



# **GUIDELINES FOR THE DEVELOPMENT OF RESERVE STUDIES FOR CAPITAL COMPONENTS**

**ADOPTED BY THE  
COMMON INTEREST COMMUNITY BOARD  
September 5, 2019**

## PREFACE

Chapters 33 and 44 of the 2019 Virginia Acts of Assembly, which resulted from the passage of House Bill 2030 and Senate Bill 1538, direct the Common Interest Community Board (“Board”) to “...*develop guidelines for the development of reserve studies for capital components, including a list of capital components that should be addressed in a reserve study.*”

In accordance with the General Assembly’s directive, the Board convened a committee of industry experts including Board members to assist in developing these guidelines for the development of reserve studies for capital components, as defined in the Code of Virginia. This document reflects the significant input and contributions of those industry professionals experienced in the development of reserve studies for common interest communities, and generally reflects standard and accepted industry practice.

This document is intended to provide useful information and guidance to members of the public, including members of association governing boards and those who provide management services to associations, regarding developing reserves studies. This document is not intended to regulate the development of or define a “standard of care” for reserve studies, and does not prescribe, or proscribe, any specific method for developing such studies.

## Introduction

Throughout the United States various forms of real property ownership in which multiple homeowners agree to share in the common ownership of certain real property have emerged for mutual benefit and enjoyment. Developers have employed this approach to, among other things, create neighborhoods, increase density, comply with local zoning and proffer requirements, and allow neighbors to establish shared services, facilities and expenses, take advantage of economies of scale and sustain and enhance property values.

In Virginia, developments of this type are called *common interest communities* (CICs), and are administered and governed by one of the following: property owners' association, condominium unit owners' association, or real estate cooperative association. Generally, in a CIC individuals own a lot or unit in the community and have shared ownership with other owners in the remaining real property, the *common area or common elements*. Real estate cooperatives are somewhat different in that the real property is owned by a corporation, and the membership of the association is made up of proprietary lessees, who are entitled to exclusive use and possession of a unit through a proprietary lease from the company.

CICs have three general characteristics:

1. Property is subject to *governing documents* that organize the community, provide for the administration of the community and common area or common elements through an association, and establish the rights and obligations of the association, individual owners, and the association's governing board.
2. By virtue of ownership, membership in the association is mandatory and automatic.
3. CIC members are required to pay *assessments* to fund the association and maintain the property.

In a CIC, responsibility for maintenance and upkeep of the property is established by the community's governing documents. Generally, these responsibilities are divided between the association and the individual lot or unit owners. Items that the association is obligated to maintain, repair, and replace, regardless of whether such items are part of the common area or common elements, and for which the association governing board has determined funding is necessary, are called *capital components*.

The number and nature of capital components vary from community to community. For some communities there may only be a few components, such as a shared road or entrance feature, signage for the community, and landscaping. Other communities may have significantly more components, including structures such as parking garages or recreational facilities (e.g.

exercise rooms, pools, tennis courts). In addition, many communities have stormwater management facilities, which are often required to be installed as a measure to protect the environment. These might take the form of a pond or other waterway in the community. Stormwater management facilities, if part of the common area or common elements, are the responsibility of the association to maintain. A list of typical common area or common elements components is located at Appendix C. This list is not exhaustive, and does not reflect every type of component that may be found in a community.

In order to ensure capital components are properly maintained, repaired, and timely replaced, associations establish a *reserve fund* consisting of a budgeted portion of monies collected from assessments imposed on lot or unit owners. Funds in reserve are set aside for the dedicated purpose of paying for costs to repair and replace capital components when the need arises. In this sense, a reserve fund is like a “piggy bank.” By establishing and funding a reserve, associations can lessen the potential of having to impose costly special assessments to pay for repairing or replacing capital components.

Toward this end, Virginia law requires the governing board of an association to conduct a study, called a *reserve study*, periodically to determine the necessity and amount of reserves required to repair, replace and restore the capital components. A reserve study is a capital budget planning tool used to determine the physical status and repair or replacement cost of a community’s capital components, and an analysis of an association’s funding capacity to maintain, repair, and replace capital components.

Sections 55-79.83:1, 55-471.1, and 55-514.1 of the Code of Virginia state, in part<sup>1</sup>:

Except to the extent otherwise provided in the [governing documents], the [governing board] shall:

1. Conduct at least once every five years a study to determine the necessity and amount of reserves required to repair, replace, and restore the capital components, as defined in [applicable section of the Code of Virginia];
2. Review the results of that study at least annually to determine if reserves are sufficient; and
3. Make any adjustments the [governing board] deems necessary to maintain reserves, as appropriate.

In addition, these provisions in the Code stipulate that:

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<sup>1</sup> Note: These provisions of the Code of Virginia will be recodified effective October 1, 2019. See Appendix A for the complete sections of the Code.

To the extent that the reserve study conducted in accordance with this section indicates a need to budget for reserves, the association budget shall include, without limitation:

1. The current estimated replacement cost, estimated remaining life, and estimated useful life of the capital components as defined in [applicable section of the Code of Virginia];
2. As of the beginning of the fiscal year for which the budget is prepared, the current amount of accumulated cash reserves set aside to repair, replace, or restore capital components and the amount of the expected contribution to the reserve fund for that year;
3. A statement describing the procedures used for estimation and accumulation of cash reserves pursuant to this section; and
4. A statement of the amount of reserves recommended in the study and the amount of current cash for replacement reserves.

Because an association governing board has a fiduciary duty to manage association funds and property, establishing a reserve fund and making provision in the association budget for reserves is important. The information provided by a reserve study aids association members in understanding the physical condition of the property, and the financial condition of the association, in order to allow for adequate planning. A reserve study can serve as an important tool for the association to balance and optimize long-term property values and costs for members, as reserve planning helps assure property values by protecting against decline in value due to deferred maintenance and inability to keep up with aging components.

By establishing a reserve fund and maintaining sufficient reserves, a governing board can reduce the need to impose special assessments on association members when it comes time to replace capital components, particularly if the replacement cost is high. Even if a community only has a limited number of components, such as a simple road or driveway, setting aside funds in advance will help guard against financial shock when repair or replacement is needed. In addition, it creates a more equitable balance between newer owners in a community, and older owners, as newer owners will not have to assume the burden of the cost to repair or replace older components in the community.

Moreover, a reserve study is beneficial to purchasers of property in a CIC. A reserve study can aid in the evaluation of the value of property being purchased by knowing the condition of the capital components, and show a more accurate and complete picture of the association's financial position to handle the expense of maintaining the capital components.

In addition to establishing a reserve fund for capital components, associations should also consider establishing an operating reserve for budget overages. An operating reserve provides the association with funds in case of unexpected budget overages or unforeseen operating expenses. Replacement reserve funds should not be used to cover unanticipated operating expenses.

## **The Basics of Reserve Studies**

### *Components of a Reserve Study*

There are two components of a reserve study: (i) a ***physical analysis*** and (ii) a ***financial analysis***. The physical analysis provides information about the physical status and the repair or ***replacement cost*** of components the association is obligated to maintain. The physical analysis entails conducting an ***inventory*** of components, an assessment of component condition, and ***life and valuation estimates***. The financial analysis assesses the association's reserve income and expenses, by examining the reserve ***fund status***, measured in cash or ***percent funded***, and recommending an appropriate contribution for the fund.

### *Types of Reserve Studies*

Reserve studies can be grouped into four types, each of which reflects differing levels of service. The Community Associations Institute (CAI) identifies the following four levels of service.

1. **Full Study**: A full reserve study is the most comprehensive level of service. A full study involves performing: (i) a ***component inventory***, (ii) a ***condition assessment*** (based upon on-site visual observations), and (iii) life and valuation estimates of components; then determining (iv) the reserve fund status, and (v) a funding plan.
2. **Update, With-Site-Visit/On-site Review**: A reserve study update which involves performing (i) a component inventory (verification only, not quantification), (ii) condition assessment (based upon on-site visual observation), and (iii) life and valuation estimates of components; then determining (iv) the reserve fund status, and (v) a funding plan.
3. **Update, No-Site-Visit/Off Site Review**: A reserve study update with no on-site visual observations in which involves performing (i) life and valuation estimates of components; then determining (ii) the reserve fund status, and (iii) a funding plan.
4. **Preliminary, Community Not Yet Constructed**: A reserve study prepared before construction that is generally used for budget estimates. It is based on design documents such as the architectural and engineering plans, and involves performing (i) a component inventory, (ii) life and valuation estimates of components; then determining (iii) a funding plan.

## *Contents of a Reserve Study*

A reserve study should consist of the following:

- A summary of the community, including the number of units, physical description, and the financial condition of the reserve fund;
- A projection of the reserve starting balance, recommended reserve contributions, projected reserve expenses, and the projected ending reserve fund balance for typically a 30-year period; but at least a minimum of 20 years;
- A tabular listing of the component inventory, component quantity or identifying descriptions, useful life, remaining useful life, and current replacement cost;
- A description of the methods and objectives utilized in computing the fund status in the development of the funding plan;
- Source(s) utilized to obtain component repair or replacement cost estimates; and
- A description of the level of service by which the reserve study was prepared and the fiscal year for the reserve study was prepared.

## *Governing Board Action Steps to Providing for Adequate Reserves*

In order to provide for reserves adequately, an association should employ a systematic approach involving specific action steps. First, the association's governing board should **resolve to have a reserve study** by passing a resolution that a reserve study be performed and commit the association to taking action to ensure the study is conducted.

Communities that have been operating without a reserve study are not in compliance with Virginia law and must undertake to schedule and implement a reserve study. The statutes require the governing board of an association to conduct a reserve study at least once every five years, and review the results of the study annually in conjunction with budget development.

Second, the governing board should **identify the reserve study products needed**. A governing board may contract for the preparation of the physical analysis, financial analysis, and **operating budget** by professionals, or may elect to produce one or more of these items on its own. The governing board may also choose to perform part of the work, and have a professional perform the rest.

Third, the governing board should **establish a work plan**, specifying the nature of the tasks to be performed, before conducting the study. The work plan should establish (i) the types

of components to be included or excluded; (ii) the timeframe for funding common area or common elements components; and (iii) budget for conducting the study.

**Identifying components to include.** Components that the association is obligated to maintain, repair, or restore should not be excluded from the reserve study, even if the components are not part of the common area or common elements. Components for which individual lot or unit owners are responsible should be excluded from the study. The community's governing documents establish those components that are the responsibility of the association to maintain, and those for which owners are individually responsible. Governing documents may contain a *maintenance responsibilities chart* which can be useful for this purpose. In addition, local governments may have information or documents on file (e.g. subdivision documents, easements) regarding the community which can help identify components, including components for which the local government, and not the association, are responsible. (See Appendix C for a list of components that are typically addressed in reserve studies.)

**Timeframe.** There is not universal agreement of the appropriate timeframe for a reserve study. A good approach is to forecast for a time period that will include the replacement year of the component with the longest estimated useful life. Professionals recommend that the study include all components that will fail before the building itself. "Life-of-the-building" components such as the building foundation and structure are generally excluded from the reserve study budget. However, if there is reason to expect an item will wear out before the building does, or the item may wear out within the time span of the reserve study, then the item should be included as an item in the study.

Careful consideration should be given to the timing of the initial reserve study. In a community governed by a property owners' association, the initial study should take place after the first time a capital component is put into use. In a community governed by a condominium unit owners' association, the initial study should be completed as soon as practicable prior to the transfer of declarant control, and may be in conjunction with the association's preparation of the structural warranty statement.

**Budget Available for the Study.** Another consideration is funds available to conduct the study. In order to comply with reserve study requirements, associations should, on an annual basis, include in the annual budget funds adequate to enable either a study, or engagement of outside professionals to complete the study, once every five years.

Next, the governing board needs to **identify the components** that must be included in the reserve study. The governing board should identify documents, including the community's

governing documents (i.e. declaration, bylaws), the most accurate drawings of the development, and the maintenance history of major common area and common elements components. If “as built” plans exist, these would be the best source of information about the nature of the major components. The maintenance history should include the actual dollar cost figures of that maintenance. An association should consider creating a “permanent” maintenance history file for each major component.

The governing board should also take into account that existing components may be outdated and may not meet current code requirements, and that components may need to be replaced with newer products that comply with code requirements.

Finally, once the study has been completed, the governing board needs to **accept, disclose, and implement the results** of the study. The governing board reviews and accepts the results of the reserve study, and incorporates this information into the association budget plan. State law specifies that to the extent a reserve study indicates a need to budget reserves, the association budget shall include, without limitation:

- (i) the current estimated replacement cost, estimated remaining life, and estimated useful life of the capital components;
- (ii) the current amount, as of the beginning of the fiscal year for which the budget is prepared, of accumulated cash reserves set aside to repair, replace, or restore capital components and the amount of the expected contribution to the reserve fund for that fiscal year;
- (iii) a statement describing the procedures used for estimation and accumulation of cash reserves; and
- (iv) a statement of the amount of reserves recommended in the study and the amount of current cash for replacement reserves.

Association governing boards are also required by state law to review the results of the reserve study at least once annually to determine if reserves are sufficient, and make any adjustments they deem necessary to maintain reserves.

### **Conducting a Physical Analysis**

The goals of a *physical analysis* are to (i) estimate useful and remaining life of major components; and (ii) estimate current replacement cost of major components. The analysis lists

and estimates replacement costs and timing for replacement of components whose repair or replacement is funded through association reserves. The study determines when such repairs or replacements will be needed and what repair and replacement will cost. The major steps in conducting a physical analysis are:

1. Identify components.
2. Specify quantities.
3. Inspect components; define scope and methodology for inspection.
4. Determine useful life; document maintenance assumptions.
5. Assess remaining life; determine replacement year.
6. Determine cost of replacement.

There are a number of professional firms that perform reserve studies for CICs in Virginia. This explanation of how to perform a physical analysis will help associations to contract for this service and interpret the study results. For associations that cannot, or do not wish to, hire a professional reserve study preparer, this explanation will provide guidelines for governing board members who decide to perform their own physical analysis. As with other decisions it makes in the conduct of managing association business, governing boards must carefully consider the pros and cons of choosing to undertake their own study, and should consider seeking legal advice before proceeding.

### *Identify Components*

For each community, the list of major components is unique. Lists from other communities or industry publications may serve as a general guide, but are rarely usable without modification and addition. An inaccurate or incomplete list of components can materially distort an association's long-term funding plan. Professionals recommend that items be placed on the list of components for the reserve budget if these components meet all of the following criteria:

- The item is the responsibility of the association to maintain or replace, rather than the responsibility of individual homeowners;
- The item costs over a certain amount to replace (amount to be determined by the governing board)<sup>2</sup>; and
- The estimated remaining useful life of the item is greater than one year; and the estimated remaining useful life of the item is less than 30 years at the time of the study.

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<sup>2</sup> One possible guideline is to include items that cost 1% or more of the total association budget. Another possible guideline is to include items that cost over \$500 or \$1,000 to replace, including groups of related items (e.g. gates in the development) that cost over \$1,000 to replace. The dollar amount or percentage to use as a guideline should be discussed and adopted by the governing board.

There is often no one document with a comprehensive list of components for a development. Therefore, it is not easy to identify components accurately, although it is nonetheless essential that the association develop an accurate list of all items for which repair or replacement must be budgeted.

The list of components to include depends upon the physical characteristics of the development, as well as upon the legal allocation of responsibility among owners, the association, and local government. Appendix C provides a list of items that might be listed as components for association reserves. However, this list is not exhaustive of all possible items.

A community's governing documents can help provide a list of components. Governing documents, including the declaration for the community, typically provide a general description of the common areas or common elements of the development. In a condominium, the governing documents, called condominium instruments, describe that which is part of each unit and what is outside of the unit. Governing documents usually specify the allocation of responsibilities between the association and individual owners, and can serve as a guide to the components to be included in a reserve study.

The developer's reserve budget should list components the builder identified while planning the project. Such items as streets, roofs, exterior paint, and recreation areas are usually included in the developer's original reserve budget. However, governing documents and the developer's budget may not always account for all components for which the association is responsible. A site analysis by knowledgeable individuals should produce a comprehensive list of items for which the association is, or might be responsible.

Local governments and utility companies can often help to identify capital components by stating where their responsibility for certain components ends, and that of the association begins. For instance, the governing documents or developer budget may be unclear about whether sidewalks along the edge of a development belong to or are the responsibility of the community or the locality. If the sidewalks are an association responsibility, then sidewalks are components which should be included in the reserve budget; if not, then the budget need not account for repair and replacement.

### *Quantifying Components*

Although existing maps and construction drawings of a development may serve as a guide to component quantities, a detailed site and building analysis is the best way to obtain an accurate count of these items. For some components, such streets, roofs, and fences, the square or linear footage must be measured in order to describe the quantity; while for other items, such as utility room doors, it may be sufficient to know the number required. The approved plans and

specifications on file with the locality, and the *as-built plans*, if different from those filed with the local government, can be an excellent source of information for these quantities.<sup>3</sup>

For components that are actually made up of a number of items, the nature and quantity of the constituent parts should be stated (e.g., the metal flashing for a shake roof as well as the square footage of shingles). It is common to overlook the “extra” pieces that are in fact necessary to the construction of essential items such as roofs, siding, and irrigation systems.

Once the number and constituent parts of each component are detailed, it is necessary to give some consideration to the quality and specifications of those parts. For instance, is the asphalt two inches thick, or four inches thick? Is the roof a two-ply roof? What grade of paint was used? An accurate description of the materials is essential to proper reserves. If significant in dollar amount, quantities of the same type of component existing in very different conditions should be noted separately (e.g., the square footage of siding with western or southern exposure as compared to the square footage with eastern or northern exposure).

#### *Determining Useful Life and Remaining Life of Components*

*Useful life (UL)* is typically defined as the number of years the component is expected to serve its intended purpose if given regular and proper maintenance. If the association fails to provide proper maintenance, then it may become difficult to anticipate the useful life of components.

One estimate of useful life is material manufacturer’s warranty. This estimate presumes, usually in writing in the fine print of the warranty, that the product was installed with the purported quality of materials and according to the manufacturer’s specifications. Sometimes components may have been installed with lesser quality materials or inferior workmanship, thereby making the effective useful life shorter. When no knowledgeable inspection is made of the materials and installation, the manufacturer’s warranty may not be an accurate description of the useful life of the component.

There are also commercially available manuals that have estimates of useful life. Published data may not be consistent with the location, exposure, or type of a particular component. The estimated life of a street as predicted from national data may well be lower than that of a street in a comparatively mild climate, but the estimated life of exterior paint as predicted from national averages may be higher than that of paint on buildings in windy or coastal areas. In using published estimates, it is necessary to consider how the specific case in question may differ from the average case considered by the manual’s author. Useful life estimates may vary considerably from manual to manual, so consulting more than one manual

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<sup>3</sup> The drawings filed when the development was begun represent builder plans, but may not reflect the development as actually constructed. Therefore, they can be useful, but should be verified by physical inspection.

may guard against the risk of underestimating or overestimating the life of a component. The source(s) of component useful life estimates should be identified specifically.

**Remaining useful life (RUL)** is generally defined as the expected number of years the component will continue to serve its intended purpose prior to repair or replacement. If the development is new and the developer-prepared estimates are correct, the remaining useful life might be estimated simply by subtracting the age of the development from the useful life of each component. The older the components, the less accurate this method will be.

Some of the factors that affect the remaining useful life of a component are (i) current age, (ii) apparent physical condition, and (iii) past maintenance record (or absence of maintenance). The current age of the component may be determined from association records. The apparent current condition must be determined through physical inspection, preferably by someone familiar with the component. Records of past maintenance must be compared with recommended maintenance in order to determine whether the item has been properly maintained or may wear out sooner than expected due to inadequate care.

In determining the remaining useful life of a component, a certain level of continued preventative maintenance may be assumed. These maintenance assumptions should be explicitly stated so that proper maintenance can be continued through the component’s remaining life.

The remaining life of a component implicitly specifies the year in which it may be repaired or replaced. The **effective age** of a component is the difference between the component’s useful life (UL) and remaining useful life (RUL). A budget timeline can be used to show the replacement year for each component. This timeline can serve as a schedule for expected replacement of components and can be updated or changed when the physical analysis is updated, or as components last for shorter or longer periods than expected.

### Sample Replacement Schedule

| Component                         | Age in Years as of<br>12/31/2018<br>(Effective Age) | Estimated<br>Useful Life (UL) | Estimated<br>Remaining<br>Useful Life<br>(RUL) | Year to Replace |
|-----------------------------------|---|-------------------------------|--|-----------------|
| Stormwater<br>management facility | 3   | 5                             | 2  | 2021            |
| Paving<br>(slurry coat)           | 4   | 7                             | 3  | 2022            |
| Roofing<br>(wood shingle)         | 11  | 15                            | 4  | 2023            |

### *Determining Replacement Cost*

**Replacement costs** can be obtained from manufacturers or their representatives for some items, and from local licensed contractors on others. It is important to remember that the cost of component replacement should also include the cost of removing the existing component, along with the cost of obtaining permits and compliance with local building requirements, if applicable. It is also important to take into consideration that some existing components may be outdated and may not meet current code requirements. These components may need to be replaced with newer products that comply with code requirements, which may factor into replacement cost.

There are a number of recognized cost estimating manuals available with pricing information that can be used. Cost estimates are generally comparable among manuals for the same geographic area, so there is less need to consult multiple manuals for replacement costs than for estimates for useful life. However, there are some considerations to factor in when using these manuals to determine costs. The majority of professionals performing reserve studies for associations obtain cost estimates from a database based on the experience of these professionals. Cost estimates derived from this data may vary significantly from estimates based on manuals alone. Accordingly, associations performing their own study may want to obtain additional supporting data for their manual cost estimates from other sources, such as contractors, material suppliers, etc. This collection of data should then be considered in conjunction with the results of an inspection by a reasonably qualified person when making a final determination of replacement cost.

It is important to determine the specific geographic area for which the manual offers a cost average. If a manual has national averages, it may underestimate the cost of labor in certain areas, such as urban areas. It is also important to determine the base year in which the manual's cost estimates were made. The current replacement cost for components is not shown in the manual, and should be adjusted for ***inflation*** since the time cost data was obtained.

### *Documenting Maintenance Assumptions*

An important adjunct to determining UL and RUL of a component is to document the type and schedule of maintenance that is assumed for the component to survive that life. For example, if the 20-year life expectancy of a roof is based upon annual cleaning of the roof and gutters, the association will be able to take action to help ensure that all the roofs will indeed last. Documentation of maintenance assumptions can lead to improved maintenance throughout the project and thereby lower replacement costs. On the other hand, ignoring maintenance assumptions, or improper maintenance, can put the replacement schedule and costs in jeopardy.

A properly prepared physical analysis will lead to a better maintenance program for the association. Clear and concise maintenance suggestions are a useful supplement to a

professionally prepared physical analysis. These suggestions may save more than the cost of the original study on future repairs and replacements.

### *Using Component Data to Develop the Funding Analysis*

Once charts of replacement schedule and future replacement costs are completed, the physical analysis is finished. The next step is to determine how much will be spent in each year for all components, and that step is part of the financial analysis.

### **Conducting a Financial Analysis**

The goals of a *financial analysis* are to (i) establish *funding goals*; (ii) identify annual funding requirements; and (iii) disclose limitations and assumptions. Once the estimated useful life, estimated remaining life, and estimated current replacement costs of components are identified, the association is ready to develop a plan for funding the *reserve account*.

In preparing the *funding plan*, the association will have to make decisions about the amount of current assessments and the need for *special assessments*, balanced against projected liability. The financial viability of the association will depend a great deal upon the ability of the association to replace components as they wear out, and not to defer major maintenance items.

A product of the financial analysis process is the development of a funding plan (*cash flow* forecast or projection) to estimate future reserve cash receipts and disbursements. This is most easily presented in a spread sheet format. All supporting assumptions and methodology should be carefully documented.

The major steps in conducting a financial analysis are:

1. Obtain component information (from physical analysis).
2. Determine funding goal.
3. Calculate replacement fund liability.
4. Identify reserve account asset (cash balance).
5. Estimate annual association reserve fund income (from regular assessments).
6. Project expenditures and reserve fund needs, including regular and special assessments.
7. Prepare statement of limitations and assumptions.
8. Disclose reserve study information in association budget.

As an association completes these steps, the governing board will make major policy decisions. Professionals may be able to advise the governing board on key decisions, but it is important for the governing board to understand each of these decisions, since they independently affect the overall results of the funding plan. Because the amount of regular assessments and the need for

special assessments should be indicated in the plan, these decisions will affect monthly costs and property values.

### *Determine Funding Goal*

Determination of the funding strategy, including establishment of the funding goal, is one of the most important fiscal decisions to be made by the governing board. The association budget should clearly indicate estimated revenues and expenses, describe the funding goal, and indicate current status in meeting the goal.

The funding plan should show the funds required to replace each component as it comes to the end of its useful life, and indicate how the association will fund the replacements. The association should decide how much should be raised through regular assessments for the reserve account each year, and how much should be raised by special assessment, if any. In addition, the association should consider how much cash will remain in the reserve account at the end of the planning period relative to the projected balance needed at that date.

Associations will have to make difficult policy choices in determining the funding goal. Many associations underfund reserves. This is due to lack of attention to reserve budgets in the past, and underestimation of replacement costs. An ideal goal for an association is to eliminate any *deficit* or shortage in reserve fund by building up the reserve fund to where the cash in the replacement reserve account is at least equal to the estimated value of accumulated wear of all major components. However, this goal may not be within reach of many associations in the short term, except through special assessments.

### Funding Models

There are at least four basic funding models. All of these funding models have appropriate application. Furthermore, if done correctly, all of these models adequately fund the reserves.

- **Full Funding Model** – (Also called the Component Method.) This is the most conservative funding model. It funds each component as its own line item budget. This method is required in some states; however, Virginia does not require this method. The goal of this model is to attain and maintain the reserves at or near 100%. For example, if a community has a component with a 10-year life and a \$10,000 replacement cost, it should have \$3,000 set aside for its replacement after three years. In this case, \$3,000 equals full funding. Note that this model may not account for inflation.
- **Baseline Funding Model** – (Also called a Minimum Funded Model.) The goal of this model is to keep the reserve cash balance above zero. This means that at any time during the funding period the *reserve balance* does not drop below zero dollars.

This is the least conservative model. An association using this model must understand that even a minor reduction in a component's remaining useful life can result in a deficit in the reserve cash balance. Associations can implement this model more safely by conducting annual reserve updates that include field observations.

- **Threshold Funding Model** – (Also called the Cash Flow Method.) This model is based on the Baseline Funding concept. However, in this model the minimum cash reserve balance is established at some predetermined dollar amount. Associations should take into consideration that depending on the mix of common area or common elements major components this model may be more or less conservative than the fully funded model.
- **Statutory Funding Model** – This model is based on local statutes. To use it, associations set aside a specific minimum amount of reserves as required by statutes. At this time, Virginia statutes are silent on which funding model an association may choose.

Each of the funding models depends on an analysis of cash flows into and out of the reserve fund over the next 30 years. Assessment calculations are then made sufficient to reach the governing board's funding goals.

An association may wish to include information in a reserve study report about full funding to provide in effect a funding measuring stick for the association.

#### *Calculate the Reserve Deficit*

The association should employ the **accrual method** to estimate fund contributions and expenses. This will ensure payments to the reserve account remain level, and that sufficient funds will be available when expenses come due. With respect to revenues, this estimate includes regular and special assessments, as well as the after-tax **interest** income earned on accumulated cash reserves. Expenses can be accrued by spreading the eventual replacement cost of each component over its total useful life or obtaining an estimate of annual component wear. For instance, if a component currently valued at \$10,000 has a useful life of ten years, then one can estimate the annual wear, or the annual provision for the replacement fund, at \$1,000. By year five, this component would then have accrued a liability of \$5,000, assuming no inflation. (If the association fully funded its reserves, then this \$5,000 would already be in the reserve account by the end of the fifth year.)

After estimated revenues and expenses are established, this information can be used to calculate the required estimated reserves for components, and calculate any deficit or shortage in the reserve fund.

Begin by determining the *accrued fund balance* for each component. This can be calculated according to the following formula: Replacement Cost divided by Useful Life (UL) times Effective Age. For example, consider a roofing component with a replacement cost of \$30,000, a useful life of 15 years, and an effective age of 11 years:

$$\frac{\text{Replacement Cost}}{\text{Useful Life (UL)}} \times \text{Effective Age}$$



$$\frac{\$30,000}{15} \times 11 = \$2,000 \times 11 = \$22,000$$

Analyze each component in this manner, and then total together the accrued fund balance for components to determine the projected reserve fund balance. Then determine the reserve deficit by calculating the difference between the projected reserve fund balance and the estimated cash balance in the reserve fund. Once the reserve deficit (if any) is established, this information can be used to determine the amount of reserve deficit per lot or unit. In addition, the reserve balance funding percentage can be determined.

| Component Replacement                          | Replacement Cost | Useful Life (UL) (years) | Effective Age (years) | Desired Fund Balance |
|--|------------------|--------------------------|-----------------------|----------------------|
| Stormwater management facility                 | \$10,000         | 5                        | 3                     | \$6,000              |
| Paving   | \$14,000         | 7                        | 4                     | \$8,000              |
| Roofing  | \$30,000         | 15                       | 11                    | \$22,000             |
| Total Reserve Balance (current)                |                  |                          |                       | \$36,000             |
| Estimated Cash Reserves (current)              |                  |                          |                       | \$22,000             |
| Reserve Deficit (current)                      |                  |                          |                       | \$14,000             |
| Reserve Deficit per unit (\$14,000 ÷ 35 units) |                  |                          |                       | \$400                |
| Percentage of Funding                          |                  |                          |                       | 61%                  |

$$\text{Desired Fund Balance} = \text{Replacement Cost} / \text{Useful Life (UL)} \times \text{Effective Age}$$

$$\text{Reserve Deficit} = \text{Total Reserve Balance} - \text{Estimated Cash Reserves}$$

$$\text{Percentage Funding} = \text{Estimated Cash Reserves} / \text{Reserve Deficit} \times 100$$

Although this approach is relatively simple, there are challenges posed by the fact that it does not factor the effects of interest or of inflation. Interest rates and inflation play a significant role in whether a reserve fund can meet its goals. An alternative reserve deficit model, which does take into account interest and inflation, is as follows<sup>4</sup>:

$$\text{Desired Balance} = \left( \frac{\text{Replacement Cost}}{\text{Useful Life (UL)}} \times \text{Effective Age} \right) + \left( \frac{\text{Replacement Cost}}{\text{Useful Life (UL)}} \times \text{Effective Age} \right) \left( \frac{1}{(1 + \text{Interest Rate})^{\text{Remaining Life (RUL)}}} \right) - \left( \frac{\text{Replacement Cost}}{\text{Useful Life (UL)}} \times \text{Effective Age} \right) \left( \frac{1}{(1 + \text{Inflation Rate})^{\text{Remaining Life (RUL)}}} \right)$$

Assuming an inflation rate of 3% and interest rate of 5% after taxes, the following are calculated.

| Component Replacement                          | Replacement Cost | Useful Life (UL) (years) | Effective Age (years) | Desired Fund Balance |
|--|------------------|--------------------------|-----------------------|----------------------|
| Stormwater management facility                 | \$10,000         | 5                        | 3                     | \$5,787              |
| Paving   | \$14,000         | 7                        | 4                     | \$7,590              |
| Roofing  | \$30,000         | 15                       | 11                    | \$22,553             |
| Total Reserve Balance (current)                |                  |                          |                       | \$33,930             |
| Estimated Cash Reserves (current)              |                  |                          |                       | \$22,000             |
| Reserve Deficit (current)                      |                  |                          |                       | \$11,930             |
| Reserve Deficit per unit (\$11,930 ÷ 35 units) |                  |                          |                       | \$340                |
| Percentage of Funding                          |                  |                          |                       | 65%                  |

This approach, though more complicated, may be more reflective of the true amount of the reserve deficit (assuming the interest and inflation rates are accurate). In most cases, the difference between these approaches is not material; however, with some mixes of common area or common elements major components the difference can be quite noticeable and failure to properly take interest and inflation into account can unfairly lead to unrealistically high calculations of the reserve deficit.

Many associations take the approach of an *unfunded & special assessment model*. The association does not have reserve balances that will cover expected replacement costs, and the only recourse is to schedule special assessments to cover component replacement costs when they are due. Lack of information about needed special assessments can pose a problem for owners. One-time costs impose an additional financial burden on owners, and can be a considerable hardship on those with limited or fixed incomes who may be unable to pay. This

<sup>4</sup> See Appendix H for more detail on calculating using this formula.

approach is the riskiest, and could jeopardize the financial viability of the association if assessments cannot be raised when needed.

Another approach is a *mixed model* in which the cash needs for replacement of components are met through a combination of regular and planned special assessments. The degree to which an association can meet its cash needs through regular as opposed to special assessments may be an indicator of the association's financial viability.

When considering an alternative source of funding, such as a special assessment, the governing board should refer to the community's governing documents and applicable law to ensure the association has the authority to impose assessments to cover component replacement costs that may come due.

The association's choice of the funding goal or strategy will have a direct effect on the cash required of each individual owner. The strategy, and the degree to which the association has funded its reserves, should affect property value as well. (If an association shows a \$5,000 unfunded reserve deficit per unit, this amount reasonably should be reflected in the sales price.)

#### *Estimate Association Reserve Fund Income*

Ideally, the replacement reserve account should be built through regular (usually monthly) assessments paid by association members. A specific dollar amount of regular association payments should be earmarked for reserves, and deposited into a reserve account as they are collected. Financing of replacement reserves from regular assessments is desirable. First, it spreads the responsibility for replacements over time, rather than allocating costs to owners who happen to be in the association in the year a particular component comes due for repair or replacement. This funding approach provides a more equitable distribution of the costs of aging components. Second, it provides individual owners with more certainty as to the true costs of the property.

Income from regular assessments should be calculated for each year, based on the number of lots or units, and the level assessment per lot/unit. In communities with several rates for different types or sizes of units, the expected income should be calculated for each class of unit and then added. Assessment increases, if any, should be estimated by year. A method for calculating the amount to contribute to the reserve account follows. Under normal economic circumstances this approach should yield a good approximation. However, associations may wish to obtain the assistance of a professional firm to fine tune estimates to take into account inflation and interest rates.

| Component                      | Replacement Cost | Estimated Useful Life (UL) (years) | Annual Contribution |
|--------------------------------|------------------|------------------------------------|---------------------|
| Stormwater management facility | \$10,000         | 5                                  | \$2,000             |
| Paving                         | \$14,000         | 7                                  | \$2,000             |
| Roofing                        | \$30,000         | 15                                 | \$2,000             |
| Total Annual Contribution      |                  |                                    | \$6,000             |
| Add 10% for Contingencies      |                  |                                    | \$600               |
| Total Annual Contribution      |                  |                                    | \$6,600             |
| Number of Units in Community   |                  |                                    | 48                  |
| Annual Contribution per Unit   |                  |                                    | \$138               |
| Monthly Contribution per Unit  |                  |                                    | \$11.46             |

State law requires an association’s governing board to review reserve study results at least annually to determine if reserves are sufficient – according to the governing board, and to make adjustments necessary to maintain reserves. Changes in interest rates or inflation rates, or unusual changes in the prices of components, may make it advisable to raise or lower the monthly amount assessed to fund reserves. These periodic “course corrections” can promote the stability of the reserve account, and decrease the likelihood of financial shocks when the next reserve study is performed.

*Project Expenditures and Reserve Funding Needs*

The physical analysis provides the estimates for expected expenditures by year for each component. Adding these component requirements together, by year, gives the estimate of needed funds over time. Association members should be aware of the limitations of expenditure forecasting and of the reality that the overall funding plan is only as good as the initial estimates of replacement costs and the time of replacement needs.

An important policy issue for a governing board is the decision over whether to use replacement costs, or estimated future costs. Use of an inflation rate will generally result in higher estimates of future costs. If the governing board uses replacement costs, it is essential the board revise the plan annually based upon updated current replacement costs, plus currently required or anticipated expenditures. The annual cost for each component would be calculated by dividing the unfunded replacement cost by the remaining useful life. This approach is valid only if repeated each year.

If the board chooses to use an inflation rate, it would apply an average long-term cost inflation rate to all components from the time of the study until the year of replacement (based on recent average component cost data). To keep this plan current, it is important to annually review and update projected expenditures, inflation factors and other assumptions. As with the replacement cost approach, the inflation rate approach is valid only if repeated each year.

There are several ways to select an inflation rate for estimating component costs for future years. These include: (i) Federal Bureau of Labor Statistics; (ii) published information from construction cost estimating companies; and (iii) Marshall & Swift. The interest rate assumption is an important decision for the governing board, and should be explicitly disclosed in the financial analysis. Because of their effect on estimating future costs, replacement cost information and inflation rate assumptions should be reviewed annually, and the projections adjusted as necessary.

Following is a sample chart showing calculations for future replacement costs. In a real situation, it may be necessary to add additional years of inflation in order to account for old pricing information. The sample chart assumes the pricing information on all components is up-to-date.

| Component  | Quantity & Units | Unit Cost | Replacement Cost (2019) | Year to Replace | Future Cost to Replace |
|--|------------------|-----------|-------------------------|-----------------|------------------------|
| Painting, exterior stucco  | 15,875 sq. ft.   | .63       | \$10,000                | 2021            | \$10,941               |
| Paving, slurry coat  | 35,000 sq. ft.   | .40       | \$14,000                | 2022            | \$16,022               |
| Roofing, wood shingle  | 10,715 sq. ft.   | 2.80      | \$30,000                | 2023            | \$35,913               |
| (Future replacement cost was calculated with an annual 4.6% inflation rate.) |                  |           |                         |                 |                        |

#### *Estimate Interest Earnings of Reserve Account Over Financial Analysis Period*

Reserve funds deposited in certificates of deposit or money market accounts will generate interest income to increase the reserves. For forecasting purposes, it is necessary to choose an interest rate. For planning purposes, a lower interest rate is more conservative than a higher one. Interest rates can be pegged to current bank rates or CD rates. Income from the reserve and operating accounts is taxable to an association, even if the association is established as a non-profit organization. A governing board should adjust the interest rate assumption to account for applicable federal and state taxes.

Though it may be difficult to accurately project future component cost increases or future interest earned on reserve cash balances, it is nonetheless important to use these factors for calculations in the financial analysis, and to update them each year. This is particularly true for associations that have chosen to rely in part on special assessments.

As component replacement comes due in future years, it will draw against reserve funds. The initial reserve account, augmented by regular contributions from routine homeowner assessment payments, should provide sufficient funding to pay for replacements as they are needed. In some cases, though, the reserve account will not be enough. The cash flow analysis will identify instances where expenditure projections for a given year exceed projected reserve cash balances. In these cases, additional funds from special assessments (or other sources, if any) would be needed to increase the reserve accounts to desired levels.

Some replacement expenses will be impossible to estimate. This may be due to unexpected breakage or destruction, failure in a “life-of-the-project” system, reduced useful life of a component, or other unexpected component cost. A line item in the cost estimates might be established as a contingency. This amount might be limited to 3% to 5% of the first-year budget in a new community. In a conversion, or established communities with incomplete documentation, larger contingency levels may be necessary. One useful way to establish estimates for contingency funding in established communities is to review prior year spending for contingency-type replacements or continuing repairs. For instance, if there is routine work done annually on underground utilities, then some funds for expected annual levels might be budgeted under the contingency category.

Appendix F contains a sample financial analysis which summarizes these income and cost concepts. The rows of the spreadsheet show individual component costs and association income sources. The columns show the years included in the financial analysis. The sample assumes a funding plan period of 30 years and mixed funding model which uses regular and special assessments to maintain a positive cash balance. Because the model is not fully funded, inflation factors are employed in determining component costs.

#### *Statement of Limitations and Assumptions*

The funding analysis should document (i) all limitations to the estimate, (ii) assumptions made in order to conduct the estimates, (iii) the model used to make the estimates.

#### *Disclose Reserve Study Information in the Annual Budget; Updating*

An association, once it has successfully completed a reserve study (both physical and financial analysis), can use the resulting information in its annual budget. Indeed, state law requires that to the extent a reserve study indicates the need for an association to budget reserves, the budget must include:

1. The current estimated replacement cost, estimated remaining life, and estimated useful life of the capital components;
2. The current amount of accumulated cash reserves set aside, to repair, replace, or restore the capital components and the amount of the expected contribution to the reserve fund

for the fiscal year (as of the beginning of the fiscal year for which the budget is prepared);

3. A statement describing the procedures used for estimation and accumulation of cash reserves; and
4. A statement of the amount of reserves recommended in the study and the amount of current cash for replacement reserves.

An association governing board is required to review the results of the reserve study at least annually to determine if reserves are sufficient, and make appropriate adjustments to ensure reserves are maintained. How often, though, does the reserve study need to be updated?

Annual updates of the financial analysis can be carried out at the same time as preparation of the operating budget, and can call for required adjustments within the original planning period. The assumptions in the reserve study (e.g. remaining life and cost of components) should be reviewed and updated as necessary. The frequency of updates of component data will depend on the soundness of the original data and estimates, the preparer's recommendations, and the association's ability to adequately maintain its components. Even though the methodology calls for a financial study covering a time frame of twenty years or more, annual planning and periodic reviews of the reserve study can rely on updated estimates.

### **Hiring a Professional to Perform a Reserve Study**

Members of an association governing board must decide whether to conduct a reserve study by themselves, or hire qualified professionals to perform the task. Some associations elect to hire outside consultants to perform certain tasks, but not others. In making this decision, a governing board should consider several factors, to include:

1. The level of expertise within the board or the community for this kind of study;
2. The willingness of board or community members to volunteer their time;
3. The cost of hiring outside consultants to conduct the reserve study;
4. Whether a previous reserve study is available for use as a guideline;
5. The quality of existing documentation of components and replacement costs;
6. The association's previous history regarding special assessments;
7. The current financial state of the association's reserve account; and
8. The degree to which board members can be held personally liable for a defective reserve study.

If the governing board wishes to have all or part of the study performed by professionals, it must still make several important decisions. These include interviewing and hiring the consultants, assisting them in obtaining community data, reviewing the *work product* delivered by the consultants, and following up on consultants' recommendations for the reserve funding

account. Should a governing board elect to use consultants, the following should be established by the board:

- Identification of common area or common elements components, exclusive use components, quasi-structural components, and life-of-the-project components (with the assistance of association management);
- The interest rate for estimating income earned on reserve balances; and
- The funding goal of the reserve study, including the degree to which reserves are to be funded by annual assessments, and the need for special assessments.

As the governing board is accountable for quality of the study itself, it should carefully specify the work tasks and carefully review potential consultants with respect to previous experience, price, and recommendations from other communities. Following are some or all of the work tasks that may be performed by professionals.

#### Physical Analysis Products for Consultants

- Quantification of components;
- Documentation of maintenance assumptions and recommendations;
- Identification of useful life and remaining life of components, and replacement year; and
- Estimation of replacement cost in current and future dollars.

#### Financial Analysis Products for Consultants

- Spreadsheet modeling of reserve funding, and development of solution(s) meeting the funding goals of the association;
- Calculation of cash balance of reserve account by year;
- Estimation and explanation of reserve deficit;
- Recommendation of needed increases in reserve portion of assessment;
- Preparation of statement of limitations and assumptions of reserve analysis; and
- Preparation of reserve study information for association budget.

After determining the work tasks, the board must select the consultants or contractors, if any, who will perform all or part of the work. Possible outcomes of this decision-making process include:

- Hiring an independent engineering, appraisal, or construction cost-estimating firm to perform the physical analysis, and hiring an independent accountant experienced with community associations to produce the financial analysis and association budget;
- Hiring an organization with staff expertise to perform an integrated component and financial analysis;

The type of assistance that will be needed depends upon the nature of the product desired, the budget, and expertise available to the governing board. The governing board is ultimately responsible for the reserves study disclosures. The board should also consider its potential legal liability if the study does not meet statutory information requirements.

Recommendations from other community associations can often be helpful in determining which company or companies to hire for the reserve study. Organizations of CICs and related professionals can also be a resource to find qualified professionals. It is helpful to talk with people who have worked with any firm or consultant under consideration and to examine samples of related work.

The governing board should interview several companies and obtain samples of their work in order to get a sense of each company's qualifications, experience, and pricing structures. Appendix E contains partial lists of questions a governing board may use to ask a reserve study preparer as part of the interview process. The questions may be used in interviews with potential consultants, or used a written *request for proposal*, along with a clear specification of the work tasks to be performed. Answers to these questions, as well as price, should help in the selection of any needed professionals.

#### *Information the Governing Board Should Provide*

Before it can provide a cost estimate, a consulting firm will need information from the governing board regarding the community and the scope of work. The governing board should provide potential consultants with the following:

- The size of the community – area and number of lots/units;
- Types of improvements in the common area/common elements – pools, clubhouses, etc.;
- Which portions of the reserve study the consulting firm is being asked to perform;
- A list and definition of major components;
- A statement of board policy about major components for which it is not requesting an estimate of replacement costs;
- Maintenance records, warranties, and other information regarding the condition of components;
- Information on planned changes or additions to major components;
- Copy of as-built construction drawings, if they exist;
- A copy of the previous reserve study, if one was conducted;
- Estimated replacement cash balance at beginning of next (nearest) fiscal year;
- A copy of the current or proposed association budget;
- A board estimate of long-term interest rate to be earned on reserve account cash balance;
- and
- Anticipated reserve expenses for the remaining year.

In some cases, a consulting firm might need further information to make its estimate. It will save time to ascertain a company's information requirements before the actual interview takes place.

### **Potential Problems**

Many associations, especially if conducting a reserve study for the first time, may find they are lacking certain information that is necessary to complete the study. If so, they will need to retrieve and document this information either before the study is begun, or during the study itself. Here is a list of the more common problems that can be addressed during the course of doing a reserve study:

- The association does not have an established master list of major components;
- If a master list of components exists, it does not include all significant common area/common elements components listed in the governing documents or developer's drawings;
- Information on remaining life and current replacement cost has not been prepared for all major components;
- The association does not have a documented maintenance schedule and related assumptions for each major component;
- "Life-of-the-project" components are not mentioned in assumptions, or included in reserve budgeting;
- The association budget does not contain reserve study information or assumptions;
- There is no policy to distinguish reserve expenditures from operating expenses;
- No reserve funding goal has been established;
- There is no separate bank account(s) for reserve funds;
- No previous physical analysis or financial analysis has been conducted;
- The reserve deficit is staying constant or increasing over time;
- Special assessments are required to fund major repairs; and
- Current income from assessments does not equal or exceed dollar value of annual component wear.

## Resources Used in Developing the Guidelines

California Department of Real Estate. (August 2010). *Reserve Study Guidelines for Homeowner Association Budgets*. State of California.

Community Associations Institute. (2018). *Reserve Specialist (RS) Designation: National Reserve Study Standards*. Community Associations Institute. <https://www.caionline.org/pages/default.aspx>.

Foundation for Community Association Research (FCAR). (2014). *Best Practices: Reserve Studies/Management*. Foundation for Community Association Research. Falls Church, Virginia.

Moss, J. R. (2018). *Virginia Common Interest Communities: A Resource for Volunteer Leaders, Members, Managing Agents and Business Partners* (2nd ed.). Jeremy Moss.

Nevada Department of Business and Industry. (2003). *Reserve Study Guidelines*. Prepared by the Lied Institute for Real Estate Studies. UNLV. State of Nevada.

## **Additional Resources**

Community Associations Institute. (1994). *A Guide to Replacement Reserve Funds and Long-Term Reserve Funding*. Community Associations Institute. Falls Church, Virginia.

Community Associations Institute. (2013). *Reserve Funds: How and Why Community Associations Invest Assets*. 2<sup>nd</sup> Edition. CAI Press. Falls Church, Virginia.

## Appendix A – Excerpts from Code of Virginia

| Effective Until September 30, 2019 |   |
|------------------------------------|---|
| § 55-79.41                         | Condominium Act – Definitions   |
| § 55-79.93:1                       | Condominium Act - Annual budget; reserves for capital components                      |
| § 55-426                           | Virginia Real Estate Cooperative Act – Definitions                                    |
| § 55-471.1                         | Virginia Real Estate Cooperative Act – Annual budget; reserves for capital components |
| § 55-509                           | Property Owners’ Association Act – Definitions  |
| § 55-514.1                         | Property Owners’ Association Act - Annual budget; reserves for capital components     |

| Effective October 1, 2019 |   |
|---------------------------|---|
| § 55.1-1800               | Property Owners’ Association Act – Definitions  |
| § 55.1-1826               | Property Owners’ Association Act - Annual budget; reserves for capital components     |
| § 55.1-1900               | Virginia Condominium Act - Definitions  |
| § 55.1-1965               | Virginia Condominium Act - Reserves for capital components                            |
| § 55.1-2100               | Virginia Real Estate Cooperative Act – Definitions                                    |
| § 55.1-2147               | Virginia Real Estate Cooperative Act – Annual budget; reserves for capital components |

## § 55-79.41. Definitions

When used in this chapter:

"Capital components" means those items, whether or not a part of the common elements, for which the unit owners' association has the obligation for repair, replacement or restoration and for which the executive organ determines funding is necessary.

"Common elements" means all portions of the condominium other than the units.

"Common expenses" means all expenditures lawfully made or incurred by or on behalf of the unit owners' association, together with all funds lawfully assessed for the creation and/or maintenance of reserves pursuant to the provisions of the condominium instruments.

"Common interest community manager" means the same as that term is defined in § [54.1-2345](#).

"Condominium" means real property, and any incidents thereto or interests therein, lawfully submitted to this chapter by the recordation of condominium instruments pursuant to the provisions of this chapter. No project shall be deemed a condominium within the meaning of this chapter unless the undivided interests in the common elements are vested in the unit owners.

"Condominium instruments" is a collective term referring to the declaration, bylaws, and plats and plans, recorded pursuant to the provisions of this chapter. Any exhibit, schedule, or certification accompanying a condominium instrument and recorded simultaneously therewith shall be deemed an integral part of that condominium instrument. Any amendment or certification of any condominium instrument shall, from the time of the recordation of such amendment or certification, be deemed an integral part of the affected condominium instrument, so long as such amendment or certification was made in accordance with the provisions of this chapter.

"Condominium unit" means a unit together with the undivided interest in the common elements appertaining to that unit. (Cf. the definition of unit, *infra*.)

"Contractable condominium" means a condominium from which one or more portions of the submitted land may be withdrawn in accordance with the provisions of the declaration and of this chapter. If such withdrawal can occur only by the expiration or termination of one or more leases, then the condominium shall not be deemed a contractable condominium within the meaning of this chapter.

"Conversion condominium" means a condominium containing structures which before the recording of the declaration, were wholly or partially occupied by persons other than those who have contracted for the purchase of condominium units and those who occupy with the consent of such purchasers.

"Convertible land" means a building site; that is to say, a portion of the common elements, within which additional units and/or limited common elements may be created in accordance with the provisions of this chapter.

"Convertible space" means a portion of a structure within the condominium, which portion may be converted into one or more units and/or common elements, including but not limited to limited common elements in accordance with the provisions of this chapter. (Cf. the definition of unit, *infra*.).

"Declarant" means any person, or group of persons acting in concert, that (i) offers to dispose of his or its interest in a condominium unit not previously disposed of, including an institutional lender which may not have succeeded to or accepted any special declarant rights pursuant to § 55-79.74:3;(ii) reserves or succeeds to any special declarant right; or (iii) applies for registration of the condominium. However, for the purposes of clauses (i) and (iii), the term "declarant" shall not include an institutional lender which acquires title by foreclosure or deed in lieu thereof unless such lender offers to dispose of its interest in a condominium unit not previously disposed of to anyone not in the business of selling real estate for his own account, except as otherwise provided in § 55-79.74:3. The term "declarant" shall not include an individual who acquires title to a condominium unit at a foreclosure sale.

"Dispose" or "disposition" refers to any voluntary transfer of a legal or equitable interest in a condominium unit to a purchaser, but shall not include the transfer or release of security for a debt.

"Electronic transmission" means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved, and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process. Any term used in this definition that is defined in § 59.1-480 of the Uniform Electronic Transactions Act shall have the meaning set forth in such section.

"Executive organ" means an executive and administrative entity, by whatever name denominated, designated in the condominium instruments as the governing body of the unit owners' association.

"Expandable condominium" means a condominium to which additional land may be added in accordance with the provisions of the declaration and of this chapter.

"Financial update" means an update of the financial information referenced in subdivisions C 2 through C 7 of § 55-79.97.

"Future common expenses" means common expenses for which assessments are not yet due and payable.

"Identifying number" means one or more letters and/or numbers that identify only one unit in the condominium.

"Institutional lender" means one or more commercial or savings banks, savings and loan associations, trust companies, credit unions, industrial loan associations, insurance companies, pension funds, or business trusts including but not limited to real estate investment trusts, any other lender regularly engaged in financing the purchase, construction, or improvement of real estate, or any assignee of loans made by such a lender, or any combination of any of the foregoing entities.

"Land" is a three-dimensional concept and includes parcels with upper or lower boundaries, or both upper and lower boundaries, as well as parcels extending ab solo usque ad coelum. Parcels of airspace constitute land within the meaning of this chapter. Any requirement in this chapter

of a legally sufficient description shall be deemed to include a requirement that the upper or lower boundaries, if any, of the parcel in question be identified with reference to established datum.

"Leasehold condominium" means a condominium in all or any portion of which each unit owner owns an estate for years in his unit, or in the land within which that unit is situated, or both, with all such leasehold interests due to expire naturally at the same time. A condominium including leased land, or an interest therein, within which no units are situated or to be situated shall not be deemed a leasehold condominium within the meaning of this chapter.

"Limited common element" means a portion of the common elements reserved for the exclusive use of those entitled to the use of one or more, but less than all, of the units.

"Meeting" or "meetings" means the formal gathering of the executive organ where the business of the unit owners' association is discussed or transacted.

"Nonbinding reservation agreement" means an agreement between the declarant and a prospective purchaser which is in no way binding on the prospective purchaser and which may be canceled without penalty at the sole discretion of the prospective purchaser by written notice, hand-delivered or sent by United States mail, return receipt requested, to the declarant or to any sales agent of the declarant at any time prior to the formation of a contract for the sale or lease of a condominium unit or an interest therein. Such agreement shall not contain any provision for waiver or any other provision in derogation of the rights of the prospective purchaser as contemplated by this subsection, nor shall any such provision be a part of any ancillary agreement.

"Offer" means any inducement, solicitation, or attempt to encourage any person or persons to acquire any legal or equitable interest in a condominium unit, except as security for a debt. Nothing shall be considered an "offer" which expressly states that the condominium has not been registered with the Common Interest Community Board and that no unit in the condominium can or will be offered for sale until such time as the condominium has been so registered.

"Officer" means any member of the executive organ or official of the unit owners' association.

"Par value" means a number of dollars or points assigned to each unit by the declaration. Substantially identical units shall be assigned the same par value, but units located at substantially different heights above the ground, or having substantially different views, or having substantially different amenities or other characteristics that might result in differences in market value, may, but need not, be considered substantially identical within the meaning of this subsection. If par value is stated in terms of dollars, that statement shall not be deemed to reflect or control the sales price or fair market value of any unit, and no opinion, appraisal, or fair market transaction at a different figure shall affect the par value of any unit, or any undivided interest in the common elements, voting rights in the unit owners' association or liability for common expenses assigned on the basis thereof.

"Person" means a natural person, corporation, partnership, association, trust, or other entity capable of holding title to real property, or any combination thereof.

"Purchaser" means any person or persons, other than a declarant, who acquire by means of a voluntary transfer a legal or equitable interest in a condominium unit, other than (i) a leasehold interest, including renewal options, of less than 20 years or (ii) as security for a debt.

"Resale certificate update" means an update of the financial information referenced in subdivisions C 2 through C 9 and C 12 of § 55-79.97. The update shall include a copy of the original resale certificate.

"Settlement agent" means the same as that term is defined in § 55-525.16.

"Size" means the number of cubic feet, or the number of square feet of ground and/or floor space, within each unit as computed by reference to the plat and plans and rounded off to a whole number. Certain spaces within the units including, without limitation, attic, basement, and/or garage space may, but need not, be omitted from such calculation or partially discounted by the use of a ratio, so long as the same basis of calculation is employed for all units in the condominium, and so long as that basis is described in the declaration.

"Special declarant rights" means any right reserved for the benefit of a declarant, or of a person or group of persons that becomes a declarant, to (i) expand an expandable condominium, (ii) contract a contractable condominium, (iii) convert convertible land or convertible space or both, (iv) appoint or remove any officers of the unit owners' association or the executive organ pursuant to subsection A of § 55-79.74, (v) exercise any power or responsibility otherwise assigned by any condominium instrument or by this chapter to the unit owners' association, any officer or the executive organ, or (vi) maintain sales offices, management offices, model units and signs pursuant to § 55-79.66.

"Unit" means a portion of the condominium designed and intended for individual ownership and use. (Cf. the definition of condominium unit, supra.) For the purposes of this chapter, a convertible space shall be treated as a unit in accordance with subsection (d) of § 55-79.62.

"Unit owner" means one or more persons who own a condominium unit or, in the case of a leasehold condominium, whose leasehold interest or interests in the condominium extend for the entire balance of the unexpired term or terms. "Unit owner" includes any purchaser of a condominium unit at a foreclosure sale, regardless of whether the deed is recorded in the land records where the unit is located. "Unit owner" does not include any person or persons holding an interest in a condominium unit solely as security for a debt.

1974, c. 416; 1975, c. 415; 1981, c. 480; 1982, c. 545; 1991, c. 497; 1993, c. 667; 1996, c. 977; 2001, c. 715; 2002, c. 459; 2003, c. 442; 2008, cc. 851, 871; 2015, cc. 93, 410.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## § 55-79.83:1. (Repealed effective October 1, 2019) Annual budget; reserves for capital components

A. Except to the extent provided in the condominium instruments, the executive organ shall, prior to the commencement of the fiscal year, make available to unit owners either (i) the annual budget of the unit owners' association or (ii) a summary of such annual budget.

B. Except to the extent otherwise provided in the condominium instruments, the executive organ shall:

1. Conduct at least once every five years a study to determine the necessity and amount of reserves required to repair, replace, and restore the capital components as defined in § 55-79.41;
2. Review the results of that study at least annually to determine if reserves are sufficient; and
3. Make any adjustments the executive organ deems necessary to maintain reserves, as appropriate.

C. To the extent that the reserve study conducted in accordance with this section indicates a need to budget for reserves, the unit owners' association budget shall include, without limitations:

1. The current estimated replacement cost, estimated remaining life, and estimated useful life of the capital components as defined in § 55-79.41;
2. As of the beginning of the fiscal year for which the budget is prepared, the current amount of accumulated cash reserves set aside to repair, replace, or restore the capital components and the amount of the expected contribution to the reserve fund for that fiscal year;
3. A statement describing the procedures used for estimation and accumulation of cash reserves pursuant to this section; and
4. A statement of the amount of reserves recommended in the study and the amount of current cash for replacement reserves.

2002, c. 459;2019, cc. 33, 44.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## § 55-426. Definitions

When used in this chapter or in the declaration and bylaws, unless specifically provided otherwise or the context requires a different meaning, the following terms shall have the meanings respectively set forth:

"Affiliate of a declarant" means any person who controls, is controlled by, or is under common control with a declarant. A person "controls" a declarant if the person (i) is a general partner, officer, director or employer of the declarant; (ii) directly or indirectly or acting in concert with one or more other persons, or through one or more subsidiaries, owns, controls, holds with power to vote, or holds proxies representing, more than 20 percent of the voting interest in the declarant; (iii) controls in any manner the election of a majority of the directors of the declarant; or (iv) has contributed more than 20 percent of the capital of the declarant. A person "is controlled by" a declarant if the declarant (i) is a general partner, officer, director or employer of the person; (ii) directly or indirectly or acting in concert with one or more persons, or through one or more subsidiaries, owns, controls, holds with power to vote, or holds proxies representing, more than 20 percent of the voting interest in the person; (iii) controls in any manner the election of a majority of the directors of the person; or (iv) has contributed more than 20 percent of the capital of the person. Control does not exist if the powers described in this paragraph are held solely as security for an obligation and are not exercised.

"Allocated interests" means the common expense liability and the ownership interest and votes in the association allocated to each cooperative interest.

"Association" or "proprietary lessees' association" means the proprietary lessees' association organized under § 55-458.

"Capital components" means those items, whether or not a part of the common elements, for which the association has the obligation for repair, replacement, or restoration and for which the executive board determines funding is necessary.

"Common elements" means all portions of a cooperative other than the units.

"Common expenses" means expenditures made by or financial liabilities of the association, together with any allocations to reserves.

"Common expense liability" means liability for common expenses allocated to each cooperative interest pursuant to § 55-444.

"Conversion building" means a building that at any time before creation of the cooperative was occupied wholly or partially by persons other than purchasers and persons who occupy with the consent of purchasers.

"Cooperative" means real estate owned by an association, each of the members of which is entitled, by virtue of his ownership interest in the association, to exclusive possession of a unit.

"Cooperative interest" means an ownership interest in the association coupled with a possessory interest in a unit under a proprietary lease. For purposes of this act, a declarant is treated as the

owner of any cooperative interests or potential cooperative interests to which allocated interests have been allocated pursuant to § 55-444 until that cooperative interest has been created and conveyed to another person.

"Declarant" means any person or group of persons acting in concert who (i) as part of a common promotional plan, offers to dispose of his or its cooperative interest not previously disposed of; (ii) reserves or succeeds to any special declarant right; or (iii) applies for registration of a cooperative under Article 5 (§ 55-496 et seq.) of this chapter.

"Declaration" means any instruments, however denominated, that create a cooperative and any amendments to those instruments.

"Development rights" means any right or combination of rights reserved by a declarant in the declaration to (i) add real estate to a cooperative; (ii) create units, common elements, or limited common elements within a cooperative; (iii) subdivide units or convert units into common elements; or (iv) withdraw real estate from a cooperative.

"Dispose" or "disposition" means a voluntary transfer to a purchaser of any legal or equitable interest in a cooperative interest, but does not include the transfer or release of a security interest.

"Executive board" means the body, regardless of name, designated in the declaration to act on behalf of the association.

"Identifying number" means a symbol or address that identifies only one unit in a cooperative.

"Leasehold cooperative" means a cooperative in which all or a portion of the real estate is subject to a lease, the expiration or termination of which will terminate the cooperative or reduce its size.

"Limited common element" means a portion of the common elements allocated by the declaration or by operation of § 55-439 paragraph 2 or 4 for the exclusive use of one or more but fewer than all of the units.

"Master association" means an organization described in § 55-456, whether or not it is also an association described in § 55-458.

"Offering" means any advertisement, inducement, solicitation or attempt to encourage any person to acquire any interest in a cooperative interest, other than as security for an obligation. An advertisement in a newspaper or other periodical of general circulation, or in any broadcast medium to the general public, of a cooperative not located in the Commonwealth, is not an offering if the advertisement states that an offering may be made only in compliance with the law of the jurisdiction in which the cooperative is located.

"Person" means a natural person, corporation, business trust, estate, trust, partnership, association, joint venture, government, governmental subdivision or agency, or any other legal or commercial entity. In the case of a land trust, however, "person" means the beneficiary of the trust rather than the trust or the trustee.

"Proprietary lease" means an agreement with the association pursuant to which a proprietary lessee has a possessory interest in a unit.

"Proprietary lessee" means a person who owns a cooperative interest, other than as security for

an obligation, and the declarant with respect to cooperative interests or potential cooperative interests to which allocated interests have been allocated pursuant to § 55-444 until that cooperative interest has been created and conveyed to another person.

"Purchaser" means any person, other than a declarant or a person in the business of selling cooperative interests for his own account, who by means of a voluntary transfer acquires or contracts to acquire a cooperative interest other than as security for an obligation.

"Real estate" means any leasehold or other estate or interest in, over or under land, including structures, fixtures, and other improvements and interests which by custom, usage or law pass with a conveyance of land though not described in the contract of sale or instrument of conveyance. "Real estate" includes parcels with or without upper or lower boundaries, and spaces that may be filled with air or water.

"Residential purposes" means use for dwelling or recreational purposes, or both.

"Security interest" means an interest in real or personal property, created by contract or conveyance, which secures payment or performance of an obligation. "Security interest" includes a mortgage, deed of trust, trust deed, security deed, contract for deed, land sales contract, lease intended as security, assignment of lease or rents intended as security, pledge of an ownership interest in an association, and any other consensual lien or title retention contract intended as security for an obligation.

"Special declarant rights" means rights reserved for the benefit of a declarant to: (i) complete improvements described in the public offering statement pursuant to subdivision A 2 of § 55-478 ;(ii) exercise any development right pursuant to § 55-446;(iii) maintain sales offices, management offices, signs advertising the cooperative, and models; (iv) use easements through the common elements for the purpose of making improvements within the cooperative or within real estate which may be added to the cooperative; (v) make the cooperative part of a larger cooperative or group of cooperatives; (vi) make the cooperative subject to a master association as specified in § 55-456;or (vii) appoint or remove any officer of the association, any master association or any executive board member during any period of declarant control.

"Time share" means a right to occupy a unit or any of several units during five or more separated time periods over a period of at least five years, including renewal options, whether or not coupled with an estate or interest in a cooperative or a specified portion thereof.

"Unit" means a physical portion of the cooperative designated for separate occupancy under a proprietary lease.

1982, c. 277; 2005, c. 436.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## § 55-471.1. (Repealed effective October 1, 2019) Annual budget; reserves for capital components

A. Except to the extent provided in the declaration, the board of directors shall, prior to the commencement of the fiscal year, make available to lot owners either (i) the annual budget of the association or (ii) a summary of such annual budget.

B. Except to the extent otherwise provided in the declaration, the executive board shall:

1. Conduct at least once every five years a study to determine the necessity and amount of reserves required to repair, replace, and restore the capital components as defined in § 55-426;
2. Review the results of that study at least annually to determine if reserves are sufficient; and
3. Make any adjustments the executive board deems necessary to maintain reserves, as appropriate.

C. To the extent that the reserve study conducted in accordance with this section indicates a need to budget for reserves, the association budget shall include, without limitations:

1. The current estimated replacement cost, estimated remaining life, and estimated useful life of the capital components as defined in § 55-426;
2. As of the beginning of the fiscal year for which the budget is prepared, the current amount of accumulated cash reserves set aside to repair, replace, or restore the capital components and the amount of the expected contribution to the reserve fund for that fiscal year;
3. A statement describing the procedures used for estimation and accumulation of cash reserves pursuant to this section and the extent to which the association is funding its reserve obligations consistent with the study currently in effect; and
4. A statement of the amount of reserves recommended in the study and the amount of current cash for replacement reserves.

2005, c. 436;2019, cc. 33, 44.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## § 55-509. Definitions

As used in this chapter, unless the context requires a different meaning:

"Act" means the Virginia Property Owners' Association Act.

"Association" means the property owners' association.

"Board of directors" means the executive body of a property owners' association, or a committee which is exercising the power of the executive body by resolution or bylaw.

"Capital components" means those items, whether or not a part of the common area, for which the association has the obligation for repair, replacement or restoration and for which the board of directors determines funding is necessary.

"Common area" means property within a development which is owned, leased or required by the declaration to be maintained or operated by a property owners' association for the use of its members and designated as common area in the declaration.

"Common interest community" means the same as that term is defined in § 55-528.

"Common interest community manager" means the same as that term is defined in § 54.1-2345.

"Declarant" means the person or entity signing the declaration and its successors or assigns who may submit property to a declaration.

"Declaration" means any instrument, however denominated, recorded among the land records of the county or city in which the development or any part thereof is located, that either (i) imposes on the association maintenance or operational responsibilities for the common area or (ii) creates the authority in the association to impose on lots, or on the owners or occupants of such lots, or on any other entity any mandatory payment of money in connection with the provision of maintenance and/or services for the benefit of some or all of the lots, the owners or occupants of the lots, or the common area. "Declaration" includes any amendment or supplement to the instruments described in this definition. "Declaration" shall not include a declaration of a condominium, real estate cooperative, time-share project or campground.

"Development" means real property located within this Commonwealth subject to a declaration which contains both lots, at least some of which are residential or are occupied for recreational purposes, and common areas with respect to which any person, by virtue of ownership of a lot, is a member of an association and is obligated to pay assessments provided for in a declaration.

"Disclosure packet update" means an update of the financial information referenced in subdivisions A 2 through A 9 of § 55-509.5. The update shall include a copy of the original disclosure packet.

"Financial update" means an update of the financial information referenced in subdivisions A 2 through A 7 of § 55-509.5.

"Lot" means (i) any plot or parcel of land designated for separate ownership or occupancy shown

on a recorded subdivision plat for a development or the boundaries of which are described in the declaration or in a recorded instrument referred to or expressly contemplated by the declaration, other than a common area, and (ii) a unit in a condominium association or a unit in a real estate cooperative if the condominium or cooperative is a part of a development.

"Lot owner" means one or more persons who own a lot, including any purchaser of a lot at a foreclosure sale, regardless of whether the deed is recorded in the land records where the lot is located. "Lot owner" does not include any person holding an interest in a lot solely as security for a debt.

"Meeting" or "meetings" means the formal gathering of the board of directors where the business of the association is discussed or transacted.

"Professionally managed" means a common interest community that has engaged (i) a common interest community manager to provide management services to the community or (ii) a person as an employee for compensation to provide management services to the community, other than a resident of the community who provides bookkeeping, billing, or recordkeeping services for that community.

"Property owners' association" or "association" means an incorporated or unincorporated entity upon which responsibilities are imposed and to which authority is granted in the declaration.

"Settlement agent" means the same as that term is defined in § [55-525.16](#).

1989, c. 679; 1991, c. 667; 1996, c. [618](#); 1998, c. [623](#); 2001, c. [715](#); 2002, c. [459](#); 2003, c. [422](#); 2008, cc. [851](#), [871](#); 2011, c. [334](#); 2015, cc. [93](#), [410](#).

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## § 55-514.1. (Repealed effective October 1, 2019) Annual budget; reserves for capital components

A. Except to the extent provided in the declaration, the board of directors shall, prior to the commencement of the fiscal year, make available to lot owners either (i) the annual budget of the association or (ii) a summary of such annual budget.

B. Except to the extent otherwise provided in the declaration and unless the declaration imposes more stringent requirements, the board of directors shall:

1. Conduct at least once every five years a study to determine the necessity and amount of reserves required to repair, replace, and restore the capital components as defined in § 55-509;
2. Review the results of that study at least annually to determine if reserves are sufficient; and
3. Make any adjustments the board of directors deems necessary to maintain reserves, as appropriate.

C. To the extent that the reserve study conducted in accordance with this section indicates a need to budget for reserves, the association budget shall include, without limitation:

1. The current estimated replacement cost, estimated remaining life, and estimated useful life of the capital components as defined in § 55-509;
2. As of the beginning of the fiscal year for which the budget is prepared, the current amount of accumulated cash reserves set aside to repair, replace, or restore capital components and the amount of the expected contribution to the reserve fund for that year;
3. A statement describing the procedures used for estimation and accumulation of cash reserves pursuant to this section; and
4. A statement of the amount of reserves recommended in the study and the amount of current cash for replacement reserves.

2002, c. 459; 2019, cc. 33, 44.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## § 55.1-1800. (Effective October 1, 2019) Definitions

As used in this chapter, unless the context requires a different meaning:

"Association" means the property owners' association.

"Board of directors" means the executive body of a property owners' association or a committee that is exercising the power of the executive body by resolution or bylaw.

"Capital components" means those items, whether or not a part of the common area, for which the association has the obligation for repair, replacement, or restoration and for which the board of directors determines funding is necessary.

"Common area" means property within a development which is owned, leased, or required by the declaration to be maintained or operated by a property owners' association for the use of its members and designated as a common area in the declaration.

"Common interest community" means the same as that term is defined in § [54.1-2345](#).

"Common interest community manager" means the same as that term is defined in § [54.1-2345](#).

"Declarant" means the person or entity signing the declaration and its successors or assigns who may submit property to a declaration.

"Declaration" means any instrument, however denominated, recorded among the land records of the county or city in which the development or any part of such development is located, that either (i) imposes on the association maintenance or operational responsibilities for the common area or (ii) creates the authority in the association to impose on lots, on the owners or occupants of such lots, or on any other entity any mandatory payment of money in connection with the provision of maintenance or services for the benefit of some or all of the lots, the owners or occupants of the lots, or the common area. "Declaration" includes any amendment or supplement to the instruments described in this definition. "Declaration" does not include a declaration of a condominium, real estate cooperative, time-share project, or campground.

"Development" means real property located within the Commonwealth subject to a declaration which contains both lots, at least some of which are residential or are occupied for recreational purposes, and common areas with respect to which any person, by virtue of ownership of a lot, is a member of an association and is obligated to pay assessments provided for in a declaration.

"Disclosure packet update" means an update of the financial information referenced in subdivisions A 2 through 9 of § [55.1-1809](#). The update shall include a copy of the original disclosure packet.

"Electronic means" means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved, and reviewed by a recipient of such communication. Any term used in this definition that is defined in § [59.1-480](#) of the Uniform Electronic Transactions Act shall have the meaning set forth in such section.

"Financial update" means an update of the financial information referenced in subdivisions A 2 through 7 of § [55.1-1809](#).

"Lot" means (i) any plot or parcel of land designated for separate ownership or occupancy shown on a recorded subdivision plat for a development or the boundaries of which are described in the declaration or in a recorded instrument referred to or expressly contemplated by the declaration, other than a common area, and (ii) a unit in a condominium association or a unit in a real estate cooperative if the condominium or cooperative is a part of a development.

"Lot owner" means one or more persons who own a lot, including any purchaser of a lot at a foreclosure sale, regardless of whether the deed is recorded in the land records where the lot is located. "Lot owner" does not include any person holding an interest in a lot solely as security for a debt.

"Professionally managed" means a common interest community that has engaged (i) a common interest community manager to provide management services to the community or (ii) a person as an employee for compensation to provide management services to the community, other than a resident of the community who provides bookkeeping, billing, or recordkeeping services for that community.

"Property owners' association" or "association" means an incorporated or unincorporated entity upon which responsibilities are imposed and to which authority is granted in the declaration.

"Settlement agent" means the same as that term is defined in § [55.1-1000](#).

1989, c. 679, § 55-509; 1991, c. 667; 1996, c. [618](#); 1998, c. [623](#); 2001, c. [715](#); 2002, c. [459](#); 2003, c. [422](#); 2008, cc. [851](#), [871](#); 2011, c. [334](#); 2015, cc. [93](#), [410](#); 2019, c. [712](#).

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## § 55.1-1826. (Effective October 1, 2019) Annual budget; reserves for capital components

A. Except to the extent provided in the declaration, the board of directors shall, prior to the commencement of the fiscal year, make available to lot owners either (i) the annual budget of the association or (ii) a summary of such annual budget.

B. Except to the extent otherwise provided in the declaration and unless the declaration imposes more stringent requirements, the board of directors shall:

1. Conduct at least once every five years a study to determine the necessity and amount of reserves required to repair, replace, and restore the capital components as defined in § 55.1-1800 ;
2. Review the results of that study at least annually to determine if reserves are sufficient; and
3. Make any adjustments the board of directors deems necessary to maintain reserves, as appropriate.

C. To the extent that the reserve study conducted in accordance with this section indicates a need to budget for reserves, the association budget shall include:

1. The current estimated replacement cost, estimated remaining life, and estimated useful life of the capital components defined in § 55.1-1800;
2. As of the beginning of the fiscal year for which the budget is prepared, the current amount of accumulated cash reserves set aside to repair, replace, or restore capital components and the amount of the expected contribution to the reserve fund for that year;
3. A statement describing the procedures used for estimation and accumulation of cash reserves pursuant to this section; and
4. A statement of the amount of reserves recommended in the study and the amount of current cash for replacement reserves.

2002, c. 459, § 55-514.1; 2019, cc. 33, 44, 712.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## § 55.1-1900. (Effective October 1, 2019) Definitions

As used in this chapter, unless the context requires a different meaning:

"Capital components" means those items, whether or not a part of the common elements, for which the unit owners' association has the obligation for repair, replacement, or restoration and for which the executive board determines funding is necessary.

"Common elements" means all portions of the condominium other than the units.

"Common expenses" means all expenditures lawfully made or incurred by or on behalf of the unit owners' association, together with all funds lawfully assessed for the creation or maintenance of reserves pursuant to the provisions of the condominium instruments.

"Common interest community manager" means the same as that term is defined in § [54.1-2345](#).

"Condominium" means real property, and any incidents to or interests in such real property, lawfully subject to this chapter by the recordation of condominium instruments pursuant to the provisions of this chapter. No project shall be deemed a condominium within the meaning of this chapter unless the undivided interests in the common elements are vested in the unit owners.

"Condominium instruments" means, collectively, the declaration, bylaws, and plats and plans recorded pursuant to the provisions of this chapter. Any exhibit, schedule, or certification recorded with a condominium instrument shall be deemed an integral part of that condominium instrument. Once recorded, any amendment or certification of any condominium instrument shall be deemed an integral part of the affected condominium instrument if such amendment or certification was made in accordance with the provisions of this chapter.

"Condominium unit" means a unit together with the undivided interest in the common elements appertaining to that unit.

"Contractable condominium" means a condominium from which one or more portions of the submitted land may be withdrawn in accordance with the provisions of the declaration and of this chapter. If such withdrawal can occur only by the expiration or termination of one or more leases, then the condominium shall not be deemed a contractable condominium.

"Conversion condominium" means a condominium containing structures that before the recording of the declaration were wholly or partially occupied by persons other than those who have contracted for the purchase of condominium units and those who occupy with the consent of such purchasers.

"Convertible land" means a portion of the common elements within which additional units or limited common elements may be created in accordance with the provisions of this chapter.

"Convertible space" means a portion of a structure within the condominium that a declarant may convert into one or more units or common elements, including limited common elements, in accordance with the provisions of the declaration and this chapter.

"Declarant" means any person, or group of persons acting in concert, that (i) offers to dispose of its interest in a condominium unit not previously disposed of, including an institutional lender that may not have succeeded to or accepted any special declarant rights pursuant to § 55.1-1947; (ii) reserves or succeeds to any special declarant right; or (iii) applies for registration of the condominium. However, for the purposes of clauses (i) and (iii), "declarant" does not include an institutional lender that acquires title by foreclosure or deed in lieu of foreclosure unless such lender offers to dispose of its interest in a condominium unit not previously disposed of to anyone not in the business of selling real estate for his own account, except as otherwise provided in § 55.1-1947. "Declarant" does not include an individual who acquires title to a condominium unit at a foreclosure sale.

"Dispose" or "disposition" refers to any voluntary transfer of a legal or equitable interest in a condominium unit to a purchaser, but does not include the transfer or release of security for a debt.

"Electronic means" means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved, and reviewed by a recipient of such communication. Any term used in this definition that is defined in § 59.1-480 of the Uniform Electronic Transactions Act has the meaning set forth in that section.

"Executive board" means an executive and administrative entity, by whatever name denominated, designated in the condominium instruments as the governing body of the unit owners' association.

"Expandable condominium" means a condominium to which additional land may be added in accordance with the provisions of the declaration and this chapter.

"Future common expenses" means common expenses for which assessments are not yet due and payable.

"Identifying number" means one or more letters or numbers that identify only one unit in the condominium.

"Institutional lender" means one or more commercial or savings banks, savings and loan associations, trust companies, credit unions, industrial loan associations, insurance companies, pension funds, or business trusts, including real estate investment trusts, any other lender regularly engaged in financing the purchase, construction, or improvement of real estate, or any assignee of loans made by such a lender, or any combination of any of the foregoing entities.

"Land" is a three-dimensional concept and includes parcels with upper or lower boundaries, or both upper and lower boundaries, as well as parcels extending ab solo usque ad coelum. Parcels of airspace constitute land within the meaning of this chapter. Any requirement in this chapter of a legally sufficient description shall be deemed to include a requirement that the upper or lower boundaries, if any, of the parcel in question be identified with reference to established datum.

"Leasehold condominium" means a condominium in all or any portion of which each unit owner owns an estate for years in his unit, or in the land within which that unit is situated, or both, with all such leasehold interests due to expire naturally at the same time. A condominium including leased land, or an interest in such land, within which no units are situated or to be situated is not a leasehold condominium within the meaning of this chapter.

"Limited common element" means a portion of the common elements reserved for the exclusive use of those entitled to the use of one or more, but less than all, of the units.

"Nonbinding reservation agreement" means an agreement between the declarant and a prospective purchaser that is in no way binding on the prospective purchaser and that may be canceled without penalty at the sole discretion of the prospective purchaser.

"Offer" means any inducement, solicitation, or attempt to encourage any person to acquire any legal or equitable interest in a condominium unit, except as security for a debt. Nothing that expressly states that the condominium has not been registered with the Common Interest Community Board and that no unit in the condominium can or will be offered for sale until such time as the condominium has been so registered shall be considered an "offer."

"Officer" means any member of the executive board or official of the unit owners' association.

"Par value" means a number of dollars or points assigned to each unit by the declaration. Substantially identical units shall be assigned the same par value, but units located at substantially different heights above the ground, or having substantially different views, or having substantially different amenities or other characteristics that might result in differences in market value may be considered substantially identical within the meaning of §§ [55.1-1917](#) and [55.1-1918](#).

"Person" means a natural person, corporation, partnership, association, trust, or other entity capable of holding title to real property, or any combination thereof.

"Purchaser" means any person, other than a declarant, that acquires by means of a voluntary transfer a legal or equitable interest in a condominium unit, other than (i) a leasehold interest, including renewal options, of less than 20 years or (ii) as security for a debt.

"Settlement agent" means the same as that term is defined in § [55.1-1000](#).

"Size" means the number of cubic feet, or the number of square feet of ground or floor space, within each unit as computed by reference to the plat and plans and rounded to the nearest whole number. Certain spaces within the units, including attic, basement, or garage space, may be omitted from such calculation or partially discounted by the use of a ratio, so long as the same basis of calculation is employed for all units in the condominium and so long as that basis is described in the declaration.

"Special declarant rights" means any right reserved for the benefit of a declarant, or of a person or group of persons that becomes a declarant, to (i) expand an expandable condominium; (ii) contract a contractable condominium; (iii) convert convertible land or convertible space or both; (iv) appoint or remove any officers of the unit owners' association or the executive board pursuant to subsection A of § [55.1-1943](#); (v) exercise any power or responsibility otherwise assigned by any condominium instrument or by this chapter to the unit owners' association, any officer, or the executive board; or (vi) maintain sales offices, management offices, model units, and signs pursuant to § [55.1-1929](#).

"Unit" means a portion of the condominium designed and intended for individual ownership and use. For the purposes of this chapter, a convertible space shall be treated as a unit in accordance with subsection D of § [55.1-1925](#).

"Unit owner" means one or more persons that own a condominium unit or, in the case of a

leasehold condominium, whose leasehold interest in the condominium extends for the entire balance of the unexpired term. "Unit owner" includes any purchaser of a condominium unit at a foreclosure sale, regardless of whether the deed is recorded in the land records where the unit is located. "Unit owner" does not include any person holding an interest in a condominium unit solely as security for a debt.

1974, c. 416, § 55-79.41; 1975, c. 415; 1981, c. 480; 1982, c. 545; 1991, c. 497; 1993, c. 667; 1996, c. 977; 2001, c. 715; 2002, c. 459; 2003, c. 442; 2008, cc. 851, 871; 2015, cc. 93, 410; 2019, c. 712.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## § 55.1-1965. (Effective October 1, 2019) Reserves for capital components

A. Except to the extent provided in the condominium instruments, the executive board shall, prior to the commencement of the fiscal year, make available to unit owners either (i) the annual budget of the unit owners' association or (ii) a summary of such annual budget.

B. Except to the extent otherwise provided in the condominium instruments the executive board shall:

1. Conduct a study at least once every five years to determine the necessity and amount of reserves required to repair, replace, and restore the capital components as defined in § 55.1-1900 ;
2. Review the results of that study at least annually to determine if reserves are sufficient; and
3. Make any adjustments the executive board deems necessary to maintain reserves, as appropriate.

C. To the extent that the reserve study conducted in accordance with this section indicates a need to budget for reserves, the unit owners' association budget shall include:

1. The current estimated replacement cost, estimated remaining life, and estimated useful life of the capital components as defined in § 55.1-1900;
2. As of the beginning of the fiscal year for which the budget is prepared, the current amount of accumulated cash reserves set aside to repair, replace, or restore the capital components and the amount of the expected contribution to the reserve fund for that fiscal year;
3. A statement describing the procedures used for estimation and accumulation of cash reserves pursuant to this section; and
4. A statement of the amount of reserves recommended in the study and the amount of current cash for replacement reserves.

2002, c. 459, § 55-79.83:1; 2019, cc. 33, 44, 712.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## § 55.1-2100. (Effective October 1, 2019) Definitions

As used in this chapter or in the declaration and bylaws, unless provided otherwise or unless the context requires a different meaning:

"Affiliate of a declarant" means any person that controls, is controlled by, or is under common control with a declarant. A person "controls" a declarant if the person (i) is a general partner, officer, director, or employer of the declarant; (ii) directly or indirectly or acting in concert with one or more other persons, or through one or more subsidiaries, owns, controls, or holds with power to vote, or holds proxies representing, more than 20 percent of the voting interest in the declarant; (iii) controls in any manner the election of a majority of the directors of the declarant; or (iv) has contributed more than 20 percent of the capital of the declarant. A person "is controlled by" a declarant if the declarant (a) is a general partner, officer, director, or employer of the person; (b) directly or indirectly or acting in concert with one or more persons, or through one or more subsidiaries, owns, controls, or holds with power to vote, or holds proxies representing, more than 20 percent of the voting interest in the person; (c) controls in any manner the election of a majority of the directors of the person; or (d) has contributed more than 20 percent of the capital of the person. Control does not exist if the powers described in this definition are held solely as security for an obligation and are not exercised.

"Allocated interests" means the common expense liability and the ownership interest and votes in the association allocated to each cooperative interest.

"Association" or "proprietary lessees' association" means the proprietary lessees' association organized under § 55.1-2132.

"Capital components" means those items, whether or not a part of the common elements, for which the association has the obligation for repair, replacement, or restoration and for which the executive board determines funding is necessary.

"Common elements" means all portions of a cooperative other than the units of such cooperative.

"Common expenses" means any expenditures made by, or financial liabilities of, the association, together with any allocations to reserves.

"Common expense liability" means liability for common expenses allocated to each cooperative interest pursuant to § 55.1-2118.

"Conversion building" means a building that at any time before creation of the cooperative was occupied wholly or partially by persons other than purchasers and persons who occupy with the consent of purchasers.

"Cooperative" means real estate owned by an association, each of the members of which is entitled, by virtue of his ownership interest in the association, to exclusive possession of a unit.

"Cooperative interest" means an ownership interest in the association coupled with a possessory interest in a unit under a proprietary lease. For purposes of this chapter, a declarant is treated as the owner of any cooperative interests or potential cooperative interests to which allocated

interests have been allocated pursuant to § 55.1-2118 until that cooperative interest has been created and conveyed to another person.

"Declarant" means any person or group of persons acting in concert that (i) as part of a common promotional plan, offers to dispose of its cooperative interest not previously disposed of; (ii) reserves or succeeds to any special declarant right; or (iii) applies for registration of a cooperative under Article 5 (§ 55.1-2173 et seq.).

"Declaration" means any instruments, however denominated, that create a cooperative and any amendments to those instruments.

"Development rights" means any right or combination of rights reserved by a declarant in the declaration to (i) add real estate to a cooperative; (ii) create units, common elements, or limited common elements within a cooperative; (iii) subdivide units or convert units into common elements; or (iv) withdraw real estate from a cooperative.

"Dispose" or "disposition" means a voluntary transfer to a purchaser of any legal or equitable interest in a cooperative interest, but does not include the transfer or release of a security interest.

"Executive board" means the body, regardless of name, designated in the declaration to act on behalf of the association.

"Identifying number" means a symbol or address that identifies only one unit in a cooperative.

"Leasehold cooperative" means a cooperative in which all or a portion of the real estate is subject to a lease the expiration or termination of which will terminate the cooperative or reduce its size.

"Limited common element" means a portion of the common elements allocated by the declaration or by operation of subdivision 2 or 4 of § 55.1-2113 for the exclusive use of at least one unit but fewer than all of the units.

"Master association" means an organization described in § 55.1-2130, whether or not it is also an association described in § 55.1-2132.

"Offering" means any advertisement, inducement, solicitation, or attempt to encourage any person to acquire any interest in a cooperative interest, other than as security for an obligation. An advertisement in a newspaper or other periodical of general circulation, or in any broadcast medium to the general public, of a cooperative not located in the Commonwealth is not an offering if the advertisement states that an offering may be made only in compliance with the law of the jurisdiction in which the cooperative is located.

"Person" means a natural person, corporation, business trust, estate, trust, partnership, association, joint venture, government, governmental subdivision or agency, or any other legal or commercial entity. In the case of a land trust, however, "person" means the beneficiary of the trust rather than the trust or the trustee.

"Proprietary lease" means an agreement with the association pursuant to which a proprietary lessee has a possessory interest in a unit.

"Proprietary lessee" means a person that owns a cooperative interest, other than as security for an obligation, and the declarant with respect to cooperative interests or potential cooperative interests to which allocated interests have been allocated pursuant to § 55.1-2118 until that

cooperative interest has been created and conveyed to another person.

"Purchaser" means any person, other than a declarant or a person in the business of selling cooperative interests for his own account, that, by means of a voluntary transfer, acquires or contracts to acquire a cooperative interest other than as security for an obligation.

"Real estate" means any leasehold or other estate or interest in, over, or under land, including structures, fixtures, and other improvements and interests that, by custom, usage, or law, pass with a conveyance of land though not described in the contract of sale or instrument of conveyance. "Real estate" includes (i) parcels with or without upper or lower boundaries and (ii) spaces that may be filled with air or water.

"Residential purposes" means use for dwelling or recreational purposes, or both.

"Security interest" means an interest in real or personal property, created by contract or conveyance, that secures payment or performance of an obligation. "Security interest" includes a mortgage, deed of trust, trust deed, security deed, contract for deed, land sales contract, lease intended as security, assignment of lease or rents intended as security, pledge of an ownership interest in an association, and any other consensual lien or title retention contract intended as security for an obligation.

"Special declarant rights" means rights reserved for the benefit of a declarant to (i) complete improvements described in the public offering statement pursuant to subdivision A 2 of § 55.1-2155;(ii) exercise any development right pursuant to § 55.1-2120;(iii) maintain sales offices, management offices, signs advertising the cooperative, and models; (iv) use easements through the common elements for the purpose of making improvements within the cooperative or within real estate that may be added to the cooperative; (v) make the cooperative part of a larger cooperative or group of cooperatives; (vi) make the cooperative subject to a master association as specified in § 55.1-2130;or (vii) appoint or remove any officer of the association, any master association, or any executive board member during any period of declarant control.

"Time share" means a right to occupy a unit or any of several units during five or more separated time periods over a period of at least five years, including renewal options, whether or not coupled with an estate or interest in a cooperative or a specified portion of such estate or interest.

"Unit" means a physical portion of the cooperative designated for separate occupancy under a proprietary lease.

1982, c. 277, § 55-426; 2005, c. 436;2019, c. 712.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## § 55.1-2147. (Effective October 1, 2019) Annual budget; reserves for capital components

A. Except to the extent provided in the declaration, the board of directors shall, prior to the commencement of the fiscal year, make available to lot owners either (i) the annual budget of the association or (ii) a summary of such annual budget.

B. Except to the extent otherwise provided in the declaration, the executive board shall:

1. Conduct at least once every five years a study to determine the necessity and amount of reserves required to repair, replace, and restore the capital components as defined in § 55.1-2100 ;
2. Review the results of that study at least annually to determine if reserves are sufficient; and
3. Make any adjustments the executive board deems necessary to maintain reserves, as appropriate.

C. To the extent that the reserve study conducted in accordance with this section indicates a need to budget for reserves, the association budget shall include:

1. The current estimated replacement cost, estimated remaining life, and estimated useful life of the capital components as defined in § 55.1-2100;
2. As of the beginning of the fiscal year for which the budget is prepared, the current amount of accumulated cash reserves set aside to repair, replace, or restore the capital components and the amount of the expected contribution to the reserve fund for that fiscal year;
3. A statement describing the procedures used for estimation and accumulation of cash reserves pursuant to this section and the extent to which the association is funding its reserve obligations consistent with the study currently in effect; and
4. A statement of the amount of reserves recommended in the study and the amount of current cash for replacement reserves.

2005, c. 436, § 55-471.1; 2019, cc. 33, 44, 712.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

## APPENDIX B - GLOSSARY

The following definitions are for common terms related to reserve studies.

**Accrual Method:** A means of saving for an upcoming expense at a constant rate, so that all money will be available when needed.

**Accrued Fund Balance (AFB):** The total accrued depreciation. It is an indicator against which the actual or projected reserve balance can be compared to identify the direct proportion of the “used up” life of the current repair or replacement cost. This number is calculated for each component, and the summed together for the association total. The following formula can be used to determine AFB:  $AFB = \text{Current Cost} \times \text{Effective Age/Useful Life}$ .

**As-built Plans:** Drawings produced by the developer that show the actual characteristics of a community at the time when construction was completed.

**Assessment:** Monetary contribution required of each member of common interest community association to meet the association’s expenses. Assessments are typically due once a month.

**Association:** A legal entity that manages a common interest community and enforces its governing documents. These include property owners’ associations, condominium unit owners’ associations, and proprietary lessees’ associations in real estate cooperatives.

**Capital Improvements:** Additions to the association’s common elements that previously did not exist. While these components should be added to the reserve study for future replacement, the cost of construction should not be taken from the reserve fund.

**Cash Flow:** The amount of money deposited into and withdrawn from a reserve account over a certain period of time.

**Cash Flow Method:** A method of developing a reserve funding plan where contributions to the reserve fund are designed to offset the variable annual expenditures from the reserve fund. Different reserve funding plans are tested against the anticipated schedule of reserve expenses until the desired funding goal is achieved.

**Common Area or Common Elements:** The portion of a common interest community that is owned jointly by all members of the association. In a property owners’ association this portion is called a common area. In a condominium or real estate cooperative, these are called common elements.

**Component:** The individual line items in the reserve study developed or updated in the physical analysis. These elements form the building blocks for the reserve study. These components comprise the common elements of the community and typically are: 1. association responsibility,

2. with limited useful life expectancies, 3. predictable remaining useful life expectancies, and 4. above a minimum threshold cost. It should be noted that in certain jurisdictions there may be statutory requirements for including components or groups of components in the reserve study.

**Component Full Funding:** When the actual or projected cumulative reserve balance for all components is equal to the fully funded balance.

**Component Inventory:** The task of selecting and quantifying reserve components. This task can be accomplished through on-site visual observations, review of association design and organizational documents, a review of established association precedents, and discussion with appropriate association representatives.

**Component Method:** A method of developing a reserve funding plan where the total contribution is based on the sum of contributions for individual components.

**Condition Assessment:** The task of evaluating the current condition of the component based on observed or reported characteristics.

**Contingency Fund:** The portion of reserves allocated for unanticipated expenses, such as damage to components or unexpected cost increases.

**Current Replacement Cost:** See “replacement cost.”

**Deficit:** An actual or projected reserve balance less than the fully funded balance.

**Developer Drawings:** Drawings produced by the developer before or during construction of the community. Such drawings may or may not match the community’s actual attributes. (Also see “As-built Plans.”)

**Effective Age:** The difference between useful life and remaining useful life. Not always equivalent to chronological age, since some components age irregularly. Used primarily in comparisons.

**Financial Analysis or Funding Analysis:** The portion of a reserve study where the current status of the reserves (measured as cash or percent funded) and a recommended reserve contribution rate (reserve funding plan) are derived, and the projected reserve income and expense over time is presented. The financial analysis is one of the two parts of a reserve study.

**Fund Status:** The status of the reserve fund as compared to an established benchmark such as percent funding.

**Funding Goals:** Independent of methodology utilized, the following represent the basic categories of funding plan goals:

- *Baseline Funding:* Establishing a reserve funding goal of keeping reserve cash balance above zero.
- *Component Funding:* Setting a reserve funding goal of attaining and maintaining cumulative reserves at or near 100% funded.
- *Statutory Funding:* Establishing a reserve funding goal setting aside the specific minimum amount of reserves of component required by local statutes.
- *Threshold Funding:* Establishing a reserve funding goal of keeping the reserve balance above a specified dollar or percent funded amount. Depending on the threshold, this may be more or less conservative than component full funding.

**Funding Plan:** An association's plan to provide income to a reserve fund to offset anticipated expenditures from that fund.

**Funding Principles:**

- *Sufficient Funds When Required*
- *Stable Contribution Rate over the Years*
- *Evenly Distributed Contributions over the Years*
- *Fiscally Responsible*

**Governing Documents:** Legal documents that organize the common interest community, establish contractual relationships between the parties, and establish the rights and responsibilities of individual owners, the association, authorized occupants, and the governing board. Governing documents typically consist of a declaration for the community, including a legal description of the property, plat(s) of the development, plans for development structures, and bylaws for the operation of the association. Governing documents may also include rules and regulations for the community. In a condominium, the governing documents are called *condominium instruments*.

**Inflation:** The rate at which the cost of components are expected to rise over time.

**Interest:** Money earned from reserve funds deposited into an account at a financial institution.

**Inventory:** A list of community-owned components are their attributes, such as age, quality, manufacturer, degree of wear, and useful life.

**Life and Valuation Estimates:** The task of estimating useful life, remaining useful life, and repair or replacement costs for the reserve components.

**Maintenance Responsibilities Chart:** A table or chart often included in association governing documents that details maintenance responsibilities in a common interest community between the association and individual owners.

**Management Company or Common Interest Community Manager:** An outside company hired by an association to perform some of the association's functions. These can include collection of assessments, and maintenance of the common area or common elements.

**On-site Inspection:** Physical inspection of one or more components to help determine their current physical state and remaining useful life.

**Operating Budget:** The portion of an association's budget that is allocated for frequently-occurring or minor expenses.

**Percent Funded:** The ratio, at a particular point of time (typically the beginning of the fiscal year), of the actual (or projected) reserve balance to the accrued fund balance, expressed as a percentage.

**Physical Analysis:** The portion of the reserve study where the component inventory, condition assessment, and life and valuation estimate tasks are performed. This represents one of the two parts of the reserve study.

**Remaining Useful Life (RUL):** The estimated time, in years, that a reserve component can be expected to continue to serve its intended function. Projects anticipated to occur in the initial year have "zero" remaining useful life. RUL is also referred to as remaining life (RL).

**Replacement Cost:** The cost of replacing, repairing, or restoring a reserve component to its original functional condition. The current replacement cost would be the cost to replace, repair, or restore the component during that particular year.

**Reserve Account:** An account at a bank or other financial institution containing funds intended solely to pay reserve expenses.

**Reserve Balance or Reserve Funds:** Actual or projected funds as of a particular point in time that the association has identified for use to defray the future repair or replacement of those major components which the association is obligated to maintain. Also known as reserves, reserve accounts, cash reserves. Based upon information provided and not audited.

**Reserve Component:** The individual line items in the reserve study developed or updated in the physical analysis. These elements form the building blocks for the reserve study. Components typically are the association responsibility, have limited useful life expectancies, have predictable remaining useful life expectancies, are above a minimum threshold cost, and are as required by local codes.

**Reserve Provider:** An individual that prepares reserve studies.

**Reserve Study:** A capital budget planning tool that can be used by an association to determine the physical status and repair/replacement cost of an association's capital components, and an analysis of an association's funding capacity to maintain, repair, and replace capital components.

**Special Assessment:** An assessment levied on the members of an association in addition to regular assessments. Governing documents or local statutes often regulate special assessments.

**Surplus:** An actual or projected reserve balance greater than the fully funded balance.

**Useful Life (UL):** Total useful life or depreciable life is the estimated number of years that a reserve component can be expected to serve its intended function if it is properly constructed in the present application and/or installation.

**Work Product:** The output from a reserve study, such as reports, tables, and charts.

## Appendix C – List of Common Area/Common Elements Components

Note: The following is a list of components typically found in common interest communities. Please be advised this is not an exhaustive list, and does not include every type of component that may be found in a community.

| <b>A</b>  |
|---|
| Alarm systems, fire and intrusion                       |
| Antennas, satellite dish and other                      |
| Appliances  |
| Asbestos encapsulation or removal                       |
| Awnings and other overhead coverings                    |
| <b>B</b>  |
| Balconies (see also decks)                              |
| Benches   |
| Boilers   |
| Bulkheads   |
| <b>C</b>  |
| Concrete (walls, patios, sidewalks, curbs, and gutters) |
| <b>D</b>  |
| Decks, pool and spa                                     |
| Decks, residential                                      |
| Display cases   |
| Docks   |
| Doors   |
| Drainage systems  |
| <b>E</b>  |
| Electrical transformers                                 |
| Electrical wiring and related fixtures in common area   |
| Elevator, cab   |
| Elevator, hydraulic, traction, etc.                     |
| Equipment, cleaning and maintenance                     |
| Equipment, communication and telephone                  |
| Equipment, entertainment, music/video systems           |
| Equipment, exercise, recreational, etc.                 |
| Equipment, office                                       |
| Equipment, pool, pumps, motors and filters              |
| <b>F</b>  |
| Fans, exhaust, garage, and other                        |
| Fences, chain link, wood, etc.                          |
| Fire escapes  |
| Fire sprinklers and related equipment                   |
| Floor covering, carpet, tile, vinyl, etc.               |
| Floor covering, wood replacement and refinishing        |

| Fountains  |
|--|
| Furnishings, lobby, clubhouse, etc.                          |
| <b>G</b>   |
| Gates, iron, wood, etc.                                      |
| Garage doors and hardware                                    |
| Garbage enclosures   |
| Gazebo   |
| Generator  |
| Gutters and downspouts                                       |
| <b>H</b>   |
| HVAC, air conditioning                                       |
| HVAC, heating systems  |
| <b>I</b>   |
| Irrigation system, controllers                               |
| Irrigation system, piping, valves and sprinkler heads, pumps |
| <b>K</b>   |
| Kiosks and message/communication centers                     |
| <b>L</b>   |
| Lakes, ponds, and waterways                                  |
| Landscaping, replacement of major trees and plants           |
| Life safety system (exit signs, emergency lights)            |
| Light fixtures, exterior                                     |
| Light fixtures, interior                                     |
| <b>M</b>   |
| Mailboxes and centers  |
| Masonry  |
| Monitoring system, carbon monoxide                           |
| <b>P</b>   |
| Paint and stain, exterior                                    |
| Paint and stain, interior common area                        |
| Parking garages  |
| Pavers   |
| Paving   |
| Perimeter walls  |
| Planter boxes  |
| Plumbing fixtures, exterior and interior                     |
| Plumbing, piping systems                                     |
| Pool (plaster, mechanical equipment, deck,                   |

|   |
|---|
| furniture)  |
| Posts, deck, lamp, etc.                               |
| Pumps, lakes, ponds, waterways, building systems      |
| <b>R</b>  |
| Racquetball courts                                    |
| Railings  |
| Retaining wall  |
| Roof  |
| <b>S</b>  |
| Seawalls  |
| Security gates, gate operator and motor, entry system |
| Septic tanks  |
| Sewage ejector equipment                              |
| Siding and trim                                       |
| Skylights   |
| Slopes  |
| Solar heating system, pool and spa                    |
| Solar heating system, residential                     |
| Spas  |
| Stables and tack rooms                                |
| Stairs  |
| Stormwater systems                                    |
| Streets and drives, parking areas                     |
| Stucco, sandblasting and resurfacing                  |
| Subsurface utility piping                             |
| Sump pump equipment                                   |
| Swimming pools  |
| <b>T</b>  |
| Tennis courts, resurfacing, lighting, fencing         |
| Trash compactor                                       |
| Trellises   |
| <b>V</b>  |
| Valves  |
| Vehicles  |
| Ventilation system, garage                            |
| <b>W</b>  |
| Walkways, wood, brick, tile, etc.                     |
| Water heaters   |
| Waterproof membranes                                  |
| Windows   |

# Appendix D – Flowcharts

|  |
|--|
| Steps to Provide for Adequate Reserves |
| Steps in Physical Analysis             |
| Steps in Financial Analysis            |

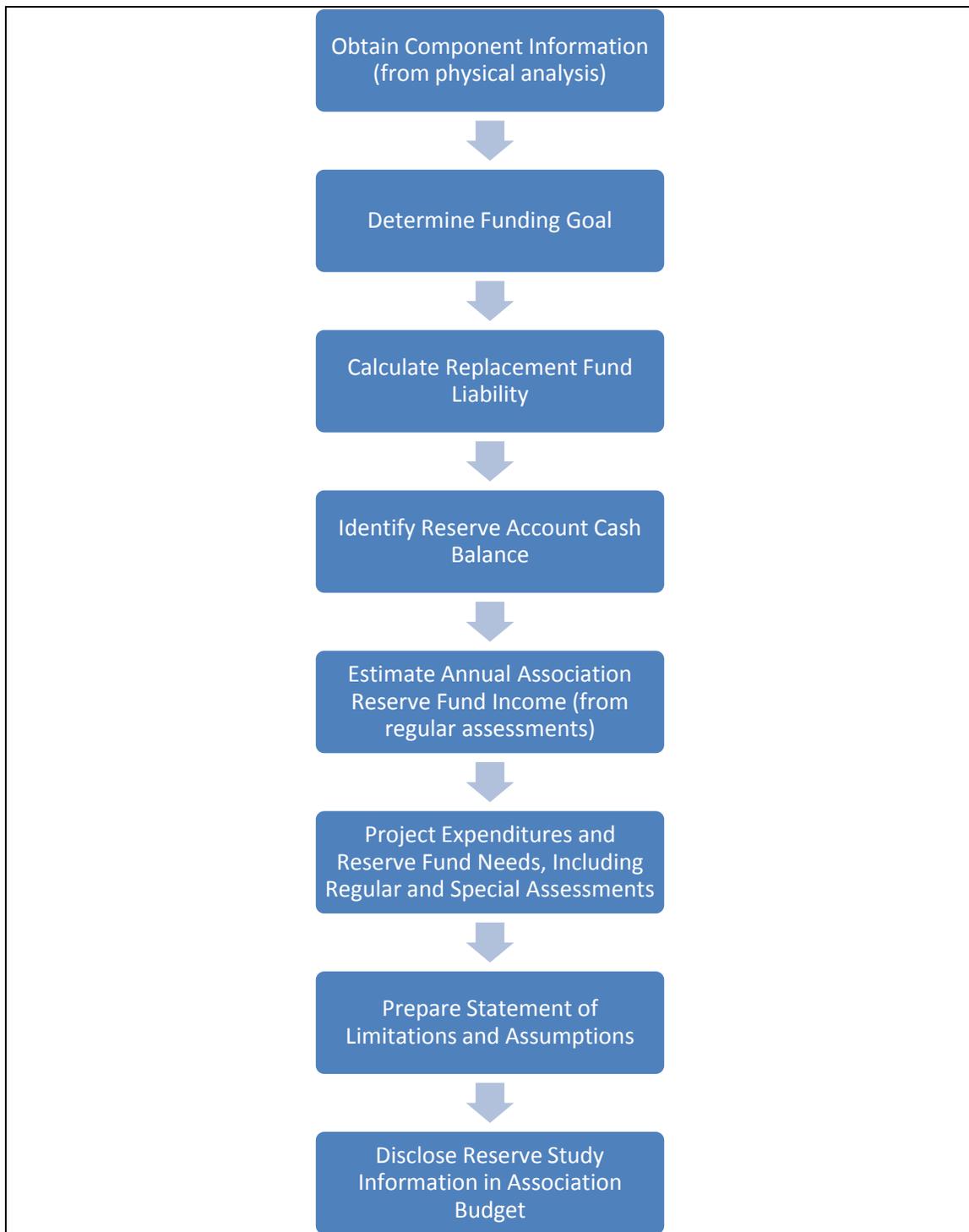
## Steps to Provide for Adequate Reserves



## Steps in the Physical Analysis Process



## Steps in the Financial Analysis Process



## Appendix E – Checklists and Interview Questions

|                     |                              |
|---------------------|------------------------------|
| Checklist           | Physical Analysis            |
| Checklist           | Financial Analysis           |
| Interview Questions | Physical Analysis Preparers  |
| Interview Questions | Financial Analysis Preparers |

## Physical Analysis Checklist

### Deciding which components to include:

- Relevant components mentioned in developer budget have been reviewed.
- Components mentioned in the governing documents have been reviewed.
- An on-site inspection for possible additional components has been made.
- The governing board has had a public discussion and has determined a policy stating its position on life-of-the-building, exclusive use, and quasi-structural components.
- The governing board has communicated the component list to the preparer of the physical analysis.

### Specifying quantities of each component:

- As-built drawings have been consulted, if possible.
- An on-site inspection of each component and on-site count of each type of component have been made.
- The quality of each component has been determined and expressed in terms that identify a specific grade of material.

### Determining the useful life (UL) of each component:

- Manufacturer warranties have been consulted whenever possible.
- Environmental factors that might affect useful life have been taken into account.
- Installation and materials have been determined to be consistent with each manufacturer's description; if not, an adjustment has been made to the remaining useful life estimated by the warranty or by the manuals.
- A standard manual has been consulted.
- Maintenance assumptions have been documented.

### Assessing the remaining useful life (RUL) of each component:

- An on-site inspection of each component has been made.
- Past maintenance has been taken into account.
- Individuals with knowledge of the components have participated in the assessment of remaining life.
- The governing board has determined what level of maintenance is expected to achieve the remaining life estimated.

### Determining the cost of replacement:

- A standard costing manual has been consulted or more than one tradesperson asked for a price for each component.
- If a manual is used, the "current" price of each component has been adjusted for the age of the data in the manual.
- If a manual is used, regional variations in price are taken into account.
- Cost of replacement includes cost of removing old component, if necessary.
- Adjustments have been made for grade or quality of materials or levels of maintenance of materials.

## Financial Analysis Checklist

### Funding goal:

- The association's funding goal for reserve replacement is clearly specified.

### Budget information

- The budget contains estimated revenue and expenses on an accrual basis.
- The budget identifies total cash reserves currently set aside.
- The budget shows funds set aside for reserves in a separate account(s).
- The estimated remaining life of all major components is shown.
- The estimated current replacement cost of all major components is shown.
- The budget includes identification of methods of funding for future repair, replacement, or additions.
- The budget includes a statement on methods used to develop estimates and funding plan.

### Association income and expense estimates:

- An appropriate component inflation factor has been used to estimate replacement costs in future years.
- The interest rate applied to association cash reserves is reasonable, and is an after-tax estimate.
- Needed special assessments are clearly identified.
- Assumptions about increases in the portion of regular assessments allocated to reserves are clearly specified.
- Income and expenditures are shown annually for the plan period.

### Association cash balances:

- With reserve assessments, the cash balance (assets-planned reserve expenditures) is greater than zero in every year.
- The reserve deficit is estimated for the current year.
- The model shows a stable or decreasing reserve deficit (in constant dollars) over the plan period.

## Physical Analysis Preparer Interview Guide

1. Do you have any personal or professional ties to this association? (Note: Such a tie does not necessarily indicate a conflict of interest, but should be disclosed and considered.)
2. Do you have any personal or professional ties to the developer? (Note: Such a tie does not necessarily indicate a conflict of interest, but should be disclosed and considered.)
3. If hiring an individual or sole practitioner: Do you do all the work yourself, or will you use subcontractors? (The association should approve all subcontractors.) Are you a Professional Reserve Analyst (an Association of Reserve Analysts designation) or a Reserve Specialist (a Community Associations Institute designation) or do you hold other professional designations? What is your training (formal education and workshops)?
4. If hiring a firm: Will work be done by employees of your firm? How do you train your employees?
5. With what professional associations are you actively involved?
6. What experience have you had with performing component studies?
7. What experience have you had in this locale?
8. May we see an example of a similar product done for another association?
9. What information do you require from the association in order to start?
10. When will you begin the study?
11. Will you be measuring the components or using drawings?
12. Will you make a physical inspection of each component? What percentage of components will you inspect for fences, walls, controllers, buildings, etc.?
13. How will you determine the cost of replacement?
14. What written sources will be used?
15. How long will it be before we have the final product?
16. Will the report provide the estimated useful life of each component?
17. Will the report provided the estimated remaining life of each component?
18. Will the report provide the current costs of repair or replacement of each component?
19. Will the report provide the future costs of repair or replacement for each component and/or the inflation rate to be applied to each component?
20. Will the report provide information on proper maintenance to help assure realization of the estimated remaining life of each component? Will the report include visuals such as photographs or video?
21. Do you have liability insurance?
22. Do you have workers' compensation insurance?
23. Please provide three references (name, phone, nature of work).
24. Cost for revisions and/or updates.

## **Financial Analysis Preparer Interview Guide**

1. Do you have any personal or professional ties to this association? (Note: Such a tie does not necessarily indicate a conflict of interest, but should be disclosed and considered.)
2. Do you have any personal or professional ties to the developer? (Note: Such a tie does not necessarily indicate a conflict of interest, but should be disclosed and considered.)
3. If hiring an individual or sole practitioner: Do you do all the work yourself, or will you use subcontractors? (The association should approve all subcontractors.) Are you a Professional Reserve Analyst (an Association of Reserve Analysts designation) or a Reserve Specialist (a Community Associations Institute designation) or do you hold other professional designations? What is your training (formal education and workshops)?
4. If hiring a firm: Will work be done by employees of your firm? How do you train your employees?
5. With what professional associations are you actively involved?
6. What experience have you had with community association budgeting?
7. May we see an example of a completed financial analysis?
8. What information do you require from the association in order to start?
9. When will you begin the study?
10. How long will it be before we have the final product?
11. Will the report provide current and future estimated liability computations?
12. Will the report provide current and future estimated cash balances by year?
13. Will the report provide current and future repair replacement costs?
14. Will the report present alternative funding plans?
15. Will the report provide a description of assumptions and methodology, a narrative funding plan, and a graphic depiction for easier board and member understanding?
16. Will the report tell how much of a monthly contribution is needed for the reserves?
17. Do you have professional liability insurance?
18. Please provide three references (name, phone, nature of work).

# **Appendix F – Sample Financial Analysis**

**Sample Financial Analysis – Estimated Cash Requirements by Year**

**(30 year plan – 3 components; values shown for years 1-5, 15, and 30 only)**

| Major Component  | Estimated Useful Life | Estimated Remaining Life | Estimated Current Cost to Replace | End of Year 0   | End of Year 1   | End of Year 2   | End of Year 3   | End of Year 4   | End of Year 5  | End of Year 15  | End of Year 30   |
|--|-----------------------|--------------------------|-----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|------------------|
| Painting   | 5                     | 2                        | \$10,000                          |                 |                 | \$10,000        |                 |                 |                |                 |                  |
| Paving   | 7                     | 3                        | \$14,000                          |                 |                 |                 | \$14,000        |                 |                |                 |                  |
| Roofing  | 15                    | 4                        | \$30,000                          |                 |                 |                 |                 | \$30,000        |                |                 |                  |
| <b>Total Costs</b>   |                       |                          | <b>\$54,000</b>                   |                 |                 | <b>\$10,000</b> | <b>\$14,000</b> | <b>\$30,000</b> | <b>\$0</b>     | <b>\$0</b>      | <b>\$0</b>       |
| Component cost increase factor @ 4.6% per annum  |                       |                          |                                   |                 | 1.00            | 1.046           | 1.094           | 1.144           | 1.197          | 1.877           | 3.685            |
| Estimated replacement cost, in scheduled year (apply cost factor to total replacement costs) |                       |                          |                                   |                 | \$0             | \$10,460        | \$15,318        | \$34,333        | \$0            | \$0             | \$0              |
| <i>Cash Flow Forecasts</i>   |                       |                          |                                   | End of Year 0   | End of Year 1   | End of Year 2   | End of Year 3   | End of Year 4   | End of Year 5  | End of Year 15  | End of Year 30   |
| Assessments, regular   |                       |                          |                                   |                 | \$1,500         | \$1,800         | \$2,160         | \$2,592         | \$3,110        | \$10,906        | \$30,515         |
| Assessments, special   |                       |                          |                                   |                 | \$0             | \$0             | \$0             | \$30,000        | \$0            | \$0             | \$0              |
| After-tax interest reserve account income, @ 5.775%  |                       |                          |                                   |                 | \$1,271         | \$1,430         | \$1,013         | \$312           | \$229          | \$1,519         | \$6,482          |
| <b>Total cash receipts</b>   |                       |                          |                                   |                 | <b>\$2,771</b>  | <b>\$3,230</b>  | <b>\$3,173</b>  | <b>\$32,904</b> | <b>\$3,339</b> | <b>\$12,426</b> | <b>\$36,997</b>  |
| Major component costs (from total above)   |                       |                          |                                   |                 | \$0             | \$10,460        | \$15,318        | \$34,333        | \$0            | \$0             | \$0              |
| Cash receipts – cash disbursements   |                       |                          |                                   |                 | \$2,771         | (\$7,230)       | (\$12,145)      | (\$1,430)       | \$3,339        | \$12,426        | \$36,997         |
| Cash balance, beginning of year  |                       |                          |                                   |                 | \$22,000        | \$24,771        | \$17,541        | \$5,396         | \$3,967        | \$26,311        | \$112,241        |
| <b>Cash balance, end of year</b>   |                       |                          |                                   | <b>\$22,000</b> | <b>\$24,771</b> | <b>\$17,541</b> | <b>\$5,396</b>  | <b>\$3,967</b>  | <b>\$7,306</b> | <b>\$38,737</b> | <b>\$149,238</b> |
| <i>Summary</i>   |                       |                          |                                   | End of Year 0   | End of Year 1   | End of Year 2   | End of Year 3   | End of Year 4   | End of Year 5  | End of Year 15  | End of Year 30   |
| Estimated liability (total from next page)   |                       |                          |                                   | \$36,000        | \$43,932        | \$52,518        | \$50,461        | \$43,095        | \$15,026       | \$74,602        | \$154,173        |
| Less cash balance  |                       |                          |                                   | \$22,000        | \$24,771        | \$17,541        | \$5,396         | \$3,967         | \$7,306        | \$38,737        | \$149,238        |
| <b>Estimated unfunded liability</b>  |                       |                          |                                   | <b>\$14,000</b> | <b>\$19,162</b> | <b>\$34,977</b> | <b>\$45,065</b> | <b>\$39,128</b> | <b>\$7,720</b> | <b>\$35,865</b> | <b>\$4,935</b>   |
| Estimated unfunded liability per unt (35 units)  |                       |                          |                                   | \$400           | \$547           | \$999           | \$1,288         | \$1,118         | \$221          | \$1,025         | \$141            |

**Sample Financial Analysis – Computation of Major Component Liability by Year**

| <i>Major Component Replacement Liability</i> |                  | End of Year 0   | End of Year 1   | End of Year 2   | End of Year 3   | End of Year 4   | End of Year 5   | End of Year 15  | End of Year 30   |
|--|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| <b>Painting</b>                              | Useful life      | 5               | 5               | 5               | 5               | 5               | 5               | 5               | 5                |
|  | Remaining life   | 2               | 1               | 0               | 4               | 3               | 2               | 2               | 2                |
|  | Replacement cost | \$10,000        | \$10,460        | \$10,941        | \$11,971        | \$11,971        | \$12,522        | \$19,632        | \$38,543         |
|  | Liability        | \$6,000         | \$8,368         | \$10,941        | \$2,394         | \$4,788         | \$7,513         | \$11,779        | \$23,126         |
| <b>Paving</b>                                | Useful life      | 7               | 7               | 7               | 7               | 7               | 7               | 7               | 7                |
|  | Remaining life   | 3               | 2               | 1               | 0               | 6               | 5               | 2               | 1                |
|  | Replacement cost | \$14,000        | \$14,644        | \$15,318        | \$16,022        | \$16,759        | \$17,530        | \$27,485        | \$53,961         |
|  | Liability        | \$8,000         | \$10,460        | \$13,130        | \$16,022        | \$2,394         | \$5,009         | \$19,632        | \$46,252         |
| <b>Roofing</b>                               | Useful life      | 15              | 15              | 15              | 15              | 15              | 15              | 15              | 15               |
|  | Remaining life   | 4               | 3               | 2               | 1               | 0               | 14              | 4               | 4                |
|  | Replacement cost | \$30,000        | \$31,380        | \$32,823        | \$34,333        | \$35,913        | \$37,564        | \$58,897        | \$115,630        |
|  | Liability        | \$22,000        | \$25,104        | \$28,447        | \$32,044        | \$35,913        | \$2,504         | \$43,191        | \$84,795         |
| <b>Total liability</b>                       |                  | <b>\$36,000</b> | <b>\$43,932</b> | <b>\$52,518</b> | <b>\$50,461</b> | <b>\$43,095</b> | <b>\$15,026</b> | <b>\$74,602</b> | <b>\$154,173</b> |

# **Appendix G – Sample Summary Report**

**Reserve Study Summary for (Name of Association)**  
**(Date)**

This reserve study is an assessment of the property and contains projections regarding anticipated future projects and expenses necessary to maintain the property in good condition. Included are the major components of the community's property that are likely to require repair, restoration, or replacement during the next (##) years. Excluded are items covered in the annual operating budget and items that are not community property.

The reserve study and this summary were prepared by (name of individual(s)). The previous reserve study was done by (name of individual(s)) in (date). The property was originally constructed in (date).

This study provides a rational basis for the Board of Directors to make decisions about annual budgets and future funding. The report contains a financial analysis of possible methods of funding the projected future expenses. These are to be understood as examples only, not as mandated solutions. Only the Board has the responsibility and authority to decide funding.

**A reserve study is not a spending plan.** The Board should assess the condition of the property each year and make spending decisions based on current circumstances. The Board will review the preparer's recommendations and make decisions accordingly. The reserve analyst has no authority to decide assessments or spending.

In calculating funding requirements for reserves, the following factors were considered:

- All common element components, their quantities, and expected service lives
- The current conditions, remaining service lives, and values of the components
- The impact of cost inflation over time

Reserve funding needs were calculated by estimating the cost and timing for repair, restoration, or replacement projects during the next (##) years. After accounting for cost inflation, assumed to be (# percent) annually, the total reserve expenses by year were estimated for the next (##) years.

Funding for these estimated expenses was calculated using the (type of method of used) by taking the current amount in reserves (\$dollars) and the current annual assessment for reserves (\$dollars), and calculating the future assessments needed to pay for the future expenses.

The following is a summary of the projected reserve expenses and assessments for the next five years.

| <b>Year</b> | <b>Expenses</b> | <b>Assessments</b> | <b>Amount in Reserves</b> | <b>Comments</b> |
|-------------|-----------------|--------------------|---------------------------|-----------------|
| 20##        | \$####          | \$####             | \$####                    |                 |
| 20##        | \$####          | \$####             | \$####                    |                 |
| 20##        | \$####          | \$####             | \$####                    |                 |
| 20##        | \$####          | \$####             | \$####                    |                 |

Details are in the full reserve study report dated (date). The estimates prepared are subject to review and revision by the Board. The (applicable statute) requires that a reserve study must be done at least every five years.

# Appendix H – Calculating Reserve Deficit Using Interest and Inflation

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For this example, use the following information for replacement of a roofing component.

(Note: The  $\approx$  symbol refers to a rounded figure.)

| Component                     | Age in Years as of 12/31/2018 (Effective Age) | Estimated Useful Life (UL) | Estimated Remaining Useful Life (RUL) | Replacement Cost | Interest Rate | Inflation Rate |
|-------------------------------|---|----------------------------|---------------------------------------|------------------|---------------|----------------|
| <b>Roofing (wood shingle)</b> | 11  | 15                         | 4                                     | \$30,000         | 5% (.05)      | 3% (.03)       |

$$Desired\ Balance = \left( \frac{Replacement\ Cost}{Useful\ Life\ (UL)} \times Effective\ Age \right) + \left( \frac{\frac{Replacement\ Cost}{Useful\ Life\ (UL)} \times Effective\ Age}{(1 + Interest\ Rate)^{Remaining\ Life\ (RUL)}} \right) - \left( \frac{\frac{Replacement\ Cost}{Useful\ Life\ (UL)} \times Effective\ Age}{(1 + Inflation\ Rate)^{Remaining\ Life\ (RUL)}} \right)$$



$$Desired\ Balance = \left( \frac{\$30,000}{15} \times 11 \right) + \left( \frac{\$30,000/15 \times 11}{(1 + .05)^4} \right) - \left( \frac{\$30,000/15 \times 11}{(1 + .03)^4} \right)$$



$$\textit{Desired Balance} = (\$22,000) + \left( \frac{\$22,000}{(1.05)^4} \right) - \left( \frac{\$22,000}{(1.03)^4} \right)$$



$$\textit{Desired Balance} = (\$22,000) + \left( \frac{\$22,000}{1.21550625} \right) - \left( \frac{\$22,000}{1.12550881} \right)$$



$$\textit{Desired Balance} = (\$22,000) + (\approx \$18,099.45) - (\approx \$19,546.72)$$



$$\textit{Desired Balance} = \$20,552.73 \approx \$20,553$$