

Replacement Reserve Study  
**WALNEY ROAD**

RSTUDY+  
**REPLACEMENT RESERVE STUDY**

# WALNEY ROAD

Chantilly, Virginia

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**CMC**

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**May 23, 2008**

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# RICHARD J. SCHUETZ, AIA ARCHITECT

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May 23, 2008

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John Halfhill:

Pursuant to your acceptance of our Proposal dated February 24, 2008, we have completed our evaluation of WALNEY ROAD in Chantilly, 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.
- **Supplemental 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 WALNEY ROAD, 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**

Wm. Bruce Bennett  
Senior Reserve Analyst

## Replacement Reserve Report

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# REPLACEMENT RESERVE REPORT

## WALNEY ROAD

Chantilly, Virginia

May 23, 2008

### A. GENERAL INFORMATION

**Intent.** The intent of this RSTUDY+ Replacement Reserve Study is to provide WALNEY ROAD HOA (hereinafter called the Association), with an inventory of the common community facilities and infrastructure components that require periodic replacement, a general view of the condition of these components, and an effective financial plan to funded projected periodic replacements.

- **Inventory of common components.** The attached *Replacement Reserve Inventory* lists the common components of the community that require periodic replacement, whose replacement is scheduled for funding from Replacement Reserves. Section D of this *Replacement Reserve Report* provides information about components excluded from the *Inventory*, whose replacement is not scheduled for funding from Replacement Reserves, and the basis of those exclusions.
- **Condition of common components.** The *Replacement Reserve Inventory* includes our estimates of the normal economic life and the remaining economic life for those components whose replacement is scheduled for funding from Replacement Reserves. Section C of this *Replacement Reserve Report* provides additional information about several of these components including recommendations for repairs, maintenance, and replacements.
- **Financial plan.** Because many components owned by the Association have limited life and 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* evaluates the current funding of Replacement Reserves as reported by the Association, and recommends annual funding of Replacement Reserves by two generally accepted accounting methods, the Cash Flow Method and the Component Method. The *Replacement Reserve Analysis* includes graphic and tabular presentations of these methods and current Association funding.

**Scope.** WALNEY ROAD is a residential community of 138 single family homes and 20 townhomes in Chantilly, Virginia. The community was constructed between 1998 and 2003. We have assumed that all of these units are individually owned and are not the responsibility of the Association. These individually owned units and other components of the community not identified in the Request for Proposal as being the responsibility of the Association were not evaluated and were not included in the *Replacement Reserve Inventory* or *Replacement Reserve Analysis*.

# REPLACEMENT RESERVE REPORT

We have identified community facilities and infrastructure components with limited life that require periodic replacement and whose replacement is the responsibility of the Association, based upon our review of the following:

- The Request for Proposal, submitted and executed by the Association.
- Our field evaluations and measurements.
- The previous Replacement Reserve Study, prepared by Richard J. Schuetz, AIA and dated May 2003.
- An email from the Board of Directors, dated August 1, 2003, clarifying the ownership of several items previously included in the *Replacement Reserve Inventory*.

We have divided the components whose replacement is the responsibility of the Association into two categories, based upon the source of funding for the needed replacement. The categories are:

- Funding from Replacement Reserves. Those components whose replacement is scheduled for funding from Replacement Reserves are listed in the *Replacement Reserve Inventory*. This is a comprehensive list and the funding of replacements other than those specifically listed in the *Replacement Reserve Inventory* will result in inaccuracies in the results calculated by the *Replacement Reserve Analysis*.
- Funding from other sources. Examples of components whose replacement is NOT to be funded from Replacement Reserves, are listed and discussed in Section D - Inventory, below. This is not a comprehensive list and we have assumed that the replacement of all components not specifically listed in the *Replacement Reserve Inventory* will NOT be funded from Replacement Reserves.

The major components included in the *Replacement Reserve Inventory* are the asphalt pavement, concrete sidewalks, and curb & gutter in the townhouse section of the community, and the entrance feature, metal fence, wood stockade fence along Walney Road, 3-board fence adjacent to the entry feature, tot lot, etc. **The components included in the *Replacement Reserve Inventory* have an estimated one-time replacement cost of \$189,381.**

**Site evaluation.** We conducted our site evaluation on May 6, 2008. Our evaluation was visual and nondestructive.

**Replacement Reserve Study - Level of Service.** The *Replacement Reserve Study* has been performed as a Full Service *Replacement Reserve Study* as defined under the National Reserve Study Standards adopted by the Community Associations Institute. A complete component inventory was established based on information regarding commonly owned components provided by the Association and upon quantities derived from field measurement and/or quantity takeoffs from to-scale engineering drawings made available by the Association. The condition of all components was ascertained from a site visit and the visual inspection of each component by the analyst. The life expectancy and the value of components are provided based on these observations. The funding status (Replacement Reserves on Deposit) and funding plan (Current Annual Contribution to Replacement Reserves) have been provided by the Association.

# REPLACEMENT RESERVE REPORT

## B. FINANCIAL SUMMARY

**Purpose.** The purpose of the attached *Replacement Reserve Analysis* is to evaluate the current funding of Replacement Reserves as reported by the Association, and to recommend annual contributions to Replacement Reserves by two generally accepted accounting methodologies, the Cash Flow Method and the Component Method. All three evaluations are based upon the same 30-year Study Period, Replacement Reserves reported to be on deposit at the start of the Study Year, and projected expenditures for replacements of common elements shown in the *Replacement Reserve Inventory*.

**Study Year and Study Period.** The Association reports that they operate on a calendar year. The first year evaluated by the *Replacement Reserve Analysis*, the "Study Year", is 2009. The *Replacement Reserve Analysis* evaluates funding in a 30-year period extending forward from September 1, 2008. This 30-year period is called the "Study Period".

**Current Funding.** The Association reports Replacement Reserves on Deposit of \$67,121 as of September 1, 2008, and annual deposits to Replacement Reserves totaling \$7,992.

**Projected Expenditures.** We project that in the first five years of the study, from the start of the Study Year, through August 31, 2013, the Association has a cash requirement of between \$82,217 and \$88,210. This is based upon \$72,217 of expenditures for replacements listed in the *Replacement Reserve Inventory* and \$10,000 to \$16,000 of repairs, maintenance, and miscellaneous small replacements outlined in the *List of Recommended Repairs*. Several of the projects associated with these expenditures are discussed in Section C below.

We have projected annual Association expenditures (not including the \$10,000 to \$16,000 of repairs, maintenance, and minor replacements outlined in *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 from Replacement Reserves over the next 30 years is \$8,275.**

**List of Recommended Repairs - timing of repairs.** The enclosed *List of Recommended Repairs* itemizes \$10,000 to \$16,000 of defects we noted during our site evaluation. The accuracy of the values used for the remaining economic life in the *Replacement Reserve Inventory* and thereby the entire *Replacement Reserve Analysis* is dependent upon the timely completion of these repairs, maintenance, and miscellaneous small replacements.

**List of Recommended Repairs - funding of repairs.** We have assumed that NO Replacement Reserves will be used to fund the correction of the defects outlined in the *List of Recommended Repairs*. The United States Tax Code grants very favorable tax status to Replacement Reserves, conditional on the expenditure of Replacement Reserves within specific guidelines. Funding maintenance, repair, and/or capital improvements from Replacement Reserves may have adverse tax consequences and should be done only after consultation with an accounting professional.

# REPLACEMENT RESERVE REPORT

**EVALUATION OF CURRENT ASSOCIATION FUNDING.** Our evaluation of the current Association funding plan is based in part, on financial data provided to us by the Association.

**\$7,992**      **Current Association Funding.** The Association reports that they are currently contributing \$7,992 per year to Replacement Reserves (\$4.22 per unit per month). Based upon Replacement Reserves reported to be on deposit, and the *Replacement Reserve Inventory*, our evaluation of Current Association Funding shows that it results in the Association being able to make scheduled replacements in all 30 years of the thirty-year Study Period.

Projections of Current Association Funding are presented in graph and tabular format on page A-5 of the *Replacement Reserve Analysis*. These calculations assume that NO Replacement Reserves will be allocated to fund the \$10,000 to \$16,000 of repairs, maintenance, and/or minor replacements outlined in the *List of Recommended Repairs*. A more detailed explanation of the Current Association Funding calculations is contained in the *Appendix*.

**STANDARD ACCOUNTING METHODOLOGIES.** The enclosed *Replacement Reserve Analysis* calculates recommended funding of Replacement Reserves in each year of the of the 30-year Study Period, by two generally accepted methods, the Cash Flow Method, and the Component Method. Both calculations are based upon the same financial data, including the costs of the replacements scheduled in the *Replacement Reserve Inventory* and Replacement Reserves reported to be on deposit at the start of the Study. The Cash Flow Method and Component Method calculations and Replacement Reserve funding recommendations in the Study Year, are discussed below:

**\$7,925**      **Cash Flow Method** - Minimum Recommended Funding of Replacement Reserves in the Study Year (\$4.18 per unit per month). The Cash Flow Method calculates the minimum annual funding of Replacement Reserves that will fund Projected Annual Replacements from a common pool of Replacement Reserves and prevents Replacement Reserves from dropping below the Minimum Recommended Balance. Annual deposits to Replacements Reserves remain the same between peaks in cumulative expenditures called Peak Years.

Minimum Recommended Balance. We have established the Minimum Recommended Balance at \$9,469 or 5 percent of the one-time replacement cost of all of the components listed in the *Replacement Reserve Inventory*.

The Cash Flow Method calculations are presented in graph and tabular format on page A-3 of the *Replacement Reserve Analysis*. These calculations assume that NO Replacement Reserves will be allocated to fund the \$10,000 to \$16,000 of repairs, maintenance, and/or minor replacements outlined in the *List of Recommended Repairs*. A more detailed explanation of the Cash Flow Method is contained in the *Appendix*.

# REPLACEMENT RESERVE REPORT

**\$19,572**

**Component Method** - Recommended Funding of Replacement Reserves in the Study Year (\$10.32 per unit per month). The Component Method is a time tested and very conservative mathematical model developed by HUD in the early 1980's. The Component Method treats each component in the *Replacement Reserve Inventory* as a separate account and deposits are made annually to each of these individual accounts. 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 \$107,705 on deposit (Current Funding Objective), but the Association reports to having Replacement Reserves totaling \$67,121 on deposit, approximately 62.3 percent funded.

The Component Method calculations are presented in graph and tabular format on page A-4 of the *Replacement Reserve Analysis*. These calculations assume that NO Replacement Reserves will be allocated to fund the \$10,000 to \$16,000 of repairs, maintenance, and/or minor replacements outlined in the *List of Recommended Repairs*. A more detailed explanation of the Cash Flow Method is contained in the *Appendix*.

## FUNDING RECOMMENDATIONS:

We recommend the Association adopt an annual contribution to Replacement Reserves calculated by one of the standard accounting methods, either the Cash Flow Method or the Component Method, to insure that proper funding is available to make scheduled replacements throughout the entire 30-year Study Period.

We further recommend the Association fully fund the *List of Recommended Repairs* in the Study Year, and establish the necessary annual funding for the normal maintenance and repairs needed throughout the community.

# REPLACEMENT RESERVE REPORT

## C. SITE EVALUATION

**General comments.** WALNEY ROAD 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 the late 1990's and early 2000's.

WALNEY ROAD is facing several major replacement, repair, and maintenance projects. The major replacement projects facing the Association in the first five years of the Study Period include:

- Restoration of the MP court including the base and color coat.
- Replacement of the tot lot equipment.
- Asphalt pavement replacement - Penny Tree Place.
- Concrete curb & gutter and sidewalk replacements.
- Replacement of the 3 board fence along Walney Road.

These projects are scheduled in the *Replacement Reserve Inventory* and have an estimated cost of \$72,217 in the first five years of the Study Period.

The *List of Recommended Repairs* outlines \$10,000 to \$16,000 of repairs, maintenance, and miscellaneous small replacements we observed throughout the community, which need correction now. Most of this amount is associated with the following:

- Maintenance and repair of the asphalt pavement in the Study Year.
- Correction of defects at the Tot Lot.
- Correction of site grading, drainage, and landscape defects.
- Maintenance of the wood fences along Walney Road.

**Safety defects.** Several of the defects in the *List of Recommended Repairs* are safety hazards and should be repaired immediately to protect the residents from potential injury and to protect the Association from potential liability. We have identified safety hazards in the *List of Recommended Repairs* by printing them in **bold**. We do NOT warranty that all defects throughout the community that could be considered "safety defects" are identified in the *List of Recommended Repairs*.

**Comments on Site Evaluation.** The *List of Recommended Repairs* provides a component by component discussion of defects we observe during our site evaluation. The following comments are not intended to restate these observations but address one of the following specific issues regarding the larger, more significant components at the community:

- Components that require specific comments because of the manner in which they have been treated in the *Replacement Reserve Analysis*.
- Comments on components that could not be properly addressed in the *List of Recommended Repairs*.

The comments on the following pages reflect the conditions found at the time of our site evaluation.

# REPLACEMENT RESERVE REPORT

**Asphalt pavement - general.** We identified approximately 20,180 square feet of asphalt pavement in the townhouse section of the community and 7,200 square feet of asphalt pavement in the roadway/trail leading to the Tot Lot that is the responsibility of the Association. No information about the dates of installation or the specifications that were used to install the pavement was provided for our review.



The asphalt pavement is not aging well. Since we last evaluated the pavement in 2003, there has been accelerated deterioration beyond what we would normally expect. We observed areas where the asphalt pavement is defective and is allowing water to penetrate through the asphalt pavement, causing damage and deterioration of the load carrying capabilities of the base materials and bearing soils beneath the pavement. The defects we observed included areas with open cracks, alligatoring, and depressed areas of pavement indicating damage to the base materials and bearing soils beneath the pavement.

**Asphalt pavement - replacement and repair.** We have assumed that in 2012, the asphalt pavement at the townhouses, and in 2017, the asphalt pavement at the tot lot, will be replaced by the installation of a 2-inch overlay to the existing pavement and the cost of this project is included in the *Replacement Reserve Inventory*. Before the installation of the new pavement, the existing asphalt roads and parking areas should be milled. The asphalt pavement is milled to insure that the new pavement can be properly graded to move all water to the storm water system. The project to replace the asphalt pavement should include the evaluation of all damaged and deteriorated pavement.



**Asphalt Pavement Maintenance Program.** If the asphalt pavement is to achieve the economic life shown in the *Replacement Reserve Inventory*, the Association will need to continue with an Asphalt Pavement Maintenance Program. The Asphalt Pavement Maintenance Program should include the components discussed below:

- Crack sealing. All small cracks and defects in the asphalt pavement should be sealed with an appropriate sealing compound. If the cracks or defects are too large to be sealed with a sealing compound, or if the defects have resulted in displacement of the asphalt pavement, indicating damage to the base materials or bearing soils, defective areas of asphalt pavement, base materials, and bearing soils should be cut out and replaced. This repair should be done **annually**.

# REPLACEMENT RESERVE REPORT

The repair of defects in the asphalt pavement discussed above may require the replacement of several adjacent segments of concrete curb & gutter that would prevent the new pavement from being graded so as not to impound water.



- **Cleaning.** Long term exposure to oil and gas breaks down asphalt. Automobiles leaking gas and/or oil should be removed from the community immediately and spill areas cleaned to prevent damage to the asphalt pavement. The maintenance of the asphalt pavement should included the cleaning of asphalt pavement damaged by oil and/or gas and the cutting out and replacement of deteriorated pavement. This should be done **annually** in conjunction with the crack sealing project discussed above.



- **Seal coating.** Seal coating should be done **every three to five years**. For this maintenance activity to be effective in extending the life the asphalt, the crack sealing and cleaning of the asphalt discussed above, should be done first.
- **Striping.** After completion of the seal coating, install new striping in parking areas.

The maintenance and repair activities associated with The Asphalt Pavement Maintenance Program are not appropriately funded from Replacement Reserves. Funding maintenance and repair from Replacement Reserves may have adverse tax consequences for the Association. We recommend the Association establish a line item in the annual community budget for maintenance and repair of the asphalt pavement.

# REPLACEMENT RESERVE REPORT

**Concrete components.** We identified approximately 3,450 square feet of concrete pavement (sidewalks) and 1,210 feet of concrete curb & gutter in the townhouse section of the community that are the responsibility of the Association. There minor defects in these components including components that are deteriorated and cracked. We have assumed that these components will be kept in service until 2012, when they should be replaced in conjunction with the replacement of the asphalt pavement discussed above. If the deterioration of any of these components accelerates prior to this scheduled replacement, to the point where the defect is a safety hazard, replacement should be made immediately.



**Fencing along Walney Road.** The Association has two styles of fencing along Walney Road, 3 rail wood fence and a stockade fence. These components have defects and are in need of maintenance and repair. The needed operations are discussed in the *List of Recommended Repairs*.



**Multi-purpose court.** The color coat on the surface of the multipurpose court has been kept in service beyond the end of its normal economic life and this has resulted in damage to the base. We have assumed that the court will be restored by the replacement of the base and color coat, and these replacements are listed in the *Replacement Reserve Inventory*.



# REPLACEMENT RESERVE REPORT

**Tot lot.** The Association reports being responsible for a tot lot located adjacent to the asphalt trail that leads from Gaston Street. The equipment at the tot lot is constructed of pressure treated wood timbers. We observed several safety defects that are listed in the *List of Recommended Repairs*.



# 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 on May 5, 2008. No drawings or documents were provided for our review in conjunction with the preparation of this *Replacement Reserve Study*. We also utilized aerial photographs of the community.

**Estimated Life Left.** The values in the "Estimated Life Left in Years" column in the *Replacement Reserve Inventory* have been established by the Analyst based upon a visual evaluation of the components. The values are not based upon a mathematical formula directly related to "Estimated Economic Life in Years." Some components may experience longer lives while others may experience shorter lives depending on many factors such as environment, quality of the component, maintenance, timeliness of repairs, etc.

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

**Long-lived components.** Components that when properly maintained, can be assumed to have a life equal to the property as a whole, are excluded from the *Replacement Reserve Inventory*. Examples of components excluded from the *Replacement Reserve Inventory* by this standard include:

- Stone walls and masonry inserts at entrance features (note that periodic tuck point is included in the *Replacement Reserve Inventory*).



**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:

- Basketball goals.
- Benches.
- Trash receptacles.
- General signage throughout the community.
- Metal bollards at the trail to the tot lot.
- Electrical service at the entrance feature.
- Ground mounted light fixtures at the entrance to the community.



# REPLACEMENT RESERVE REPORT

**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 Inventory* by this standard include:

- Townhouse concrete lead walks behind the edge of the Association owned sidewalks, closest to the houses, including all replacements resulting from a differential in elevation between individual and community owned components.
- Utility connections, including water, sewer, gas, and electrical, that serve a single unit, even when they are on property owned by the Association.
- Building exteriors and site improvements including the decks, concrete steps, fences, stoops, retaining walls and patios.
- Driveway aprons located on property owned by the Association, to the extent that they are not a portion of the Association owned sidewalks.

**Utilities.** Many improvements owned by utility companies are on property owned by the Association. We have assumed that repair, maintenance, 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.

**Maintenance Activities.** Maintenance activities are NOT appropriately funded from Replacement Reserves. Funding maintenance and repair activities from Reserves may have adverse tax consequences for the Association. Examples of components excluded from the *Replacement Reserve Inventory* by this standard include:

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

**Government.** Site improvements that serve the community are located on property owned by the local or state government. These improvements are located in the following areas:

- Walney Road, Eagle Chase Circle, Rose Lodge Place, Morningdale Drive, Shady Point Place and Gaston Street.
- Asphalt trails in and adjacent to the community with the exception of the trail leading to the tot lot/storm water pond and the connector trail that connects to the public that runs along the north boundary of the community.



We have assumed that any needed repairs or replacements of components located in these areas are not the responsibility of the Association and costs associated with any work on these components will not be funded from Replacement Reserves.. They component located in these areas include but are not limited to those listed.

# REPLACEMENT RESERVE REPORT

- Asphalt pavement - roadways and trails (along Walney Road and in the open space along the north boundary of the community).
- Concrete sidewalks.
- Concrete curb & gutter.
- Storm water management system components.
- Utilities, including electrical, sanitary sewers, domestic water mains, and natural gas.

**Storm water management system.** An extensive storm water system is 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, a storm water impound area, and other structures. The Walney Mills, Board of Directors, in a memo dated August 1, 2003 reported that the Association was not responsible for these components and we have excluded them from the *Replacement Reserve Inventory*.



**Domestic water supply mains and sanitary sewers.** A network of domestic water mains and sanitary sewers is installed at throughout the community on property owned by the Association. No drawings detailing the components of the system were available for our review. The Walney Mills, Board of Directors, in a memo dated August 1, 2003 reported that the Association was not responsible for these components and we have excluded them from the *Replacement Reserve Inventory*.

**Streetlights.** 41 streetlights are installed throughout the community. The Walney Mills, Board of Directors, in a memo dated August 1, 2003 reported that the Association was not responsible for these components and we have excluded them from the Replacement Reserve Inventory.

# 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 *Replacement Reserve 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 WALNEY ROAD 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 a revision 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**

Wm. Bruce Bennett  
Senior Reserve Analyst

# REPLACEMENT RESERVE ANALYSIS

WALNEY ROAD

May 2008

## GENERAL INFORMATION:

2009	Study Year
\$67,121	Replacement Reserves reported to be on deposit at start of Study Year
\$189,381	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:

**\$7,992** REPORTED CURRENT ANNUAL CONTRIBUTION TO REPLACEMENT RESERVES

\$4.22 Per unit current monthly contribution to Replacement Reserves

## CASH FLOW METHOD CALCULATIONS:

**\$7,925** MINIMUM RECOMMENDED ANNUAL CONTRIBUTION TO REPLACEMENT RESERVES

\$4.18 Per unit minimum recommended monthly contribution to Replacement Reserves

\$9,469 Recommended minimum Replacement Reserve Funding Threshold (5.0 percent)

2044 First year Reserves fall to minimum recommended level (Design Year)

## COMPONENT METHOD CALCULATIONS:

**\$19,572** MINIMUM RECOMMENDED ANNUAL CONTRIBUTION TO RESERVES (IN STUDY YEAR)

\$10.32 Per unit minimum recommended monthly contribution to Replacement Reserves

\$107,705 Current Funding Objective

62.32% Funding Percentage

\$40,584 One time deposit required to fully fund Replacement Reserves

\$8,355 Annual Contribution to Replacement Reserves if Reserves were fully funded.

## PROJECT INFORMATION:

### PROPERTY MANAGED BY:

CMC  
John Halfhill  
12701 Fair Lakes Circle, Suite 400  
Fairfax, VA 22033  
703 - 631-7200

### MAJOR COMPONENTS IN ANALYSIS:

Asphalt pavement, concrete pavement, curb & gutter, multipurpose court, baseball field, tot lot, entrance features, etc.

### PROPERTY LOCATION:

Chantilly, Virginia, VA

### TYPE OF PROPERTY:

HOA  
# OF UNITS:  
158

### YEAR BUILT:

1998 - 2003

## NOTES:

We understand that the Association's accounting year runs from September 1 to August 31. The Study Year for this Analysis covers the period from September 1, 2008 to August 31, 2009  
This report complies with the National Reserve Study Standards that have been adopted by the CAI in 1998.

The community consists of 20 townhomes and 138 single family homes.

Richard J. Schuetz, AIA, Architect

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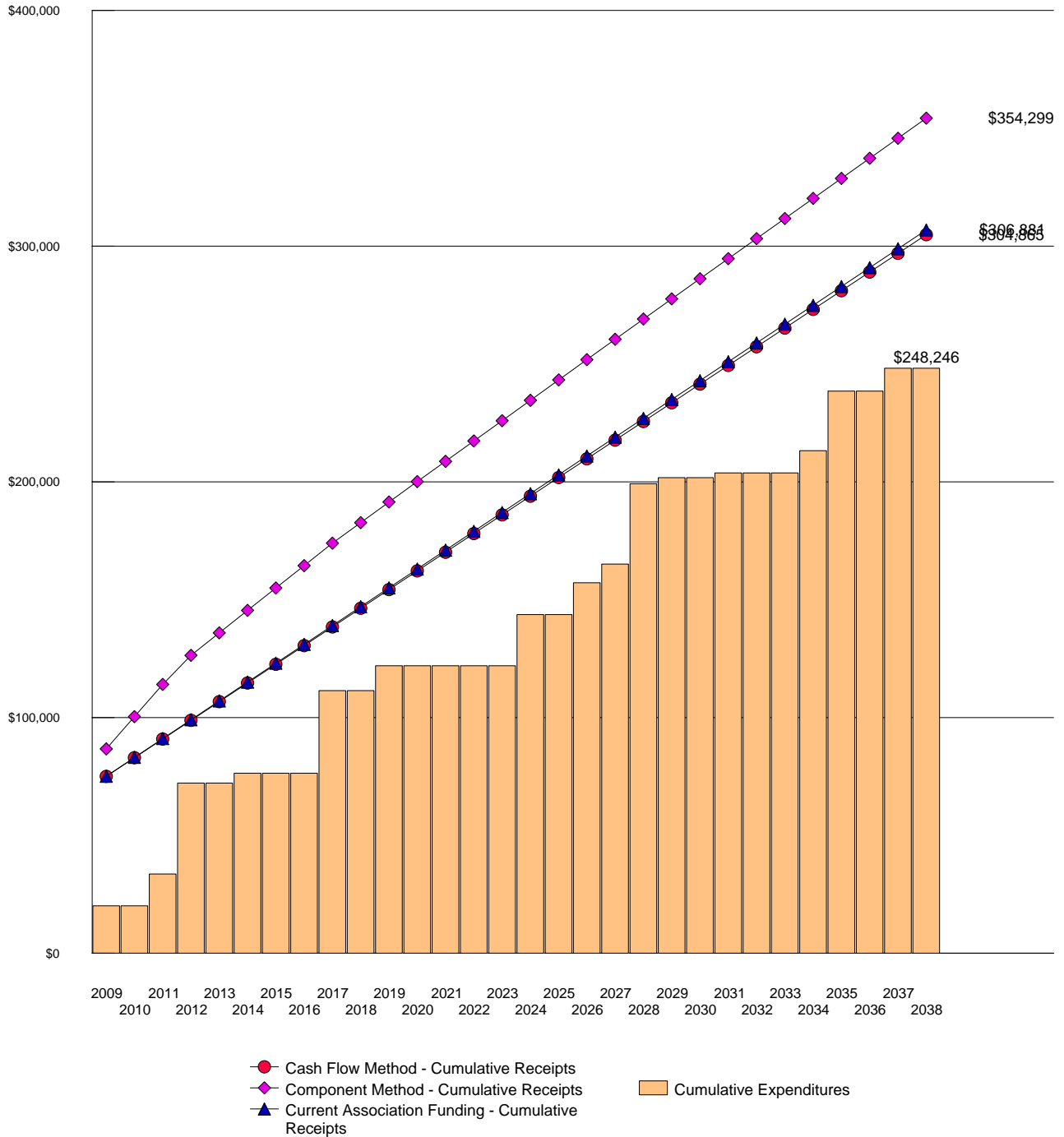
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# REPLACEMENT RESERVE ANALYSIS

WALNEY ROAD

May 2008

## Funding Methods Comparison Graph - Cumulative Receipts and Expenditures

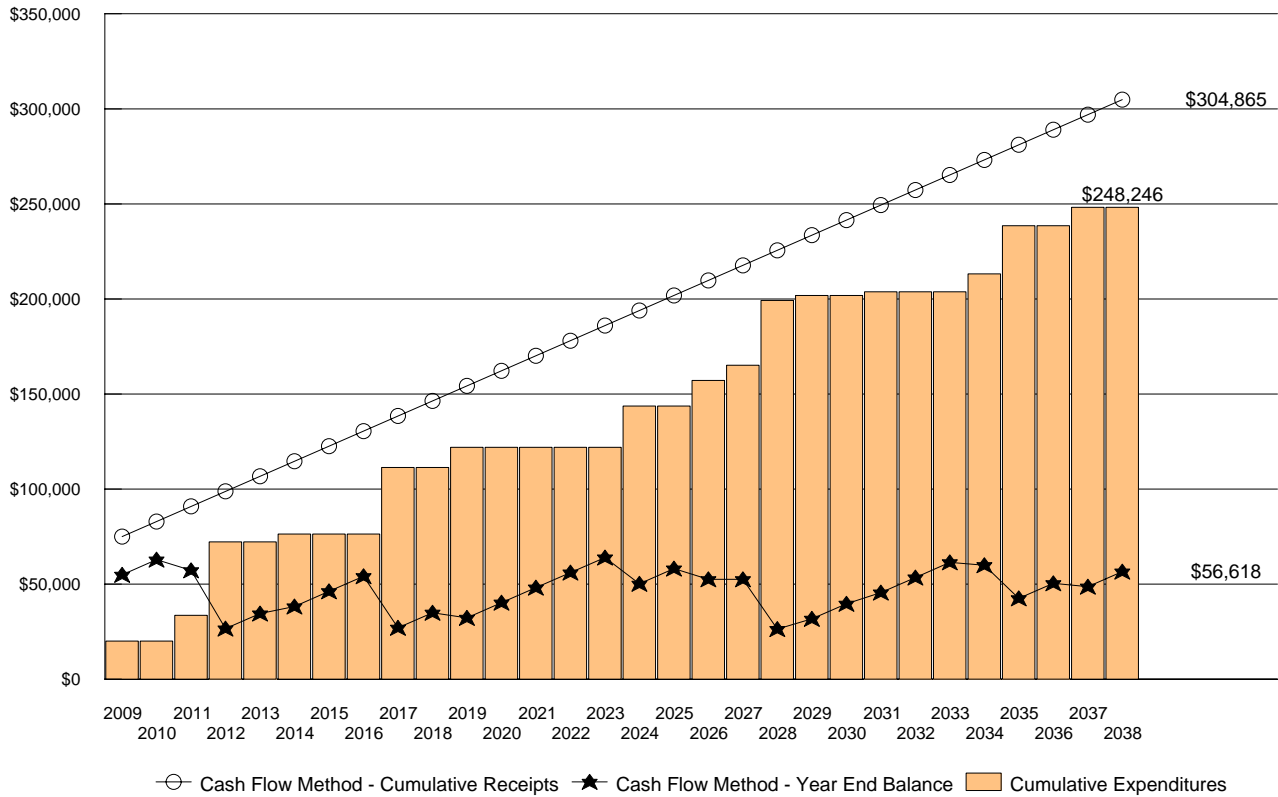


# REPLACEMENT RESERVE ANALYSIS

WALNEY ROAD

May 2008

## Cash Flow Method - Cumulative Receipts and Expenditures Graph



## Cash Flow Method Data - Years 1 through 30

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	TEN YEAR SUMMARIES
Starting balance	\$67,121										
Annual deposit	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	
Expenditures	\$20,103	\$0	\$13,500	\$38,615	\$0	\$4,171	\$0	\$0	\$35,020	\$0	Expenditures: \$111,409
Year end balance	\$54,943	\$62,868	\$57,293	\$26,602	\$34,527	\$38,281	\$46,206	\$54,130	\$27,035	\$34,960	Receipts: \$146,369
Minimum rec. funding lvl.	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	
Cumulative expenditures	\$20,103	\$20,103	\$33,603	\$72,217	\$72,217	\$76,389	\$76,389	\$76,389	\$111,409	\$111,409	
Cumulative receipts	\$75,045	\$82,970	\$90,895	\$98,820	\$106,745	\$114,669	\$122,594	\$130,519	\$138,444	\$146,369	
Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Expenditures: \$87,825 Receipts: \$81,267
Annual deposit	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	
Expenditures	\$10,571	\$0	\$0	\$0	\$0	\$21,703	\$0	\$13,500	\$7,936	\$34,115	
Year end balance	\$32,314	\$40,238	\$48,163	\$56,088	\$64,013	\$50,235	\$58,160	\$52,585	\$52,573	\$26,383	
Minimum rec. funding lvl.	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	
Cumulative expenditures	\$121,980	\$121,980	\$121,980	\$121,980	\$121,980	\$143,682	\$143,682	\$157,182	\$165,118	\$199,234	
Cumulative receipts	\$154,293	\$162,218	\$170,143	\$178,068	\$185,993	\$193,917	\$201,842	\$209,767	\$217,692	\$225,617	
Year	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	Expenditures: \$49,013 Receipts: \$81,277 FIRST TRANSITION YEAR 2044
Annual deposit	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	\$7,925	
Expenditures	\$2,571	\$0	\$2,000	\$0	\$0	\$9,421	\$25,300	\$0	\$9,720	\$0	
Year end balance	\$31,736	\$39,661	\$45,586	\$53,511	\$61,436	\$59,939	\$42,564	\$50,489	\$48,694	\$56,618	
Minimum rec. funding lvl.	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	\$9,469	
Cumulative expenditures	\$201,805	\$201,805	\$203,805	\$203,805	\$203,805	\$213,226	\$238,526	\$238,526	\$248,246	\$248,246	
Cumulative receipts	\$233,541	\$241,466	\$249,391	\$257,316	\$265,241	\$273,165	\$281,090	\$289,015	\$296,940	\$304,865	

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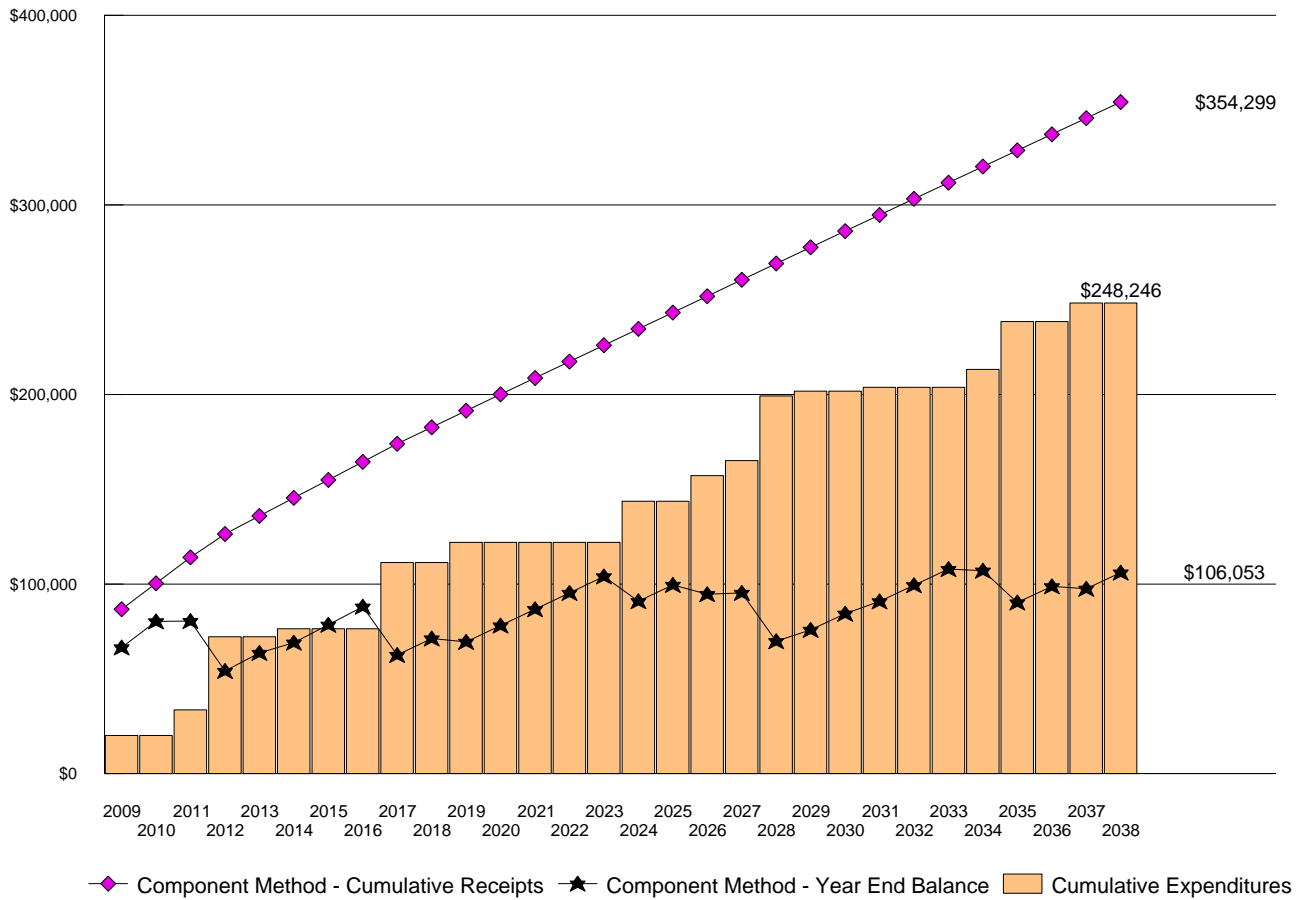
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# REPLACEMENT RESERVE ANALYSIS

WALNEY ROAD

May 2008

## Component Method - Cumulative Receipts and Expenditures Graph



## Component Method Data - Years 1 through 30

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	TEN YEAR SUMMARIES
Starting balance	\$67,121										Expenditures: \$111,409 Receipts: \$182,721
Annual deposit	\$19,572	\$13,680	\$13,680	\$12,324	\$9,543	\$9,543	\$9,503	\$9,503	\$9,503	\$8,749	
Expenditures	\$20,103	\$0	\$13,500	\$38,615	\$0	\$4,171	\$0	\$0	\$35,020	\$0	
Year end balance	\$66,590	\$80,270	\$80,450	\$54,159	\$63,702	\$69,074	\$78,577	\$88,080	\$62,563	\$71,312	Expenditures: \$87,825 Receipts: \$88,404
Cumulative Expenditures	\$20,103	\$20,103	\$33,603	\$72,217	\$72,217	\$76,389	\$76,389	\$76,389	\$111,409	\$111,409	
Cumulative Receipts	\$86,693	\$100,373	\$114,053	\$126,376	\$135,919	\$145,463	\$154,965	\$164,468	\$173,971	\$182,721	
Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Expenditures: \$49,013 Receipts: \$87,222
Annual deposit	\$8,749	\$8,626	\$8,626	\$8,626	\$8,626	\$8,626	\$8,626	\$8,626	\$8,626	\$8,626	
Expenditures	\$10,571	\$0	\$0	\$0	\$0	\$21,703	\$0	\$13,500	\$7,936	\$34,115	
Year end balance	\$69,490	\$78,116	\$86,743	\$95,369	\$103,995	\$90,918	\$99,545	\$94,671	\$95,361	\$69,872	Expenditures: \$49,013 Receipts: \$87,222
Cumulative Expenditures	\$121,980	\$121,980	\$121,980	\$121,980	\$121,980	\$143,682	\$143,682	\$157,182	\$165,118	\$199,234	
Cumulative Receipts	\$191,470	\$200,096	\$208,722	\$217,348	\$225,975	\$234,601	\$243,227	\$251,853	\$260,479	\$269,105	
Year	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	Expenditures: \$49,013 Receipts: \$87,222
Annual deposit	\$8,529	\$8,529	\$8,529	\$8,526	\$8,526	\$8,526	\$8,507	\$8,507	\$8,507	\$8,507	
Expenditures	\$2,571	\$0	\$2,000	\$0	\$0	\$9,421	\$25,300	\$0	\$9,720	\$0	
Year end balance	\$75,829	\$84,358	\$90,887	\$99,414	\$107,940	\$107,045	\$107,045	\$98,759	\$97,546	\$106,053	Expenditures: \$49,013 Receipts: \$87,222
Cumulative Expenditures	\$201,805	\$201,805	\$203,805	\$203,805	\$203,805	\$213,226	\$238,526	\$238,526	\$248,246	\$248,246	
Cumulative Receipts	\$277,634	\$286,163	\$294,692	\$303,219	\$311,745	\$320,271	\$328,778	\$337,285	\$345,792	\$354,299	

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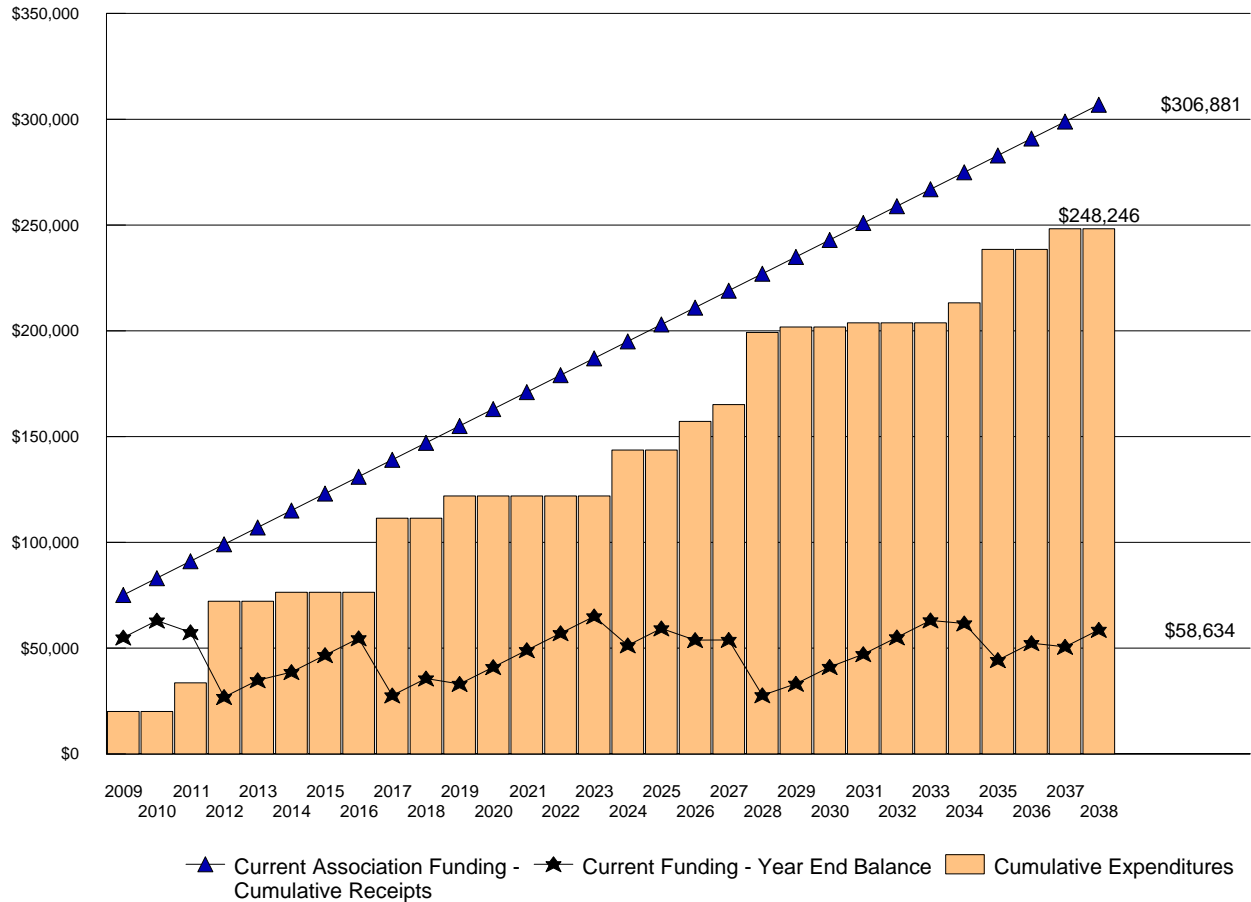
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# REPLACEMENT RESERVE ANALYSIS

WALNEY ROAD

May 2008

## Current Association Funding - Cumulative Receipts and Expenditures Graph



## Current Funding Data - Years 1 through 30

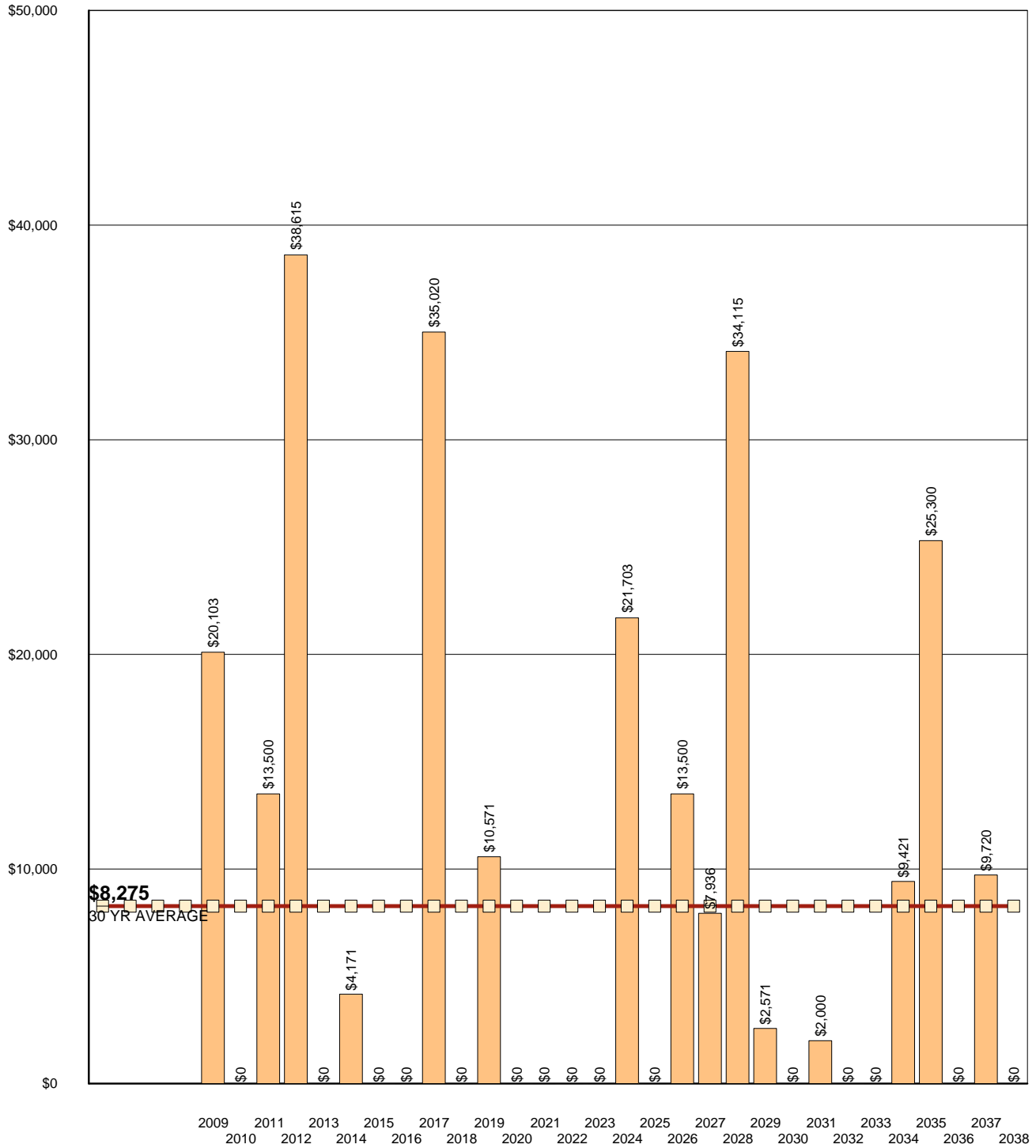
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	TEN YEAR SUMMARIES
Starting balance	\$67,121										Expenditures: \$111,409 Receipts: \$147,041
Annual deposit	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	
Expenditures	\$20,103	\$0	\$13,500	\$38,615	\$0	\$4,171	\$0	\$0	\$35,020	\$0	
Year end balance	\$55,010	\$63,002	\$57,494	\$26,871	\$34,863	\$38,684	\$46,676	\$54,668	\$27,640	\$35,632	Expenditures: \$87,825 Receipts: \$79,920
Cumulative Expenditures	\$20,103	\$20,103	\$33,603	\$72,217	\$72,217	\$76,389	\$76,389	\$76,389	\$111,409	\$111,409	
Cumulative Receipts	\$75,113	\$83,105	\$91,097	\$99,089	\$107,081	\$115,073	\$123,065	\$131,057	\$139,049	\$147,041	
Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Expenditures: \$49,013 Receipts: \$79,920
Annual deposit	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	
Expenditures	\$10,571	\$0	\$0	\$0	\$0	\$21,703	\$0	\$13,500	\$7,936	\$34,115	
Year end balance	\$33,053	\$41,045	\$49,037	\$57,029	\$65,021	\$51,310	\$59,302	\$53,794	\$53,850	\$27,727	Expenditures: \$49,013 Receipts: \$79,920
Cumulative expenditures	\$121,980	\$121,980	\$121,980	\$121,980	\$121,980	\$143,682	\$143,682	\$157,182	\$165,118	\$199,234	
Cumulative receipts	\$155,033	\$163,025	\$171,017	\$179,009	\$187,001	\$194,993	\$202,985	\$210,977	\$218,969	\$226,961	
Year	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	Expenditures: \$49,013 Receipts: \$79,920
Annual deposit	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	\$7,992	
Expenditures	\$2,571	\$0	\$2,000	\$0	\$0	\$9,421	\$25,300	\$0	\$9,720	\$0	
Year end balance	\$33,148	\$41,140	\$47,132	\$55,124	\$63,116	\$61,686	\$44,378	\$52,370	\$50,642	\$58,634	Expenditures: \$49,013 Receipts: \$79,920
Cumulative Expenditures	\$201,805	\$201,805	\$203,805	\$203,805	\$203,805	\$213,226	\$238,526	\$238,526	\$248,246	\$248,246	
Cumulative Receipts	\$234,953	\$242,945	\$250,937	\$258,929	\$266,921	\$274,913	\$282,905	\$290,897	\$298,889	\$306,881	

# REPLACEMENT RESERVE ANALYSIS

WALNEY ROAD

May 2008

Graph of Annual Replacement Expenditures



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# REPLACEMENT RESERVE INVENTORY

WALNEY ROAD

May 2008

## 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	Sidewalks - Townhouse (5%)	sf	172	\$8.50	80	3	\$1,465
2	Sidewalks - Townhouse (10%)	sf	345	\$8.50	80	19	\$2,931
3	Sidewalks - Townhouse (20%)	sf	690	\$8.50	80	35	\$5,862
4	Sidewalks - Townhouse (30%)	sf	1,034	\$8.50	80	51	\$8,792
5	Sidewalks - Townhouse (35%)	sf	1,207	\$8.50	80	67	\$10,258
6	Curb & gutter - Townhouse (5%)	ft	61	\$32.50	80	3	\$1,971
7	Curb & gutter - Townhouse (10%)	ft	121	\$32.50	80	19	\$3,942
8	Curb & gutter - Townhouse (20%)	ft	243	\$32.50	80	35	\$7,885
9	Curb & gutter - Townhouse (30%)	ft	364	\$32.50	80	51	\$11,827
10	Curb & gutter - Townhouse (35%)	ft	425	\$32.50	80	67	\$13,798
11	Asphalt pavement - Townhouse	sf	20,180	\$1.35	16	3	\$27,242
12	Asphalt pavement - Tot Lot/SWM	sf	7,200	\$1.35	20	8	\$9,720

### COMMENTS:

Items 1 to 10. We have assumed that the Association will replace 10 percent of the concrete pavement and curb & gutter, in conjunction with the asphalt pavement replacement project scheduled in 2012. Subsequent replacements are scheduled at 16 year intervals with increasing percentages to reflect the aging of the components.

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**REPLACEMENT RESERVE INVENTORY****WALNEY ROAD****May 2008****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>GENERAL SITE IMPROVEMENTS</b>							
13	Tuckpoint entrance feature	ls	1	\$1,600.00	10	5	\$1,600
14	Fencing 3-board at entrance feature	ft	496	\$16.00	15	3	\$7,936
15	Fencing stockade along Walney Rd.	ft	1,150	\$22.00	18	8	\$25,300
16	Backstop	ea	1	\$1,800.00	20	10	\$1,800
17	Infield fence	ft	120	\$17.00	20	10	\$2,040
18	Outfield fence	ft	320	\$13.00	20	10	\$4,160
19	Multipurpose court - color coat	sf	4,675	\$0.55	5	none	\$2,571
20	Multipurpose court - base	ls	4,675	\$3.75	15	none	\$17,531
21	Metal railing	ft	125	\$42.00	35	25	\$5,250
22	Tot lot equipment	ls	1	\$13,500.00	15	2	\$13,500
23	Aluminum bleachers - 3 row	ea	1	\$2,000.00	25	22	\$2,000

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

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**REPLACEMENT RESERVE INVENTORY****WALNEY ROAD****May 2008****SCHEDULE OF REPLACEMENTS - YEARS ONE TO FIFTEEN**

<b>2009</b>		<b>2010</b>		<b>2011</b>	
Multipurpose court - base	\$17,531			Tot lot equipment	\$13,500
Multipurpose court - color coat	\$2,571				
Total Scheduled Replacements	\$20,103	No Scheduled Replacements		Total Scheduled Replacements	\$13,500
<b>2012</b>		<b>2013</b>		<b>2014</b>	
Asphalt pavement - Townhouse	\$27,242			Multipurpose court - color coat	\$2,571
Fencing 3-board at entrance feat	\$7,936			Tuckpoint entrance feature	\$1,600
Curb & gutter - Townhouse (5%)	\$1,971				
Sidewalks - Townhouse (5%)	\$1,465				
Total Scheduled Replacements	\$38,615	No Scheduled Replacements		Total Scheduled Replacements	\$4,171
<b>2015</b>		<b>2016</b>		<b>2017</b>	
No Scheduled Replacements		No Scheduled Replacements		Fencing stockade along Walney	\$25,300
				Asphalt pavement - Tot Lot/SWN	\$9,720
				Total Scheduled Replacements	\$35,020
<b>2018</b>		<b>2019</b>		<b>2020</b>	
No Scheduled Replacements		Outfield fence	\$4,160	No Scheduled Replacements	
		Multipurpose court - color coat	\$2,571		
		Infield fence	\$2,040		
		Backstop	\$1,800		
		Total Scheduled Replacements	\$10,571		
<b>2021</b>		<b>2022</b>		<b>2023</b>	
No Scheduled Replacements		No Scheduled Replacements		No Scheduled Replacements	

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**REPLACEMENT RESERVE INVENTORY****WALNEY ROAD****May 2008****SCHEDULE OF REPLACEMENTS - YEARS SIXTEEN TO THIRTY**

<b>2024</b>		<b>2025</b>		<b>2026</b>	
Multipurpose court - base	\$17,531			Tot lot equipment	\$13,500
Multipurpose court - color coat	\$2,571				
Tuckpoint entrance feature	\$1,600				
<b>Total Scheduled Replacements</b>	<b>\$21,703</b>	<b>No Scheduled Replacements</b>		<b>Total Scheduled Replacements</b>	<b>\$13,500</b>
<b>2027</b>		<b>2028</b>		<b>2029</b>	
Fencing 3-board at entrance feat	\$7,936	Asphalt pavement - Townhouse	\$27,242	Multipurpose court - color coat	\$2,571
		Curb & gutter - Townhouse (10%)	\$3,942		
		Sidewalks - Townhouse (10%)	\$2,931		
<b>Total Scheduled Replacements</b>	<b>\$7,936</b>	<b>Total Scheduled Replacements</b>	<b>\$34,115</b>	<b>Total Scheduled Replacements</b>	<b>\$2,571</b>
<b>2030</b>		<b>2031</b>		<b>2032</b>	
No Scheduled Replacements		Aluminum bleachers - 3 row	\$2,000	No Scheduled Replacements	
		<b>Total Scheduled Replacements</b>	<b>\$2,000</b>		
<b>2033</b>		<b>2034</b>		<b>2035</b>	
No Scheduled Replacements		Metal railing	\$5,250	Fencing stockade along Walney	\$25,300
		Multipurpose court - color coat	\$2,571		
		Tuckpoint entrance feature	\$1,600		
<b>Total Scheduled Replacements</b>		<b>Total Scheduled Replacements</b>	<b>\$9,421</b>	<b>Total Scheduled Replacements</b>	<b>\$25,300</b>
<b>2036</b>		<b>2037</b>		<b>2038</b>	
No Scheduled Replacements		Asphalt pavement - Tot Lot/SWM	\$9,720	No Scheduled Replacements	
		<b>Total Scheduled Replacements</b>	<b>\$9,720</b>		

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# LIST OF RECOMMENDED REPAIRS

## WALNEY ROAD

Chantilly, Virginia  
May 23, 2008

### REPAIR CATEGORY AND REPAIR DESCRIPTION

### PHOTOGRAPHS ESTIMATED REPAIR COST

#### SITE IMPROVEMENTS:

#### 1. Asphalt maintenance & repair program

\$3,000 - 5,000

- Asphalt pavement maintenance. Continue the comprehensive maintenance program for the asphalt pavement. Funding for the initial year is included in the Estimated Repair Cost shown above. The maintenance program in the initial year of the Study should include the tasks outlined below. See Supplemental Photographs #13, 14, 15.



- " Clean all asphalt pavement. Clean areas that have been damaged by oil/gasoline and if cleaning is ineffective, the damaged areas should be cut out and replaced.
- " Crack seal all cracks and small defects in the asphalt pavement.
- " After completion of the maintenance and repairs discussed above, the asphalt pavement should be seal coated and the parking places striped.

- Asphalt pavement repairs. Correct defects in asphalt pavement. The defects to be corrected include but are not limited to the defects outlined below. See Supplemental Photographs #18, 20, 34.



- " Properly set utility access points in the asphalt pavement so they do not impound water.
- " Areas of asphalt pavement that impound water should be cut out and replaced with asphalt pavement that is properly graded. Note that this repair may require the replacement of adjacent segments of concrete curb & gutter.

# LIST OF RECOMMENDED REPAIRS

- " Cracks and defects that are too large for effective crack sealing (listed in the maintenance program discussed above), should be cut out and replaced.
- " All areas of displaced asphalt should be evaluated and where the base materials or bearing soils have been damaged, the defective materials should be cut out and replaced.

## 2. Concrete components

- Concrete sidewalks and curb & gutter. Monitor minor defects in the concrete sidewalks. If defects advance to the point where they are safety defects, replace as necessary. Otherwise, defective components should be replaced in conjunction with the asphalt pavement replacement project scheduled in 2012. See Supplemental Photographs #12, 15.

Administrative



## 3. Grading, drainage, and landscape.

- Establish proper ground cover on property owned by the Association. See Supplemental Photographs #7, 17.
- Grade at the entrance feature to prevent water being impounded against the stone structures. See Supplemental Photographs #38.
- Grade between sidewalks and curb & gutter to prevent ponding water and the accelerated deterioration of the concrete components and adjacent asphalt pavement. See Supplemental Photographs #17.

\$2,000 - 3,000



# LIST OF RECOMMENDED REPAIRS

## 4. Tot lot

\$2,000 - 3,000

- **The tot lot including the, tot lot borders, tot lot ground cover, and tot lot equipment should be evaluated by a playground safety specialist for compliance with the Consumer Product Safety Commission, Handbook for Public Playground Safety. Defects identified by the playground safety specialist should be resolved to avoid injury to children and potential liability to the Association. The defects include but are not limited to those discussed below. See Supplemental Photographs #25, 26, 27, 29, 30, 31.**



- " Deteriorated wood tot lot borders are a trip hazard.
- " Protruding reinforcing bar used to attach the tot lot borders is a trip hazard.
- " Damaged, deteriorated, and improper fasteners used to assemble the tot lot equipment and the tot lot equipment borders should be replaced.
- " The tot lot does not have proper resilient ground cover.



- " Deteriorated wood components are a potential safety hazard.



# LIST OF RECOMMENDED REPAIRS

## 5. MP Court

From Reserves

- **Replace the base and top coat of the MP court which is at the end of its economic life. See Supplemental Photographs #9, 10, 11.**



## 6. Miscellaneous

\$3,000 - 5,000

- **Properly install end caps on the bleacher benches to prevent potential injury from the exposed sharp edge. See Supplemental Photographs #4.**
- Repair minor damage to the fences at the ball field. See Supplemental Photographs #5.
- Monitor cracking of the precast components and correct minor defects in the stone work at entrance feature and piers, in advance of a major tuckpointing project scheduled in 2014. See Supplemental Photographs #35, 36.
- Restore the paint finish on the three board fence at the entrance feature and along Walney Road. See Supplemental Photographs #37, 39.



# LIST OF RECOMMENDED REPAIRS

- Correct defects in the stockade fence installed along Walney Road. Clean fence of organic growth and install an appropriate coating/waterproofing to insure the fence will achieve its normal economic life. See Supplemental Photographs #44, 45, 46.
- Straighten street signs throughout the community. See Supplemental Photographs #21.



## TOTAL COST OF RECOMMENDED REPAIRS

\$10,000 - \$16,000

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**.

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Photo #1. General view of the entrance feature.



Photo #2. Backstop. Note construction in progress on the adjacent property.



Photo #3. Bleachers at ball field.



Photo #4. Missing end cap exposes a sharp edge, bleachers at ball field.



Photo #5. Minor damage to the outfield fence at the ball field.



Photo #6. Bench adjacent to the MP court.



Photo #7. Common area does not have proper ground cover.



Photo #8. Storm water structure adjacent to the ball field.



Photo #9. General view of the MP court.



Photo #10. Failed color coat and large open cracks in the MP court.



Photo #11. Failed color coat and large open cracks in the MP court.



Photo #12. Typical minor displacement of concrete sidewalk, 4559 Penny Tree Place.



Photo #13. Minor cracking the asphalt pavement that should be crack sealed, Penny Tree Place.



Photo #14. Asphalt pavement damaged by oil/gasoline, Penny Tree Place.



Photo #15. Typical minor defect in the concrete sidewalk, 4563 Penny Tree Place.



Photo #16. Metal railing between Eagle Chase Circle and Penny Tree Place.



Photo #17. Area between sidewalk and curb & gutter without proper ground cover, Penny Tree Place.



Photo #18. Cracking of asphalt pavement, Penny Tree Place.



Photo #19. General view of intersection of Penny Tree Place and Eagle Chase Circle.



Photo #20. Deteriorated asphalt pavement and depressed curb & gutter segment at the intersection of Penny Tree Place and Eagle Chase Circle.



Photo #21. Signage at the intersection of Penny Tree Place and Eagle Chase Circle.



Photo #22. Metal bollards at the Tot Lot / SWM access road.



Photo #23. Tot Lot / SWM access road located off of Gaston Street.



Photo #24. Tot Lot / SWM access road located off of Gaston Street.



Photo #25. Gaston Tot Lot. Note lack of proper ground cover at the swing.



Photo #26. Rebar used to install the border at the Gaston Tot Lot is a potential trip hazard.



Photo #27. Deteriorated tot lot wood border, Gaston Tot Lot.



Photo #28. Bench and trash receptacle at Gaston Tot Lot.



Photo #29. Deteriorated wood post, Gaston Tot Lot.



Photo #30. Deteriorated fastener, Gaston Tot Lot.



Photo #31. Severe checking of support post, Gaston Tot Lot.



Photo #32. Inadequate resilient ground cover, Gaston Tot Lot.



Photo #33. Signage at the SWM (Storm Water Management) facility off of Gaston Street.



Photo #34. Deteriorated asphalt pavement, Tot Lot / SWM access road off of Gaston Street.



Photo #35. Cracking of precast components in the entrance feature, Eagle Chase Road and Walney Road.



Photo #36. Minor defects in the entrance feature.



Photo #37. General view of the three rail wood fence that is installed along Eagle Chase Road and Walney Road.



Photo #38. Grading at the entrance feature impounds water against the entrance feature.



Photo #39. Deteriorated paint on the three rail wood fence at the entrance feature.



Photo #40. General view of the entrance feature.



Photo #41. Ground mount light fixture at the entrance feature.



Photo #42. End of the three rail fence into a stone pier, Walney Road.



Photo #43. Common electrical service installed at the entrance feature.



Photo #44. Stockade fencing installed along Walney Road. Note organic growth on the fence.



Photo #45. Defect in the stockade fence installed along Walney Road. Note organic growth.



Photo #46. Defect in the stockade fence installed along Walney Road.



Photo #47. General view of the stockade fence installed along Walney Road.



Photo #48. Southeast end of the common stockade fence along Walney Road and the start of homeowner fencing (with scalloped top).

**REPLACEMENT RESERVE ALLOCATION****WALNEY ROAD****May 2008****CASH FLOW METHOD - THREE YEAR ALLOCATION OF REPLACEMENT RESERVES**

Item #	Component	Estimated Replacement Cost	Allocation of Reserves on Deposit	2009			2010			2011		
				Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance
NORMAL COMPONENTS												
CONCRETE COMPONENTS												
1	Sidewalks - Townhouse (5%)	1,465	1,272	193		1,465		1,465			1,465	
2	Sidewalks - Townhouse (10%)	2,931										
3	Sidewalks - Townhouse (20%)	5,862										
4	Sidewalks - Townhouse (30%)	8,792										
5	Sidewalks - Townhouse (35%)	10,258										
6	Curb & gutter - Townhouse (5%)	1,971	1,711	260		1,971		1,971			1,971	
7	Curb & gutter - Townhouse (10%)	3,942										
8	Curb & gutter - Townhouse (20%)	7,885										
9	Curb & gutter - Townhouse (30%)	11,827										
10	Curb & gutter - Townhouse (35%)	13,798										
11	Asphalt pavement - Townhouse	27,242	23,647	3,596		27,242		27,242			27,242	
12	Asphalt pavement - Tot Lot/SWN	9,720					1,827	1,827	2,200		4,026	
GENERAL SITE IMPROVEME												
13	Tuckpoint entrance feature	1,600		1,085		1,085	515	1,600			1,600	
14	Fencing 3-board at entrance featu	7,936	6,889	1,047		7,936		7,936			7,936	
15	Fencing stockade along Walney 1	25,300					4,755	4,755	5,725		10,480	
16	Backstop	1,800										
17	Infield fence	2,040										
18	Outfield fence	4,160										
19	Multipurpose court - color coat	2,571	2,571	1,743	(2,571)	1,743	828	2,571			2,571	
20	Multipurpose court - base	17,531	17,531		(17,531)							
21	Metal railing	5,250										
22	Tot lot equipment	13,500	13,500			13,500		13,500		(13,500)		
23	Aluminum bleachers - 3 row	2,000										

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**REPLACEMENT RESERVE ALLOCATION****WALNEY ROAD****May 2008****COMPONENT METHOD - THREE YEAR ALLOCATION OF REPLACEMENT RESERVES**

Item #	Component	Estimated Replacement Cost	Allocation of Reserves on Deposit	2009			2010			2011		
				Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance
NORMAL COMPONENTS												
CONCRETE COMPONENTS												
1	Sidewalks - Townhouse (5%)	1,465	868	149		1,017	149		1,166	149		1,316
2	Sidewalks - Townhouse (10%)	2,931	1,370	78		1,448	78		1,526	78		1,604
3	Sidewalks - Townhouse (20%)	5,862	2,009	107		2,116	107		2,223	107		2,330
4	Sidewalks - Townhouse (30%)	8,792	1,918	132		2,050	132		2,182	132		2,314
5	Sidewalks - Townhouse (35%)	10,258	959	137		1,096	137		1,232	137		1,369
6	Curb & gutter - Townhouse (5%)	1,971	1,167	201		1,368	201		1,569	201		1,770
7	Curb & gutter - Townhouse (10%)	3,942	1,843	105		1,948	105		2,053	105		2,158
8	Curb & gutter - Townhouse (20%)	7,885	2,702	144		2,846	144		2,990	144		3,134
9	Curb & gutter - Townhouse (30%)	11,827	2,580	178		2,757	178		2,935	178		3,113
10	Curb & gutter - Townhouse (35%)	13,798	1,290	184		1,474	184		1,658	184		1,842
11	Asphalt pavement - Townhouse	27,242	12,733	3,627		16,360	3,627		19,988	3,627		23,615
12	Asphalt pavement - Tot Lot/SWN	9,720	3,332	710		4,041	710		4,751	710		5,461
GENERAL SITE IMPROVEME												
13	Tuckpoint entrance feature	1,600	399	200		599	200		799	200		999
14	Fencing 3-board at entrance featu	7,936	3,627	1,077		4,704	1,077		5,781	1,077		6,859
15	Fencing stockade along Walney 1	25,300	7,883	1,935		9,819	1,935		11,754	1,935		13,689
16	Backstop	1,800	505	118		623	118		740	118		858
17	Infield fence	2,040	572	133		706	133		839	133		972
18	Outfield fence	4,160	1,167	272		1,439	272		1,711	272		1,983
19	Multipurpose court - color coat	2,571	1,602	969	(2,571)		514		514			1,029
20	Multipurpose court - base	17,531	10,925	6,606	(17,531)		1,169		1,169			2,338
21	Metal railing	5,250	841	170		1,011	170		1,180	170		1,350
22	Tot lot equipment	13,500	6,730	2,257		8,987	2,257		11,243	2,257	(13,500)	
23	Aluminum bleachers - 3 row	2,000	100	83		182	83		265	83		348

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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

## Imajica

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**From:** Rick Schuetz [rick@great-architecture.com]  
**Sent:** Friday, August 01, 2003 8:01 AM  
**To:** bennett@rstudy.com  
**Subject:** Fw: Replacement Reserve Study for Walney Road HOA

----- Original Message -----

**From:** [kurt.v.meyer@spamex.com](mailto:kurt.v.meyer@spamex.com)  
**To:** [Richard J Schuetz](#)  
**Cc:** [Jan Ward](#) ; ['Mark Ulander \(Home\)'](#) ; ['Eva Tedeschi \(Home\)'](#) ; ['Eva Tedeschi \(Work\)'](#) ; ['Jennifer Miner \(Work\)'](#) ; ['Kim Cochran \(Home\)'](#) ; ['Kurt Meyer \(Work\)'](#)  
**Sent:** Friday, August 01, 2003 3:59 AM  
**Subject:** Replacement Reserve Study for Walney Road HOA

Mr. Schuetz,

The Board of Directors for the Walney Road HOA has reviewed the replacement reserve study that you prepared for the HOA and Community Management Corporation. In general, we were quite pleased with the professional manner in which the information was presented. Following are questions, issues, and comments resulting after review of the replacement reserve study by the Board of Directors of Walney Road HOA:

01) You did not include the privacy fence behind some of the houses that parallel Walney Road (behind the wood fencing at entrance feature). Maintenance, repair, and replacement of the privacy fence is the responsibility of Walney Road HOA, not the individual homeowners.

02) We're confused that you stated on page 4 of the Replacement Reserve Report that the current contributions going into the replacement reserve was sufficient even though the current annual funding level does not match either the Cash Flow Method or the Component Method of funding.

03) You included the storm water management system, the domestic water supply mains, and the sanitary sewer mains as part of the replacement reserve inventory. Members of the board disagree. We feel that Fairfax County is responsible for these items.

04) You included the street lights as part of the replacement reserve inventory. Members of the board believe that VDOT is responsible for the street lights.