funding Threshold (5.0 percent)
2009	First year Reserves fall to minimum recommended level (Design Year)

## COMPONENT METHOD CALCULATIONS:

\$32,279

MINIMUM RECOMMENDED ANNUAL CONTRIBUTION TO RESERVES (IN STUDY YEAR)

\$32.41	Per unit minimum recommended monthly contribution to Replacement Reserves
\$138,331	Current Funding Objective
32.53%	Funding Percentage
\$93,331	One time deposit required to fully fund Replacement Reserves
\$6,644	Annual Contribution to Replacement Reserves if Reserves were fully funded.

## PROJECT INFORMATION:

## PROPERTY MANAGED BY:

KOGER MANAGEMENT  
Ms. Dee Thompson  
3559 Chain Bridge Road  
Fairfax, Virginia 22030  
703 - 591-2414

## MAJOR COMPONENTS IN ANALYSIS:

Asphalt pavement, concrete sidewalks, curb & gutter, street lights, and tot lot.

## TYPE OF PROPERTY:

Townhouse

## # OF UNITS:

83

## PROPERTY LOCATION:

Oakton, VA

## YEAR BUILT:

1981

## NOTES:

1. This Replacement Reserve Analysis complies with the National Reserve Study Standards, adopted by the Community Associations Institute (CAI) in 1998. This Analysis applies to the 2004 accounting year (April 1 to March 31).
2. This Analysis does NOT include funding for the repair and replacement outlined in the List of Recommended Repairs, except as noted in the List of Recommended Repairs.
3. The Association reports Reserves totaling \$45,000 will be on deposit as of April 1, 2004. The Association reports that they are currently NOT contributing to Replacement Reserves.

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