

Important Information

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This reserve analysis study and the parameters under which it has been completed are based upon information provided to us in part by representatives of the association, its contractors, assorted vendors, specialist and independent contractors, the Community Association Institute, and various construction pricing and scheduling manuals including, but not limited to: Marshall & Swift Valuation Service, RS Means Facilities Maintenance & Repair Cost Data, RS Means Repair & Remodeling Cost Data, National Construction Estimator, National Repair & Remodel Estimator, Dodge Cost Manual and McGraw-Hill Professional. Additionally, costs are obtained from numerous vendor catalogues, actual quotations or historical costs, and our own experience in the field of property management and reserve study preparation.

It has been assumed, unless otherwise noted in this report, that all assets have been designed and constructed properly and that each estimated useful life will approximate that of the norm per industry standards and/or manufacturer's specifications. In some cases, estimates may have been used on assets, which have an indeterminable but potential liability to the association. The decision for the inclusion of these as well as all assets considered is left to the client.

We recommend that your reserve analysis study be updated on an annual basis due to fluctuating interest rates, inflationary changes, and the unpredictable nature of the lives of many of the assets under consideration. All of the information collected during our inspection of the association and computations made subsequently in preparing this reserve analysis study are retained in our computer files. Therefore, annual updates may be completed quickly and inexpensively each year.

Applied Reserve Analysis, LLC[®] would like to thank you for using our services. We invite you to call us at any time, should you have questions, comments or need assistance. In addition, any of the parameters and estimates used in this study may be changed at your request, after which we will provide a revised study.

This reserve analysis study is provided as an aid for planning purposes and not as an accounting tool. Since it deals with events yet to take place, there is no assurance that the results enumerated within it will, in fact, occur as described.

Part I

Introduction

Preparing the annual budget and overseeing the association's finances are perhaps the most important responsibilities of board members. The annual operating and reserve budgets reflect the planning and goals of the association and set the level and quality of service for all of the association's activities.

Funding Options

When a major repair or replacement is required in a community, an association has essentially four options available to address the expenditure:

The first, and only logical means that the Board of Directors has to ensure its ability to maintain the assets for which it is obligated, is by **assessing an adequate level of reserves** as part of the regular membership assessment, thereby distributing the cost of the replacements uniformly over the entire membership. The community is not only comprised of present members, but also future members. Any decision by the Board of Directors to adopt a calculation method or funding plan which would disproportionately burden future members in order to make up for past reserve deficits, would be a breach of its fiduciary responsibility to those future members. Unlike individuals determining their own course of action, the board is responsible to the "community" as a whole.

Whereas, if the association was setting aside reserves for this purpose, using the vehicle of the regularly assessed membership dues, it would have had the full term of the life of the roof, for example, to accumulate the necessary moneys. Additionally, those contributions would have been evenly distributed over the entire membership and would have earned interest as part of that contribution.

The second option is for the association to **acquire a loan** from a lending institution in order to effect the required repairs. In many cases, banks will lend to an association using "future homeowner assessments" as collateral for the loan. With this method, the current board is pledging the future assets of an association. They are also incurring the additional expense of interest fees along with the original principal amount. In the case of a \$150,000 roofing replacement, the association may be required to pay back the loan over a three to five year period, with interest.

The third option, too often used, is simply to **defer the required repair or replacement**. This option, which is not recommended, can create an environment of declining property values due to expanding lists of deferred maintenance items and the association's financial inability to keep pace with the normal aging process of the common area components. This, in turn, can have a seriously negative impact on sellers in the association by making it difficult, or even impossible, for potential buyers to obtain financing from lenders. Increasingly, lending institutions are requesting copies of

the association's most recent reserve study before granting loans, either for the association itself, a prospective purchaser, or for an individual within such an association.

The fourth option is to pass a “**special assessment**” to the membership in an amount required to cover the expenditure. When a special assessment is passed, the association has the authority and responsibility to collect the assessments, even by means of foreclosure, if necessary. However, an association considering a special assessment cannot guarantee that an assessment, when needed, will be passed. Consequently, the association cannot guarantee its ability to perform the required repairs or replacements to those major components for which it is obligated when the need arises. Additionally, while relatively new communities require very little in the way of major “reserve” expenditures, associations reaching 12 to 15 years of age and older, find many components reaching the end of their effective useful lives. These required expenditures, all accruing at the same time, could be devastating to an association's overall budget.

Types of Reserve Studies

Most reserve studies fit into one of three categories:

Full Reserve Study;

Update with site inspection; and

Update without site inspection.

In a **Full Reserve Study**, the reserve provider conducts a component inventory, a condition assessment (based upon on-site visual observations), and life and valuation estimates to determine both a “fund status” and “funding plan”.

In an **Update with site inspection**, the reserve provider conducts a component inventory (verification only, not quantification unless new components have been added to the inventory), a condition assessment (based upon on-site visual observations), and life and valuation estimates to determine both the “fund status and “funding plan.”

In an **Update without site inspection**, the reserve provider conducts life and valuation estimates to determine the “fund status” and “funding plan.”

The Reserve Study: A Physical and a Financial Analysis

There are two components of a reserve study: a physical analysis and a financial analysis.

Physical Analysis

During the physical analysis, a reserve study provider evaluates information regarding the physical status and repair/replacement cost of the association's major common area components. To do so, the provider conducts a component inventory, a condition assessment, and life and valuation estimates.

Developing a Component List

The budget process begins with full inventory of all the major components for which the association is responsible. The determination of whether an expense should be labeled as operational, reserve, or excluded altogether is sometimes subjective. Since this labeling may have a major impact on the financial plans of the association, subjective determinations should be minimized. We suggest the following considerations when labeling an expense.

Operational Expenses

Occur at least annually, no matter how large the expense, and can be budgeted for effectively each year. They are characterized as being reasonably predictable, both in terms of frequency and cost. Operational expenses include all minor expenses, which would not otherwise adversely affect an operational budget from one year to the next.

Examples of **operational expenses** include:

Utilities:	Bank Service Charges	Accounting
Electricity	Dues & Publications	Reserve Study
Gas	Licenses, Permits & Fees	Repair Expenses:
Water	Insurance(s)	Tile Roof Repairs
Telephone	Services:	Equipment Repairs
Cable TV	Landscaping	Minor Concrete Repairs
Administrative:	Pool Maintenance	Operating Contingency
Supplies	Street Sweeping	

Reserve Expenses

These are major expenses that occur other than annually, and which must be budgeted for in advance in order to ensure the availability of the necessary funds in time for their use. Reserve expenses are reasonably predictable both in terms of frequency and cost. However, they may include significant assets that have an indeterminable but potential liability that may be demonstrated as a likely occurrence. They are expenses that, when incurred, would have a significant effect on the smooth operation of the budgetary process from one year to the next, if they were not reserved for in advance.

Examples of reserve expenses include:

Roof Replacements	Park/Play Equipment	Interior Furnishings	Tennis Court Resurfacing
Painting	Pool/Spa Re-plastering	Lighting Replacement	Insurance(s)
Deck Resurfacing	Pool Equipment Replacement	Pool Furniture Replacement	Reserve Study
Asphalt Seal Coating	Asphalt Repairs	Asphalt Overlays	Fencing Replacement
Equipment Replacement			

Budgeting is Normally Excluded for:

Repairs or replacements of assets which are deemed to have an estimated useful life equal to or exceeding the estimated useful life of the facility or community itself, or exceeding the legal life of the community as defined in an association's governing documents. Examples include the complete replacement of elevators, tile roofs, wiring and plumbing. Also excluded are insignificant expenses that may be covered either by an operating or reserve contingency, or otherwise in a general maintenance fund. Expenses that are necessitated by acts of nature, accidents or other occurrences that are more properly insured for, rather than reserved for, are also excluded.

Financial Analysis

The financial analysis assesses the association's reserve balance or "fund status" (measured in cash or as percent fully funded) to determine a recommendation for the appropriate reserve contribution rate in the future, known as the "funding plan".

Preparing the Reserve Study

Once the reserve assets have been identified and quantified, their respective replacement costs, useful lives and remaining lives must be assigned so that a funding schedule can be constructed. Replacement costs and useful lives can be found in published manuals such as construction estimators, appraisal handbooks, and valuation guides. Remaining lives are calculated from the useful lives and ages of assets and adjusted according to conditions such as design, manufactured quality, usage, exposure to the elements and maintenance history.

By following the recommendations of an effective reserve study, the association should avoid any major shortfalls. However, to remain accurate, the report should be updated on an annual basis to reflect such changes as shifts in economic parameters, additions of phases or assets, or expenditures of reserve funds. The association can assist in simplifying the reserve analysis update process by keeping accurate records of these changes throughout the year.

Funding Methods

From the simplest to the most complex, reserve analysis providers use many different computational processes to calculate reserve requirements. However, there are two basic processes identified as industry standards: the cash flow method and the component method.

The cash flow method develops 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 actual anticipated schedule of reserve expenses until the desired funding goal is achieved. This method sets up a "window" in which all future anticipated replacement costs are computed, based upon the individual lives of the components under consideration. The **Applied Reserve Analysis, LLC**® "Threshold" and the "Current Assessment" funding models are based upon the cash flow method.

The component method develops a reserve-funding plan where the total contribution is based upon the sum of contributions for individual components. The component method is the more conservative of the two funding options, and assures that the association will achieve and maintain

an ideal level of reserve over time. This method also allows for computations on individual components in the analysis. The **Applied Reserve Analysis, LLC**® “Component Funding” model is based upon the component methodology.

Funding Strategies

Once an association has established its funding goals, the association can select an appropriate funding plan. There are four basic strategies from which most associations select. It is recommended that associations consult professionals to determine the best strategy or combination of plans that best suit the association’s need. Additionally, associations should consult with their financial advisor to determine the tax implications of selecting a particular plan. Further, consultation with the American Institute of Certified Public Accountants (AICPA) for their reporting requirements is advisable. The four funding plans and descriptions of each are detailed below. Associations will have to update their reserve studies more or less frequently depending on the funding strategy they select.

Full Funding---Given that the basis of funding for reserves is to distribute the costs of the replacements over the lives of the components in question, it follows that the ideal level of reserves would be proportionately related to those lives and costs. If an association has a component with an expected estimated useful life of ten years, it would set aside approximately one-tenth of the replacement cost each year. At the end of three years, one would expect three-tenths of the replacement cost to have accumulated, and if so, that component would be “fully-funded.” This model is important in that it is a measure of the adequacy of an association’s reserves at any one point of time, and is independent of any particular method which may have been used for past funding or may be under consideration for future funding. This formula represents a snapshot in time and is based upon current replacement cost, independent of future inflationary or investment factors:

Fully Funded Reserves = **Age** divided by **Useful Life** the results multiplied by **Current Replacement Cost**

When an association’s total accumulated reserves for all components meet this criterion, its reserves are considered “fully-funded.”

The **Applied Reserve Analysis, LLC**® “**Threshold Funding Model**” (**Minimum Funding**). The goal of this funding method is to keep the reserve cash balance above zero. This means that while each individual component may not be fully funded, the reserve balance overall does not drop below zero during the projected period. An association using this funding method must understand that even a minor reduction in a component’s remaining useful life can result in a deficit in the reserve cash balance.

The **Applied Reserve Analysis, LLC**® “**Threshold Funding Model**”. This method is based upon the cash flow funding concept. The minimum reserve cash balance in threshold funding, however, is set at a predetermined dollar amount (other than \$0) or at the percentage of the fully funded level.

The **Applied Reserve Analysis, LLC® “Current Assessment Funding Model”**. This method is also based upon the cash flow funding concept. The initial reserve assessment is set at the association’s current fiscal year funding level and a 30-year projection is calculated to illustrate the adequacy of the current funding over time.

The **Applied Reserve Analysis, LLC® “Component Funding Model”**. This is a straight-line funding model. It distributes the cash reserves to individual reserve components and then calculates what the reserve assessment and interest contribution (minus taxes) should be, again by each reserve component. The current annual assessment is then determined by summing all the individual component assessments, hence the name “Component Funding Model”. This is the most conservative funding model. It leads to or maintains the fully funded reserve position. The following details this calculation process.

Component Funding Model Distribution of Accumulated Reserves

The “Distribution of Accumulated Reserves Report” is a “Component Funding Model” calculation. This distribution **does not** apply to the cash flow funding models.

When calculating reserves based upon the component methodology, a beginning reserve balance must be allocated for each of the individual components considered in the analysis, before the individual calculations can be completed. When this distribution is not available, or of sufficient detail, the following method is suggested for allocating reserves:

The first step the program performs in this process is subtracting, from the total accumulated reserves, any amounts for assets that have predetermined (fixed) reserve balances. The user can “fix” the accumulated reserve balance within the program on the individual asset’s detail page. If, by error, these amounts total more than the amount of funds available, then the remaining assets are adjusted accordingly. A provision for a contingency reserve is then deducted by the determined percentage used, and if there are sufficient remaining funds available.

The second step is to identify the ideal level of reserves for each asset. As indicated in the prior section, this is accomplished by evaluating the component’s age proportionate to its estimated useful life and current replacement cost. Again, the equation used is as follows:

Fully Funded Reserves = (Age/Useful Life) x Current Replacement Cost

The software program that **Applied Reserve Analysis, LLC®** uses performs the above calculations to the actual month the component was placed-in-service. The program projects that the accumulation of necessary reserves for repairs or replacements will be available on the first day of the fiscal year in which they are scheduled to occur.

The next step the program performs is to arrange all of the assets used in the study in ascending order by remaining life, and alphabetically within each grouping of remaining life items. These assets are then assigned their respective ideal level of reserves until the amount of funds available is depleted, or until all assets are appropriately funded. If any assets are assigned a zero remaining life (scheduled for replacement in the current fiscal year), then the amount assigned equals the current replacement cost and funding begins for the next cycle of replacement. If there are insufficient funds available to accomplish this, then the software automatically adjusts the zero

remaining life items to one year, and that asset assumes its new grouping position alphabetically in the final printed report.

If, at the completion of this task, there are additional moneys that have not been distributed, the remaining reserves are then assigned, in ascending order, to a level equal to, but not exceeding, the current replacement cost for each component. If there are sufficient moneys available to fund all assets at their current replacement cost levels, then any excess funds are designated as such and are not factored into any of the report computations. If, at the end of this assignment process there are designated excess funds, they can be used to offset the monthly contribution requirements recommended, or used in any other manner the client may desire.

Assigning the reserves in this manner defers the make-up period for any under-funding over the longest remaining life of all assets under consideration, thereby minimizing the impact of any deficiency. For example, if the report indicates an under funding of \$50,000, this under-funding will be assigned to components with the longest remaining lives in order to give more time to “replenish” the account. If the \$50,000 under-funding were to be assigned to short remaining life items, the impact would be felt immediately.

If the reserves are under-funded, the monthly contribution requirements, as outlined in this report, can be expected to be higher than normal. In future years, as individual assets are replaced, the funding requirements will return to their normal levels. In the case of a large deficiency, a special assessment may be considered. The program can easily generate revised reports outlining how the monthly contributions would be affected by such an adjustment, or by any other changes that may be under consideration.

Funding Reserves

Three assessment and contribution figures are provided in the report, the “Monthly Reserve Assessment Required”, the “Average Net Monthly Interest Earned” contribution and the “Total Monthly Allocation to Reserves.” The association should allocate the “Monthly Reserve Assessment Required” amount to reserves each month when the interest earned on the reserves is left in the reserve accounts as part of the contribution. Any interest earned on reserve deposits, must be left in reserves and only amounts set aside for taxes should be removed.

The second alternative is to allocate the “Total Monthly Allocation” to reserves (this is the member assessment plus the anticipated interest earned for the fiscal year). This method assumes that all interest earned will be assigned directly as operating income. This allocation takes into consideration the anticipated interest earned on accumulated reserves regardless of whether or not it is actually earned. When taxes are paid, the amount due will be taken directly from the association’s operating accounts as the reserve accounts are allocated only those moneys net of taxes.

Users’ Guide to your Reserve Analysis Study

Part II of your **Applied Reserve Analysis, LLC**® report contains the reserve analysis study for your association. There are seven types of reports in the study as described below.

Report Summaries

The Report Summary for all funding models lists all of the parameters that were used in calculating the report as well as the summary of your reserve analysis study.

Index Reports

The **Distribution of Accumulated Reserves** report lists all assets in remaining life order. It also identifies the ideal level of reserves that should have accumulated for the association as well as the actual reserves available. This information is valid only for the “Component Funding Model” calculation.

The **Component Listing/Summary** lists all assets by category (i.e. roofing, painting, lighting, etc.) together with their remaining life, current cost, monthly reserve contribution, and net monthly allocation.

Detail Reports

The Detail Report itemizes each asset and lists all measurements, current and future costs, and calculations for that asset. Provisions for percentage replacements, salvage values, and one-time replacements can also be utilized. These reports can be sorted by category or group.

The numerical listings for each asset are enhanced by extensive narrative detailing factors such as design, manufactured quality, usage, exposure to elements and maintenance history.

The **Applied Reserve Analysis, LLC**® Detail Index is an alphabetical listing of all assets, together with the page number of the asset’s detail report, the projected replacement year, and the asset number.

Projections

Thirty-year projections add to the usefulness of your reserve analysis study.

Definitions

Report I.D.

Includes the Report Date (example: November 15, 1992), Account Number (example: 9773), and Version (example: 1.0). Please use this information (displayed on the summary page) when referencing your report.

Budget Year Beginning/Ending

The budgetary year for which the report is prepared. For associations with fiscal years ending December 31st, the monthly contribution figures indicated are for the 12-month period beginning 1/1/20xx and ending 12/31/20xx.

Number of Units and/or Phases

If applicable, the number of units and/or phases included in this version of the report.

Inflation

This figure is used to approximate the future cost to repair or replace each component in the report. The current cost for each component is compounded on an annual basis by the number of remaining years to replacement, and the total is used in calculating the monthly reserve contribution that will be necessary to accumulate the required funds in time for replacement.

Annual Assessment Increase

This represents the percentage rate at which the association will increase its assessment to reserves at the end of each year. For example, in order to accumulate \$10,000 in 10 years, you could set aside \$1,000 per year. As an alternative, you could set aside \$795 the first year and increase that amount by 5% each year until the year of replacement. In either case you arrive at the same amount. The idea is that you start setting aside a lower amount and increase that number each year in accordance with the planned percentage. Ideally this figure should be equal to the rate of inflation. It can, however, be used to aide those associations that have not set aside appropriate reserves in the past, by making the initial year's allocation less formidable.

Investment Yield Before Taxes

The average interest rate anticipated by the association based upon its current investment practices.

Taxes on Interest Yield

The estimated percentage of interest income that will be set aside to pay income taxes on the interest earned.

Projected Reserve Balance

The anticipated reserve balance on the first day of the fiscal year for which this report has been prepared. This is based upon information provided and not audited.

Percent Fully Funded

The ratio, at the beginning of the fiscal year, of the actual (or projected) reserve balance to the calculated fully funded balance, expressed as a percentage.

Phase Increment Detail and/or Age

Comments regarding aging of the components on the basis of construction date or date of acceptance by the association.

Monthly Assessment

The assessment to reserves required by the association each month.

Interest Contribution (After Taxes)

The interest that should be earned on the reserves, net of taxes, based upon their beginning reserve balance and monthly contributions for one year. This figure is averaged for budgeting purposes.

Total Monthly Allocation

The sum of the monthly assessment and interest contribution figures.

Group and Category

The report may be prepared and sorted either by group (location, building, phase, etc.) or by category (roofing, painting, etc.). The standard report printing format is by category.

Percentage of Replacement or Repairs

In some cases, an asset may not be replaced in its entirety or the cost may be shared with a second party. Examples are budgeting for a percentage of replacement of streets over a period of time, or sharing the expense to replace a common wall with a neighboring party.

Placed-In-Service Date

The month and year that the asset was placed-in-service. This may be the construction date, the first escrow closure date in a given phase, or the date of the last servicing or replacement.

Estimated Useful Life

The estimated useful life of an asset based upon industry standards, manufacturer specifications, visual inspection, location, usage, association standards and prior history. All of these factors are taken into consideration when tailoring the estimated useful life to the particular asset. For example, the carpeting in a hallway or elevator (a heavy traffic area) will not have the same life as the identical carpeting in a seldom-used meeting room or office.

Adjustment to Useful Life

Once the useful life is determined, it may be adjusted, up or down, by this separate figure for the current cycle of replacement. This will allow for a current period adjustment without affecting the estimated replacement cycles for future replacements.

Estimated Remaining Life

This calculation is completed internally based upon the report's fiscal year date and the date the asset was placed-in-service.

Replacement Year

The year that the asset is scheduled to be replaced. The appropriate funds will be available by the first day of the fiscal year for which replacement is anticipated.

Annual Fixed Reserves

An optional figure which, if used, will override the normal process of allocating reserves to each asset.

Fixed Assessment

An optional figure which, if used, will override all calculations and set the assessment at this amount. This assessment can be set for monthly, quarterly or annually as necessary.

Salvage Value

The salvage value of the asset at the time of replacement, if applicable.

One-Time Replacement

Notation if the asset is to be replaced on a one-time basis.

Current Replacement Cost

The estimated replacement cost effective at the beginning of the fiscal year for which the report is being prepared

Future Replacement Cost

The estimated cost to repair or replace the asset at the end of its estimated useful life based upon the current replacement cost and inflation.

Component Inventory

The task of selecting and qualifying reserve components. This task can be accomplished through on-site visual, review of association design and organizational documents, a review of established association precedents, and discussion with appropriate association representative(s).

A Multi-Purpose Tool

Your **Applied Reserve Analysis, LLC**[®] report is an important part of your association's budgetary process. Following its recommendations should ensure the association's smooth budgetary transitions from one fiscal year to the next, and either decrease or eliminate the need for "special assessments".

In addition, your **Applied Reserve Analysis, LLC**[®] reserve study serves a variety of useful purposes:

- Following the recommendations of a reserve study performed by a professional consultant can protect the Board of Directors in a community from personal liability concerning reserve components and reserve funding.
- A reserve analysis study is required by your accountant during the preparation of the association's annual audit.
- The **Applied Reserve Analysis, LLC**[®] reserve study is often requested by lending institutions during the process of loan applications, both for the community and, in many cases, the individual owners.
- Your Report is also a detailed inventory of the association's major assets and serves as a management tool for scheduling, coordinating and planning future repairs and replacements.

- Your **Applied Reserve Analysis, LLC**® report is a tool that can assist the Board in fulfilling its legal and fiduciary obligations for maintaining the community in a state of good repair. If a community is operating on a special assessment basis, it cannot guarantee that an assessment, when needed, will be passed. Therefore, it cannot guarantee its ability to perform the required repairs or replacements to those major components for which the association is obligated.
- Since the **Applied Reserve Analysis, LLC**® reserve analysis study includes measurements and cost estimates of the client's assets, the detail reports may be used to evaluate the accuracy and price of contractor bids when assets are due to be repaired or replaced.
- The **Applied Reserve Analysis, LLC**® reserve study is an annual disclosure to the membership concerning the financial condition of the association, and may be used as a "consumers' guide" by prospective purchasers.
- The **Applied Reserve Analysis, LLC**® Owners' Summary meets the disclosure requirements of the California Civil Code and also the recently adopted ECHO standards.
- Your **Applied Reserve Analysis, LLC**® report provides a record of the time, cost, and quantities of past reserve replacements. At times the association's management company and board of directors are transitory which may result in the loss of these important records.