

International Capital Budgeting Institute

Professional Reserve Study Standards

2015

International Capital Budgeting Institute

Professional Reserve Study Standards

This document contains the combined Principles, Standards, and Interpretations that comprise what are known as Generally Accepted reserve Study Principles and Generally Accepted Reserve Study Standards.

These standards were adopted by the board of directors of the International Capital Budgeting Institute (ICBI) at its meeting on April 16, 2015 with an immediate effective date.

The combined standards consist of four separate sections

1 - Generally Accepted Reserve Study Principles, which establish and document the broad, basic concepts upon which the reserve study process is based. These principles provide the structure and foundation upon which performance standards can be built.

2 – Interpretations of Generally Accepted Reserve Study Principles, which clarify and expand the principles to provide specific guidance. The Interpretations provide more detail to the broad principles.

3 - Generally Accepted Reserve Study Standards, which establish and document the broad, basic performance guidelines for the preparation of reserve studies. These standards are applicable to reserve professionals that perform reserve studies.

4 – Interpretations of Generally Accepted Reserve Study Standards, which clarify and expand the standards to provide specific guidance to reserve professionals.

The International Capital Budgeting Institute is an international organization dedicated to providing clarity and transparency in capital budgeting reporting. ICBI provides education and resources to all those involved in the creation of and users of capital budgets - business managers, facilities managers, and other businesses and professionals who provide products and services to organizations that maintain capital facilities.

ICBI is based in the United States of America, and our membership includes professionals in Australia, Canada, Dubai, Kenya, Mexico, and the United Kingdom.

Professional members include CPAs, architects, engineers, construction contractors, facilities managers, project managers, reserve study professionals, software developers, and lawyers.

The mission of ICBI is to inspire professionalism in the development of capital budgets. We do that by:

- Providing internationally respected standards for the preparation of capital budgets, including evaluation of facilities, calculation, and software standards.
- Providing internationally respected standards for reporting on capital budgets.
- Providing professional designations for those individuals involved in the preparation of capital budgets.
- Providing education opportunities for industry professionals.
- Publishing web content, articles, and books and guides on capital budgeting.
- Advocating on behalf of industry groups before federal regulatory agencies and state legislatures.

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Generally Accepted Reserve Study Principles ©

General Principles – Section 1

1. Organizations that maintain physical facilities will, over time, need to perform major repairs or replacements to those physical facilities. It is possible to identify, quantify, and evaluate the condition of those facilities that require long term major repair or replacement.
2. Organizations should establish maintenance plans that provide for both the current and long term maintenance of physical facilities. Formal maintenance plans generally result in an overall reduction of life cycle costs when compared to a lack of planned maintenance.
3. Reserve studies are long term capital major repair and replacement budgets that are the financial reflection of the long term maintenance plan, and are based on assumptions regarding operating maintenance activities and future events. The assumptions are in turn based on a combination of available information and judgment, in which both history and plans play a part.
4. It is considered fiscally prudent to provide for regular periodic interim funding to a separate reserve fund to accumulate the monies necessary for the estimated future expenditures. However, because each organization is unique, only the governing body of such organization can determine how and when they should fund estimated future capital expenditures, subject, however, to provisions contained in governing documents or any federal, state, or other regulatory requirements.
5. Organizations should develop reserve study policies to provide consistent guidelines for the development of and documentation of their reasoning for significant factors considered in their reserve study plan.
6. Reserve studies should be updated on a regular, periodic basis.

Component Principles – Section 2

1. Physical facilities may consist of both real property and personal property.

Real property items for which the organization has maintenance responsibility may consist of:

- A. Real property specified in the governing documents, whether owned by the organization or owned in common by the members of the organization
- B. Real property not specifically identified in the governing documents, whether owned by the organization or owned in common by the members of the organization
- C. Real property owned by third parties that is maintained by the organization

Personal property for which the organization has maintenance responsibility may consist of:

- A. Personal property owned by the organization
- B. Personal property owned in common by the members of the organization
- C. Personal property owned by third parties that is maintained by the organization

2. Components have the following general characteristics:

- A. Physical property that is the maintenance responsibility of the organization
 - B. Limited useful life (a useful life shorter than the “lifetime” asset, even if considered an “extended life”)
 - C. Material in cost, either individually or as a group
 - D. Repair or replacement expenditures represent a significant, non-annual, maintenance expenditure
 - E. Any additional item required by local codes or statutes
3. Additional component considerations:
- A. Certain components may be excluded from the reserve study if they are not intended to be replaced.
 - B. Building structures and certain other very long lived components are normally considered to be remodeled rather than replaced. In such cases, the structure itself is generally referred to as a “lifetime” component and are generally not included in the reserve study funding plan. These lifetime components establish the outer component replacement life parameter for building subcomponents or other components that have a shorter life span.
 - C. Structures and other long lived components should be included in the reserve study if they are being scheduled for substantial repair or replacement.
 - D. Those components not considered lifetime components comprise the items that are generally considered for inclusion in the reserve study (long term capital repair and replacement budget).
 - E. Components need not have a predictable life. It is acceptable to provide an “allowance” funding plan for partial or full major repair or replacement expenditures based upon ranges of life or failure estimates, even where future costs cannot be accurately estimated.
 - F. Major repair or replacement expenditures may be excluded from the reserve study if the expenditure history of or the maintenance plan for the subject components indicate that the cyclical timing of expenditures approximates equal annual expenditures and are easily included in the annual operating budget.
 - G. Immaterial components that otherwise meet the criteria for inclusion in the reserve study may be excluded. Immaterial components that are part of a larger component, or that are purchased as a group of multiple items should generally be included if, in the aggregate, the expenditure is material. Immaterial components may be included should the organization consider it appropriate, or the organization may include a single “allowance” representing an aggregation of immaterial components.

Calculation Principles – Section 3

1. **Replacement cost** – Replacement cost shall include the entire acquisition and installation cost of the repair or replacement component.
2. **Inflation** - Projected future component expenditures should include a factor for inflation / deflation.
3. **One time expenditures** – One time expenditures should be included in the reserve study if applicable.
4. **Percent funded** – Percent funded calculations are not required. If percent funded calculations are made, they shall be made on the inflation adjusted method rather than the current cost or future cost method.
5. **Funding Calculation Method** – Funding for future expenditures shall be calculated using the cash flow method, not the component method. The component method should only be used for regulatory disclosure purposes if required by statute, not for budgetary funding plan purposes.

Service Level Principles – Section 4

Levels of service – Reserve Professionals may provide the following levels of services:

1. Independent Reserve Study
2. Reserve Management Plan
3. Reserve Study Consulting Services

Reporting Principles – Section 5

1. Long term capital budgets (reserve studies) can be estimated that reflect the maintenance plan of the organization. By their very nature, such future expenditures tend to be large, non-annual items that are not easily includible in the annual budget process of any organization. There are two general types of long term capital budgets:
 - A. Capital Expenditure Budget - Such budgets generally consist of a projection of estimated future expenditures without identifying how funding for these expenditures will be achieved.
 - B. Reserve Study – The reserve study differs from the capital expenditure budget in that it also provides for a long term funding plan to finance (reserve for) those estimated future expenditures.
2. The types of reports that may be issued are:
 - A. Full reserve study based upon an on-site analysis
 - B. Update reserve study based upon an on-site analysis
 - C. Update of reserve study without an on-site analysis
3. Reserve professionals shall issue a “preparer’s report” that describes the reserve study engagement, summarizes procedures and conclusions, and refers to professional standards applicable to the engagement. The preparer’s report shall be issued by the reserve study company as opposed to the individual preparer.

Software Principles – Section 6

Software that correctly summarizes the projection to future periods of reserve expenditures and funding is crucial to the accuracy of the reserve study report. Software must have the capability of making the following calculations and reports as described below.

1. General funding plan calculations using the cash flow method and the component method.
2. Component calculations including (a) Inflation / deflation calculations of future expenditures, (b) One time (non-repeating) expenditures that include inflation / deflation calculations, (c) Percent funded calculations under the three methods in current use, and (d) Category or other method of summarizing component data into groups for summary reporting.

3. Funding plan calculations including (a) Interest earnings for future periods, (b) Income tax calculations, (c) Regular periodic reserve assessments, (d) Modifications to periodic reserve assessments, (e) Special Assessments, and (f) Loans and Loan Repayments.
4. Basic financial reports, at a summary level, generally of one or two pages, of (a) Statement of Current Position, (b) Cash Flow Funding plan in summary format, (c) Expenditures for 30-year period in summary format, and (d) Component list in summary format.
5. Additional reports consisting of; (a) Preparer's Report, (b) Disclosures, (c) Regulatory Information (FASB [Financial Accounting Standards Board] Disclosures and any formats required by state or other regulatory agencies), (d) RSI - Required Supplementary Information - Component list at detail level, and (e) Supplemental reports.
6. Timeshare association component calculation by unit.

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Interpretations of Generally Accepted Reserve Study Principles ©

General Principles – Section 1

- 1-1.1 – Physical facilities** deteriorate over time and organizations have the responsibility to maintain certain common area physical facilities. It is possible to identify, quantify, and evaluate the condition of those facilities that require long term major repair or replacement.
- 1-2.1 Maintenance plans** - Maintenance plans are normally integrated to include both operating maintenance activities and long term major repair and replacement activities, as the operating maintenance activities can have a significant impact on the long term major repair and replacement activities. It is the responsibility of the governing body to establish maintenance plans and long term capital repair and replacement budgets. The governing body may engage outside professionals to assist them in the establishment of both the maintenance plan and the long term capital repair and replacement budget.
- 1-3.1 Reserve studies** – Reserve studies are a specialized type of long term capital budget used generally within the community association and timeshare association industries to establish funding plans based on regular member assessments.
- 1-4.1 – Funding Plan** - In the case of a reserve management plan, the organization should adopt the final funding plan. In the case of an independent reserve study, the reserve professional assumes responsibility for recommending a funding plan, which may or may not be adopted by the organization. Organizations should establish separate reserve bank accounts and segregate reserve funds from operating funds. It is generally considered prudent to provide for regular periodic interim funding and to avoid special assessments.
- 1-5.1 – Reserve study policies** should generally address the following items
- a. Criteria for determining what components are included in the study
 - b. Criteria for determining what components are excluded from the study
 - c. Policy on timing of updates of reserve study
 - d. Funding goals or general guidelines for funding plan
 - e. Reserve cash handling policies and procedures
- 1-6.1 - Reserve study updates** - Reserve studies should be updated on a regular, periodic basis.
- Reserve studies that include an on-site analysis should be performed based on age or condition of the facilities, or an unrelated triggering event. Examples are:
- Age – If physical facilities are limited to real estate, updates should occur no less frequently than every five years during the first fifteen years since completion of construction, and no less frequently than every three years thereafter. Inclusion of significant personal property with shorter useful lives may require more frequent updates that include an on-site analysis.
 - Condition – Significant change in condition, observed deterioration, or accelerated deterioration may indicate that an update is necessary.
 - Triggering event – Events unrelated to age or condition, such as developer turnover, unexpected expenditures, significant changes in replacement cost, significantly shorter useful lives than

anticipated, discovery of previously omitted components, or significant changes in available funding, may require that an update be prepared.

Reserve study updates that do not include an on-site analysis should be performed annually for years in which no on-site analysis is performed.

Component Principles – Section 2

2-1.1 – Real property components included in reserve study - Real property consists of land and improvements, structures and improvements, and any fixtures or other items attached to land or structures. Townhouse or other attached single family homes associations often have governing documents specifying that the members have responsibility for exterior building maintenance, yet policies, whether formal or informal, wherein the association has assumed that maintenance responsibility. This is often done to ensure adequate and uniform maintenance of building exteriors. In such a case, the reserve study should reflect the actual maintenance plan, even if it contradicts the governing documents.

2-1.2 Personal property components – Personal property consists of furniture, fixtures, equipment or other items not attached to real property. Some organizations do not include personal property components in the reserve study under the theory that (1) replacement of personal property components is optional, as their use could be eliminated by changing to use of an outside service, or (2) funding for replacement can be achieved through funding depreciation expense in the operating fund.

Both theories are rejected. Unless an actual plan exists to change to an outside service that would eliminate the requirement to replace personal property, such components should be included in the reserve study, as it is the assumption that they will need to be replaced. Funding through the operating fund by funding depreciation expense has two significant weaknesses (a) most organizations have such volatility in their operating budgets that funding cannot be guaranteed, and (b) funding in the amount of depreciation, a backward looking system that does not consider inflation, usually results in significant underfunding.

2-2.1 – Component general characteristics - The general component characteristics should identify all components that exist. It is up to the organization to determine if certain of those components should be excluded from the reserve study.

2-2.2 – Component general characteristics - The definition of components as defined by other organizations (CAI and APRA) also include having a predictable life as a characteristic of a component to be included in a reserve study. It is not logical to require “predictable life” as a basic characteristic of a component, as there are some components that require funding that do not fit this definition. Some components can often be characterized as lifetime components, but still have unpredictable, periodic, partial failures that require funding. It is irresponsible to not fund at least some estimate for future expenditures to avoid the risk of leaving the organization in an underfunded position. Providing an estimated “allowance” for repairs of such items, or provide for funding for a percentage of replacement, allows organizations to set aside funds for such components. Examples of components where these types of estimates occur are; concrete block walls, steel fencing, vinyl fencing, wood siding, street substrate, and fairways, greens and tee boxes of golf courses.

2-2.3 - Component general characteristics - The cost of preparing the reserve study and the cost of amending governing documents are two items that are often routinely included in reserve studies. Such costs should not be included, as they do not represent physical components that are the maintenance

responsibility of the organization. Reserve components should represent only significant non annual maintenance expenses. This concept is also recognized in statutes in certain jurisdictions.

Components that were overlooked in prior reserve studies should be added to the reserve funding plan when discovered. Expenditures for such omitted components may be made from the reserve fund in spite of the omission, but would generally require an immediate recalculation of the reserve funding plan.

2-2.4 - Component characteristics - It is the organization's maintenance plan that drives reserve study funding, but it is possible that items traditionally considered reserve components can be funded through the annual operating budget, if component expenditures represent approximately equal annual expenditures. Example – organization establishes a ten year cycle annual painting program wherein one portion of the organization is painted each year, and in year eleven they start over. Assuming the funding is approximately equal each year, it is not unreasonable to pay this cost out of the operating budget.

2-3.1 – Additional component considerations – One component normally excluded from reserve studies is the replacement of in wall, under slab, and underground utilities, such as water lines, wastewater lines, gas, electrical, and cable wiring. Replacement of these utility items is generally the most expensive component in a condominium type association because replacement requires the partial destruction of building structures. Utility lines such as these generally have a life of 40 to 60 years, so they do meet the definition of components that should be included in a reserve study. Most organizations will probably opt to exclude funding for these components, but their exclusion from the reserve study should be disclosed.

Calculation Principles – Section 3

3-1.1 – Replacement Cost – Replacement cost shall include the purchase cost of the repair or replacement component, including all costs to place the component into service, including shipping or delivery costs, sales tax, installation cost, cost to remove the component being replaced, and any design or other costs associated with the acquisition and installation of the new component.

Some organizations may use their own maintenance staff for both operating and reserve projects. In such cases, the organization should attempt to allocate costs to the reserve fund of staff time for reserve projects. This should include direct labor amounts plus reasonable overhead allocations.

3-2.1 – Inflation – Projected future component expenditures should include a factor for inflation / deflation for the 30-year projection period, or the report shall include a disclosure that inflation / deflation has been omitted. Inflation / deflation rates applied shall be disclosed in the reserve study report. If inflation / deflation is reported differently or omitted for certain time periods, that fact shall be disclosed.

Studies show that inflation has occurred for the last 70 years. Inflation affects future replacement costs and should be included for the entire 30-year projection period, with disclosure of inflation rates assumed. Failure to include inflation may result in establishing an unrealistically low assessment structure resulting in underfunding and the possibility of special assessments.

3-3.1 – One time expenditures – One time expenditures should be included in the reserve study if applicable. Non recurring expenditures may be projected to correct construction or repair of components that otherwise may not require replacement. Such expenditures should be included in inflation and percent funded calculations if percent funded calculations are made.

3-4.1 – Percent funded calculations – Percent funded calculations are not required, but, if made, should always be made using the inflation adjusted method. Current or future cost percent funded calculations create biased results and over or underfunding as compared to the inflation adjusted method. Current or

future cost methods should be used only where required by regulatory reports, and should never be used to replace a funding plan used for budgetary purposes.

The current cost method uses current cost at the start date of the funding plan as the denominator in the percent funded calculation, and, consequently cannot be projected to future periods with meaningful results. The current cost method, when projected to future periods, always overstates the percent funded.

The future cost method uses the future cost at the next replacement date as the denominator in the percent funded calculation, and, results in understating percent funded for all dates other than the date a component is replaced.

The inflation adjusted method adjusts the replacement cost used as the denominator in the percent funded calculation annually so that it more accurately reflects cost each year a percent funded calculation is made.

3-5.1 – Cash flow funding method – The cash flow method shall be used for all budgetary reserve study calculations where more than one component exists. The cash flow method calculates funding based on the aggregation of all components projected future expenditures. The cash flow method does not contemplate any specific funding goal.

3-5.2 – Component funding method – The component method should never be used for calculating reserve study funding for budgetary purposes, as it requires assumptions that can be used to manipulate the funding plan, whether purposely or inadvertently. It also requires re-assessing those assumptions annually. The component method should be used only where required for regulatory reporting purposes, and should not replace the cash flow method used for budgetary reporting.

Service Level Principles – Section 4

4-1.1 – Independent Reserve Study – The independent reserve study is what the industry has traditionally perceived as the only form of reserve study through early 2015. The independent reserve study is one prepared by the reserve professional based solely on his or her professional judgment. The reserve professional may receive information from a variety of sources, but ultimately must exercise his or her judgment on all factors affecting the reserve study. The reserve professional may not accept another's judgment in place of his own. The independent reserve professional assumes all responsibility, and liability for, the accuracy of the reserve study.

4-2.1 – Reserve Management Plan – The reserve professional works with the organization to assist them in determining a reserve management plan, and the reserve study report is the tangible work product of that plan. The reserve management plan engagement includes providing assistance to management by helping them identify key factors, develop assumptions, gather information, assemble the information, and develop a financial model so they may consider the results based upon their stated assumptions. The reserve management plan differs significantly from the independent reserve study in that the organization assumes responsibility for the factors supporting and the ultimate accuracy of the reserve study.

4-3.1 – Reserve Study Consulting Services – The reserve professional may engage in services that do not result in the issuance of a report.

Reporting Principles – Section 5

5-1.1 – Reserve Study Reports – Reserve studies differ from other long term capital budgets in that they have a designated source of funding, and an obligation by the organization to provide for that funding. The primary focus of reserve study reports is the funding plan.

5-2.1 – Types of Reports – There are three types of reports that may be issued:

- A. Full reserve study with an on-site analysis – Generally an initial report that includes identification, evaluation, and quantification and measurement of components based upon a site analysis. The full reserve study report may be based on an independent reserve study or a reserve management plan level of service.
- B. Update reserve study with an on-site analysis – An update of a previously issued report that includes an on-site analysis and evaluation of components. This study generally does not require the identification or measurement of components, as the prior study may be relied upon. The update with on-site analysis reserve study report may be based on an independent reserve study or a reserve management plan level of service.
- C. Update of reserve study without an on-site analysis – An update of a previously issued report that does not include an on-site analysis, but is rather an “accounting” update of remaining life, replacement cost, and a revision of the funding plan. The update without on-site analysis report may be based on an independent reserve study or a reserve management plan level of service.

5-3.1 – Preparer Report – Reserve professionals shall issue a “preparer’s report” that describes the reserve study engagement, summarizes procedures and conclusions, and refers to professional standards applicable to the engagement. The preparer’s report shall be issued by the reserve study company as opposed to the individual preparer. The preparer’s report shall include the following:

- a) a title that identifies the type of report and level of service
- b) identification of the subject matter and the responsible party of the organization
- c) a statement that the subject matter is the responsibility of the responsible party (governing board)
- d) a description of the nature and scope of the work performed
- e) a reference to generally accepted reserve study standards governing the engagement
- f) a statement that the engagement is less in scope than an independent engineering report and no such opinion is expressed
- g) the report shall disclose if the on-site analysis or any other significant portion of the financial projection is prepared by another individual or company
- h) a statement about whether the practitioner is aware of any material modifications that should be made to the subject matter in order for it to be based on the criteria indicated in the report
- i) a statement about whether or not the software used in preparation of the financial exhibits meets ICBI software standards
- j) a statement restricting the use of the report to specified parties
- k) a statement identifying required supplemental information included in the reserve study report
- l) a statement identifying regulatory information included in the reserve study report
- m) statement identifying any supplemental information that is not required included in the reserve study report
- n) the report shall state that the reserve professional is not responsible for any events subsequent to the date of the report

5-3.2 – Independent Reserve Study Preparer’s Report – A significant departure from past practice is that the independent reserve professional is required to include a “preparer’s report” as part of the independent reserve study. The preparer’s report summarizes the preparer’s procedures and findings, and is in addition to the narrative disclosures and financial exhibits that comprise the reserve study report.

5-3.3 – Reserve Management Plan Preparer’s Report – The reserve professional issues a “preparer’s report” that summarizes the preparer’s procedures and findings of the reserve management plan, and is in addition to the narrative disclosures and financial exhibits that comprise the reserve study report. This

report differs significantly from the independent preparer's report in that the preparer is commenting on the organization's reserve study report. The organization is considered to be the "owner" of the report.

Software Principles – Section 6

6 – Software is the technology tool used to interpret the calculation and reporting standards into information that is understandable. Software is the most critical factor in allowing reserve professionals to comply with Generally Accepted Reserve Study Principles, and therefore software must be capable of making correct calculations in accordance with those standards

6-1.1 – General Calculations, Cash Flow Method – Generally Accepted Reserve Study Principles recognize only the cash flow method as an acceptable method for making funding calculations. The cash flow method aggregates the cost of projected future expenditures for all components, then calculates a revenue "cash flow" to provide sufficient funding to pay the projected expenditures. The cash flow method does not contemplate a funding goal, but is simply a method of calculating funding. Reserve study software must have the capability of making funding calculations on the cash flow method.

6-1.2 – General Calculations, Component Method – The component method, sometimes referred to as the straight line method, calculates future funding requirements at the individual component level. The component method requires an allocation of cash / investments on hand at the time the calculation is made to all components included in the reserve study. Depending on how the cash / investments amounts are allocated, it can result in significant variations in future funding requirements. Because this method is subject to manipulation, it is not considered a reliable method and should not be used for budgetary calculations.

Certain states require component method calculations for regulatory purposes. Reserve study software must therefore have the capability of making funding calculations on the component method.

6-2.1 – Component Calculations – Reserve study software must be capable of correctly making all required component calculations.

- a. Inflation / deflation calculations
- b. One time expenditures
- c. Percent funded calculations at current cost, future cost, and inflation adjusted cost methods. Budgetary calculations should be made using only the inflation adjusted cost method. However, software must also be able to calculate both the current and future cost methods, which are required in certain regulatory settings.
- d. Software must have capability of summarizing component data, either by category or another method to produce summary level reports.

6-3.1 - Funding Plan Calculations – Reserve study software must be capable of correctly making all required funding plan calculations.

- a. Interest earnings calculations
- b. Income tax calculations on investment earnings
- c. Reserve assessments
- d. Ability to modify reserve assessments annually
- e. Special assessments
- f. Loans and loan repayments

6-4.1 – Summary level financial reports - Reserve study software must be capable of producing summary level financial reports. Summary level reports should generally be one or two page reports only. If the organization has a relatively small component list and detail reports can be presented in a one or two page format, then it is acceptable to insert detail reports in place of summary reports.

- a. Statement of current position
- b. 30-year cash flow funding schedule
- c. 30-year expenditure summary
- d. Summary component list

6-5.1 – Additional reports – Additional required reports that software must be capable of producing are:

- a. Regulatory reports consisting of FASB (Financial Accounting Standards Board) disclosures for community associations located in the USA, and state required disclosures for all states in which software is used.
- b. RSI – Required Supplementary Information – Component list at a detail level.
- c. Supplemental reports may consist of any other financial exhibits that the reserve professional wishes to add to his or her report. Supplemental reports may contain any additional information desired by the preparer, but such reports may not contradict the summary level, basic, financial reports.

The narrative preparer's report and disclosures may be produced in other software such as Microsoft Word and collated into a final report that includes the financial reports described above.

6-6.1 – Timeshare software requirements – Because of the unique requirements of timeshare associations, software for timeshare or other fractional associations must be capable of compiling component data by unit for all unit, versus common area, components.

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Generally Accepted Reserve Study Standards ©

General Standards

- 1 - Training and Proficiency – The reserve professional should have a sound understanding of Generally Accepted Reserve Study Principles and Standards for the preparation and presentation of a reserve study.
- 2 - Knowledge - The reserve professional should have general knowledge of the component subject matter and key factors upon which future results depend for a given reserve study engagement.
- 3 - Independence – The reserve professional shall be independent of the organization or shall disclose any relationships that may impair independence.
- 4 - Due Professional Care – The reserve professional shall exercise due professional care and judgment in the performance of procedures and preparation of the reserve study report.

Field Standards

- 1 - Planning and Supervision – All work shall be properly planned and the work of subordinates, if any, supervised. The reserve professional may rely upon an on-site analysis performed by another individual or company if that work is reviewed and evaluated for reasonableness.
- 2 - The site analysis shall identify, quantify, and evaluate components included in the reserve study and identify major components not included in the reserve study funding analysis.
- 3 - The component analysis includes assembly of all information for components included in the reserve study, including useful life, remaining life, and replacement cost.
- 4 - Evidence and Documentation – The reserve professional shall retain documentation to evidence the procedures performed, findings, and conclusions reached.
- 5 – The funding plan should be prepared on the cash flow basis considering the organization’s funding goals and ability to finance the funding requirements. A separate funding plan may be prepared and presented to meet regulatory requirements, but it should not be used in place of a funding plan prepared in accordance with Generally Accepted Reserve Study Principles.

Reporting Standards

- 1 - The Reserve Study Report shall include all report elements as considered necessary for a fair presentation of the relevant material in conformance with Generally Accepted Reserve Study Principles.
- 2 - Preparer’s Report – The reserve professional’s report shall identify the type of engagement, level of service provided, calculation methods used, statement regarding compliance with software standards, and the preparer’s conclusion of the material presented in conformance with Generally Accepted Reserve Study Principles.

Software Standards – (ICBI software certification requirements)

- 1 - Software must be capable of making correct calculations of future costs and expenditures including inflation/deflation and one time (non-repeating) expenditures, and future funding amounts including special assessments, interest earned, and income tax calculations in conformance with Generally Accepted Reserve Study Principles.
- 2 - Software must be capable of performing the three different methods of calculating percent funded in conformance with Generally Accepted Reserve Study Principles.
- 3 - Software must be capable of producing all reports required by Generally Accepted Reserve Study Principles in an appropriate format.
- 4 – Software meeting timeshare certification requirements must be capable of tracking interior unit component inventory by unit in addition to tracking non unit common area components.

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Interpretations of Generally Accepted Reserve Study Standards ©

General Standards – Section 100

The General Standards are personal in nature and address qualifications of the reserve professional and quality of his or her work. The standards are separate and distinct from those standards related to field work, reporting, software, or ethics.

101- Training and proficiency

101-01 – The reserve professional shall be familiar with ICBI General, Field, Reporting, and Software standards.

101-02 – The reserve professional shall obtain 8 hours of continuing education annually in matters related to the performance of reserve studies.

102 - Knowledge

102-01 – The reserve professional shall have a sound understanding of Generally Accepted Reserve Study Principles.

102-02 – The reserve professional shall have, or obtain, technical knowledge regarding the components expected to be encountered in the performance of the reserve study. This knowledge may be gained by prior experience, professional training, research, or consultation with an individual that has expert knowledge with respect to specific components. It is considered acceptable for the reserve professional to rely upon vendors that service such specific components unless the information so learned is contradicted by other sources.

102-03 – The reserve professional shall be familiar with concepts relating to application of as it relates to future capital expenditures and interest earnings of accumulated reserve funds.

103 – Independence

103-01 - The reserve professional shall maintain intellectual honesty and impartiality necessary to reach an unbiased conclusion about the subject matter or assertions.

103.02 – Any relationship that may impair independence shall be disclosed to the client before a reserve study engagement is accepted.

103.03 - Any possible impairment of independence shall be disclosed in the reserve professional's report.

104 – Due Professional Care

104-01 - The exercise of due professional care and professional judgment is an obligation for any reserve professional involved with the engagement to observe each of the general, field, reporting, and software standards.

104-02 - The exercise of due professional care requires a critical review at every level of supervision of the work performed and judgment exercised by those participating in the engagement, including the preparation of the report.

Field Standards – Section 200

The Field Standards relate to the technical aspects of the reserve study process including the on-site analysis, component analysis, and preparation of the funding plan.

201 - Planning and Supervision

201-01 – The reserve study shall be adequately planned, including nature of components of the organization, preliminary judgments about materiality, conditions that may require extension or modification of procedures, the type of report and level of service, and the nature of the report to be issued.

201.02 – Planning should include a review of the prior reserve study report, if one was prepared, for completeness of the component list, component pricing, and other information that may be useful in the on-site or component analysis.

201-03 – Subordinates or consultants used during the reserve study process shall be supervised by the reserve professional.

202 – On-Site Analysis

202-01 – The on-site analysis shall be used to identify, quantify, and evaluate condition of all components to be included in the funding analysis and reserve study report. This should include a review of any prior reserve study report. The reserve professional shall remain objective and free from bias in the identification and evaluation of components to be included in the reserve study.

202.02 – The on-site analysis shall also be used to identify components for which the organization has maintenance responsibility that are to be excluded from the funding study. Such components shall be disclosed in the reserve study report.

202.03 – The reserve professional should inquire of the client regarding their reserve policies, and maintenance plan, including when components were last replaced, anticipated future expenditures, and actual or projected costs.

202.04 – The reserve professional should inquire regarding the existence of warranties.

202.05 – The reserve professional should consider obtaining a list of significant vendors for possible contact regarding maintenance issues.

202.06 – The reserve professional should make note of any maintenance or safety issues observed during the site analysis and inform the client immediately of any safety issues. This is based on limited visual observation only and is not intended to imply that the reserve professional is an expert in construction code or safety issues or is performing an analysis of safety issues.

202.07 – A sampling of multiple components is considered adequate; 100% observance of multiple components is not considered necessary unless there is evidence of significant disparity of condition or differences in age.

202.08 – The reserve professional may rely upon software tools and public images (such as Google Earth) in obtaining measurements of selected components.

202.09 - The reserve professional may rely upon photos obtained by drones or photos from other individuals as part of the visual observation for components that are not generally accessible.

202.10 – In an engagement where the on-site analysis is performed by another individual that is not part of the reserve professional's company, the reserve professional may rely upon the photos, counts, and measurements provided by such individual, provided that the information appears to be free of material error. In such an engagement, the reserve professional should consider using tools such as Google Earth satellite and street views to supplement information received from other sources.

203 - Component Analysis

203.01 – The reserve professional should assemble component data obtained during the site analysis and review it for completeness based on the preparer's experience with similar properties / components and comparison to the prior reserve study.

203.02 – The reserve professional should use all available evidence to determine dates components were placed in service, useful life and remaining life based on observed condition.

203.03 – Component replacement cost may be determined from a variety of sources. The reserve professional should generally use what is considered the most reliable source of information to determine replacement cost. Sources may include:

- Current bids
- Actual cost most recently paid
- Cost based on research
- Vendor estimates
- Preparer's cost database, assuming cost is regularly updated
- Cost estimating manual

204 - Documentation

204.01 – The reserve professional shall retain sufficient documentation for work performed to provide a reasonable basis for the information and amounts included in the reserve study report.

204.02 - The reserve professional shall retain sufficient documentation to provide evidence of the work performed. This documentation may be included within the reserve study report, or in the reserve professional's supporting files in either an electronic or paper format.

205 – Funding Plan

205.01 – The funding plan shall be prepared on the cash flow method, designed to provide a positive cash balance at all times during the 30-year funding forecast. The component method of calculating future funding should be avoided.

205.02 – The funding plan should include an estimate for inflation / deflation for the entire 30-year forecast period. If different rates are used in different periods, disclosure of the different rates used shall be made.

205.03 – If interest income is included in the funding plan, the estimated interest rate must be disclosed. If different rates are used in different periods, disclosure of the different rates used shall be made.

205.04 – The funding plan shall be prepared to reflect the funding goals and financing ability of the organization

205.05 – While one or more projections may be prepared for consideration by the governing body during the reserve study process, the final funding plan should reflect the funding plan adopted by the governing board. This is generally the most probable expectation of future events.

Reporting Standards – Section 300

The Reporting Standards address the format and content of the reserve study report, including the preparer's report. The purpose of this section is provide consistency of reporting, while still allowing nonstandard exhibits to be presented as supplemental information.

301 – Reserve Study Report Elements

301.01 - The report shall include the following elements:

- 1) Cover page
- 2) Table of Contents
- 3) Preparer's report (see section 302 below)
- 4) Statement of Current position
- 5) 30-year Cash Flow Summary
- 6) 30-year Summary Expenditure Table
- 7) Summary Component List
- 8) Disclosures
- 9) Required Supplemental Information (RSI)
- 10) Regulatory Disclosures
- 11) Supplemental Information (if any)

301.02 – The statement of current position must include the following data points:

- Name of organization
- Projection period, beginning and ending date
- Summary description of project including type and location of organization, number of lots or units (if applicable), construction date (approximate), and summary description of physical property
- Name of Company preparing the report and date of report
- Summary table of components disclosing (normally by category) component name and estimated current cost.

- Percent funded disclosures are optional, but if presented should include the 100 percent funded amount, using the inflation adjusted method of calculating percent funded, at the start date, and in total only, the estimated net resources available for reserve funding, the percent funded, amount over or under funded, and the amount over or under funded on a per unit or per lot basis (if applicable)
- Summary table of components excluded from the funding plan, or a reference to excluded components listed in “component analysis” disclosures
- Statement regarding special assessments

301.03 – The 30 year cash flow forecast must be prepared on the cash flow basis (component method funding calculations are not appropriate) and disclose by year; beginning balance, assessments and other cash inflows, expenditures, and ending balance. An additional optional disclosure is the amount of assessment increase expressed as a percentage. Percent funded at either the beginning or end of each year may be disclosed, but is not required.

301.04 – The summary expenditure table must disclose, by major component or category, the expenditures each year of the forecast period. This summary may be limited to 10 years, or may display the entire 30-year period. This table may be displayed on an individual component basis if the number of components is not significantly different from the number of categories.

301.05 – The summary component list must disclose, by major component or category, the component or category name, range of estimated useful lives, range of estimated remaining lives, quantity or measurement, estimated current cost, and estimated 100 percent funded amount (optional), using the inflation adjusted method of calculating percent funded, at the start date. This table may be displayed on an individual component basis if the number of components is not significantly different from the number of categories.

301.06 – Disclosures must include the following:

- On-site Analysis – Description of project, date of on-site analysis, identification of individuals performing on-site analysis, client staff interviewed, if any, procedures performed, discussion of common area and exclusive use common area components, disclosure of sampling used if not all components evaluated, no destructive testing is performed
- Component Analysis – Assembly of components based on the on-site analysis, statement regarding completeness of component list, summary description of how repair or replacements costs were derived, statement regarding reliance on client data and that it is deemed reliable, list of excluded components with reason for exclusion, statement of other exclusions
- Financial Analysis – Description of cash flow method, disclosure of interest rate assumptions used if interest is included in the financial analysis or a statement that interest was not considered, disclosure of inflation rate assumptions used if included in the financial analysis or a statement that inflation was not considered, disclosure of income tax rate assumptions used if included in the financial analysis or a statement that income taxes were not considered, disclosure of annual assessment adjustment factor if applicable, statement that actual results may vary from estimated amounts, disclosure of how estimated beginning balance was calculated and statement that financial information is not audited
- Significant Assumptions – The summary of significant assumptions should include any assumptions regarding components or financial factors that could affect the reserve study such as:

1. Minimum useful life
2. Minimum replacement cost
3. Addition of new components due to unexpected deterioration
4. Preventive maintenance programs
5. No unusual conditions
6. Proper construction and installation
7. Continued use of existing amenities
8. Adequate property insurance coverage
9. Regular reserve assessments will be made
10. Interest rate assumptions
11. Inflation assumptions

301.07 – Required Supplemental Information consists of a detail component list including component name, estimated useful life, estimated remaining life, estimated current cost, and, as an option only, estimated 100 percent funded amount, using the inflation adjusted method of calculating percent funded, at the start date. Current or future cost methods of calculating percent funded should not be used in making this calculation for any purpose other than a required regulatory disclosure.

301.08 – Regulatory information includes (1) summary disclosures as required by the Financial Accounting Standards Board (FASB) if the organization is a community association located within the USA, (2) any disclosures required by state or other statutes.

301.09 – Supplemental information may consist of any other information or exhibits that the preparer may wish to include, as long as such information is adequately disclosed and does not contradict information included elsewhere in the report.

302 – Preparer Report Elements

302.01 – The Preparer Report elements shall consist of:

- a) a title that identifies the type of report and level of service.
- b) identification of the subject matter and the responsible party of the organization.
- c) a statement that the subject matter is the responsibility of the responsible party (reserve management plan report only).
- d) a description of the nature and scope of the work performed.
- e) a reference to the professional standards governing the engagement.
- f) a statement that the engagement is less in scope than an independent engineering report and no such opinion is expressed.
- g) the report shall disclose if the on-site analysis or any other significant portion of the financial projection is prepared by another individual or company.
- h) a statement about whether the practitioner is aware of any material modifications that should be made to the subject matter in order for it to be based on the criteria indicated in the report
- i) a statement about whether or not the software used in preparation of the financial exhibits meets ICBI software standards.
- j) a statement restricting the use of the report to specified parties.
- k) a statement identifying required supplemental information.
- l) statement identifying supplemental information that is not required.
- m) the report shall state that the reserve professional is not responsible for any events subsequent to the date of the report.
- n) a statement setting forth the credentials of the individual signing the report on behalf of the reserve study company.

- o) signing of report - report shall be signed in the name of the issuing company, and the name of the primary reserve professional shall also be disclosed.
- p) dating of the report - the reserve professional's report shall be dated the date that all work is completed.

Software Standards – Section 400

The Software Standards are necessary to ensure reliability and consistency of calculations.

401 Calculation Standards

401.01 – Software must meet ICBI standards of accurately calculating future costs and expenditures considering the effects of inflation or deflation, and including one-time, non-repeat expenditures, and future funding amounts including special assessments, interest earned, and income tax calculations.

402 Percent Funded Calculation Standards

402.01 – Software must be able to accurately calculate all three methods of calculating percent funded:

- Current cost method
- Inflation adjusted cost method
- Future cost method

403 Required Reports

403.01 - Software must be capable of producing all reports required by ICBI in an appropriate format. While exact formats are not dictated, the required reporting elements for each financial exhibit are specified.

404 Timeshare requirements

404.01 - Software meeting timeshare certification requirements must be capable of tracking interior unit component inventory by unit in addition to tracking non unit common area components.