

Replacement Reserve Study
DUNN LORING VILLAGE

RSTUDY+
REPLACEMENT RESERVE STUDY

DUNN LORING VILLAGE

Vienna, Virginia

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June 30, 2017

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Craig Courtney:

Pursuant to your acceptance of our Proposal, we have completed our evaluation of DUNN LORING VILLAGE in Vienna, 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 DUNN LORING VILLAGE, 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 me at (703) 791-6643.

Sincerely,

Wm Bruce Bennett

Wm. Bruce Bennett
Senior Reserve Analyst

Replacement Reserve Report

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REPLACEMENT RESERVE REPORT

DUNN LORING VILLAGE

Vienna, Virginia

June 30, 2017



A. GENERAL INFORMATION

Intent. The intent of this RSTUDY+ Replacement Reserve Study is to provide DUNN LORING VILLAGE (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 fund 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.

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Scope. DUNN LORING VILLAGE is a residential community of townhomes in Vienna, Virginia. The Request for Proposal submitted by the Association states that the community was constructed in 1978 and consists of 229 residential units and associated improvements. 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 the responsibility of the Association were not evaluated and were not included in the *Replacement Reserve Inventory* or *Replacement Reserve Analysis*.

Identification of commonly owned components. 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.
- Aerial photographs.

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, funding from Replacement Reserves and funding from other sources as outlined below.

Component replacements scheduled for funding from Replacement Reserves. The *Replacement Reserve Analysis* calculates recommended funding to address the periodic replacement of the 45 components 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 funding recommendations.

The components in the *Replacement Reserve Inventory* are the asphalt pavement, concrete pavement, concrete stairs, concrete curb & gutter, asphalt trails, streetlights, entrance feature, tot lots, tennis courts, multipurpose courts, fence, etc. **The components included in the *Replacement Reserve Inventory* have an estimated one-time replacement cost of \$923,849.**

Component replacements scheduled for 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.

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Site evaluation. We conducted our site evaluation in March and April 2017. 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.

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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 2018. The *Replacement Reserve Analysis* evaluates funding in a 30-year period extending forward from January 1, 2018. This 30-year period is called the "Study Period."

Current Funding. In the Request for Proposal, the Association reports Replacement Reserves on Deposit of \$501,833 as of January 31, 2017, and current annual deposits to Replacement Reserves totaling \$78,000. We have assumed that there will be no replacements funded from Replacement Reserves in the remainder of calendar year 2017 and that the Association will have \$573,333 on January 1, 2018, the first day of the Study Year.

Projected Expenditures. We project that in the first five years of the study, from the Study Year, 2018, through the end of 2022, the Association has a cash requirement of between \$733,270 and \$740,270. This is based upon \$726,270 of expenditures for replacements listed in the *Replacement Reserve Inventory* and \$7,000 to \$14,000 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 \$7,000 to \$14,000 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 \$60,948.**

List of Recommended Repairs - timing of repairs. The enclosed *List of Recommended Repairs* itemizes \$7,000 to \$14,000 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

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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.

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.

\$78,000 **Current Association Funding.** The Association reports that they are currently contributing \$78,000 per year to Replacement Reserves (\$28.38 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 \$7,000 to \$14,000 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 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 2018, the Study Year, are discussed below:

\$56,155 **Cash Flow Method** - Minimum Recommended Funding of Replacement Reserves in the Study Year (\$20.44 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 \$46,192 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 \$7,000 to \$14,000 of repairs, maintenance, and/or minor replacements outlined in the *List of*

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Recommended Repairs. A more detailed explanation of the Cash Flow Method is contained in the *Appendix*.

\$153,546 **Component Method** - Recommended Funding of Replacement Reserves in the Study Year (\$55.88 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 \$744,512 on deposit (Current Funding Objective), but the Association reports to having Replacement Reserves totaling \$573,333 on deposit, approximately 77 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 \$7,000 to \$14,000 of repairs, maintenance, and/or minor replacements outlined in the *List of Recommended Repairs*. A more detailed explanation of the Component 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 Recommend Repairs* in the Study Year, and establish the necessary annual funding for the normal maintenance and repairs needed throughout the community.

The Association is facing the need to make multiple large and expensive expenditures to properly manage the common elements of the community. The Association reports that they have accumulated the financial resources to accomplish many of these projects...WELL DONE. It is now time for a transition from accumulation to construction administration.

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C. SITE EVALUATION

General comments. DUNN LORING VILLAGE is facing several large and expensive replacement, repair, and maintenance projects. The major replacement projects facing the Association in the first five years of the Study Period, from the Study Year, 2018, through the end of 2022, include:

- Asphalt pavement - replace - roads and parking areas throughout the community.
- Asphalt pavement interim cycle - maintenance and repair.
- Partial replacements of concrete pavement and concrete curb & gutter.
- Asphalt trail replace & restore.
- Tennis and multipurpose court.
- Site grading study and corrective actions
- Site lighting study and (partial replacement)
- Tot lot surfacing.
- Mailbox replacements.



These projects are scheduled in the *Replacement Reserve Inventory* and have an estimated cost of \$726,270 in the first five years of the Study Period.

The *List of Recommended Repairs* outlines \$7,000 to \$14,000 of repairs, maintenance, and miscellaneous small replacements we observed throughout the community, which need correction now. Most of this amount is associated with the correction of defects in the electrical services that power the site lighting system and defects at the tot lots.



Safety defects. Several of the defects in the *List of Recommend 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*.

Site plans and drawings. No site plans, drawings, or other documents were made available for our review in conjunction with the preparation of this Replacement Reserve Study. The Association is responsible for the maintenance, repair, and replacement of hundreds of thousands of dollars of components. Attempting to accomplish these tasks without comprehensive site plans, drawings and documents places an unnecessary and expensive additional burden on the Association.

We recommend the Association acquire comprehensive site plans and drawings, detailing the construction of all common elements of the community. These documents should be scanned into an electronic format and posted to an Association web site, where they will be an excellent

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resource for the residents, Board of Directors, and contractors working for the Association, in the coming years.

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.

Asphalt - Heavy Load (HL) and Light Load (LL). The *Replacement Reserve Inventory* identifies two different asphalt installations. The roads and parking areas are exposed to the heavy loads caused by cars and trucks. We refer to these asphalt installations as “HL Asphalt” or just “Asphalt Pavement.” The trails should never see a load greater than a bicycle. We refer to these asphalt installations as “LL Asphalt” or “Asphalt trails.” The HL Asphalt and LL Asphalt installations use the same physical materials, but the economic life, failure modes, maintenance requirements, and replacement methodologies are very different. Both pavement types are discussed below.

HL Asphalt - Asphalt pavement - general. The *Replacement Reserve Inventory* identifies approximately 160,146 square feet of roads and parking areas throughout the community 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 generally at or beyond the end of its normal economic life. Defects in the asphalt pavement are allowing water to penetrate through the pavement, damaging the ability of the base materials and bearing soils beneath the pavement installation to properly support the loads placed on the pavement by cars and trucks.



Pavement defects include open cracks, holes and alligating. Depressed pavement and areas with ponding water likely indicate damage to the base materials and bearing soils beneath the pavement.

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HL Asphalt - Asphalt pavement - replace. The costs shown in the *Replacement Reserve Inventory* assume the Association will conduct an Asphalt pavement - replace project by overlaying with 2 inches of new asphalt and that prior to the installation, the existing asphalt pavement will be milled to insure the new layer can be properly graded to move all water to the stormwater system.

Asphalt pavement - replace is also assumed to include the evaluation of existing pavement, base materials, and bearing soils for damage that could impact the economic life of the new asphalt pavement. Areas of asphalt pavement with minor defects limited to the asphalt may be repairable with one of the fabric reinforcing sheets in use today, to prevent defects from printing through to the new asphalt pavement.



Areas of asphalt pavement with more serious defects or where base materials and/or bearing soils beneath the pavement are damaged, will need to be removed and replaced with materials capable of properly supporting the new pavement. If the defects are not corrected before the installation of the new asphalt pavement, the new pavement frequently begins failing almost immediately and will generally be at complete failure in three to five years. The replacement cost shown in the *Replacement Reserve Inventory* assumes a normal replacement project with defects needing to be addressed at five to 10 percent of the total area.

In the Washington metro area, a properly installed 2-inch asphalt overlay, after appropriate repairs, should have an economic life of 14 to 18 years. In the *Replacement Reserve Inventory*, we have assumed that appropriate repairs will be made and that the new asphalt pavement will be properly installed enabling it to have an economic life of 16 years. The remaining economic life of the pavement should be adjusted in the coming years when the *Replacement Reserve Inventory* is updated, to reflect the actual condition of the asphalt pavement as it ages. This evaluation should be conducted every three to five years.



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HL Asphalt - Asphalt Replacement - associated work - concrete curb & gutter. Defective segments of concrete curb & gutter adjacent to the asphalt pavement should be replaced prior to or in conjunction with Asphalt Replacement. This is of particular concern where the existing curb & gutter segments would prevent proper grading of the new pavement to move all water to the stormwater system or where defects are allowing water penetration to the base materials and bearing soils beneath the asphalt and concrete components.



HL Asphalt - Asphalt Replacement - associated work - utilities. Utility installations under and in the general vicinity of the asphalt pavement scheduled for replacement should be evaluated. Pending or near future projects should be accomplished prior to asphalt replacement and when this is not possible, the installation of conduit and/or pipe under the pavement to allow for future installations should be evaluated.

LL Asphalt trails - general. The *Replacement Reserve Inventory* identifies approximately 24,240 square feet of asphalt trails throughout the community that is the responsibility of the Association. No information about the dates of installation or the specifications that were used to install the trails was provided for our review. The asphalt trails vary greatly in age and condition.



LL Asphalt trail - replace. The costs shown in the *Replacement Reserve Inventory* assume the Association will conduct a Trail Replacement Project (Trail Replacement) at 20 percent of the trails every four years. Trails do not have to support heavy loads. Water penetration into the base materials and bearing soils causes rapid and accelerated deterioration when it is combined with the heavy loads created by cars and trucks. Because the trails are not exposed to the heavy loads, water penetration is not a major concern in trails. Below is a list of the asphalt trail defects assumed to require corrective actions:

- Safety. Defects in the trails that are trip hazards or that impounding water, silt & debris, creating a trip hazard.

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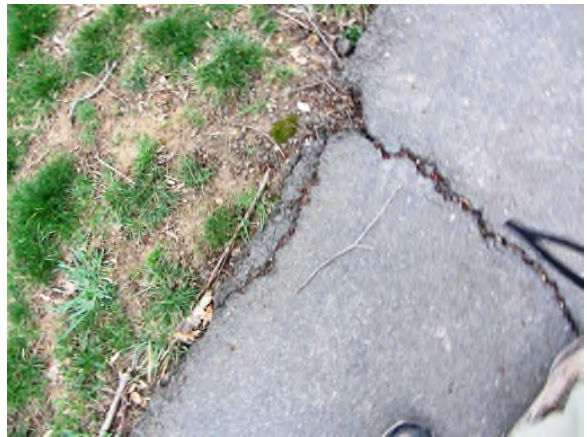
- Diminished width. Raveling edges or other defects can significantly reduced trail width.
- Adjacent defects. Cost-effective resolve of adjacent defects such as grading problems, trees that cannot be root pruned, culvert installations, etc., can require an expanded scope of work in addition to modifications or relocation of the asphalt trail.

Trail Replacement is a general term intended to identify a range of corrective actions available to address defects in asphalt trails. Typical techniques are listed below. Cost effectiveness usually identifies the appropriate corrective action.

- Removal and replacement - this is done either in the same location or in conjunction with trail relocation.
- Overlayment - installation of 1.5 to 2 inches of new asphalt generally requires modifications to the grading immediately adjacent to the trail.
- Milling (grinding) - milling is an option as long as it does not reduce pavement thickness to less than 1 inch. After milling, crack sealing and coating may be required to resolve residual cosmetic issues.

Trail Replacement is assumed to include the correction of defects adjacent to the trails that adversely impact the economic life of the trail such as those listed below.

- Tree roots. Replacement of trails damaged by tree roots will have a very short economic life the roots are pruned. Professional arborists use a variety of techniques for root pruning including vibratory ripping and trenching. Root pruning can cut utility lines and damage landscape features not located on common property. A team, headed by a Professional Engineer engaged to administer the project and including an arborist and legal counsel may be needed.



- Defective grading. Defective grading adjacent to the pavement can impound water, silt, and debris, creating a trip hazard. Long term, even without the load of vehicles, water ponded on the pavement will cause excessive edge raveling, requiring replacement. Corrective actions may require the installation of culverts.

LL Asphalt trail - restore. Also included in the *Replacement Reserve Inventory* is an Asphalt trail - restore project at the 80 percent of the trail not included in the trail replacement. Asphalt trail - restore is also scheduled every four years and assumes that the asphalt trails will be crack sealed and coated. Crack sealing and coating of asphalt trails is not effective at extending the economic life of trails, but it does have a tremendous cosmetic impact, thereby allowing the pavement to be kept in service for a much longer period. The ability to "correct defects" rather than "replace entire

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sections" results in a significantly lower "per square foot per year cost." Because the crack sealing is being done primarily for cosmetic reasons, we have assumed that it will only be done every four years, immediately prior to and in conjunction with the installation of the coating on the trails. Care should be taken to insure the use of compatible materials both chemically and visually.

Concrete components. The *Replacement Reserve Inventory* identifies approximately 25,830 square feet of concrete pavement (sidewalks, stairs, drainage swales, etc.) and 9,376 feet of concrete curb & gutter throughout the community that is the responsibility of the Association. There are defects in these components including components that are deteriorated, damaged, and displaced. Some of these defects are trip hazards and we recommend that the defective components be replaced as soon as possible to protect the residents from potential injury and the Association from potential liability for those injuries. Multiple segments of curb & gutter will need to be replaced prior to, or in conjunction with, the asphalt replacement project to insure that the new asphalt pavement can be properly graded to direct water to the stormwater system.



We have assumed that 4 percent of the concrete components will be replaced in conjunction with the asphalt pavement replacement project scheduled in 2018. Subsequent cycles of concrete component replacements are scheduled at 4 year intervals in the *Replacement Reserve Inventory*, to coincide with future asphalt replacement and interim cycle projects.

Tennis courts and multipurpose court. The courts have defects that are potential trip hazards and we have included them in the Replacement Reserve Inventory for replacement in 2018. We observed that repairs have been attempted to the tennis court surface. These types of repairs are generally not cost effective.



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Tot lot. The *List of Recommended Repairs* outlines several defects we observed at the tot lot and recommends a comprehensive evaluation by a playground safety specialist. This evaluation should be conducted as soon as possible. The defects we have identified and those identified by the playground safety specialist should be corrected as soon as possible to protect those using the tot lot from potential injury and the Association from potential liability for those injuries.



Site grading. We observed a large number of site grading problems throughout the community and multiple locations where corrective actions have been attempted but have failed. Because of the scope of the problem, we have included a line item in the Replacement Reserve Inventory for a site grading study. This study should be conducted by a Licenced Professional Engineer or Landscape Architect with experience in resolving difficult site grading problems.



We have estimated that the corrective actions identified by this study will cost \$400 per unit but we will modify the study (at no cost to the Association) to reflect the final findings of the study.

Site lighting. An extensive site lighting system is installed throughout the community. The components of the system vary in age and condition. As with the site grading discussed above, we have included funding in the Replacement Reserve Inventory for a comprehensive evaluation of the system. This evaluation should be conducted by a licensed Professional Engineer or Registered Architect. The scope of the study is outlined in the *List of Recommended Repairs*.



In the Replacement Reserve Inventory, we have assumed that the varying ages and condition of the equipment will allow for phased replacement but will modify the study (at no cost to the Association) to reflect the final findings of the study.

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Mailboxes. The pedestal mounted mailboxes installed throughout the community are generally at the end of their economic life. We have assumed the Association will make a comprehensive replacement with one of the synthetic mailboxes that will maintain an attractive appearance well into the future.



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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 in March and April 2017. 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. We confirmed the scale of the aerial photographs using field measurements.

Partial and Normal Funding. The concrete pavement and concrete curb & gutter has been included in the *Replacement Reserve Inventory* at less than 100 percent of full replacement value. This is done on components that will never be replaced in their entirety, but which will require periodic replacements over time. We have assumed that 4 percent of the concrete components will be replaced every 4 years with the initial replacement scheduled in 2018, the Study Year.



The percentage of the components scheduled for replacement should be adjusted in future years based on historical data and experience. All other components are included in the *Replacement Reserve Inventory* at their full estimated replacement cost.

Estimated Life Left. The values in the "Estimated Life Left in Years" column in the *Replacement Reserve Inventory* has 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:

- Brick entrance feature. Periodic tuck pointing will be necessary and we have assumed that because of the small size and cost of the project, that it will not be funded from Reserves..



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- Stormwater management system. An extensive stormwater 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, and other structures. We have assumed that any needed repairs/replacements of the components of this system will not be funded from Replacement Reserves.



- Domestic water supply mains and sanitary sewers. A network of domestic water mains and sanitary sewers is installed throughout the community on property owned by the Association. No drawings detailing the components of the system were available for our review. We have assumed that any needed repairs/replacements of the components of this system will not be funded from Replacement Reserves.

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:

- General signage throughout the community.
- Benches, picnic tables, etc.
- Ground mounted lighting at the entrance monument
- Periodic tuckpointing of the entrance monument.
- Metal letters on the entrance monument
- Electrical service/outlets at the entrance monument.
- Metal railings installed on exterior concrete steps.
-



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:

- 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.



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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:

- Cleaning and janitorial services.
- Painting.
- Landscaping, landscape maintenance and site grading.
- Asphalt pavement crack sealing and cleaning (except where it is an integral part of one of the three “Asphalt pavement - interim cycle” projects discussed above and listed in the *Replacement Reserve Inventory*).

Concrete pedestrian bridge. A concrete pedestrian bridge is located near the northeast corner of the community. We have assumed that the bridge is not the responsibility of the Association and in the List of Recommended Repairs, we recommend that the party responsible for the bridge be identified and requested to correct the safety defects at the bridge.



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:

- Hilltop Road.
- Route 66
- Grovemore Lane from Hilltop Road north to the cul-de-sac at the Dellway Lane intersection.

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. The components located in these areas include but are not limited to those listed.

- Asphalt pavement.
- Concrete sidewalks and concrete curb & gutter.
- Stormwater management system components.
- Utilities, including electrical, sanitary sewers, domestic water mains, and natural gas.

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 there is no representation 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 DUNN LORING VILLAGE Board of Directors, individuals 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,

Wm Bruce Bennett

Wm. Bruce Bennett
Senior Reserve Analyst

REPLACEMENT RESERVE ANALYSIS

DUNN LORING VILLAGE

June 30, 2017

GENERAL INFORMATION:

2018	Study Year
\$573,333	Replacement Reserves reported to be on deposit at start of Study Year
\$923,849	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:

\$78,000 REPORTED CURRENT ANNUAL CONTRIBUTION TO REPLACEMENT RESERVES

\$28.38 Per unit current monthly contribution to Replacement Reserves

CASH FLOW METHOD CALCULATIONS:

\$56,155 MINIMUM RECOMMENDED ANNUAL CONTRIBUTION TO REPLACEMENT RESERVES

\$20.44 Per unit minimum recommended monthly contribution to Replacement Reserves

\$46,192 Recommended minimum Replacement Reserve Funding Threshold (5.0 percent)

2019 First year Reserves fall to minimum recommended level (Design Year)

COMPONENT METHOD CALCULATIONS:

\$153,546 MINIMUM RECOMMENDED ANNUAL CONTRIBUTION TO RESERVES (IN STUDY YEAR)

\$55.88 Per unit minimum recommended monthly contribution to Replacement Reserves

\$744,512 Current Funding Objective

77.01% Funding Percentage

\$171,179 One time deposit required to fully fund Replacement Reserves

\$58,748 Annual Contribution to Replacement Reserves if Reserves were fully funded.

PROJECT INFORMATION:

PROPERTY MANAGED BY:

Sequoia Management Company
Craig Courtney
13998 Parkeast Circle
Chantilly, VA 20151

MAJOR COMPONENTS IN ANALYSIS:

Tot lots, asphalt pavement, curb & gutter, sidewalk, retaining wall, asphalt trails, etc.

PROPERTY LOCATION:

Vienna, Virginia

TYPE OF PROPERTY:

Townhouse

OF UNITS:

229

YEAR BUILT:

1978

NOTES:

This report complies with the National Reserve Study Standards that have been adopted by the CAI in 1998. We understand that the Association's accounting year runs from January 1 to December 31.

This Replacement Reserve Analysis does not address funding for the defects outlined in the List of Recommended Repairs. The Request for Proposal submitted by the Association shows \$501,833 on deposit as of 1.31.2017 and monthly deposits of \$6,500. We have assumed 11 more monthly deposits in 2017 and a January 1, 2018 starting balance of \$573,333.

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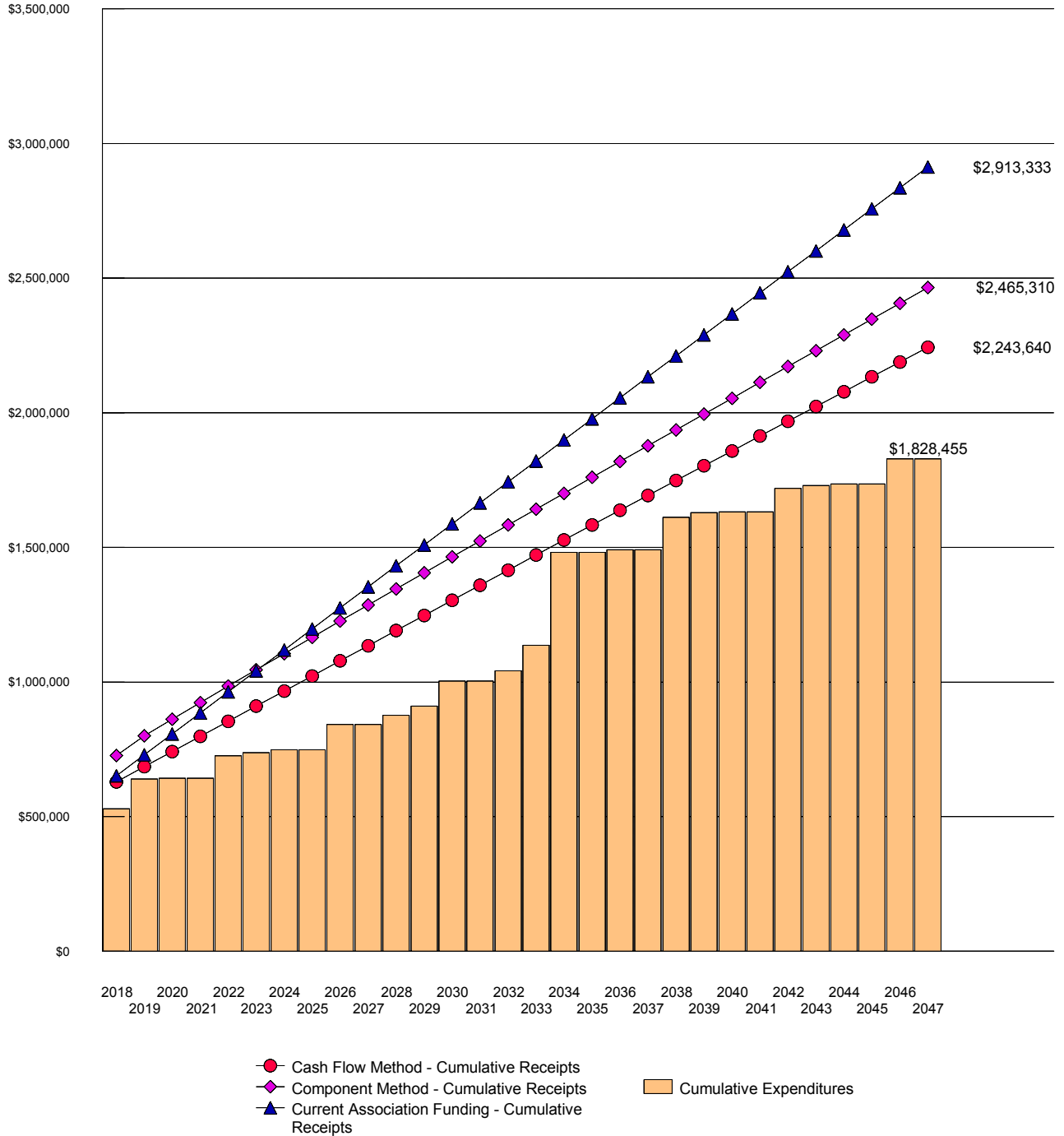
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REPLACEMENT RESERVE ANALYSIS

DUNN LORING VILLAGE

June 30, 2017

Funding Methods Comparison Graph - Cumulative Receipts and Expenditures

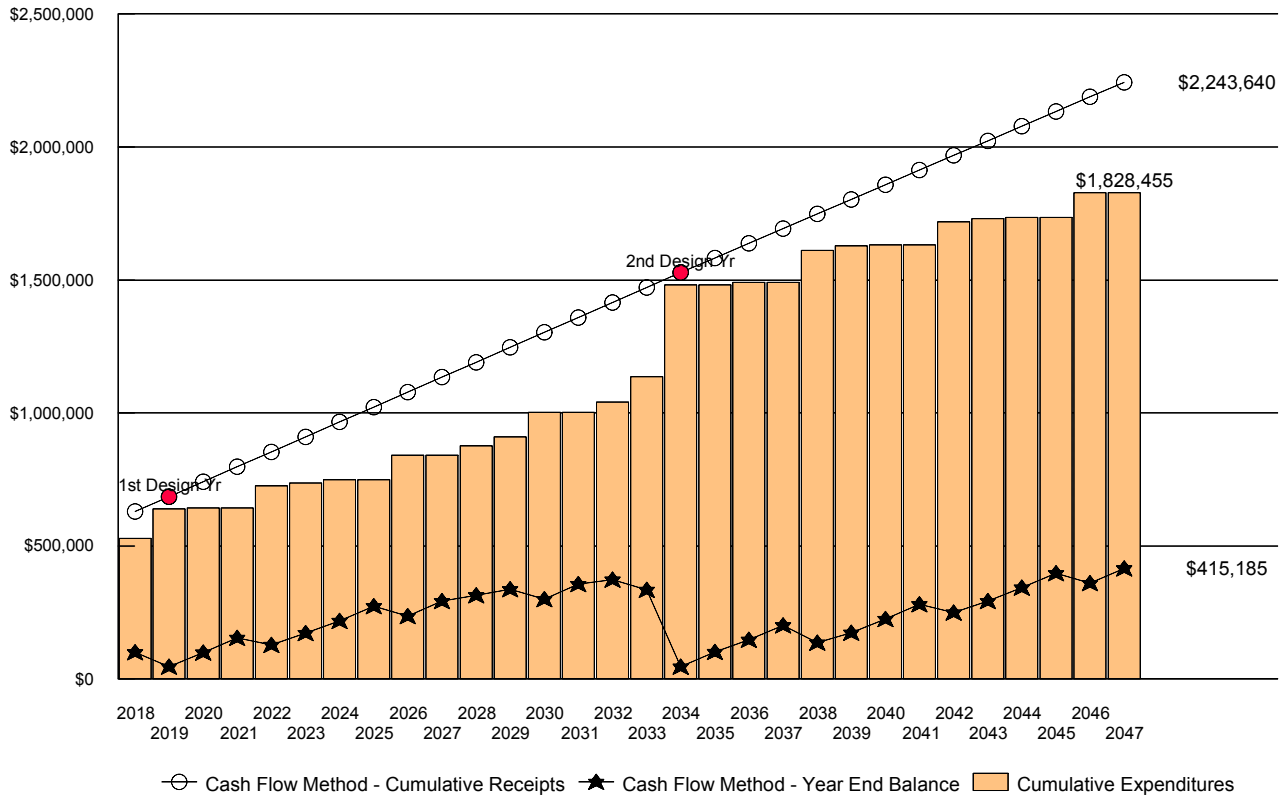


REPLACEMENT RESERVE ANALYSIS

DUNN LORING VILLAGE

June 30, 2017

Cash Flow Method - Cumulative Receipts and Expenditures Graph



Cash Flow Method Data - Years 1 through 30

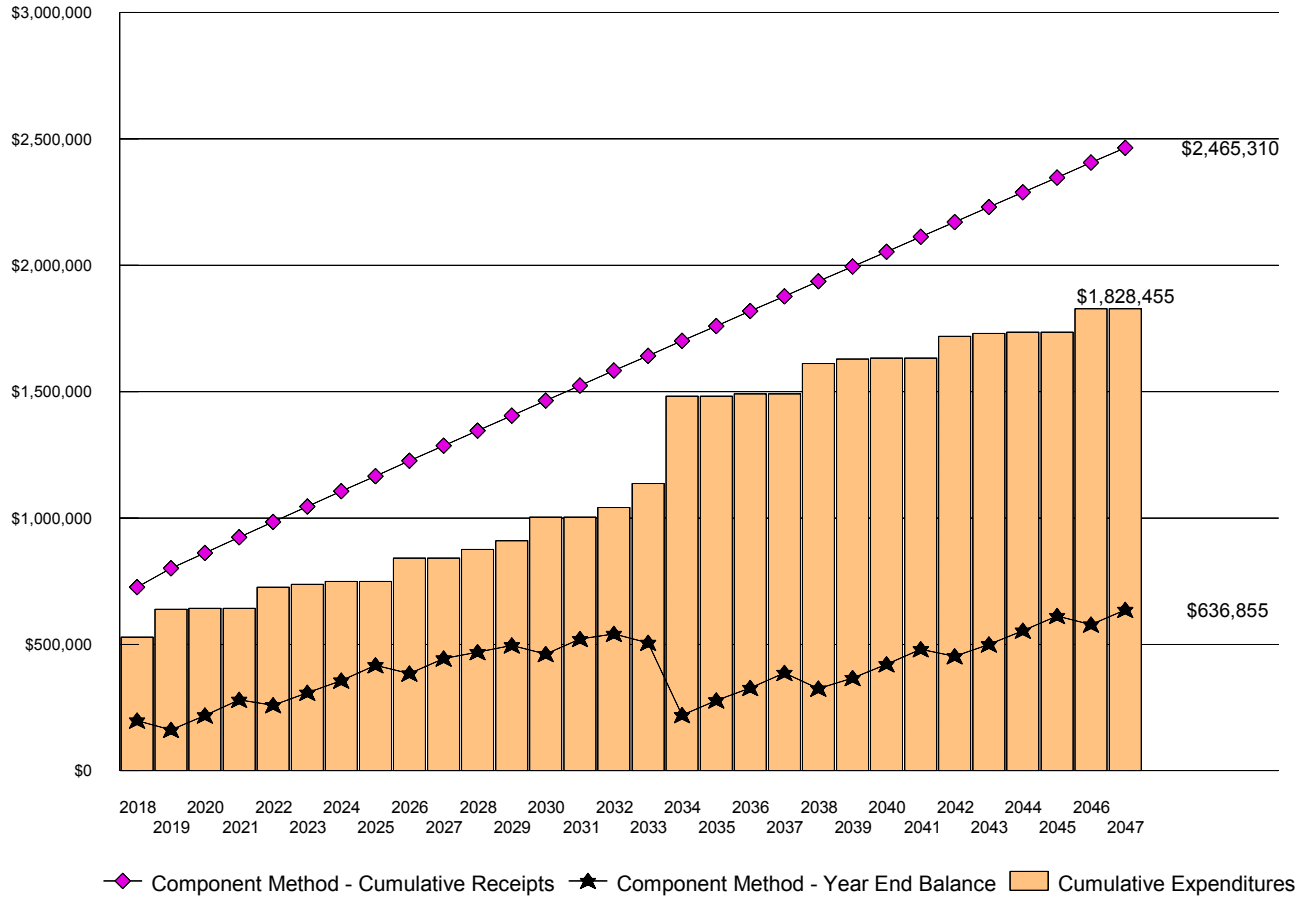
Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	TEN YEAR SUMMARIES
Starting balance	\$573,333										
Annual deposit	\$56,155	\$56,155	\$56,152	\$56,152	\$56,152	\$56,152	\$56,152	\$56,152	\$56,152	\$56,152	
Expenditures	\$528,951	\$110,500	\$3,510	\$0	\$83,309	\$11,116	\$11,230	\$0	\$93,411	\$0	Expenditures: \$842,027
Year end balance	\$100,537	\$46,192	\$98,835	\$154,987	\$127,831	\$172,868	\$217,790	\$273,942	\$236,683	\$292,836	Receipts: \$1,134,863
Minimum rec. funding lvl.	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	
Cumulative expenditures	\$528,951	\$639,451	\$642,961	\$642,961	\$726,270	\$737,386	\$748,616	\$748,616	\$842,027	\$842,027	
Cumulative receipts	\$629,488	\$685,644	\$741,796	\$797,949	\$854,101	\$910,253	\$966,406	\$1,022,558	\$1,078,710	\$1,134,863	
		1st Design Yr									
Year	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	TEN YEAR SUMMARIES
Annual deposit	\$56,152	\$56,152	\$56,152	\$56,152	\$56,152	\$56,152	\$56,152	\$55,055	\$55,055	\$55,055	
Expenditures	\$34,226	\$34,000	\$92,917	\$0	\$38,360	\$95,289	\$344,917	\$0	\$9,270	\$0	Expenditures: \$648,979
Year end balance	\$314,762	\$336,915	\$300,150	\$356,302	\$374,094	\$334,957	\$46,192	\$101,247	\$147,032	\$202,087	Receipts: \$560,258
Minimum rec. funding lvl.	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	
Cumulative expenditures	\$876,253	\$910,253	\$1,003,170	\$1,003,170	\$1,041,530	\$1,136,819	\$1,481,736	\$1,481,736	\$1,491,006	\$1,491,006	
Cumulative receipts	\$1,191,015	\$1,247,167	\$1,303,320	\$1,359,472	\$1,415,624	\$1,471,777	\$1,527,929	\$1,582,984	\$1,638,038	\$1,693,093	
		2nd Design Yr									
Year	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	TEN YEAR SUMMARIES
Annual deposit	\$55,055	\$55,055	\$55,055	\$55,055	\$55,055	\$55,055	\$55,055	\$55,055	\$55,055	\$55,055	
Expenditures	\$120,924	\$17,000	\$3,510	\$0	\$86,511	\$11,116	\$5,470	\$0	\$92,917	\$0	Expenditures: \$337,449
Year end balance	\$136,217	\$174,272	\$225,816	\$280,871	\$249,414	\$293,353	\$342,938	\$397,993	\$360,130	\$415,185	Receipts: \$552,585
Minimum rec. funding lvl.	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	\$46,192	
Cumulative expenditures	\$1,611,931	\$1,628,931	\$1,632,441	\$1,632,441	\$1,718,952	\$1,730,068	\$1,735,538	\$1,735,538	\$1,828,455	\$1,828,455	
Cumulative receipts	\$1,748,148	\$1,803,202	\$1,858,257	\$1,913,312	\$1,968,366	\$2,023,421	\$2,078,476	\$2,133,530	\$2,188,585	\$2,243,640	

REPLACEMENT RESERVE ANALYSIS

DUNN LORING VILLAGE

June 30, 2017

Component Method - Cumulative Receipts and Expenditures Graph



Component Method Data - Years 1 through 30

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	TEN YEAR SUMMARIES
Starting balance	\$573,333										Expenditures: \$842,027 Receipts: \$1,285,917
Annual deposit	\$153,546	\$73,554	\$61,486	\$61,486	\$61,486	\$60,372	\$60,372	\$60,252	\$60,252	\$59,778	
Expenditures	\$528,951	\$110,500	\$3,510	\$0	\$83,309	\$11,116	\$11,230	\$0	\$93,411	\$0	
Year end balance	\$197,928	\$160,982	\$218,958	\$280,444	\$258,621	\$307,878	\$357,020	\$417,272	\$384,112	\$443,890	
Cumulative Expenditures	\$528,951	\$639,451	\$642,961	\$642,961	\$726,270	\$737,386	\$748,616	\$748,616	\$842,027	\$842,027	Expenditures: \$648,979 Receipts: \$593,656
Cumulative Receipts	\$726,879	\$800,433	\$861,919	\$923,405	\$984,891	\$1,045,264	\$1,105,636	\$1,165,887	\$1,226,139	\$1,285,917	
Year	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
Annual deposit	\$59,778	\$59,778	\$59,322	\$59,173	\$59,173	\$58,976	\$58,907	\$58,840	\$58,840	\$58,840	
Expenditures	\$34,226	\$34,000	\$92,917	\$0	\$38,360	\$95,289	\$344,917	\$0	\$9,270	\$0	
Year end balance	\$469,442	\$495,220	\$461,625	\$520,798	\$541,611	\$505,298	\$219,288	\$278,128	\$327,698	\$386,539	
Cumulative Expenditures	\$876,253	\$910,253	\$1,003,170	\$1,003,170	\$1,041,530	\$1,136,819	\$1,481,736	\$1,481,736	\$1,491,006	\$1,491,006	
Cumulative Receipts	\$1,345,695	\$1,405,473	\$1,464,795	\$1,523,968	\$1,583,141	\$1,642,117	\$1,701,024	\$1,759,864	\$1,818,705	\$1,877,545	
Year	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	Expenditures: \$337,449 Receipts: \$589,802
Annual deposit	\$58,840	\$58,840	\$58,760	\$58,760	\$58,760	\$58,760	\$58,760	\$58,760	\$58,760	\$58,760	
Expenditures	\$120,924	\$17,000	\$3,510	\$0	\$86,511	\$11,116	\$5,470	\$0	\$92,917	\$0	
Year end balance	\$324,455	\$366,295	\$421,546	\$480,306	\$452,555	\$500,200	\$553,490	\$612,251	\$578,094	\$636,855	
Cumulative Expenditures	\$1,611,931	\$1,628,931	\$1,632,441	\$1,632,441	\$1,718,952	\$1,730,068	\$1,735,538	\$1,735,538	\$1,828,455	\$1,828,455	
Cumulative Receipts	\$1,936,386	\$1,995,226	\$2,053,986	\$2,112,747	\$2,171,507	\$2,230,268	\$2,289,028	\$2,347,789	\$2,406,549	\$2,465,310	

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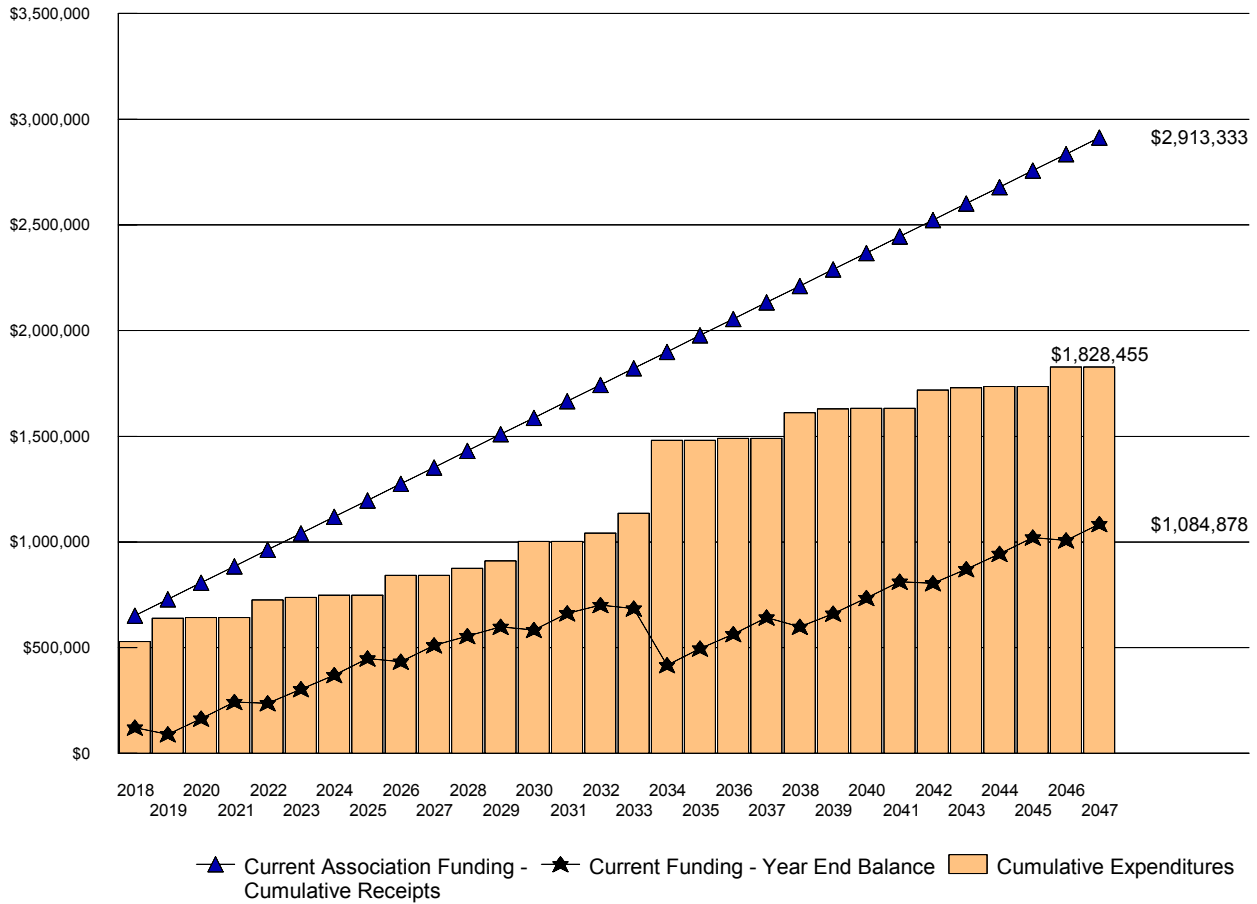
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REPLACEMENT RESERVE ANALYSIS

DUNN LORING VILLAGE

June 30, 2017

Current Association Funding - Cumulative Receipts and Expenditures Graph



Current Funding Data - Years 1 through 30

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	TEN YEAR SUMMARIES
Starting balance	\$573,333										
Annual deposit	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	
Expenditures	\$528,951	\$110,500	\$3,510	\$0	\$83,309	\$11,116	\$11,230	\$0	\$93,411	\$0	Expenditures: \$648,979 Receipts: \$780,000
Year end balance	\$122,382	\$89,882	\$164,372	\$242,372	\$237,063	\$303,947	\$370,717	\$448,717	\$433,306	\$511,306	
Cumulative Expenditures	\$528,951	\$639,451	\$642,961	\$642,961	\$726,270	\$737,386	\$748,616	\$748,616	\$842,027	\$842,027	Expenditures: \$337,449 Receipts: \$780,000
Cumulative Receipts	\$651,333	\$729,333	\$807,333	\$885,333	\$963,333	\$1,041,333	\$1,119,333	\$1,197,333	\$1,275,333	\$1,353,333	
Year	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	TEN YEAR SUMMARIES
Annual deposit	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	
Expenditures	\$34,226	\$34,000	\$92,917	\$0	\$38,360	\$95,289	\$344,917	\$0	\$9,270	\$0	Expenditures: \$337,449 Receipts: \$780,000
Year end balance	\$555,080	\$599,080	\$584,163	\$662,163	\$701,803	\$684,514	\$417,597	\$495,597	\$564,327	\$642,327	
Cumulative expenditures	\$876,253	\$910,253	\$1,003,170	\$1,003,170	\$1,041,530	\$1,136,819	\$1,481,736	\$1,481,736	\$1,491,006	\$1,491,006	Expenditures: \$337,449 Receipts: \$780,000
Cumulative receipts	\$1,431,333	\$1,509,333	\$1,587,333	\$1,665,333	\$1,743,333	\$1,821,333	\$1,899,333	\$1,977,333	\$2,055,333	\$2,133,333	
Year	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	TEN YEAR SUMMARIES
Annual deposit	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	
Expenditures	\$120,924	\$17,000	\$3,510	\$0	\$86,511	\$11,116	\$5,470	\$0	\$92,917	\$0	Expenditures: \$337,449 Receipts: \$780,000
Year end balance	\$599,402	\$660,402	\$734,892	\$812,892	\$804,381	\$871,265	\$943,795	\$1,021,795	\$1,006,878	\$1,084,878	
Cumulative Expenditures	\$1,611,931	\$1,628,931	\$1,632,441	\$1,632,441	\$1,718,952	\$1,730,068	\$1,735,538	\$1,735,538	\$1,828,455	\$1,828,455	Expenditures: \$337,449 Receipts: \$780,000
Cumulative Receipts	\$2,211,333	\$2,289,333	\$2,367,333	\$2,445,333	\$2,523,333	\$2,601,333	\$2,679,333	\$2,757,333	\$2,835,333	\$2,913,333	

Richard J. Schuetz, AIA, Architect

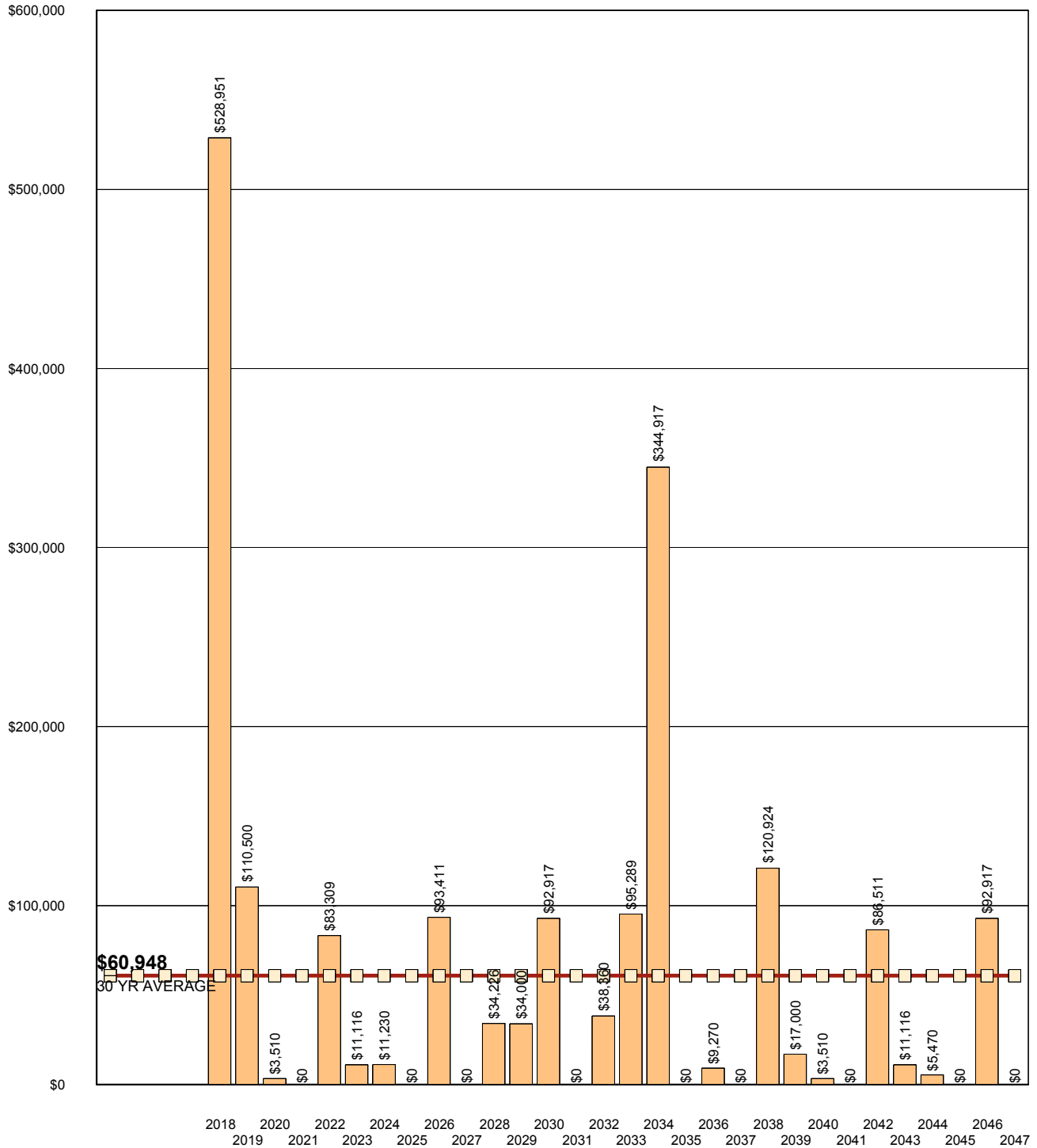
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REPLACEMENT RESERVE ANALYSIS

DUNN LORING VILLAGE

June 30, 2017

Graph of Annual Replacement Expenditures



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REPLACEMENT RESERVE INVENTORY

DUNN LORING VILLAGE

June 30, 2017

INVENTORY OF COMPONENTS - NORMAL REPLACEMENT

ITEM #	PAVEMENT	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	TOTAL REPLACEMENT COST (\$)
1	(G/N) Asphalt pavement - replace	sf	12,197	\$1.65	16	none	\$20,125
2	(G/E) Asphalt pavement - replace	sf	12,134	\$1.65	16	none	\$20,021
3	(G/W) Asphalt pavement - replace	sf	7,154	\$1.65	16	none	\$11,804
4	(D/W) Asphalt pavement - replace	sf	27,990	\$1.65	16	none	\$46,184
5	(D/C) Asphalt pavement - replace	sf	10,934	\$1.65	16	none	\$18,041
6	(D/E&SH) Asphalt pavement - replace	sf	23,418	\$1.65	16	none	\$38,640
7	(K) Asphalt pavement - replace	sf	47,673	\$1.65	16	none	\$78,660
8	(A) Asphalt pavement - replace	sf	18,646	\$1.65	16	none	\$30,766
9	Asphalt pavement - interim cycle 1	sf	160,146	\$0.22	16	4	\$35,232
10	Asphalt pavement - interim cycle 2	sf	160,146	\$0.24	16	8	\$38,435
11	Asphalt pavement - interim cycle 3	sf	160,146	\$0.28	16	12	\$44,841
12	Concrete pavement (4%)	sf	1,033	\$8.00	4	none	\$8,266
13	Concrete curb & gutter (4%)	ft	469	\$34.00	4	none	\$15,939
14	Asphalt trail - replace (20%)	sf	4,848	\$3.00	4	none	\$14,544
15	Asphalt trail - restore (80%)	sf	19,392	\$0.30	4	none	\$5,818

COMMENTS:

Asphalt pavement - replace. The cost above to replace the roads and parking areas includes milling and the cost of base repairs at less than 10 percent of the total area. The scope is outlined in the Report..

Asphalt pavement - interim cycle - maintenance & repair. These projects address defects in the roads and parking areas.

Three projects are scheduled between Asphalt pavement - replace projects.

Asphalt trails. Asphalt trails assumptions are outlined in the Report.

Concrete components. We have assumed that 4 percent of the concrete sidewalks and curb & gutter will be replaced every 4 years in conjunction with the work on the asphalt pavement.

Asphalt pavement locations:

D/W = Dellway west section, D/C = Dellway central section, D/E&SH = Dellway east section & Stone Hollow, K = Knollside, A = Andiron, G/N = Grovemore north section, G/E = Grovemore east section, G/W = Grovemore west section,

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REPLACEMENT RESERVE INVENTORY

DUNN LORING VILLAGE

June 30, 2017

INVENTORY OF COMPONENTS - NORMAL REPLACEMENT

ITEM #		UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	TOTAL REPLACEMENT COST (\$)
RECREATION							
16	Tennis court - base	sf	17,101	\$3.50	15	none	\$59,854
17	Tennis court - color coat	sf	17,101	\$0.65	5	none	\$11,116
18	Tennis court - fence	ft	527	\$20.00	20	15	\$10,540
19	Multipurpose court - base only	sf	3,200	\$3.00	10	none	\$9,600
20	Shelter - structure	sf	440	\$25.00	40	14	\$11,000
21	Shelter - roof shingles	sf	550	\$3.00	20	14	\$1,650
22	Chain link fence	ft	140	\$14.00	20	6	\$1,960
23	West tot lot - multipurpose structure	ea	1	\$18,000.00	20	16	\$18,000
24	West tot lot - climb toy	ea	1	\$5,000.00	20	16	\$5,000
25	West tot lot - border/retaining	ft	170	\$30.00	12	8	\$5,100
26	West tot lot - surfacing	sf	1,500	\$0.60	2	none	\$900
27	West swing - 3 seat	ea	1	\$3,600.00	20	16	\$3,600
28	West swing - wood border	ft	100	\$18.00	12	8	\$1,800
29	West swing - surfacing	sf	600	\$0.60	2	none	\$360
30	East tot lot - multipurpose structure	ea	1	\$9,000.00	20	14	\$9,000
31	East tot lot - swing 4-seat	ea	1	\$4,400.00	20	14	\$4,400
32	East tot lot - dome/climb	ea	1	\$3,800.00	20	14	\$3,800
33	East tot lot - swivel toy	ea	1	\$6,000.00	20	16	\$6,000
34	East tot lot - static tot toys	ls	1	\$5,000.00	20	14	\$5,000
35	East tot lot - wood border	ft	320	\$18.00	12	6	\$5,760
36	East tot lot - surfacing	sf	3,750	\$0.60	2	none	\$2,250

COMMENTS:

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REPLACEMENT RESERVE INVENTORY

DUNN LORING VILLAGE

June 30, 2017

INVENTORY OF COMPONENTS - NORMAL REPLACEMENT

ITEM #		UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	TOTAL REPLACEMENT COST (\$)
OTHER SITE IMPROVEMENTS							
37	Wood retaining wall	sf	265	\$52.00	20	15	\$13,780
38	Mailboxes	unit	229	\$85.00	40	none	\$19,465
39	Area lighting - engineering study	ea	1	\$10,000.00	10	none	\$10,000
40	Area lighting - replacement - 65%	ls	1	\$110,500.00	40	1	\$110,500
41	Area lighting - replacement - 20%	ls	1	\$34,000.00	40	11	\$34,000
42	Area lighting - replacement - 10%	ls	1	\$17,000.00	40	21	\$17,000
43	Area lighting - replacement - 5%	ls	1	\$8,500.00	40	31	\$8,500
44	Site grading - engineering study	ea	1	\$15,000.00	30	none	\$15,000
45	Site grading - defects correction	unit	229	\$400.00	30	none	\$91,600

COMMENTS:

Area lighting. We have assumed that the area lighting can be replaced in multiple phases. The engineering study outlined above will determine if this is a valid assumption and we will modify the inventory to reflect the findings of the study at no cost to the Association.. We have assumed that a significant amount of time will be required for the Association to reach a consensus, acquire competitive bids, and then to get the necessary permits, putting any actual construction off until 2019.

Site grading. Site grading is not typically included as a line item in a Replacement Reserve Study, but because of the extent and project cost to correct the various defect (outlined in the List of Recommended Repairs), we have included the above line items. As with the site lighting, we will adjust the cost and timing of the grading project to reflect the findings of the study at no cost to the Association.

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REPLACEMENT RESERVE INVENTORY**DUNN LORING VILLAGE****June 30, 2017****SCHEDULE OF REPLACEMENTS - YEARS ONE TO FIFTEEN**

2018		2019		2020	
Site grading - defects correction	\$91,600	Area lighting - replacement - 65%	\$110,500	East tot lot - surfacing	\$2,250
(K) Asphalt pavement - replace	\$78,660			West tot lot - surfacing	\$900
Tennis court - base	\$59,854			West swing - surfacing	\$360
(D/W) Asphalt pavement - replac	\$46,184				
(D/E&SH) Asphalt pavement - re	\$38,640				
(A) Asphalt pavement - replace	\$30,766				
(G/N) Asphalt pavement - replac	\$20,125				
(G/E) Asphalt pavement - replac	\$20,021				
Other Replacements	\$143,102				
Total Scheduled Replacements	\$528,951	Total Scheduled Replacements	\$110,500	Total Scheduled Replacements	\$3,510
2021		2022		2023	
No Scheduled Replacements		Asphalt pavement - interim cycle	\$35,232	Tennis court - color coat	\$11,116
		Concrete curb & gutter (4%)	\$15,939		
		Asphalt trail - replace (20%)	\$14,544		
		Concrete pavement (4%)	\$8,266		
		Asphalt trail - restore (80%)	\$5,818		
		East tot lot - surfacing	\$2,250		
		West tot lot - surfacing	\$900		
		West swing - surfacing	\$360		
		Total Scheduled Replacements	\$83,309	Total Scheduled Replacements	\$11,116
2024		2025		2026	
East tot lot - wood border	\$5,760	No Scheduled Replacements		Asphalt pavement - interim cycle	\$38,435
East tot lot - surfacing	\$2,250			Concrete curb & gutter (4%)	\$15,939
Chain link fence	\$1,960			Asphalt trail - replace (20%)	\$14,544
West tot lot - surfacing	\$900			Concrete pavement (4%)	\$8,266
West swing - surfacing	\$360			Asphalt trail - restore (80%)	\$5,818
				West tot lot - border/retaining	\$5,100
				East tot lot - surfacing	\$2,250
				West swing - wood border	\$1,800
				Other Replacements	\$1,260
Total Scheduled Replacements	\$11,230			Total Scheduled Replacements	\$93,411
2027		2028		2029	
No Scheduled Replacements		Tennis court - color coat	\$11,116	Area lighting - replacement - 20%	\$34,000
		Area lighting - engineering study	\$10,000		
		Multipurpose court - base only	\$9,600		
		East tot lot - surfacing	\$2,250		
		West tot lot - surfacing	\$900		
		West swing - surfacing	\$360		
		Total Scheduled Replacements	\$34,226	Total Scheduled Replacements	\$34,000
2030		2031		2032	
Asphalt pavement - interim cycle	\$44,841	No Scheduled Replacements		Shelter - structure	\$11,000
Concrete curb & gutter (4%)	\$15,939			East tot lot - multipurpose structu	\$9,000
Asphalt trail - replace (20%)	\$14,544			East tot lot - static tot toys	\$5,000
Concrete pavement (4%)	\$8,266			East tot lot - swing 4-seat	\$4,400
Asphalt trail - restore (80%)	\$5,818			East tot lot - dome/climb	\$3,800
East tot lot - surfacing	\$2,250			East tot lot - surfacing	\$2,250
West tot lot - surfacing	\$900			Shelter - roof shingles	\$1,650
West swing - surfacing	\$360			West tot lot - surfacing	\$900
				Other Replacements	\$360
Total Scheduled Replacements	\$92,917			Total Scheduled Replacements	\$38,360

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REPLACEMENT RESERVE INVENTORY**DUNN LORING VILLAGE****June 30, 2017****SCHEDULE OF REPLACEMENTS - YEARS SIXTEEN TO THIRTY**

<p>2033</p> <p>Tennis court - base \$59,854 Wood retaining wall \$13,780 Tennis court - color coat \$11,116 Tennis court - fence \$10,540</p> <p>Total Scheduled Replacements \$95,289</p>	<p>2034</p> <p>(K) Asphalt pavement - replace \$78,660 (D/W) Asphalt pavement - replac \$46,184 (D/E&SH) Asphalt pavement - re \$38,640 (A) Asphalt pavement - replace \$30,766 (G/N) Asphalt pavement - replac \$20,125 (G/E) Asphalt pavement - replac \$20,021 (D/C) Asphalt pavement - replac \$18,041 West tot lot - multipurpose struc \$18,000 Other Replacements \$74,481</p> <p>Total Scheduled Replacements \$344,917</p>	<p>2035</p> <p>No Scheduled Replacements</p>
<p>2036</p> <p>East tot lot - wood border \$5,760 East tot lot - surfacing \$2,250 West tot lot - surfacing \$900 West swing - surfacing \$360</p> <p>Total Scheduled Replacements \$9,270</p>	<p>2037</p> <p>No Scheduled Replacements</p>	<p>2038</p> <p>Asphalt pavement - interim cycle \$35,232 Concrete curb & gutter (4%) \$15,939 Asphalt trail - replace (20%) \$14,544 Tennis court - color coat \$11,116 Area lighting - engineering study \$10,000 Multipurpose court - base only \$9,600 Concrete pavement (4%) \$8,266 Asphalt trail - restore (80%) \$5,818 Other Replacements \$10,410</p> <p>Total Scheduled Replacements \$120,924</p>
<p>2039</p> <p>Area lighting - replacement - 10% \$17,000</p> <p>Total Scheduled Replacements \$17,000</p>	<p>2040</p> <p>East tot lot - surfacing \$2,250 West tot lot - surfacing \$900 West swing - surfacing \$360</p> <p>Total Scheduled Replacements \$3,510</p>	<p>2041</p> <p>No Scheduled Replacements</p>
<p>2042</p> <p>Asphalt pavement - interim cycle \$38,435 Concrete curb & gutter (4%) \$15,939 Asphalt trail - replace (20%) \$14,544 Concrete pavement (4%) \$8,266 Asphalt trail - restore (80%) \$5,818 East tot lot - surfacing \$2,250 West tot lot - surfacing \$900 West swing - surfacing \$360</p> <p>Total Scheduled Replacements \$86,511</p>	<p>2043</p> <p>Tennis court - color coat \$11,116</p> <p>Total Scheduled Replacements \$11,116</p>	<p>2044</p> <p>East tot lot - surfacing \$2,250 Chain link fence \$1,960 West tot lot - surfacing \$900 West swing - surfacing \$360</p> <p>Total Scheduled Replacements \$5,470</p>
<p>2045</p> <p>No Scheduled Replacements</p>	<p>2046</p> <p>Asphalt pavement - interim cycle \$44,841 Concrete curb & gutter (4%) \$15,939 Asphalt trail - replace (20%) \$14,544 Concrete pavement (4%) \$8,266 Asphalt trail - restore (80%) \$5,818 East tot lot - surfacing \$2,250 West tot lot - surfacing \$900 West swing - surfacing \$360</p> <p>Total Scheduled Replacements \$92,917</p>	<p>2047</p> <p>No Scheduled Replacements</p>

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LIST OF RECOMMENDED REPAIRS

DUNN LORING VILLAGE

Vienna, Virginia

June 30, 2017

REPAIR CATEGORY AND REPAIR DESCRIPTION

PHOTOGRAPHS ESTIMATED REPAIR COST

1. Asphalt pavement - replace (heavy load "HL")

From Reserves

- **Asphalt Replacement - general.** Replace the asphalt pavement (roads and parking areas) throughout the community. The project should include the operations outlined below and discussed in more detail in the Replacement Reserve Report. See Supplemental Photographs #4, 29, 30, 31, 32, 45, 46, 47, 52, 65, 66, 84.



- **Overlay.** Replace the existing asphalt pavement by overlaying with 2 inches of new asphalt. Prior to the installation of the new pavement, mill the existing asphalt pavement to insure that the final grade of the new pavement will not impound water and to eliminate the need to run raise the elevation of the pavement at the curbs and sidewalks.



- **Evaluate and specify.** Identify the asphalt pavement that can be overlaid without repair. Evaluate asphalt pavement that will require repair if the new asphalt pavement will have a normal economic life. Specify the scope of the necessary corrective actions.
- **Minor defects.** Correct minor defects in the asphalt pavement that are limited to the asphalt pavement (no damage to the base materials or bearing soils), to insure that the new asphalt pavement will have a normal economic life.



LIST OF RECOMMENDED REPAIRS

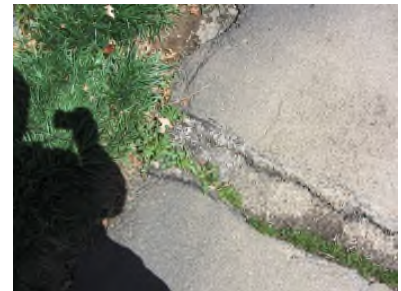
- **Other defects.** Correct more serious defects where the asphalt pavement has significant damage and/or deterioration, or where base materials and/or the bearing soils beneath the pavement have been damaged. Corrective actions should include the removal of the defective asphalt pavement, base materials, and bearing soils and their replacement with materials capable of properly supporting the new asphalt pavement. The cost shown in the Replacement Reserve Inventory assumes that base repairs will be needed at 5 to 10 percent of the total area.
- **Adjacent.** Prior to, or in conjunction with Asphalt Replacement, replace defective segments of curb & gutter that would prevent the new asphalt pavement from being properly graded, replace any culverts with less than 16 years of economic life remaining, and install piping and conduit that may be needed for pending projects.



2. Asphalt trails - replace and restore (light load "LL")

From Reserves

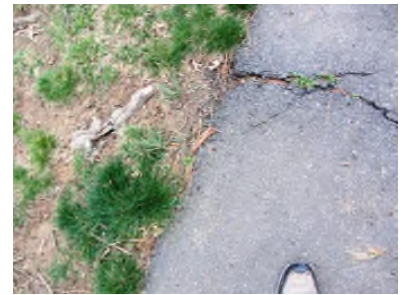
- **Asphalt trails (LL) - replace.** Correct asphalt trails with defects including but not limited to those listed below. We have assumed that the most cost effective corrective action for each defect will be selected (removal & replacement, overlayment, or milling/grinding). We have assumed that this project will include approximately 12 percent of the trail system. See Supplemental Photographs #11, 14, 24, 25, 26, 35, 43, 44, 64, 67.
 - **Safety.** Where defects have developed into trip hazards or the elevation of the trail must be modified to prevent water, silt & debris being impounded on the trail.
 - **Width.** Diminished width from raveling edges or other defects have significantly reduced the width of the trail.
 - **Adjacent defects.** Cost effective resolve of adjacent defects such as grading issues, trees that can not be root pruned, culvert installations, etc., require replacements and/or relocation.
 - **Cosmetics.** The overall condition of the trail is so poor as to require replacement.



LIST OF RECOMMENDED REPAIRS

- **Asphalt trails (LL) - replace - expanded scope.** Correct defects adjacent to the asphalt trails that are causing the defects in the trails. Defects that will require correction include but are not limited to those listed below. See Supplemental Photographs #.

- **Defective grading.** Defective grading adjacent to the pavement can impound water, silt, and debris on the pavement resulting in a trip hazard. Long term, even without the load of vehicles, water ponded on the pavement will cause excessive raveling and eventually replacement will be needed. Corrective actions may require more than simple regrading and in some instances, culverts may need to be installed to allow water to run under the MLBP.
- **Tree roots.** Replacement of MLBP damaged by tree roots will have a very short economic life unless root pruning is accomplished prior to the pavement project. Professional arborists use a variety of techniques for root pruning including vibratory ripping and trenching. Root pruning can cut utility lines and damage or kill landscape features (trees, shrubs, hardscape, etc.) not located on common property. The team used by the Professional Engineer engaged to administer the project will likely need to include an arborist and legal council.



- **Asphalt trails (LL) - restore (crack seal & sealcoat).** A properly specified and executed replacement/repair project as outlined above should be successful in allowing the asphalt trails to achieve an economic life significantly longer than roadways and parking areas. To address the cosmetic consequences of keeping the asphalt trails in service over an extended period of time, we have included a project to sealcoat and crack seal the pavement every four years, in conjunction with the replacement/repair project outlined above and that it will address the 85 percent of the pavement not included in the replacement project. See Supplemental Photographs #.



3. Asphalt pavement (HL) & asphalt trails (LL)

From Reserves

- **Administration.** The various asphalt pavement and asphalt trails vary in age and condition requiring wide variety of maintenance, repair, and replacement tasks. Attempting to accomplish the needed tasks base solely on contractor proposals is unlikely be cost effective or to allow the pavement to achieve its maximum economic life. We recommend that the various asphalt pavement projects be specified and administered by a Professional Engineer to insure timely & cost effective pavement management and proper correction of all safety related defects.

LIST OF RECOMMENDED REPAIRS

4. Concrete components

From Reserves

- Concrete pavement. Replace defective segments of concrete pavement (sidewalks, steps, drainage swales, etc.). The segments that require replacement have one or more of the defects outlined below. See Supplemental Photographs #60, 72.

- **Displaced segments of concrete pavement (with a difference in elevation over 1 inch) which are trip hazards.**
- **Spalling segments of concrete pavement. Segments with loose or very rough pavement are trip hazards.**
- Damaged/deteriorated segments of concrete pavement.
- **Steps with risers greater than 8.25 inches.**
- **Steps with uneven risers.**



- Concrete curb & gutter. Replace defective concrete curb & gutter segments. The curb & gutter segments that require replacement have one or more of the defects outlined below. See Supplemental Photographs #3, 27, 32, 33, 48, 65.

- **Defects that are typical of concrete pavement and listed under concrete pavement above.**
- Segments that are displaced and impound water.
- Segments with defects that allow water to penetrate into the base materials and bearing soils beneath the curb & gutter and adjacent asphalt pavement.
- Segments that prevent the proper grading of the asphalt pavement.



5. Grading, drainage, and landscape.

From Reserves

- **Evaluation.** Conduct a site grading evaluation to quantify the defects outlined below and to identify appropriate long-term corrective actions. The study should be conducted by a Licensed Professional Engineer or Landscape Architect experienced in resolving difficult site drainage issues. The elements to be evaluated include but are not limited to those outlined below.

- **Grade at sidewalks and trails.** Grade adjacent to concrete sidewalks and asphalt trails to prevent water, silt, and debris from being impounded on the components, potential trip hazard. See Supplemental Photographs #14, 25, 26, 62, 63, 70, 71, 73, 74.



LIST OF RECOMMENDED REPAIRS

- **Grade at site facilities.** Establish proper grade at the perimeter of the tennis courts, multipurpose courts, shelter near the tennis courts, and tot lots. After the establishment of proper grade, modify grade to provide a constant fall of at least 1 inch per foot away from the facilities for at least the first 12 feet. Grading operations should include the remove all organic materials in the areas to be addressed, including all top soil, ground cover, grass, mulch, plants, shrubs, trees, leaves, etc. Where necessary, the grade should be raised by the installation and compaction of a high clay content soil to prevent water penetration. Final grade should be achieved by the installation of a maximum of 2 inches of top soil, mulch, or decorative gravel. See Supplemental Photographs #21, 76, 78.



- **Grade between sidewalks and curbs.** Grade between sidewalks and curbs to prevent water being impounded in these areas and the consequential deterioration of adjacent components. See Supplemental Photographs #5.



- **Grade behind buildings.** Establish proper grade behind the rear fences of all units to move water to a component of the stormwater system. See Supplemental Photographs #6, 75.



- **Erosion and ground cover.** Correction erosion damage and establish proper ground cover on property owned by the Association. See Supplemental Photographs #18, 24, 34, 82.



LIST OF RECOMMENDED REPAIRS

6. Site lighting

From Reserves

- **Evaluation.** Conduct an engineering study to evaluate the existing site lighting system and to identify appropriate replacement methodologies and equipment. The elements to be evaluated include but are not limited to those outlined below. See Supplemental Photographs #28, 58.
 - Cost of operations - existing and possible replacement systems.
 - Condition of existing electrical services and their possible integration into a new and much less power demanding system.
 - Condition of existing underground wiring including the extent of wire replacement project that have been conducted in the past.
 - Condition of existing posts and fixtures.
 - Lighting requirements for a new lighting system including regulatory compliance and resident needs.
- **Replacement.** Make replacements as identified by the engineering study.



7. Metal railings

\$1,000 - 2,000

- **Restore metal stair railings.** Restore and paint all damaged and/or deteriorated exterior metal railings. Fill all rail attachment sockets with an epoxy grout, mounded to prevent water being impounded against the metal railing. See Supplemental Photographs #50, 51, 61.

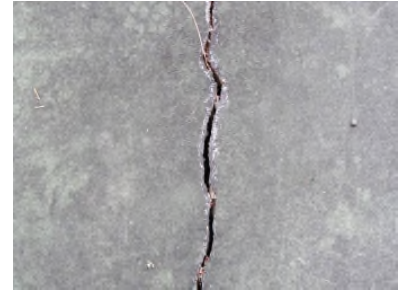


LIST OF RECOMMENDED REPAIRS

8. Courts

From Reserves

- **Restore tennis courts.** Replace base asphalt and color coat at the tennis courts. The work should be done in conjunction with the correction of defective grading adjacent to the courts as outlined above. See Supplemental Photographs #12, 76, 77, 78.
- **Restore multipurpose court.** Replace base asphalt at the multipurpose courts. The work should be done in conjunction with the correction of defective grading adjacent to the court as outlined above. See Supplemental Photographs #19, 20, 21



9. Tot lot

\$2,000 - 4,000

- **Tot lots - evaluate & repair.** The tot lots, borders, 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 #15, 16, 18, 22, 23, 37, 38, 39, 40, 41, 42, 59, 82, 83.
 - Rusty metal fasteners and chain.
 - Lack of a safety railing at the west tot lot where there is over a 2 foot difference between the wood border and adjacent grade.
 - Lack of adequate ground cover.
 - Monitor coated chain which is prone to early and accelerated deterioration.



LIST OF RECOMMENDED REPAIRS

10. Mailboxes

- **Replace deteriorated metal mailboxes.** Replace mailboxes which are at the end of their economic life. See Supplemental Photographs #8

From Reserves



11. Site Improvements - Miscellaneous

\$4,000 - 8,000

- **Electrical services.** Correct defects in the electrical services including services that are deteriorated and set too low to the ground. See Supplemental Photographs #7, 68.



- **Electric at entrance feature.** Correct defective outlet at entrance feature. See Supplemental Photographs #2.



- **Signage.** Restore/replace deteriorated signs throughout the community. See Supplemental Photographs #3, 49.



LIST OF RECOMMENDED REPAIRS

- **Correct minor defects in the shelter roof.** Seal lifted shingles in the shelter roof. See Supplemental Photographs #79, 80.



12. Administrative

Nominal

- **Bridge.** Confirm that the concrete foot bridge, located near the northeast corner of the community is not the responsibility of the Association. Contact the party responsible for the bridge and request that they make repairs to address the extensive defects in the bridge and trails leading to the bridge. See Supplemental Photographs #53, 54, 55, 56, 57.



TOTAL COST OF RECOMMENDED REPAIRS

\$7,000 - \$14,000

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. Entrance feature at the corner of Grovemore and Hilltop



Photo #2. Electrical outlet at entrance feature.



Photo #3. Typical signage



Photo #4. Asphalt pavement at the Grovemore west section.



Photo #5. Defective grading and utility access point at incorrect height, Grovemore west section.

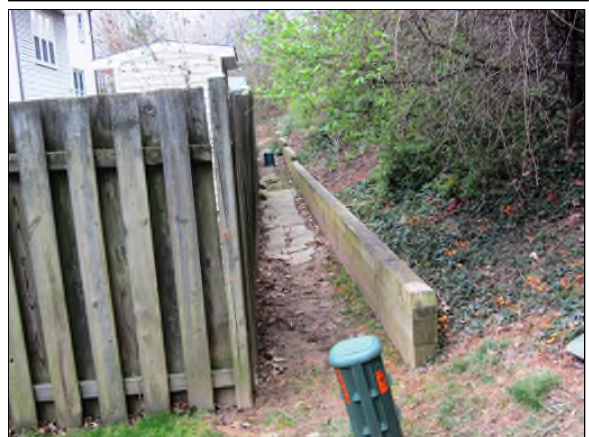


Photo #6. Retaining wall located behind several of the Grovemore west section units.



Photo #7. Electrical service is mounted too close to the ground.



Photo #8. Mailboxes with roll-up doors



Photo #9. Depressed section of curb & gutter impounds water.



Photo #10. Defective lead walks are assumed to be unit owner responsibility.



Photo #11. Asphalt trail at tennis court.



Photo #12. Tennis court with large open cracks.



Photo #13. Tennis court fence.



Photo #14. Defective grading adjacent to asphalt trail.



Photo #15. West tot lot multipurpose equipment.



Photo #16. West tot lot climb toy.



Photo #17. Shelter west of tennis courts.



Photo #18. West tot lot.



Photo #19. General view of multipurpose court.



Photo #20. Typical defects in multipurpose court.



Photo #21. Defective grading adjacent to multipurpose court.



Photo #22. West swing.



Photo #23. West swing coated chain.



Photo #24. Lack of ground cover and inadequate pavement thickness above culvert.



Photo #25. Defective grading adjacent to asphalt trail.



Photo #26. Intersection of asphalt and concrete trails adjacent to the north property boundary



Photo #27. Typical displaced concrete curb & gutter.



Photo #28. Wiring at streetlight does not date to original construction.



Photo #29. Typical cracked and alligatored asphalt pavement with ineffective crack sealing.



Photo #30. Typical cracked and alligatored asphalt pavement with ineffective crack sealing.



Photo #31. Typical cracked and alligatored asphalt pavement with ineffective crack sealing.



Photo #32. Depressed asphalt pavement and concrete curb & gutter impounds water and likely indicates damage to base materials and bearing soils below.



Photo #33. Typical displaced concrete curb & gutter.



Photo #34. Typical common area without proper ground cover.



Photo #35. Typical damaged asphalt trail.



Photo #36. Rock lined drainage swale near the east tot lot.



Photo #37. East tot lot.



Photo #38. East tot lot wood border.



Photo #39. Deteriorated chain, swing in east tot lot.



Photo #40. Static tot toys, east tot lot



Photo #41. Picnic tables and benches are installed in the east tot lot.



Photo #42. Swivel toy, east tot lot.



Photo #43. Typical deteriorated asphalt trail.



Photo #44. Open crack in asphalt trail.



Photo #45. Typical alligatored asphalt pavement and large patches.



Photo #46. Typical severely alligatored asphalt pavement.



Photo #47. Typical alligatored asphalt pavement.



Photo #48. Typical displaced concrete curb & gutter.



Photo #49. Failed signage.



Photo #50. Metal handrails.



Photo #51. Failed paint system on the metal handrails.



Photo #52. Alligatoring asphalt pavement.



Photo #53. Bridge over creek near the northeast corner of the community.



Photo #54. Unsafe walkway leads to the east side of bridge.



Photo #55. Erosion at east side of bridge.



Photo #56. Damaged edge of concrete are likely a where safety railings were once attached.



Photo #57. Displaced concrete pavement on the west side of bridge and defective grading adjacent to the pavement create a potential trip hazard.



Photo #58. Post light near the east tot lot.



Photo #59. Inadequate resilient surfacing in the east tot lot.



Photo #60. Handrails installed along exterior concrete stairs. Note crack immediately above the stair.



Photo #61. Defective railing socket impounds water causing accelerated deterioration of the metal railing.



Photo #62. Defective grading adjacent to concrete sidewalk.



Photo #63. Defective grading adjacent to asphalt trail.

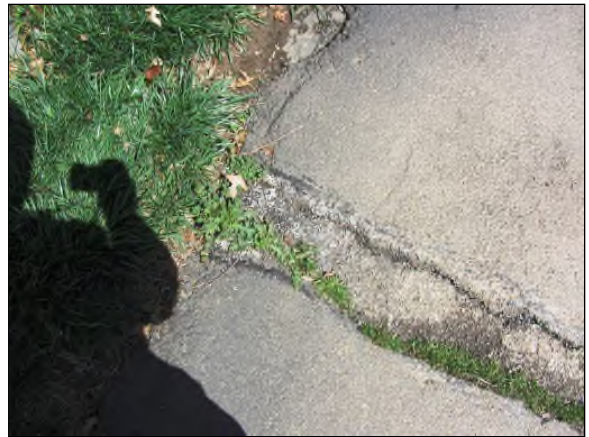


Photo #64. Poorly executed repair to asphalt trail is a potential trip hazard.



Photo #65. Depressed asphalt pavement and concrete curb & gutter impounds water and likely indicates damage to base materials and bearing soils below.



Photo #66. Alligatored asphalt pavement adjacent to a patch will result in the patch having a reduced economic life.



Photo #67. Tree roots are damaging the asphalt trail.



Photo #68. Typical common electrical service.



Photo #69. Typical dog walk station.



Photo #70. Concrete drainage swale adjacent to the asphalt trail, but the asphalt trail is still collecting water.



Photo #71. Defective grading directs water under the concrete pavement where it will cause accelerated deterioration.



Photo #72. Typical displaced concrete pavement.



Photo #73. Defective grading (and apparent drainage project) adjacent to concrete pavement.



Photo #74. Defective grading (and apparent drainage project) adjacent to concrete pavement.



Photo #75. Typical open space behind units that has not been properly graded to move water to the stormwater system.



Photo #76. Defective grading at tennis court damages the base materials and bearing soils and causes accelerated deterioration.



Photo #77. Patching of failed tennis court base asphalt is expensive and ineffective at extending the life of the court.



Photo #78. Defective grading at tennis court damages the base materials and bearing soils and causes accelerated deterioration.



Photo #79. Asphalt shingles on shelter near the tennis courts are not properly aligned/installed.



Photo #80. Lifted shingles are prone to wind damage.



Photo #81. Shed supports in direct contact with the concrete will result in the posts and the structure as a whole, having a limited economic life.



Photo #82. Tot lot border functions as a retaining. Note the lack of a safety railing and ground cover.

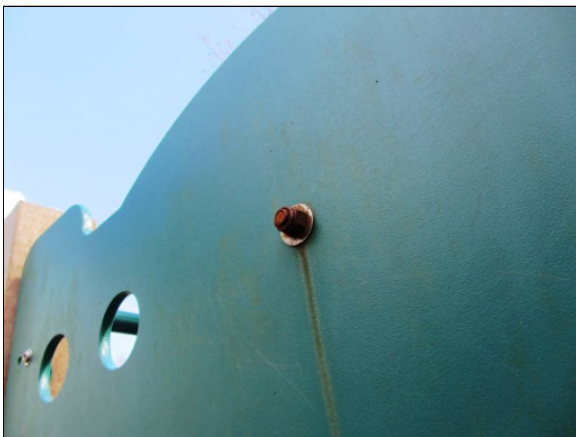


Photo #83. Deteriorated fastener in at the west tot lot.



Photo #84. Typical alligatored asphalt pavement with ineffective crack sealing.

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 were more than 200,000 Community Associations in 2000, and the majority of new construction throughout the country is in CIDs.

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 STUDY APPENDIX

- **Replacement Reserve Analysis.** The *Analysis* is a tabular and graphical presentation of current Association funding and the Cash Flow and Component Method Replacement 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 contains 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 Association current funding.

REPLACEMENT RESERVE STUDY APPENDIX

3. REPLACEMENT RESERVE INVENTORY

The work on a Replacement Reserve Study starts with the development of the Replacement 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. Generally, three kinds of components are excluded 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.

REPLACEMENT RESERVE STUDY APPENDIX

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 Inventory. In addition to observations made during the 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.

REPLACEMENT RESERVE STUDY APPENDIX

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.

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.

REPLACEMENT RESERVE STUDY APPENDIX

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 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, these should be patched by removing the affected asphalt, inspecting and repairing the substrate, and pouring a new top coat. If extensive (more than 60% 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

REPLACEMENT RESERVE STUDY APPENDIX

6. DEFINITIONS

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

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 number of years until the replacement cycle is expected to begin.

Interval Replacement Component. An Interval Replacement Component 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.

REPLACEMENT RESERVE STUDY APPENDIX

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 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 ALLOCATION**DUNN LORING VILLAGE****June 30, 2017****CASH FLOW METHOD - THREE YEAR ALLOCATION OF REPLACEMENT RESERVES**

Item #	Component	Estimated Replacement Cost	Allocation of Reserves on Deposit	2018			2019			2020		
				Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance
NORMAL COMPONENTS												
PAVEMENT												
1	(G/N) Asphalt pavement - replace	20,125	20,125		(20,125)							
2	(G/E) Asphalt pavement - replace	20,021	20,021		(20,021)							
3	(G/W) Asphalt pavement - replac	11,804	11,804		(11,804)							
4	(D/W) Asphalt pavement - replace	46,184	46,184		(46,184)							
5	(D/C) Asphalt pavement - replace	18,041	18,041		(18,041)							
6	(D/E&SH) Asphalt pavement - re	38,640	38,640		(38,640)							
7	(K) Asphalt pavement - replace	78,660	78,660		(78,660)							
8	(A) Asphalt pavement - replace	30,766	30,766		(30,766)							
9	Asphalt pavement - interim cycle	35,232					18,051		18,051	17,181		35,232
10	Asphalt pavement - interim cycle	38,435										
11	Asphalt pavement - interim cycle	44,841										
12	Concrete pavement (4%)	8,266	8,266		(8,266)		4,235		4,235	4,031		8,266
13	Concrete curb & gutter (4%)	15,939	15,939		(15,939)		8,166		8,166	7,773		15,939
14	Asphalt trail - replace (20%)	14,544	14,544		(14,544)		7,452		7,452	7,092		14,544
15	Asphalt trail - restore (80%)	5,818	5,818		(5,818)		2,981		2,981	2,837		5,818
RECREATION												
16	Tennis court - base	59,854	59,854		(59,854)							
17	Tennis court - color coat	11,116	11,116		(11,116)					11,116		11,116
18	Tennis court - fence	10,540										
19	Multipurpose court - base only	9,600	9,600		(9,600)							
20	Shelter - structure	11,000										
21	Shelter - roof shingles	1,650										
22	Chain link fence	1,960								770		770
23	West tot lot - multipurpose struct	18,000										
24	West tot lot - climb toy	5,000										
25	West tot lot - border/retaining	5,100										
26	West tot lot - surfacing	900	900		(900)		1,361		1,361	792	(900)	1,253
27	West swing - 3 seat	3,600										
28	West swing - wood border	1,800										
29	West swing - surfacing	360	360		(360)		544		544	317	(360)	501
30	East tot lot - multipurpose structu	9,000										
31	East tot lot - swing 4-seat	4,400										
32	East tot lot - dome/climb	3,800										
33	East tot lot - swivel toy	6,000										
34	East tot lot - static tot toys	5,000										
35	East tot lot - wood border	5,760								2,262		2,262
36	East tot lot - surfacing	2,250	2,250		(2,250)		3,403		3,403	1,981	(2,250)	3,134
OTHER SITE IMPROVEMENT												
37	Wood retaining wall	13,780										
38	Mailboxes	19,465	19,465		(19,465)							
39	Area lighting - engineering study	10,000	10,000		(10,000)							
40	Area lighting - replacement - 65%	110,500	44,382	56,155		100,537	9,963	(110,500)				
41	Area lighting - replacement - 20%	34,000										
42	Area lighting - replacement - 10%	17,000										
43	Area lighting - replacement - 5%	8,500										
44	Site grading - engineering study	15,000	15,000		(15,000)							
45	Site grading - defects correction	91,600	91,600		(91,600)							

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REPLACEMENT RESERVE ALLOCATION**DUNN LORING VILLAGE****June 30, 2017****COMPONENT METHOD - THREE YEAR ALLOCATION OF REPLACEMENT RESERVES**

Item #	Component	Estimated Replacement Cost	Allocation of Reserves on Deposit	2018			2019			2020		
				Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance	Deposits	Expenses	Year End Balance
NORMAL COMPONENTS												
PAVEMENT												
1	(G/N) Asphalt pavement - replace	20,125	15,498	4,627	(20,125)		1,258		1,258	1,258		2,516
2	(G/E) Asphalt pavement - replace	20,021	15,418	4,603	(20,021)		1,251		1,251	1,251		2,503
3	(G/W) Asphalt pavement - replac	11,804	9,090	2,714	(11,804)	(0)	738		738	738		1,476
4	(D/W) Asphalt pavement - replace	46,184	35,565	10,619	(46,184)		2,886		2,886	2,886		5,773
5	(D/C) Asphalt pavement - replace	18,041	13,893	4,148	(18,041)		1,128		1,128	1,128		2,255
6	(D/E&SH) Asphalt pavement - re	38,640	29,756	8,884	(38,640)		2,415		2,415	2,415		4,830
7	(K) Asphalt pavement - replace	78,660	60,575	18,086	(78,660)		4,916		4,916	4,916		9,833
8	(A) Asphalt pavement - replace	30,766	23,692	7,074	(30,766)	(0)	1,923		1,923	1,923		3,846
9	Asphalt pavement - interim cycle	35,232	18,653	3,316		21,969	3,316		25,285	3,316		28,600
10	Asphalt pavement - interim cycle	38,435	12,949	2,832		15,781	2,832		18,613	2,832		21,444
11	Asphalt pavement - interim cycle	44,841	6,475	2,951		9,426	2,951		12,377	2,951		15,328
12	Concrete pavement (4%)	8,266	6,365	1,900	(8,266)		2,066		2,066	2,066		4,133
13	Concrete curb & gutter (4%)	15,939	12,274	3,665	(15,939)		3,985		3,985	3,985		7,970
14	Asphalt trail - replace (20%)	14,544	11,200	3,344	(14,544)		3,636		3,636	3,636		7,272
15	Asphalt trail - restore (80%)	5,818	4,480	1,338	(5,818)	(0)	1,454		1,454	1,454		2,909
RECREATION												
16	Tennis court - base	59,854	46,092	13,762	(59,854)		3,990		3,990	3,990		7,980
17	Tennis court - color coat	11,116	8,560	2,556	(11,116)		2,223		2,223	2,223		4,446
18	Tennis court - fence	10,540	1,623	557		2,181	557		2,738	557		3,295
19	Multipurpose court - base only	9,600	7,393	2,207	(9,600)		960		960	960		1,920
20	Shelter - structure	11,000	5,294	380		5,675	380		6,055	380		6,435
21	Shelter - roof shingles	1,650	318	89		406	89		495	89		584
22	Chain link fence	1,960	981	140		1,121	140		1,261	140		1,401
23	West tot lot - multipurpose struct	18,000	2,079	937		3,016	937		3,952	937		4,889
24	West tot lot - climb toy	5,000	578	260		838	260		1,098	260		1,358
25	West tot lot - border/retaining	5,100	982	458		1,439	458		1,897	458		2,355
26	West tot lot - surfacing	900	693	207	(900)		450		450	450	(900)	
27	West swing - 3 seat	3,600	416	187		603	187		790	187		978
28	West swing - wood border	1,800	347	161		508	161		670	161		831
29	West swing - surfacing	360	277	83	(360)		180		180	180	(360)	
30	East tot lot - multipurpose structu	9,000	1,733	484		2,217	484		2,702	484		3,186
31	East tot lot - swing 4-seat	4,400	847	237		1,084	237		1,321	237		1,558
32	East tot lot - dome/climb	3,800	732	205		936	205		1,141	205		1,345
33	East tot lot - swivel toy	6,000	693	312		1,005	312		1,317	312		1,630
34	East tot lot - static tot toys	5,000	963	269		1,232	269		1,501	269		1,770
35	East tot lot - wood border	5,760	1,848	559		2,407	559		2,966	559		3,525
36	East tot lot - surfacing	2,250	1,733	517	(2,250)		1,125		1,125	1,125	(2,250)	
OTHER SITE IMPROVEMENT												
37	Wood retaining wall	13,780	2,122	729		2,851	729		3,580	729		4,308
38	Mailboxes	19,465	14,990	4,475	(19,465)		487		487	487		973
39	Area lighting - engineering study	10,000	7,701	2,299	(10,000)		1,000		1,000	1,000		2,000
40	Area lighting - replacement - 65%	110,500	80,839	14,830		95,670	14,830	(110,500)		2,763		2,763
41	Area lighting - replacement - 20%	34,000	18,328	1,306		19,634	1,306		20,940	1,306		22,246
42	Area lighting - replacement - 10%	17,000	5,891	505		6,396	505		6,901	505		7,406
43	Area lighting - replacement - 5%	8,500	1,309	225		1,534	225		1,759	225		1,983
44	Site grading - engineering study	15,000	11,551	3,449	(15,000)		500		500	500		1,000
45	Site grading - defects correction	91,600	70,539	21,061	(91,600)		3,053		3,053	3,053		6,107

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